Appendix A
Notice of Preparation

EL DORADO COUNTY BOARD OF SUPERVISORS • EL DORADO COUNTY WATER AGENCY • EL DORADO IRRIGATION DISTRICT

EL DORADO
WATER & POWER
AUTHORITY

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https://www.edcgov.us/waterandpower/index.html

December 22, 2017

Subject: Notice of Preparation of a Draft Environmental Impact Report for the **El Dorado Water Reliability Project**

To Whom It May Concern:

In accordance with the California Environmental Quality Act (CEQA), the El Dorado Water & Power Authority (EDWPA) has released a Notice of Preparation (NOP) for a Draft Environmental Impact Report (EIR) for the El Dorado Water Reliability Project (Project). The Project is a component of EDWPA's effort to meet the projected long-term water needs of the "West Slope" of El Dorado County (County)—that is, the area west of the Lake Tahoe Region—as established in the County's General Plan. The Project consists of acquiring rights to allow for the direct diversion, and diversion to storage with subsequent rediversion, for use of up to 40,000 acre-feet/year (afy) of water from the Middle Fork American River and the South Fork American River. The Project would partially assign State-filed water rights for in-County beneficial use supporting water supply to meet anticipated future demand and to enhance drought period reliability.

EDWPA, as Lead Agency for the environmental review of the Project under CEQA, has provided this Notice of Preparation (NOP) to responsible and trustee agencies, other involved federal agencies in accordance with CEQA Guidelines Section 15082, and interested stakeholders. As part of the environmental review process, EDWPA would like to know the views of you and/or your agency as to the scope and content of the proposed EIR, as relevant to your interests or your agency's statutory responsibilities in connection with the Project. The NOP, including a project description and a preliminary review of potential environmental impact issues to be addressed, can be downloaded at http://www.edcgov.us/waterandpower/index.html.

You are invited to provide comment on scope of the EIR. The public comment period extends through February 5, 2018. EDWPA also encourages your participation at one of two public scoping meetings to be held:

Scoping Meeting #1
Lower American River Basin

Date: January 29, 2018

Time: 6:00 pm to 8:30 pm

Location: Regional Water Authority
Conference Room
5620 Birdcage Street, Suite 180
Citrus Heights, CA 95610

Scoping Meeting #2
El Dorado County

Date: January 30, 2018

Time: 6:00 pm to 8:30 pm

Location: El Dorado County Government
Planning Commission Hearing
Room
2850 Fairlane Court
Placerville, CA 95667

EDWPA is also requesting written comments on scope, content, alternatives, and environmental issues to be addressed in the EIR. Due to time limits mandated by state law, **your written comments must be postmarked or received by 4:00 pm on February 5, 2018**. Please submit written comments to:

Julianne van Leeuween, Board Clerk
El Dorado Water & Power Authority
4330 Golden Center Drive, Suite C
Placerville, CA 95667
julianne.vanleeuwen@edcgov.us

Please make sure that you provide your name, the name of the agency you are representing, title, as well as your address, phone number, and email so that we can contact you and keep you informed throughout the EIR process. For additional information or questions please contact Ken Payne, Executive Director at (530) 621-5403, ken.payne@edcgov.us.

Kenneth V. Payne, P.E.
EDWPA

EL DORADO WATER RELIABILITY PROJECT

Notice of Preparation

Prepared for
El Dorado Water &
Power Authority

December 2017

TABLE OF CONTENTS

Notice of Preparation for the El Dorado Water Reliability Project

Page

Introduction **1**

Project Background **1**
- Water Supply Reliability 2
  - Projected Water Supply Deficiency at Buildout 2
  - Drought Resiliency 3
- Options for Water Supply Augmentation 4
- Regional Drought Resiliency and Adaptation Strategies for Climate Change 4
- Past Project CEQA Processes and Refinements 6

Proposed Project **6**
- Project Objectives 6
- Project Area 6
- Project Overview 6
  - Partial Assignments of State-Filed Water Rights for in-County Beneficial Uses 8
  - Long-term and Interim Beneficial Uses 8
  - Use of Existing Diversion and Storage Facilities for Operation Needs 8

Environmental Issues to Be Addressed **9**
- Effects of Water Diversion / Supply Management 10
  - Surface Water Resources: Hydrology and Water Quality 10
  - Aquatic Resources/Fisheries 10
  - Water-Oriented Recreation 11
- Greenhouse Gas Emissions 11
- Facility-Related Effects 11
  - Aesthetics 11
  - Agricultural and Forest Resources 12
  - Air Quality 12
  - Cultural Resources 12
  - Geology, Soils, and Seismicity 13
  - Hazards and Hazardous Materials 13
  - Land Use Plans and Policies 13
  - Noise 14
  - Public Services 14
  - Terrestrial Vegetation and Wildlife 14
  - Transportation and Traffic 14
  - Utilities and Services 15
- Alternatives 15

CEQA Environmental Scoping and Review Process **15**
- EIR Scoping 15
- Intended Uses of the EIR 16

References **18**

Page

List of Tables

Table 1 Schedule for Planned Use 8

List of Figures

Figure 1 Project Area 7

INTRODUCTION

The El Dorado Water & Power Authority (EDWPA) proposes to implement the El Dorado Water Reliability Project, which is a component of EDWPA's effort to meet the projected long-term water needs of the "West Slope" of El Dorado County (County)—that is, the area west of the Lake Tahoe region—as established in the current El Dorado County General Plan (County, 2004). The Project, as described below, will meet approximately two-thirds of the additional—presently unmet—water supply demands at build-out for the West Slope of the County. The project is the first of a series of projects, each with independent utility, through which EDWPA is seeking to ensure a reliable water supply for the County, even in drought years like 2014 and 2015.

EDWPA is a joint powers authority formed in 2004, which is presently composed of the County, the El Dorado County Water Agency (EDCWA), and the El Dorado Irrigation District (EID), (the "El Dorado Parties").[1] In September 2005, the El Dorado Parties and the Sacramento Municipal Utility District (SMUD) entered into an agreement that provides the terms and conditions for the delivery of water from, and the storage of water in, the Upper American River Project (UARP) for EDWPA, as the "designated representative" of the El Dorado Parties (the El Dorado-SMUD Cooperation Agreement; County, 2005).[2]

The project consists of acquiring water rights to allow for the total withdrawal of up to 40,000 acre-feet per year (afy) from the Middle Fork American River and the South Fork American River, storing that water in the UARP, and then delivering the water to EDWPA for its use. EDWPA is the Lead Agency for the environmental review of the project pursuant to the California Environmental Quality Act (CEQA). EDWPA will be preparing an Environmental Impact Report (EIR) for the Project. The State Water Resources Control Board (State Water Board) will be the Responsible Agency under CEQA, using this EIR in its own decision process to consider approval of EDWPA's water rights application.

PROJECT BACKGROUND

The County is located about 30 miles northeast of the City of Sacramento in Northern California. The western portion of the County, referred to as the West Slope, covers the area west of the continental divide along the Sierra Nevada. Placerville is the only incorporated city in the West Slope. Interstate Highway 50 is the major transportation corridor crossing the West Slope, connecting many urban and rural communities, and providing public access to recreational opportunities and economic activities in the County and nearby areas. The area east of Placerville is largely in the jurisdiction of the Eldorado National Forest. The western end of the County includes areas of more concentrated urban development, connecting to the greater Sacramento metropolitan area. The remaining rural areas continue to maintain high levels of agricultural production and in

[1] Georgetown Divide Public Utility District was originally a member agency of EDWPA but has since withdrawn.
[2] El Dorado-SMUD Cooperation Agreement as filed on December 2, 2005 with the Federal Energy Regulatory Commission, Office of the Secretary, p. 3.

recent years have diversified into agritourism. The County's General Plan anticipates that agriculture will continue to be an important aspect of the County's diversified economy.

Public retail water purveyors in the West Slope include EID, Georgetown Divide Public Utility District (GDPUD), and Grizzly Flats Community Services District (GFCSD). Placerville purchases water supply from EID to provide retail services within the city limit.[3] EDCWA also represents the water users and their needs in the remaining unincorporated area in the West Slope.

Major water storage and conveyance facilities located on the West Slope, which may be used to make water available from the Project, belong to SMUD and EID. SMUD owns and operates the UARP to divert, store, and release water within the watersheds of the South Fork and Middle Fork American Rivers on West Slope for the purpose of generating electricity. SMUD uses this electricity to meet customer demands in its service area, which includes the County of Sacramento and small portions of Placer and Yolo counties. A portion of the water made available under the project would be delivered at the Folsom Lake Intake and Pump Station, which is owned and operated by EID. Water would also be delivered, through an exchange with an upstream purveyor, at the American River Pump Station on the North Fork American River near the old Auburn cofferdam.

Water Supply Reliability

EDWPA recognizes that, as established in the current (2004) General Plan, demand for water on the West Slope will increase as the County moves towards buildout. Accordingly, by the Project, EDWPA seeks to ensure water supply reliability by obtaining new water rights sufficient to largely meet the increases in demands for the areas identified in the currently adopted General Plan. Under long-term planning assumptions applicable to the County, new supplies are needed for all West Slope purveyors at buildout of the 2004 General Plan, with approximately 69,000 AFY[4] of additional water supply needed for the West Slope.[5] Based on the El Dorado Parties' experience during the 2014-2015 drought, supplies of all post-1914 appropriative rights can be curtailed during an extended drought. The El Dorado Parties' water portfolio can be diversified and strengthened to improve supply reliability by EDWPA's use of existing storage in the UARP, consistent with the Cooperation Agreement, for the benefit of the West Slope of El Dorado County[6] to meet drought conditions.

Projected Water Supply Deficiency at Buildout

In 2014, the EDCWA completed the *West Slope Update* to its 2007 *Water Resources Development and Management Plan* (WRDMP) to re-evaluate the water supply demands for

[3] Placerville has adopted its first General Plan in 1990, and revised elements as needed, to guide the development within the city's Sphere of Influence.
[4] Water Resources Development and Management Plan, 2014 West Slope Update, pp. 119-123, Tables 7-1 and 7-2.
[5] This estimate includes GDPUD's estimated buildout demand. GDPUD has formally withdrawn its participation in the Project; water supply analyses in the Draft and Final EIR will consider scenarios where GDPUD only receives additional water from non-Project sources and scenarios where GDPUD receives additional water from the Project in order to provide a comprehensive discussion of water supply reliability on the West Slope.
[6] El Dorado - SMUD Cooperation Agreement, 2004, Section 5 et seq, Water Deliveries by SMUD, pp. 9-13.

urban and agricultural uses in the West Slope. The demand estimate was based on the County's approved 2004 General Plan and in light of existing and planned recycled water use, state-mandated and best-management-practice conservation, and demand perturbation under climate change conditions based on referenced case studies in the country. The resulting estimated total buildout[7] demand for the West Slope is about 148,590 afy with up to a total of approximately 69,000 afy of potential water supply shortage in the Western Slope area. Depending on the rate of water use development, water purveyors in the West Slope may experience water supply shortage as early as 2028. EDCWA is currently updating demand projections for the West Slope area. The revised demand projections will be documented and incorporated in the analysis for the Draft EIR.

Drought Resiliency

Water purveyors in the West Slope rely primarily on surface water sources to meet their needs, as there are no recognized groundwater basins in this area, according to California Department of Water Resources Bulletin 118. Further, because urban development in the County is concentrated in the lower-elevation western portion of the County, available recycled water is also limited and/or cost-prohibitive to meet broader needs in the County at higher elevations. The current projected demands have already factored industrial standards, state mandates, and best management practices for water use efficiency in urban and agricultural uses.

California's historic drought from 2013 through 2016 forced water managers throughout the state to examine their water supply vulnerability from a new perspective. The drought demonstrated the plausible scenario where post-1914 appropriative rights would be curtailed, and where agricultural water users would receive zero allocations for deliveries from water service contracts through the Central Valley Project (CVP), owned and operated by U.S. Department of the Interior, Bureau of Reclamation (Reclamation). Under Reclamation's current policies, municipal and industrial purveyors like EID will always receive at least 25 percent of their contract quantities. However, the extended drought demonstrated that it is possible that most water supplies available to the El Dorado Parties could be cut off during the summer months of a drought year. Moreover, climate change projections for California generally predict increasing summer temperatures over time, which could increase water demand despite improved water use efficiency measures. A climate-induced increase in the proportion of precipitation falling as rain combined with an earlier snowmelt could cause reservoirs to fill earlier. Under such a scenario, excess runoff could be released to provide flood management capacity. By reducing the quantity of water available for use during the summer months, such flood operations have the potential of substantially reducing the reliable yield of water supply reservoirs, thereby placing additional stress on available water supplies. Thus, EDWPA believes that the projected water supply deficiency is expected to worsen as climate change progresses, although the rate and degree of worsening are difficult to predict.

[7] The buildout condition is the maximum level of development permitted in the General Plan of a city or county, based on planning tools like land carrying capacity analysis or cumulative impact assessment.

Options for Water Supply Augmentation

EDCWA and EID, member agencies of the EDWPA, have evaluated a broad range of options for water supply augmentation, including new and expanded surface water storage, increased conservation, water reuse, water transfers, and water right acquisitions. As documented in EID's 2013 *Integrated Water Resources Master Plan* and EDCWA's 2014 *West Slope Update to 2007 WRDMP*, the County's challenging foothill terrain, significant elevation changes (roughly 900 to 10,000 feet above mean sea level), physical and hydrologic limitations, and varying permit requirements require a portfolio approach to meet projected urban and agricultural demands. Past studies have identified three categories of water supply augmentation projects applicable to the County:

- Aggressive Water Conservation. To estimate demand at build-out in light of conservation, EDWPA has used the State Water Resources Control Board's residential gallons per capita/day (RGPCD) targets from 2015 as a reasonable measure of current levels of water use efficiency during a drought (the "new normal").

- Alternative Sources of Additional Water. These include potential for increased use of recycled water, and the generation of new water by better management of the national forests at the headwaters of the American River system. EID is already proceeding with the construction of a 6 million gallon/day recycled water plant and it is likely that one or two other such plants could be constructed during the period between the present and build-out. However, given the County's relatively low population density, the construction of a large recycled water plant is likely not to be cost-effective. For example, production of 10,000 to 15,000 afy of recycled water at a cost greater than $1,200/af is not feasible for the residents of El Dorado County. With respect to forest management, studies have shown that improved management of the Eldorado National Forest could yield up to another 10,000 afy of enhanced runoff in the American River system. But such improvements in forest management are entirely within the control of the United States Forest Service and so are independent of the Project.

- Direct Water Augmentation. Past studies that have evaluated the possibility of direct water augmentation projects using new and/or existing storage facilities have concluded that utilizing SMUD's UARP facilities to develop and deliver water is the most feasible way to meet supplemental water supply needs of West Slope purveyors.

Regional Drought Resiliency and Adaptation Strategies for Climate Change

California's recent, historic drought from 2013 through 2016 resulted in devastating effects on water supply in the American River basin. The image of a dry Folsom Reservoir served as the iconic symbol for the devastation. The drought resulted in even more severe water supply impacts to the County due to its lack of access to groundwater as a supplemental water source. This underscores the County's high vulnerability to anticipated climate change conditions, wherein reduced snowpack and increased variability of extreme events are expected to greatly impact the reliability of surface water supplies that the County is dependent on. Therefore, the project will serve as a cornerstone for mitigating such climate-change–related vulnerability, while providing

for regional collaboration. At the same time, challenging water management conditions in American River basin during the historic drought also underscored the critical role of Reclamation in regional water supply reliability and preservation of the lower American River through its operation of Folsom Reservoir.

EDWPA developed the project to be consistent with the 2000 Water Forum Agreement (WFA) and its implementation, including regional, watershed-scale conjunctive use projects. EDWPA and its member agencies support the WFA developed by regional business, water purveyors, cities and counties, and interested parties as a regional solution for both long-term water supply reliability in Sacramento, Placer, and El Dorado counties, and the preservation of the lower American River. EDCWA signed a procedural agreement in May 2000 on behalf of EID and GDPUD to participate in the WFA in the future and committed to develop a purveyor-specific agreement after completing the County's General Plan.

The region is still seeking to implement drought resiliency projects as an outcome of the WFA. Thus, EDWPA, through the EDCWA, is moving forward with the American River Basin Study (ARBS). The ARBS partners include Reclamation; PCWA, the Cities of Folsom, Roseville and Sacramento; and the Regional Water Authority. This work is a follow-up to the Sacramento-San Joaquin Basin Study (SSJBS) that analyzed water supplies and demands in each major river basin to determine potential impacts of climate change, to propose adaptive strategies to mitigate climate change impacts and its potential impact on future water demand, and to identify concept-level options and strategies to promote long-term water supply sustainability. The SSJBS was completed through a partnership between Reclamation, California Department of Water Resources, California Partnership for the San Joaquin Valley, Stockton East Water District, El Dorado County Water Agency, and the Madera County Resources Management Agency. The ARBS is intended to develop detailed hydrologic analysis and models for the basin, which will include consideration of the impacts of climate change and will assist in identifying mitigation or adaptation strategies to address negative impacts of climate change. In addition, the ARBS focuses on the alignment of adaptation strategies that create mutual benefits to the region and to Reclamation. The adaptation strategies are to accomplish regional goals in long-term water supply reliability and ecological system preservation, and provide additional flexibility to Reclamation in operating the Folsom Reservoir to meet all authorized CVP purposes.

EDCWA is working collaboratively with Reclamation, the other regional water purveyors, and interested parties to revise the regional drought mitigation and climate change adaptation strategies. Organized by the Regional Water Authority (RWA), water purveyors (with input and participation by EDCWA and EID) in the greater American River basin region have recently engaged many regional planning efforts to advance collective objectives. The region has completed a 2017 *Regional Drought Contingency Plan*, focusing on drought mitigation actions for CVP contractors and other water purveyors in their wholesale service areas. A Regional Water Reliability Plan is currently under preparation to explore the refined implementation of and impediments to a sustainable regional conjunctive use. EDWPA will continue to participate and collaborate with the RWA efforts for drought contingency planning.

Past Project CEQA Processes and Refinements

EDWPA first petitioned the State Water Board in October 2008 under the "Supplemental Water Rights Project" for partial assignment of state-filed Applications 5644 and 5645 on the tributaries to Middle Fork and South Fork American Rivers for direct diversion and diversion to storage to allow up to 40,000 afy of water. The state filed these applications to reserve water rights for future uses within El Dorado County in 1927.

The State Water Board noticed the applications as complete in May 2009. A number of agencies and environmental interests filed protested to the application. EDWPA prepared a draft EIR (SCH# 2008102090) in support of the water rights applications, that was circulated for public review in July 2010. Subsequently, in evaluating the comments received during the circulation period, EDWPA deferred the project to increase the level of regional collaboration. In March 2014, EDWPA circulated a revised NOP with a revised project but decided to defer the preparation of an EIR due to the changed conditions and growing emergency caused by California's historic drought from 2013 through 2016.

PROPOSED PROJECT

The following provides a summary of the proposed project for environmental scoping purposes.

Project Objectives

EDWPA has identified the following project objective.

- Secure 40,000 afy of additional water supplies from the American River basin to improve water supply reliability and drought resiliency to support planned growth and the economic vitality of the West Slope of El Dorado County.

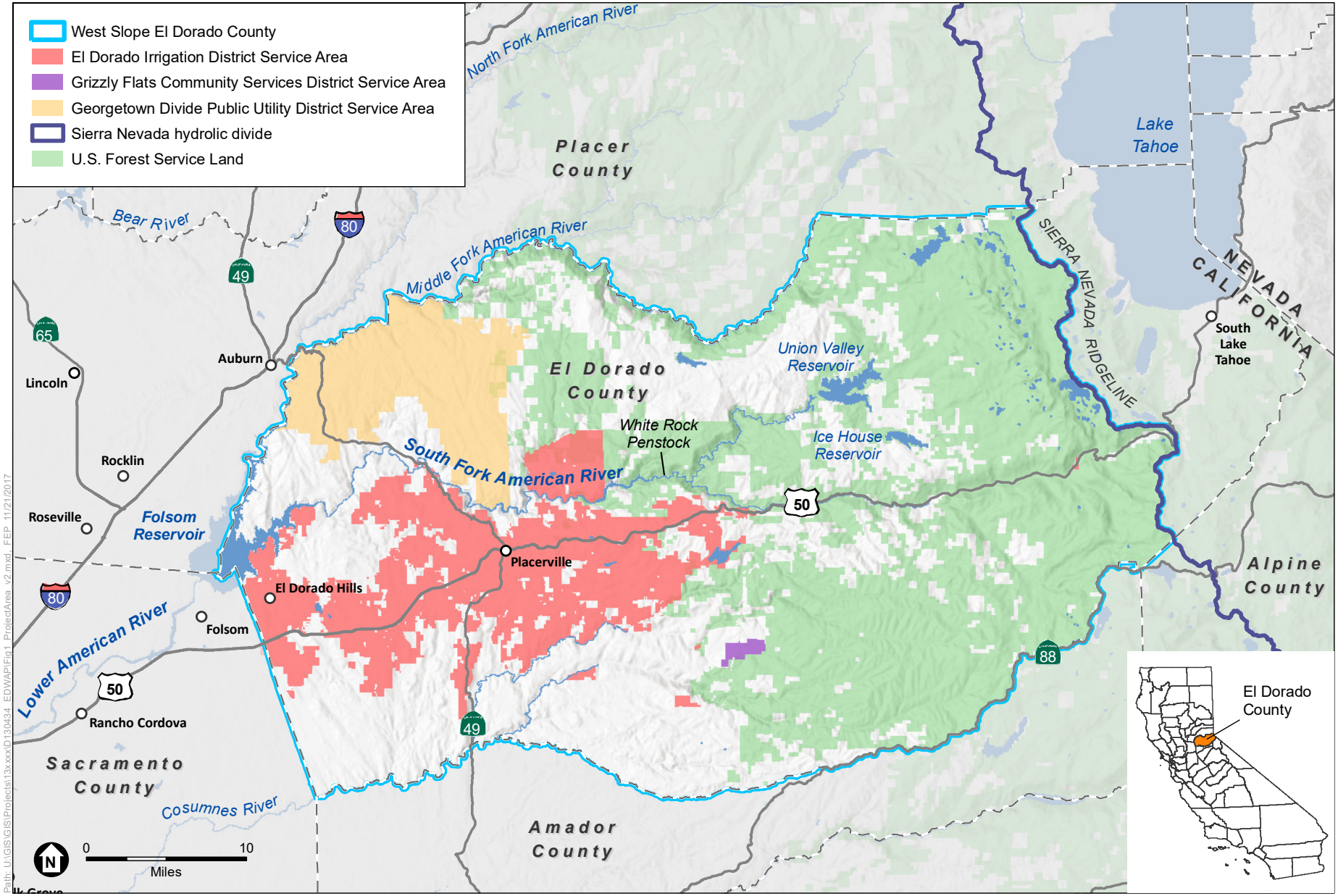
The project objective will be further developed and refined during the EIR process.

Project Area

Figure 1 shows the project location with major existing facilities and water purveyors' service areas.

Project Overview

The proposed project would partially assign state-filed water rights for in-County beneficial use, supporting water supply to meet anticipated future demand and to enhance drought-period reliability, as discussed previously. When in-County demands do not yet require full allocation of project water supplies, EDWPA may elect to allocate interim water uses to regional conjunctive use partners, or to transfer partners. The project would achieve these objectives using only existing diversion and storage facilities.



SOURCE: Esri, 2016; DWR, 2003; El Dorado County, 2017; ESA, 2017

El Dorado Water Reliability Project

Figure 1
Project Area

ESA

Partial Assignments of State-Filed Water Rights for in-County Beneficial Uses

To secure supplemental water to meet a portion of its projected water needs in the manner consistent with the Cooperation Agreement, EDWPA requests the State Water Board to approve the following:

- Partial assignment of Applications 5644 and 5645 filed by the state pursuant to California Water Code section 10500 *et seq*. The partial reassignment will be for direct diversions and storage in a combined amount allowing for the delivery of up to 40,000 afy for domestic, municipal, industrial, and irrigation uses on the West Slope (excluding the Eldorado Forest Service lands) as shown in Figure 1.

- Changes in the points of diversion, rediversions, and storage of the assigned portion of these two state-filed applications to be consistent with the existing authorized points of diversion, rediversions, and storage of SMUD's water rights for the UARP.

EDWPA's partial assignment petition is consistent with provisions in the Cooperation Agreement and the collaboration with the City of Sacramento, which also use SMUD facilities in diverting, rediverting, and storing their appropriated water rights.

Long-term and Interim Beneficial Uses

With the use of existing SMUD facilities, EDWPA can exercise the assigned portion of these two state-filed applications under this project immediately after the approval by the State Water Board. During the period when the in-County water demand is developing, EDWPA may provide available water on an interim basis to support out-of-County beneficial uses that can be implemented with existing facilities and consistent with approved General Plans, applicable law, regulations, and regional agreements. **Table 1** illustrates the allocation of water between in-County and interim out-of-County beneficial uses, showing how the 40,000 afy of water could be allocated under the project over time for beneficial use. The periods associated with different phases and the water use amounts will vary due to hydrologic conditions, and will be refined during the EIR process. However, the combined use will not exceed 40,000 afy.

TABLE 1
SCHEDULE FOR PLANNED USE

Benefit Use	Initial Phase	Intermediate Phase	Buildout
In-County Use	up to 5,000	up to 30,000	up to 40,000
Interim Out-of-County Use	0 – 40,000	5,000 – 20,000	5,000 - 10,000
Total Not-to-Exceed Amount	**40,000**	**40,000**	**40,000**

Use of Existing Diversion and Storage Facilities for Operation Needs

The project will rely entirely on existing diversion, conveyance, and storage facilities; EDWPA would not construct any new facilities as part of this Project. Specifically, EDWPA will use the existing diversion and storage facilities of SMUD's UARP to avoid capital costs and additional

environmental impacts for diverting and storing water under the proposed water rights. EDWPA proposes that, when appropriated, the water will be directly diverted and released from storage for withdrawal at the White Rock Powerhouse Penstock (owned and operated by SMUD) and/or at Folsom Reservoir (owned and operated by Reclamation), consistent with the stipulations in the Cooperation Agreement (see Figure 1). Diversions from Folsom Reservoir could also occur through existing EID facilities. Thus, EDWPA could utilize the proposed water upon approval of the water right.

Although EDWPA would not need to construct any new facility infrastructure to take and manage the proposed water, water distributors would ultimately need to construct new or upgraded water diversion or distribution facilities to serve the County's growing water demand. Such facilities have not been designed, as their required parameters and ultimate design will be partially based on the outcome of the proposed water rights application process. Additionally, these facilities would be developed by entities separate from EDWPA. Therefore, these potential facilities will be described in the EIR, to the extent that information is available, and evaluated at a programmatic level only. Their full, project-level potential to generate environmental impacts will be evaluated separately during subsequent CEQA review. Note that EDWPA would also use the existing available facilities for all interim out-of-County beneficial uses, as applicable.

ENVIRONMENTAL ISSUES TO BE ADDRESSED

The EIR will evaluate potential direct and indirect project impacts and cumulative environmental effects associated with the proposed Project. Issue areas of primary focus are those associated with the proposed project operations, including water diversion, storage, and use. The chief environmental resources and issues areas for analysis will be surface water and groundwater resources, fisheries, aquatic and riparian biological resources, water supply and reliability, hydropower production, water quality and water-oriented recreation.

As noted previously, the project would make use of existing water system infrastructure, including existing water diversion and storage facilities. In the future, purveyors will need to expand water treatment and distribution facilities within their service areas to make full use of this and other supplemental supplies they are pursuing for their long-term supply portfolio. The EIR will address the potential environmental impacts associated with such future facilities generally, at a program level of analysis only, with more detailed, project-level CEQA review to be completed later when facility plans are more developed and available for analysis.

The EIR also will discuss growth inducement potential and the secondary effects of growth that could be associated with increased water use supported by the Project. Because this project was developed specifically to secure a supplemental water supply to meet the projected needs associated with buildout of the County's approved General Plan, the project would not support or induce growth that is in locations or at levels beyond that called for in the existing adopted land use plan. The project will support planned growth, and the EIR discussion of the secondary

effects of this growth will reference and build on the information in adopted El Dorado General Plan and associated EIR, which evaluated the secondary effects of planned growth in detail.

The potential environmental effects to be addressed in the EIR will include, but may not be limited to, those discussed below. Responsible and Trustee agencies are requested to provide input on the scope of the EIR analysis relevant to environmental issues under their jurisdiction.

Effects of Water Diversion / Supply Management

Surface Water Resources: Hydrology and Water Quality

The project could affect surface water resources in a variety of ways. Diversion of water for consumptive use in El Dorado County and interim uses of water outside the County could affect storage and operations at Folsom Reservoir and in the UARP and, in turn, affect flows in the UAR, the lower American River, or further downstream in the Delta system. Changes to existing hydrology could also drive impacts to water quality along the American River or downstream. Potential effects to be evaluated in the EIR include:

- Effects of proposed diversions and other proposed water management activities on hydrology, flows, and water quality along the American River, Sacramento River, the Delta, and other affected waterways. Effects on hydrology and water quality could depend on the timing, volume, and location of proposed diversions and other water management actions. Project effects will be considered both along the Upper American River and Folsom Reservoir, as well as hydrologically or operationally connected waterways downstream.

- Effects of reduced surface water availability on reservoir storage, including Folsom Reservoir and other California reservoirs that are hydrologically or operationally connected to the project area.

- Effects of altered surface water diversion schedules on SMUD Upper American River reservoir operations, including power generation potential.

- Potential for changes in surface water flows to affect other beneficial uses (including instream uses such as aquatic habitat and fisheries, environmental uses, and recreation and consumptive uses).

Aquatic Resources/Fisheries

American River fisheries and aquatic resources could be affected directly or indirectly due to changes in river flows or water quality, proposed changes or increases in water diversion, or other proposed changes in water management. These changes could also affect aquatic resources and fisheries in downstream areas that are hydrologically or operationally connected to the American River. Potential effects to be evaluated in the EIR include but are not limited to:

- Changes in the extent of habitat or habitat quality
- Changes in a fish population that cause it to drop below self-sustaining levels
- Effects on special-status species

- Interference with the movement of any native or migratory fish species

Water-Oriented Recreation

Proposed changes in the volume and timing of diversion from the American River, or potential changes in reservoir storage, could affect water-based recreation. The EIR will evaluate the effects of the proposed water supply options and operations on water-based recreation, such as boating, rafting, or fishing, associated with the regional water system or downstream water resources. Potential effects to be evaluated in the EIR include:

- Effects on water-based recreation opportunities along the American River system
- Effects on land-based recreation facilities and activities due to the siting or operations of proposed facilities or construction activities (e.g., short-term effects due to noise, dust, access restrictions)

Greenhouse Gas Emissions

Over time, increased water diversion for use in El Dorado County would result in increased energy use to divert, convey, treat, and distribute water supply, which would contribute to increased GHG emissions. EDWPA is coordinating with SMUD to understand to what extent the project could alter hydropower generation. A reduction in hydropower generation could indirectly result in increased demand for fossil power to meet SMUD electricity demand. The EIR will examine the potential for project operations to affect other hydropower generation operations. Potential effects to be evaluated in the EIR include:

- Direct increases in GHG emissions during project operation
- Potential for project operations to affect hydropower generation

Facility-Related Effects

EDWPA anticipates that use of the full amount of water available under the proposed water right for this project will require future construction of some additional facilities, as discussed previously. These are anticipated to include upgrading or replacement of Upper American River watershed diversion structures, new or upgraded water transmission and distribution facilities, new or upgraded water treatment facilities, and other structures and facilities in the upper watershed needed to ensure effective conveyance, treatment, management, and distribution of water in El Dorado County. The EIR will review these potential future facilities at a program level of analysis only, as there are no specific plans yet available for more detailed analysis. In the future, when such facility improvements or additions are proposed, more detailed project-level environmental review will be conducted.

Aesthetics

The project could ultimately involve construction of upgraded or new water diversion, treatment, or transmission facilities in the Upper American River watershed, which could alter aesthetic resources within affected areas. Key potential impacts to be considered will include:

- Construction of new or modified facilities for proposed project components would result in temporary land disturbance and could result in short-term changes in the existing visual character of proposed facility sites and surrounding areas. However, most proposed facilities would be buried (pipelines), limited in size (wells and other appurtenances), or located on site with or as a replacement of existing facilities and equipment. Potential effects to be evaluated in the EIR include: potential for substantial temporary construction period changes in the existing visual quality and other scenic/visual resources.

- Potential for substantial ongoing, operation period changes in the existing visual quality and other scenic/visual resources will also be evaluated.

Agricultural and Forest Resources

Most of the anticipated project components would be installed within areas that are not presently used as agricultural land. However, because specific locations of many facilities are not yet known, impacts to agricultural resources may occur as a result of project construction and operation. Potential effects to be evaluated in the EIR include:

- Potential for conversion of important farmland to another use;
- Potential for conflicts with existing Williamson Act contracts; and
- Potential for loss of forest land or conversion to another use.

Air Quality

Project construction would result in temporary emissions relating to the use of construction equipment and construction period worker trips. During operation, it is anticipated that the project would result in air quality emissions that would be limited to worker trips to support ongoing/ routine facility maintenance and operation. Potential effects to be evaluated in the EIR include:

- Emissions from construction equipment during the construction of proposed facilities; and
- Operation period air emissions, which would primarily include vehicle use to support operations and maintenance.

Cultural Resources

Implementation of anticipated infrastructure could result in ground disturbance, which could impact existing cultural, historic, or archaeological resources. Potential effects to be evaluated in the EIR include:

- Disturbance of known or unknown archaeological resources;
- Adverse change in the significance of historic and architectural resources, including historic resources deemed eligible for listing;
- Disturbance of known or unknown Native American resources; and
- Disturbance of known or unknown paleontological resources.

Geology, Soils, and Seismicity

Implementation of the anticipated infrastructure could result in ground disturbance. The proposed facilities could be constructed in areas where they would be subject to local geology and soils hazards. Potential effects to be evaluated in the EIR include:

- Seismic hazards to the facilities and/or increased exposure of people and structures to seismic hazards;
- Increased exposure of people or structures to geologic hazards (such as liquefaction, poor soil conditions, or unstable slopes); and
- Increased erosion potential

Hazards and Hazardous Materials

Ground disturbance during the construction of project components could result in the encounter of existing hazardous materials. In addition, operation of proposed components could require the use of hazardous materials such as fuels, lubricants, and other common hazardous materials, for facility maintenance and upkeep. Site-specific facility construction and operation impacts will be evaluated in the EIR. Potential effects to be evaluated in the EIR include:

- Potential to encounter hazardous materials or waste during construction or potential to release hazardous materials during construction;
- Potential for accidental release of chemicals during facility operations;
- Potential to interfere with an adopted emergency response plan or emergency evacuation plan;
- Hazards related to nearby airports; and
- Increased exposure of people or structures to wildfires.

Land Use Plans and Policies

Construction of project facilities could have “footprint” impacts that would affect existing or planned land uses within the project area. In addition, construction or operation impacts could affect adjacent land uses. The EIR will provide an overview of the potential land use impacts associated with implementation of anticipated facilities. In addition, the EIR will review appropriate local, regional, state, and federal plans and policies within the overall project area and evaluate their relationship to the Project. Potential effects to be evaluated in the EIR include:

- Substantial conflict with established local, regional, state, or federal plans, policies, and/or guidelines;
- Disruption of an established community;
- Inconsistency or incompatibility with existing or planned land uses at or adjacent to proposed regional facility sites;
- Short-term construction disruption effects on neighboring land uses; and

- Operations effects on adjacent land uses.

Noise

The construction of facilities anticipated under the project would result in a temporary and localized increase in noise in the vicinity of construction areas. Potential effects to be evaluated in the EIR include:

- Construction period increases in noise during the installation of proposed facilities; and
- Operation period increases in noise due to the use of groundwater injection and extraction wells.

Public Services

The project is anticipated to have limited effects on acceptable service ratios, response times, or other performance objectives for public services. As a water project with limited new facilities, the project is not expected to require substantial increases in demand for fire protection, police protection, schools, parks, or other public facilities.

Terrestrial Vegetation and Wildlife

Installation of infrastructure could result in disturbance or loss of habitat. Project construction could result in short-term effects, such as direct interference with special-status species, as well as indirect effects including construction-related noise, vibration, dust, and erosion. Potential effects to be evaluated in the EIR include:

- Changes in the extent of habitat or habitat quality for terrestrial plants and wildlife;
- Effects on special-status species;
- Effects on species populations and the ability to maintain self-sustaining levels; and
- Interference with wildlife species movement corridors or migration.

Transportation and Traffic

Construction of the project could involve a temporary increase in construction-related traffic, including truck trips as well as worker trips. During operation, vehicle trip generation would be limited to limited operations and maintenance activities. Potential effects to be evaluated in the EIR include:

- Potential for conflict with established traffic and transportation plans and policies;
- Potential to substantially reduce level of service;
- Potential to substantially increase traffic related hazards, or to result in inadequate emergency access; and
- Potential to interfere with air traffic patterns.

Utilities and Services

Short-term effects on utilities and services could occur during construction of facilities, particularly if in-street construction of pipelines is proposed. Potential effects will be evaluated in the EIR.

Alternatives

CEQA requires that an EIR evaluate a reasonable range of feasible alternatives to the Project, or to the location of the Project, that would attain most of the basic project objectives, but that could avoid or substantially lessen any of the significant effects of the Project, so that the merits of each alternative can be compared to those of the proposed Project. The EIR alternatives analysis will identify the potentially significant impacts of the Project. The findings of the impact analysis will guide the refinement of an appropriate range of alternatives to be evaluated in the EIR to avoid or substantially lessen identified impacts.

EDWPA is currently in the process of developing a range of feasible alternatives to be evaluated within the EIR. The EIR will review identified alternatives in comparison to the Project, and will analyze potential impacts of each alternative in comparison to those of the Project. The EIR will also include a discussion of impacts associated with the No Project Alternative, and will compare the potential impacts of the project with the impacts that would be expected to occur in the event that the project is not implemented.

CEQA ENVIRONMENTAL SCOPING AND REVIEW PROCESS

EIR Scoping

As part of the environmental review process, EDWPA would like to know the views of you and/or your agency as to the scope and content of the proposed EIR, as relevant to your interests or your agency's statutory responsibilities in connection with the Project. Whether you are a public agency, stakeholder, landowner, or interested member of the general public, you are encouraged to participate in the preparation of the EIR by attending the scoping meetings and/or providing written comments as discussed below. Pursuant to the CEQA Guidelines Section 15206, this is considered a project of "statewide, regional, or area wide significance" and a scoping meeting is required.

Two scoping meetings, one in El Dorado County and one in the Lower American River Basin, will be conducted to seek public and agency input on the scope of the environmental review, alternatives, and issues and concerns to be addressed in the EIR. The schedule and location of the scoping meetings are as follows:

Lower American River Basin
January 29, 2018, 6:00 pm to 8:30 pm
Regional Water Authority
Conference Room
5620 Birdcage Street, Suite 180
Citrus Heights, CA 95610

El Dorado County
January 30, 2018, 6:00 pm to 8:30 pm
El Dorado County Government Center
Planning Commission Hearing Room
2850 Fairlane Court
Placerville, CA 95667

Written Comments. In addition to the opportunity to provide input during the scoping meetings, written comments on scope, content, alternatives, and environmental issues to be addressed in the EIR are also encouraged. Due to time limits mandated by state law, your **written comments must be received by February 5, 2018**. Please submit written comments to:

Julianne van Leeuween, Clerk of the Board
El Dorado Water & Power Authority 4330
Golden Center Drive, Suite C Placerville,
CA 95667
julianne.vanleeuwen@edcgov.us

Please make sure that you provide your name, the name of the agency you are representing, title, your address, phone number, and email so that we can contact you and keep you informed throughout the EIR process. If you should have any questions or need additional information, please contact Julianne Van Leeuween at julianne.vanleeuwen@edcgov.us or (530) 621-6635.

Intended Uses of the EIR

EDWPA is the CEQA Lead Agency for review of the proposed El Dorado Water Reliability Project. The EDWPA Board of Directors will consider the information contained in the EIR prior to considering project approval. The EIR will also provide information to other agencies that have an approval or permitting role over some aspect of the project and/or will consider whether to participate in the Project. Responsible Agencies under CEQA that will use this EIR as part of their review and approval process for the project may include, but are not limited to:

- State Water Board
- Potential project participants outside of the County for interim water uses (when identified)

Trustee agencies under CEQA with jurisdiction over State resources occurring within the project area include:

- California Department of Fish and Wildlife
- California State Parks
- California State Lands Commission

Federal Agencies with jurisdiction over facilities and resources potentially affected by the project include:

- Reclamation (owns/operates Folsom Reservoir)
- National Marine Fisheries Service
- U.S. Fish and Wildlife Service
- U.S. Forest Service

REFERENCES

County of El Dorado. County of El Dorado Adopted General Plan. Available at: https://www.edcgov.us/Government/Planning/pages/Adopted_General_Plan.aspx. 2004 Accessed December 19, 2017.

County of El Dorado, 2005. El Dorado-SMUD Cooperation Agreement. Available at: https://www.edcgov.us/waterandpower/water_power_pdf/ElDoradoSMUDCooperationAgreement.pdf Accessed December 21, 2017.

County of El Dorado, EDCWA, EID, and GDPUD. Revised Second Amendment to the Joint Powers Agreement of the El Dorado Water and Power Authority. March 2008.

County of El Dorado, EDCWA, EID, GDPUD, EDWPA, and SMUD. *El Dorado – SMUD Cooperation Agreement*. September 2005.

EDCWA. West Slope Update to Water Resources Development and Management Plan. November 2014.

Appendix B

West Slope Water Use Planning Zone Delineation Consistent with the Adopted General Plan

Stantec

Memo

To:	Kenneth V. Payne, General Manager El Dorado County Water Agency	From:	Yung-Hsin Sun, Maritza Flores Marquez Sacramento (C St) CA
File:	184031088	Date:	September 25, 2019

Reference: Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan

Authorized by the 1959 El Dorado County Water Agency Act, the El Dorado County Water Agency's (Agency) mission is to ensure that El Dorado County has adequate water for today and in the future. The Agency is currently updating its Water Resources Development and Management Plan (WRDMP), presenting the Agency's progress toward long-term water security and a renewed focus on advancing countywide water management to realize the vision of the General Plan adopted by the County of El Dorado (County) for economic development, environmental protection, and quality of life for all residents.

The WRDMP identified water resource-related challenges in El Dorado County for realizing the vision of the County General Plan. One important challenge is the projected water supply-demand imbalance, which is an outcome of many factors including changes in climate, regulations, water management policies, and applied technology; socioeconomic conditions and market trends; and population growth and demographic changes.

This Technical Memorandum (TM) documents the water use eligibility criteria for having potential municipal and industrial (M&I) demands, agricultural demands, or both, on a specific parcel in the West Slope area (West Slope) allowed by the County General Plan. The consistency with the County General Plan was developed in close coordination with staff of the County's Planning and Agricultural Departments to ensure the criteria were established and applied properly. These staff also reviewed this TM for accuracy before its finalization.

Limitations. This eligibility criteria discussed in this TM apply to the West Slope only. For the Tahoe Basin area, the Tahoe Regional Planning Agency (TRPA) is the lead planning agency and adopted the latest Lake Tahoe Regional Plan in December 2012. The County General Plan recognizes the Lake Tahoe Regional Plan as the adopted plan for the Tahoe Basin area within El Dorado County and the County's land use database typically marks the land use designation for this area as Adopted Plan (AP). The Tahoe Basin water purveyors (South Tahoe Public Utility District and Tahoe City Public Utility District) are working with North Tahoe Public Utility District to revise estimates of future water need in order to secure the water rights under the Truckee River Operating Agreement authorized by the Public Law (PL) 101-618. The PL limits California's total gross diversions in the Lake Tahoe Basin to 23,000 acre-feet per year from all natural sources, including direct diversions from Lake Tahoe and extractions from groundwater.

FOCUS ON THE CAPACITY LEVEL OF THE COUNTY GENERAL PLAN

The County General Plan provides a composite of envisioned economic development and associated environmental conditions using land use designations, zoning ordinances, policies and other requirements. The County General Plan provides more resolution for near-future conditions, but it also provides a description of conditions when the land carrying capacity is reached.

The Agency does not currently provide retail services or own any water infrastructure. However, the Agency holds contracts and agreements related to water supply and credits for certain facility use. For long-term water supply planning purposes, the Agency focuses on the needs at the capacity level – a level of planning

that is consistent with the Agency's mission to ensure that El Dorado County has adequate water for today and in the future, and its interest in assisting the County in realizing the General Plan. The resulting water supply planning effort will inform the Agency on the need of potential actions for improving countywide water supply reliability and resiliency; these actions may require a long lead time for development.

In order to formulate long-term strategies in managing the evolving water supply-demand imbalance, it is necessary to establish a basic representation of the envisioned capacity condition in the County General Plan that requires reliable and resilient water supply both in quantity and quality. With a consistent representation, the corresponding M&I and agricultural demands under the land carrying capacity defined in the County General Plan can be identified. Note that the environmental demands (including recreational needs) are currently represented in the requirements for instream flows and facility operations per applicable laws and regulations. There are no specific environmental water needs as outlined in the Integrated Natural Resources Management Plan, which is part of the County General Plan.

WATER USE ELIGIBILITY

The County General Plan encourages the rural-agricultural way of life and allows urbanization in areas near Sacramento County. Therefore, major types of water use in El Dorado County include urban residential water use, urban commercial and industrial water use, rural domestic water use, commercial agricultural water use, and rural agricultural water use that are for individual consumption but not for commercial purposes.

A two-step review process was used to determine if M&I demands, agricultural demands, or both could be realized on a particular parcel: (1) identified whether the land use requirements in the County General Plan allow a certain demand to occur on this parcel, and (2) identified whether physical properties or other factors of this parcel may reasonably preclude the owner's decision to incur a certain demand on this parcel. After the two-step review process, the potential demand may be estimated based on applicable standards and practices. The eligibility criteria discussed in this TM addresses only the first step of the two-step review process that is based mostly on land use designations and zoning ordinances. Additional factors including physical characterizations (e.g., slope, soil type, etc.), regulatory requirements (i.e., water use standards), and other applicable factors will be further incorporated in the demand estimate process. The eligibility criteria developed herein can be used to delineate water use planning zones that are consistent with the County General Plan for sequent demand estimates.

Eligibility Criteria

Table 1 presents a summary of water use eligibility by land use designation, with criteria that reflect the associated zoning ordinance limitations consistent with the County General Plan. The eligibility criteria were developed based on discussions with the County Planning Department staff, Agricultural Commissioner and staff, and other individuals familiar with the County General Plan. Where applicable, the County General Plan sections and its supporting information are referenced.

It is important to emphasize that the eligibility does not guarantee that a certain demand would be developed on the specified parcel. As previously mentioned, the realization of a certain demand requires applications of other considerations and applicable water use standards and practices.

Reference: **Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan**

Primary and Adjoining Uses

Both M&I water use and agricultural water use may be eligible for certain land use designations, as shown in **Table 1**, reflecting the rural-agricultural setting in El Dorado County. However, it is important to differentiate between the primary use and the adjoining use for these land use designations. For example, parcels with the Low-Density Residential land use designation are for residential use, resulting in M&I water use (i.e., primary use). However, the County General Plan also permits agricultural practices on these parcels, resulting in agricultural water use (i.e., adjoining use). Similarly, a parcel designated as Agricultural Lands is dedicated to agricultural use, resulting in agricultural water use (i.e., primary use). However, a farmhouse with domestic water use could also be permitted for complementing the intended farming operation, resulting in M&I water use (i.e., adjoining use). The preferred rural-agricultural way of life means that permitted agricultural practices in El Dorado County include both commercial and noncommercial purposes where non-commercial practices are limited to personal consumption. The emphasis on the difference between the primary use and the adjoining use is because an adjoining use cannot be considered without the existence of the primary use, consistent with the intent of the County General Plan.

Reference: **Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan**

Table 1. Summary of Potential Water Use Eligibility by Land Use Designation

County General Plan Land Use Designation	Potential Water Use Eligibility Consistent with the County General Plan*	
	Municipal and Industrial Water Use	Agricultural Water Use
Multifamily Residential (MFR)	Eligible[1,2,3,4]	Not eligible
High-Density Residential (HDR)	Eligible[1,2,3,4]	Not eligible
Medium-Density Residential (MDR)	Eligible[1,2,3,4]	Eligible (adjoining use** only)[1,2,6]
Low-Density Residential (LDR)	Eligible[1,2,3,4,5]	Eligible (adjoining use** only)[1,2,6,7]
Rural Residential (RR)	Eligible[1,2,3,4,5]	Eligible (adjoining use** only)[1,2,6,7,8]
Agricultural Lands (AL)	Eligible (adjoining use** only)[1,2,11]	Eligible[1,2]
Natural Resource (NR)	Eligible (adjoining use** only)[1,2,12]	Eligible[1,2,9]
Commercial (C)	Eligible[1,2]	Not eligible
Research & Development (R&D)	Eligible[1,2]	Not eligible
Industrial (I)	Eligible[1,2]	Not eligible
Open Space (OS)	Not eligible[13]	Not eligible
Adopted Plan (AP)	Per Adopted Plan[1,2,10]	Per Adopted Plan[1,2,10]
Public Facilities (PF)	Eligible[1,2]	Not eligible
Tourist Recreational (TR)	Eligible[1,2]	Not eligible

* The eligible lands will be further evaluated for demand estimate depending on their other attributes (e.g., soil types, slope, etc.)

** An adjoining use on a parcel is not allowed unless the primary use is established on a specific parcel, while satisfying other criteria in this table.

Eligibility Criteria:

[1] Excluding non-jurisdictional areas with federal and state ownerships.

[2] Outside of Mitigation Area 0, per County Zoning Ordinance 130.71.030 to protect the Gabbro Soils Rare Plant Ecological Preserve area.

[3] Residential parcels with Assessor Parcel Number Status Code 00 (i.e., taxable).

[4] Residential parcels over 1,815 square feet (inclusive) based on the maximum density of 24 dwelling units per acre for MFR per Policy 2.2.1.2 of the County General Plan.

[5] Residential parcels within the Agricultural Districts, which the Board of Supervisors has determined should be preserved primarily for agricultural uses, should have a lot size of 20 acres or the minimum lot size established by the underlying land use designation, whichever is greater, per Policy 2.2.2.2 of the County General Plan.

[6] Residential parcels with zoning ordinance designations of Agricultural Grazing (AG), Limited Agricultural (LA), Planned Agricultural (PA), or Rural Lands (RL), per Table 2-4 of the County General Plan.

[7] Residential parcels over 10 acres (inclusive) with Residential Estate (RE) zoning ordinance designation. The criterion is added for practical reasons to reflect general practices. LDR and RR are the only residential land use designations that allow RE per Table 2-4 of the County General Plan.

[8] Residential parcels over 10 acres (inclusive) with Timber Production (TPZ) zoning ordinance designation. This criterion is added for practical reasons to reflect general practices. LDR and RR are the only residential land use designations that allow TPZ per Table 2-4 of the County General Plan.

[9] Natural resources parcels with zoning ordinance designations of AG, LA, PA or RL, per Table 2-4 in the County General Plan.

[10] The Adopted Plan (AP) Land Use Designation recognizes areas for which specific land use plans have been prepared and adopted. The specific parcel-level land use designation information is not available from the County's GIS database for land use; therefore, the primary assessed land use from the parcel data was used to refine the land use designation. This approach was applied to the City of Placerville as well. See **Table 2** for more details.

[11] Parcels with AL land use designation allow a maximum of 2 residential dwellings used to support agricultural use, per Policy 2.2.1.2 of the County General Plan.

[12] Parcels with NR land use designation may have one dwelling unit per 40 acres maximum density if not suitable for timber production, per Policy 2.2.1.2 of the County General Plan. Thus, the M&I water use eligibility would exclude the parcels with both NR land use designation and TPZ zoning ordinance designation.

[13] Parcels with OS land use designation can be used to designate public lands under governmental title (County, State Parks, Bureau of Land Management, U.S. Bureau of Reclamation, U.S. Forest Service, etc.), where no development other than that specifically needed for government-related open space uses is desired, per Policy 2.2.1.2 of the County General Plan. Exceptions include Marshall State Park, Placerville Nursery, and the U.S. Forest Service Institute of Forest Genetics, where El Dorado Irrigation District has existing agreements to serve these water needs.

Reference: **Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan**

WATER USE PLANNING ZONES

For the purposes of water use planning and demand estimates, two water use planning zones were established based on the eligibility criteria provided in **Table 1**.

- **Urban water use planning zone:** Lands for economic development where the County General Plan allows only M&I water use.
- **Rural-agricultural water use planning zone:** Lands for economic development where the County General Plan allows both M&I water use (including rural domestic water use) and agricultural water use (for commercial or non-commercial practices). As previously mentioned, M&I water use and agricultural water use can be the primary use or the adjoining use on a parcel depending on the parcel's land use designation.

Delineation of Water Use Planning Zones

The delineation of the water use planning zones is based on the land use information contained in GIS format provided by the County Surveyor's Office in March 2019. Note that the County Surveyor's Office updates its GIS database and land use information as needed, and the resulting delineation of the water use planning zones can be updated by applying the same water use eligibility criteria discussed in **Table 1**. The eligibility criteria should be reviewed for potential update to maintain consistency when the County revises its General Plan.

Treatment of the Adopted Plans

An additional treatment was required to determine land use designations within the AP land use designation because the land use information available for AP did not contain details on the adopted land use. The parcel data from the County Assessor's Office was used as a reference, specifically the Primary Accessed Land Use (USECDPRILI) field in the database which depicts the primary assessed land use information within AP. This additional treatment was completed in June of 2019. **Table 2** shows cross references between the parcel information and assigned land use designations for water use planning purposes.

Treatment of Remaining Parcels with no Land Use Designation

After the process mentioned above and additional inspection of the parcel information, 3,142 parcels had no information on primary land use designation or use. These parcels can be more than 500 acres, although more than half of them are small in size. Some of them are roads in developed areas. To the extent possible, these parcels were classified by using a combination of methods including the Primary Accessed Land Use (USECDPRILI) and the Secondary Accessed Land Use (USECDSECLI), visual inspection using Google Earth, land use designations of surrounding parcels, and in some cases verification with the County Assessor's Office. When applicable, **Table 2** was used to assign the corresponding land use designation to theses parcels. The classification process stopped at parcels with 0.37 acres in size or less. A total of 495 parcels remained unclassified for water use planning purpose. The exclusion of these parcels from the water use demand calculation would result in a slightly conservative estimate. However, the total acreage of these 495 parcels is only 53 acres. The omission of the 53 acres will have only a limited impact on the overall demand estimate for the West Slope water use planning zones that cover an area of more than 388,000 acres.

Reference: **Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan**

Table 2. Cross References of Parcel Primary Assessed Land Use information and Land Use Designations for the Areas with the Adopted Plan (AP) Land Use Designation in the West Slope

Primary Assessed Land Use (USECDPRILI[1])	County General Plan Land Use Designation
Community Oriented Facilities	Public Facilities (PF)
Hospitals & Convalescent Hospitals	Public Facilities (PF)
Misc. Improved Recreational	Public Facilities (PF)
Place of Worship	Public Facilities (PF)
School – Large (101 + Students)	Public Facilities (PF)
School – Medium (13 - 100 Students)	Public Facilities (PF)
Bar, Tavern	Commercial (C)
Cemeteries	Commercial (C)
Medical/Dental/Vet Offices	Commercial (C)
Mini-Warehouse (mini-storage)	Commercial (C)
Misc. Improved Commercial	Commercial (C)
Motel, Hotel	Commercial (C)
Non-Res. Improvements <=2.5AC.	Commercial (C)
Offices	Commercial (C)
Parking Lot	Commercial (C)
Restaurant	Commercial (C)
Retail Stores <=5,000 Sq. Ft.	Commercial (C)
Retail Stores 5,000-15,000 Sq. Ft.	Commercial (C)
Retail Stores >15,000 Sq. Ft.	Commercial (C)
Rural Non-Res. Improvement 2.51-20.0 AC.	Commercial (C)
Service Station	Commercial (C)
Supermarkets	Commercial (C)
Vacant Commercial Land	Commercial (C)
Warehouses	Industrial (I)
Heavy Manufacturing	Industrial (I)
Light Manufacturing	Industrial (I)
Misc. Improved Industrial Property	Industrial (I)
Vacant Industrial Land	Industrial (I)
Retirement Housing	Low-Density Residential (LDR)
Rural Mobile Home 2.5+ AC.	Low-Density Residential (LDR)
Rural Res. 2.51-20.0 AC. 1 SF Unit	Low-Density Residential (LDR)
Vac Rural Res Land 2.51-20.0 AC. 1 Unit	Low-Density Residential (LDR)

Reference: **Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan**

Table 2. Cross References of Parcel Primary Assessed Land Use information and Land Use Designations for the Areas with the Adopted Plan (AP) Land Use Designation in the West Slope (Cont'd)

Primary Assessed Land Use (USECDPRILI[1])	County General Plan Land Use Designation
Manuf. Homes <=2.5 AC. (Mobiles)	Medium-Density Residential (MDR)
Single Fam. Res. <=2.5 AC. (INC.MAN.HMS)	Medium-Density Residential (MDR)
Vacant Residential Land <=2.5 AC. 1-3 UNITS	High-Density Residential (HDR)
Condominiums & Townhouses	Multifamily Residential (MFR)
Mobile Home Parks	Multifamily Residential (MFR)
Multi-Residential 2-3 Units	Multifamily Residential (MFR)
Multi-Residential 4+ Units	Multifamily Residential (MFR)
Vacant Multi-Res. Land 4+ Units Allowed	Multifamily Residential (MFR)
(blank)[2]	Open Space (OS)
Env. Sensitive Land – Restricted Use	Open Space (OS)
Unassigned	Open Space (OS)
Vacant Recreational Land	Open Space (OS)
Rural Res. 20+ AC. 1 Res. Unit	Rural Residential (RR)
Rural Res. Land 20+ Minor Non-Res Impr	Rural Residential (RR)

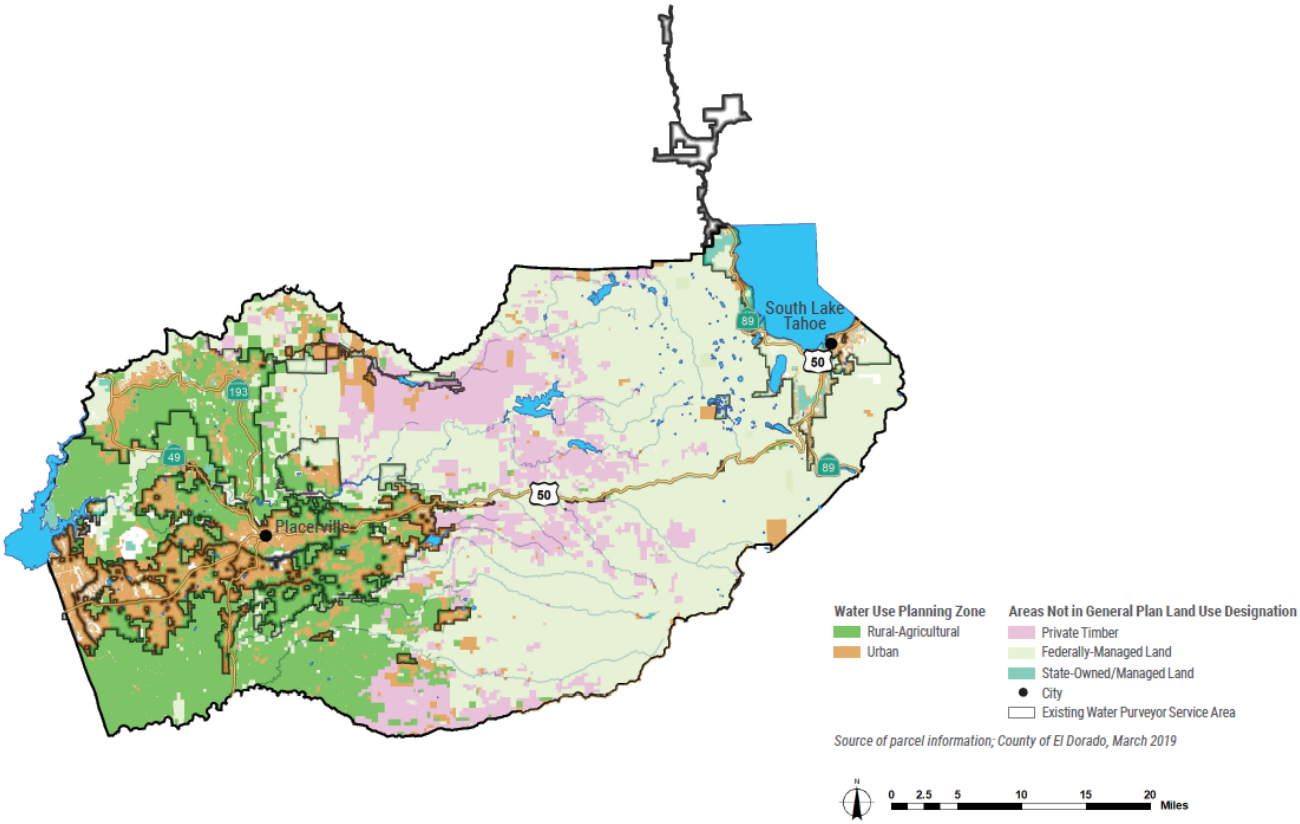
[1] Field Name in County Parcel Database; the entries are consistent with the database entries without changes in abbreviation or use.

[2] Parcels with no information are roads.

Reference: **Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan**

Delineated Water Use Planning Zones

The figure below shows the resulting water use planning zone delineations derived from the County General Plan land use designations and zoning ordinance designations.



c. Tiffany Schmid, Anne Novotny, Brendan Ferry, C.J. Freeland (El Dorado County Planning Department)
Charlene Carveth, LeeAnne Mila (El Dorado County Agriculture, Weights & Measures)

Appendix C

El Dorado–SMUD Cooperation Agreement

EL DORADO – SMUD COOPERATION AGREEMENT

TABLE OF CONTENTS

Page

Recitals……1

Article I. EFFECTIVE DATE; TERM OF AGREEMENT; DEFINED TERMS.....4

1.1 Effective Date 4
1.2 Term.....4
1.3 Defined Terms 4

Article II. PURPOSE OF AGREEMENT 4

2.1 Statement of Intent.....4
2.2 Effect on 1957 Agreement and 1961 Agreement 5
2.3 Headwater Benefits.....5

Article III. CURRENT UARP RELICENSING PROCESS.....5

3.1 FERC Notification Agreement 5
3.2 Support of Relicensing.....5
3.3 Cooperation With SMUD 6
3.4 Iowa Hill Development.....6

Article IV. PAYMENTS BY SMUD.....7

4.1 SMUD Initial Payment 7
4.2 SMUD Annual Payments.....7
4.3 Iowa Hill Development.....7
4.4 Use of Payment Funds 8
4.5 Adjustment of Payments 8

Article V. WATER DELIVERIES BY SMUD.....9

5.1 Delivery and Storage Obligation 9
5.2 Notice for Initiation of Deliveries and Storage; Construction of Interconnections 9
5.3 Annual Delivery Forecasts.....10
5.4 Delivery Scheduling.....11
5.5 Delivery Points.....11
5.6 Storage Constraints 11
5.7 Rate of Deliveries at White Rock Delivery Point 12
5.8 Constraints on Delivery 12
5.9 Compliance with FERC License.....13

Page

Article VI. ACQUISITION OF RIGHTS TO EL DORADO WATER; SMUD WATER RIGHTS 14

6.1 Acquisition of Rights to El Dorado Water 14
6.2 Facilitation, Notice Regarding City Negotiations 14
6.3 Water Forum 14
6.4 Section 8 of 1961 Agreement 15
6.5 Reservation of Rights 15

Article VII. METERING; ACCOUNTING; AUDIT 15

7.1 Metering 15
7.2 Deliveries at SFAR Delivery Point 16
7.3 Accounting, Reporting and Audit Rights 16

Article VIII. PAYMENTS BY EL DORADO PARTIES 16

8.1 SMUD Compensation 16
8.2 Payment to SMUD 18

Article IX. PAYMENT PROCEDURES 18

9.1 Late Payments 18
9.2 Payment Mechanisms 19

Article X. USE OF AGREEMENT BY PARTIES 19

10.1 El Dorado Parties Use of Agreement 19
10.2 SMUD Use of Agreement 19

Article XI. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT 19

11.1 Notice Regarding CEQA 19
11.2 Responsibilities of Parties 19
11.3 Discretion of the El Dorado Parties 20
11.4 Discretion of SMUD 21
11.5 Good Faith Negotiations 21
11.6 Additional Procedures 21

Article XII. FUTURE RELICENSING PROCEEDINGS; AMENDMENT TO LICENSE ACT 21

12.1 Notice of Subsequent Re-License 22
12.2 Subsequent Relicensing Process 22
12.3 Amendments to New License, Subsequent New License 22

Article XIII. RE-OPENERS 23

13.1 General 23
13.2 Criteria Applicable to All Re-Opener Negotiations and Arbitrations 23
13.3 Source of Water Re-Opener 24
13.4 Points of Delivery Re-Opener 24
13.5 Iowa Hill License Re-Opener 24
13.6 Re-Opener for New License 25

Article XIV. TERMINATION; SURVIVAL 26

14.1 Termination 26
14.2 Survival of Provisions 26

Article XV. REPRESENTATIONS AND WARRANTIES 26

15.1 Representations and Warranties of El Dorado Parties 26
15.2 Representations and Warranties of SMUD 27

Article XVI. REMEDIES 27

16.1 Remedies 27

Article XVII. DISPUTE RESOLUTUION 28

17.1 General 28
17.2 Dispute by El Dorado Parties Over SMUD Delivery Invoice 28
17.3 Negotiation of Re-Opener disputes Under Article XIII; Suspension; Termination 28
17.4 Negotiation and Mediation of Other Disputes 30
17.5 Binding Arbitration 31
17.6 Miscellaneous Provisions 32

Article XVIII. GENERAL PROVISIONS 31

18.1 Governing Law 32
18.2 Entire Agreement 32
18.3 Severability 32
18.4 Assignment; Successors and Assigns 33
18.5 No Third Party Rights 33
18.6 Incorporation of Recitals and Exhibits 33
18.7 Waiver 33

18.8 Attorneys' Fees; Costs 33
18.9 No Precedent 33
18.10 Good Faith 33
18.11 Other Instruments 34
18.12 Representation by Counsel; Interpretation 34
18.13 Notices 34
18.14 Captions, Headings 35
18.15 Signatures - Counterparts 35
18.16 Condition Precedent to Construction, Delivery, and Storage 35

Article XIX. ALLOCATION OF RIGHTS AND OBLIGATIONS AMONG EL DORADO PARTIES 36

19.1 El Dorado Designated Representative 36
19.2 Power Foregone Payments 37

EL DORADO – SMUD COOPERATION AGREEMENT

This El Dorado - SMUD Cooperation Agreement ("Agreement") is made and entered into this ____ day of _____, 2005 ("Effective Date") by and between the following parties:

- The County of El Dorado (the "County"), the El Dorado County Water Agency ("EDCWA"), Georgetown Divide Public Utility District ("GDPUD"), El Dorado Irrigation District ("EID"), and El Dorado Water and Power Authority ("EDWPA"), collectively, the "El Dorado Parties"; and

- Sacramento Municipal Utility District ("SMUD"),

individually "Party" and collectively the "Parties."

RECITALS

A. The County of El Dorado ("County") is a subdivision of the State of California whose jurisdiction is El Dorado County.

B. El Dorado Water and Power Authority ("EDWPA") is a joint powers authority organized under the Joint Exercise of Powers Act (Gov. Code, § 6500 et seq.), comprising the County, EDCWA, EID, and GDPUD.

C. El Dorado County Water Agency ("EDCWA") is a district created by Chapter 96 of the California Water Code Appendices. EDCWA's jurisdictional area consists of all territory lying within the boundaries of El Dorado County. Public water purveyors within its jurisdictional area include EID, GDPUD, Grizzly Flats Community Services District, a portion of the Tahoe City Public Utility District, and the South Tahoe Public Utility District.

D. El Dorado Irrigation District ("EID") is an irrigation district organized and existing under the Irrigation District Law, California Water Code Division 11.

E. Georgetown Divide Public Utility District ("GDPUD") is a public utility district created under the Public Utility District Act in 1946.

F. Sacramento Municipal Utility District ("SMUD") is a political subdivision of the State of California and a municipal utility district organized and existing under the provisions of the Municipal Utility District Act, California Public Utilities Code sections 11501, *et seq*.

G. SMUD is the owner, licensee, and operator of the Upper American River Project ("UARP"), the facilities of which are used to divert, store, and release water within the watersheds of the South Fork and the Middle Fork of the American River for the purpose of

generating and transmitting electric power to a 900-square-mile service area that includes the County of Sacramento and small portions of Placer and Yolo Counties.

H. The UARP is licensed by the Federal Energy Regulatory Commission ("FERC") under the Federal Power Act as hydropower Project number 2101 and consists of eleven (11) reservoirs and eight (8) powerhouses ("UARP Facilities"), all of which are located within the boundaries of the County, and related facilities.

I. On July 11, 1957, the County and SMUD entered into the "Agreement Between County of El Dorado and Sacramento Municipal Utility District" (the "1957 Agreement") in which, among other things, SMUD agreed to permit the County to make use of certain of the UARP Facilities for the provision of water for irrigation, domestic, municipal, and stockwatering purposes within El Dorado County, and the County agreed to withdraw its protests to SMUD's then-pending applications for non-consumptive water rights for the UARP.

J. On December 7, 1961, the County, EDCWA, and SMUD entered into the "Supplemental Agreement Between County of El Dorado, El Dorado County Water Agency, and Sacramento Municipal Utility District" (the "1961 Agreement") in order to supplement the 1957 Agreement.

K. Effective as of September 27, 1993, the County and EDCWA transferred and assigned their right, title, and interest in, and delegated their duties under, the 1957 Agreement and the 1961 Agreement, to EID, and by such assignment EID agreed to exercise the rights and entitlements, and otherwise act in furtherance of developing and using the benefits subject to the burdens, of the 1957 and 1961 Agreements for irrigation, domestic, municipal, and stock-watering purposes within El Dorado County.

L. The term of SMUD's original FERC license for the operation of the UARP expires in 2007 ("Original License"). In 2001, utilizing FERC's alternative licensing procedures, SMUD initiated the relicensing process ("Current Relicensing Process") to obtain its first new license for the UARP from FERC (the "New License"). For purposes of this Agreement, the term "Original License" includes any annual licenses issued by FERC on expiration of the Original License, and the term "New License" means the new license issued to SMUD by FERC in the Current Relicensing Process and any annual license issued by FERC in the relicensing process next following the Current Relicensing Process. The term "Subsequent New License" means any new license issued to SMUD in any relicensing process after the Current Relicensing Process ("Subsequent Relicensing Process") and any annual licenses issued by FERC after expiration of such Subsequent New License and before issuance of the next Subsequent New License.

M. The El Dorado Parties have been active participants in the Current Relicensing Process respecting any impacts that the UARP will have on facilities owned or services provided by, or any resource or other interest subject to the jurisdiction of, any of the El Dorado Parties during the term of the New License (the "Impacts").

N. The El Dorado Parties desire to receive delivery of water from the UARP Facilities for beneficial uses within the boundaries of El Dorado County.

O. Issues have arisen between the El Dorado Parties and SMUD concerning (i) the Impacts, (ii) the Parties' respective rights and obligations under the 1957 Agreement and the 1961 Agreement, and (iii) other matters pertaining to the Current Relicensing Process.

P. Prior to the execution of this Agreement, SMUD filed applications with the SWRCB for administrative modifications to its existing non-consumptive water rights and for additional non-consumptive water rights which SMUD has determined are necessary to ensure that its water rights accommodate both SMUD's actual and historic operations. A summary of the applications is attached as Exhibit "B".

Q. Prior to execution of this Agreement, SMUD filed its Application for License for Major Modified Project with FERC on Friday, July 15, 2005.

R. The Western Slope of El Dorado County Water Supply, Demand and Need Projections, attached as Exhibit "A", demonstrates that water supplies presently available to meet the projected El Dorado County General Plan water demands, including those supplies available to EID and GDPUD as shown in Exhibit "C", are almost fully utilized and that if the El Dorado Parties take no action to obtain supplemental water, the water demands on the Western Slope of El Dorado County will soon exceed available supplies with the deficit increasing to as much as 30,000 afy in 2025.

S. Prior to and in anticipation of the execution of this Agreement by all Parties, the El Dorado Parties commenced good faith discussions with the City of Sacramento (the "City") for the acquisition of a water supply to be diverted under this Agreement. In furtherance of that end, this Agreement contains specific provisions respecting the El Dorado Parties' conduct of those negotiations and their efforts to secure the approval of such a supply by the Water Forum. An arrangement with the City as provided in this Agreement is the source of a water supply for the El Dorado Parties that all Parties recognize as the most logical alternative, and SMUD acknowledges its agreement to facilitate discussions between the Parties and the City to effectuate this alternative. One purpose of this Agreement is to provide terms and conditions for the delivery of such water in support of the El Dorado Parties' acquisition of this supply.

T. Prior to the execution of this Agreement, the governing board of each Party made findings and determined, pursuant to applicable law, including, but not limited to, the Guidelines for the California Environmental Quality Act ("CEQA"), 14 California Code of Regulations § 15061(b)(3), that the approval and execution of this Agreement is not approval of a "Project," as defined by CEQA, because, as to any future activity contemplated by this Agreement that has the possibility or potential for having a significant effect on the environment, (1) the approval and execution of this Agreement is not a decision that commits, and does not commit, any of the Parties to a definite course of action, (2) any such activity is speculative, not currently capable of precise definition, and may never occur, (3) because of the foregoing, it would not be possible to conduct an environmental review of any such activity or Project prior to the approval and execution of this Agreement that fulfills the requirements of CEQA to identify and mitigate

potential significant environmental effects and to identify possible alternatives to the Project or Projects, and (4) any such activity or Project will be the subject of further authorization from the governing boards of the relevant Parties, and such authorization will be preceded by an environmental review that complies with all of the requirements of CEQA.

U. A Notice of Exemption stating CEQA does not apply to the approval or execution of this Agreement was filed by each Party as required by law.

V. The Parties recognize and acknowledge all of the following:

(1) No commitment can be made to carry out any Project unless and until the environmental review and assessment required by CEQA has been completed;

(2) For the purposes of this Agreement, Projects that may require CEQA compliance include: 1) the acquisition of water rights for the storage and delivery of water to the El Dorado Parties; 2) modification of SMUD's operation of the UARP in order to deliver water to one or all of the El Dorado Parties; and 3) construction of any facilities necessary for delivery of water to any of the El Dorado Parties. In addition, if any Party exercises its right to re-open for good faith negotiations by the Parties on the issues and on the terms and conditions specified in Article XIII, the Parties recognize that compliance with CEQA may be required.

NOW, THEREFORE, in consideration of the foregoing Recitals and the mutual promises, covenants, and conditions contained in this Agreement, the Parties agree as follows:

ARTICLE I
EFFECTIVE DATE; TERM OF AGREEMENT; DEFINED TERMS

1.1 **Effective Date.** This Agreement will become effective as of the Effective Date upon its execution by all Parties.

1.2 **Term.** Unless terminated earlier pursuant to Section 14.1, this Agreement will continue in effect for the terms of the Original License, the New License issued to SMUD in the Current Relicensing Process, and all Subsequent New Licenses issued to SMUD in any Subsequent Relicensing Process ("Term").

1.3 **Defined Terms**. Exhibit "D" contains a list of defined terms and their meanings for purposes of this Agreement, which terms are indicated by capitalization.

ARTICLE II
PURPOSE OF AGREEMENT

2.1 **Statement of Intent.** Except as otherwise specifically provided in this Agreement, the Parties intend by this Agreement to resolve and conclude for the Term of this Agreement all issues between the El Dorado Parties, or any of them, and SMUD relating to (i) the Current Relicensing Process, (ii) the New License issued to SMUD in the Current

Relicensing Process, (iii) all Subsequent New Licenses issued to SMUD in any Subsequent Relicensing Process, (iv) the 1957 Agreement and the 1961 Agreement, and (v) the delivery of water from, and the storage of water in, the UARP for the benefit of any or all of the El Dorado Parties. Without limiting the generality of the foregoing sentence, the installment and annual payments SMUD is to make pursuant to Article IV fully cover and compensate the County and any agency of the County for all of the following that may be occasioned by the relicensing and issuance of the New License to SMUD and any Subsequent New License to the extent the terms and conditions of the Subsequent New License are essentially the same as those of the New License: Any injury to, and any measures that may be necessary or desirable for the protection, mitigation, or enhancement of, any facility owned or operated by, or any resource or other interest within the jurisdiction, authority, or responsibility of, the County and any agency of the County.

2.2 Effect on 1957 Agreement and 1961 Agreement. For the Term of this Agreement, this Agreement contains the exclusive and complete statement of the Parties' respective rights and obligations concerning the matters specified in Section 2.1 and in the 1957 Agreement and the 1961 Agreement and will control such matters to the exclusion of the 1957 and 1961 Agreements. However, should this Agreement terminate or the provisions of Articles V through VIII terminate, each Party will retain its respective rights and obligations as set forth in the 1957 Agreement and the 1961 Agreement, whatever they may be, as if this Agreement had not been in effect and no Party will rely on this Agreement in any way for purposes of interpreting or supplementing the 1957 Agreement or the 1961 Agreement.

2.3 Headwater Benefits. This Agreement does not affect any right EID may have respecting headwater benefits under section 10(f) of the Federal Power Act.

ARTICLE III
CURRENT UARP RELICENSING PROCESS

3.1 FERC Notification of Agreement. Within ten (10) days after the Effective Date, SMUD will inform the FERC of the execution of this Agreement, and file a copy of the Agreement therewith.

3.2 Support of Relicensing.

3.2.1 Current Relicensing Process; Other Government Agencies. Within forty-five (45) days after the Effective Date, each El Dorado Party that participated in any aspect of SMUD's Current Relicensing Process, including the Alternative Licensing Process and the Settlement Negotiation Group, either through its own representative or through a third party representative, will by letter advise FERC, the third-party facilitator used to conduct relicensing meetings, and SMUD that such party supports issuance of the New License to SMUD for the UARP under terms and conditions contained in SMUD's July 15, 2005 application and request that such notice be distributed to all participants in the Current Relicensing Process and any other federal agency and California state or local agency involved in, or with jurisdiction over, any aspect of the Current Relicensing Process.

3.2.2 Intervention in Current Relicensing Process. Within the period specified by FERC for interventions in the Current Relicensing Process, each El Dorado Party will file a motion with FERC seeking to intervene as a party. Such motion will (i) state that, because of the provisions of this Agreement, the El Dorado Party supports issuance of the New License to SMUD for the UARP under terms and conditions contained in SMUD's July 15, 2005 application, and (ii) reserve the right to raise issues that are resolved by this Agreement if (a) litigation is initiated challenging this Agreement on grounds which, if sustained, cannot be cured by the Parties, and (b) such litigation is not finally resolved by the latest time that the El Dorado Parties properly may raise such issues for consideration by FERC in the Current Relicensing Process. This Agreement will terminate automatically upon the exercise of such right by the El Dorado Party, and the County will refund all payments made to it by SMUD with interest at the rate specified in Section 9.1 within thirty (30) days after such El Dorado Party raises any contested issue resolved by this Agreement before FERC.

3.3 Cooperation with SMUD.

3.3.1 Coordination of Communications. The County will exercise its good faith and best efforts to coordinate communications originating from public agencies and non-governmental organizations within El Dorado County regarding the Current Relicensing Process to the end that any such communications are supportive of the objective of this Agreement.

3.3.2 PM&E Measures. If any California State agency, public agency, or nongovernmental organization within El Dorado County should seek PM&E Measures respecting Impacts of the UARP within El Dorado County more stringent than those specified in SMUD's July 15, 2005 application for a New License, on request of SMUD, the County will file, or provide to SMUD for filing, a statement with FERC to the effect that in view of the provisions of this Agreement, the County supports those measures in SMUD's application as filed or as SMUD may have reasonably modified or proposed to modify a previous measure for the purpose of further lessening impacts of the UARP.

3.3.3 Duplication of Compensation. The El Dorado Parties will cooperate with SMUD and provide to SMUD for filing with FERC or other federal, state, or local government agencies such documents as SMUD may reasonably require to the end that SMUD will not become obligated through the Current Relicensing Process or any Subsequent Relicensing Process to provide compensation for any of those matters specified in Section 4.4 that duplicates or is for the same purpose as payments to be made by SMUD under Article IV.

3.4 Iowa Hill Development.

3.4.1 Publication of Material Dates. Within ten (10) days after the Effective Date, SMUD will provide the El Dorado Parties with a description of the process and, to the extent known, a list of the material dates for FERC's consideration of and decision on SMUD's application to include the Iowa Hill Development in the New License and for any necessary decisions by other public agencies in that connection. The Parties will cooperate in the joint publication of the material dates in a manner reasonably calculated to obtain broad public awareness of the approval process and opportunities for public input. The El Dorado Parties

acknowledge FERC establishes the schedule regarding its procedural deadlines and events relevant to the Current Relicensing Process and that the material dates provided by SMUD are target dates subject to change.

3.4.2 **Iowa Hill Joint Advisory Committee.** On request of SMUD or the El Dorado Parties but no later than 30 days after SMUD's issuance of its Notice of Intention to Proceed (as defined in Section 4.3.1, below) with the Iowa Hill Development, the County and SMUD will form a Joint Advisory Committee to receive public input and to develop reasonable and feasible measures to substantially mitigate the impacts of activities related to the construction of the Iowa Hill Development on the surrounding communities and existing infrastructure.

3.4.2.1 The Joint Advisory Committee will be headed by co-chairs, one appointed by SMUD and one by the County.

3.4.2.2 The co-chairs will establish reasonable ground rules and meeting schedules.

3.4.2.3 The Joint Advisory Committee will meet as frequently as necessary for the duration of the construction of the Iowa Hill Development.

ARTICLE IV
PAYMENTS BY SMUD

4.1 **SMUD Initial Payment.** SMUD will pay to the County the sum of $2,600,000 in two separate installments: (i) $1,000,000 within ten (10) days after the Effective Date of this Agreement; and (ii) $1,600,000 within ten (10) days after the New License becomes final and non-appealable but no later than August 1, 2012.

4.2 **SMUD Annual Payments.** SMUD will pay to the County, for the Term of this Agreement, an annual amount of $590,000 in accordance with this Section 4.2. The first payment under this Section 4.2 will be due and payable on the later of thirty (30) days after the date on which the New License issued by FERC becomes final and is no longer subject to judicial review or July 1 of such year. Payments for all subsequent years will be due and payable on each July 1.

4.3 **Iowa Hill Development.** Should SMUD determine to construct the Iowa Hill Development, it will make payments to the County as described in this Section 4.3.

4.3.1 **Payment Upon Notice of Intention to Proceed.** Within ten (10) days after SMUD's Board of Directors authorizes initiation of final design of the Iowa Hill Development, SMUD will give the County a "Notice of Intention to Proceed" and will pay to the County a one-time payment of $250,000.

4.3.2 **Iowa Hill Annual Payments Upon Notice of Commencement of Construction.** Within ten (10) days after awarding the first construction contract for the actual construction of the Iowa Hill Development, SMUD will give the County a "Notice of

Commencement of Construction" and will make an initial Iowa Hill Annual Payment to the County in the amount of $50,000. SMUD will make additional Iowa Hill Annual Payments of $50,000 by July 1st of each subsequent calendar year for the Term of this Agreement.

4.3.3 Iowa Hill Socioeconomic Impacts Payments

4.3.3.1 Assessment Panel. Within ninety (90) days of the completion of construction for the Iowa Hill Development, SMUD and the County will form the Iowa Hill Socioeconomic Impacts Assessment Panel ("Panel") to conduct the socioeconomic assessments described in Section 4.3.3.2. SMUD and the County will each nominate a representative to serve on the Panel, and the two representatives will select a third Panel member. Each panelist will have the requisite experience and qualifications to competently study, measure, and place a monetary value on socioeconomic impacts of construction projects. SMUD and the El Dorado Parties will each bear the cost of their selected panelist. SMUD and the El Dorado Parties collectively will share equally all charges and expenses of the neutral panelist.

4.3.3.2 Socioeconomic Impact Assessment. The Panel will conduct a two-phased assessment of negative socioeconomic impacts attributable to the construction of the Iowa Hill Development following the analytical methodology specified in Exhibit "I" attached hereto and make Iowa Hill Measured Impacts Payments accordingly.

4.4 Use of Payment Funds. SMUD's payments as described in Section 4.1 are to be utilized by the County for capital improvements to Ice House Road and other miscellaneous capital projects related to the UARP and its impacts on facilities owned or services provided by, or any resource or other interest within the jurisdiction of, the County. SMUD's payments as described in Section 4.2 are to be utilized by the County for purposes of road maintenance, watershed management, and other miscellaneous activities related to the UARP and its impacts on facilities owned or services provided by, or any resource or other interest within the jurisdiction of, the County. SMUD's payments as described in Section 4.3 are to be utilized by the County in order to minimize, avoid, or mitigate socioeconomic impacts attributable to the construction of the Iowa Hill Development within those areas of the County affected by such construction. The determination of which specific uses of payments by SMUD under this Article IV are consistent with the limitations of this Section are to be made by the County in its sole discretion.

4.5 Adjustment of Payments. The amount of the installment payments specified in Section 4.1, the annual payments specified in Section 4.2, and the Iowa Hill Annual Payments specified in Section 4.3.2 will be adjusted annually by the All Urban Consumer's Price Index, All Items (Base Period 1982-84 = 100). The inflation adjustment for the installment payments specified in Section 4.1 will commence September 1, 2004 and will continue annually for the Term of this Agreement. Such adjustment for the annual payments, as specified in Sections 4.2 and 4.3.2, respectively, will commence upon the Effective Date and continue for the Term of this Agreement. Should said index either cease to exist or be modified so that it no longer performs its prior function, the Parties will meet and confer in order to determine a replacement index that most closely approximates said index.

ARTICLE V
WATER DELIVERIES BY SMUD

5.1 Delivery and Storage Obligation. SMUD will deliver El Dorado Water to, and store El Dorado Water for, the El Dorado Parties as provided in this Article V.

5.1.1 Annual Deliveries. Each year SMUD will make Annual Deliveries of El Dorado Water to the El Dorado Parties in an amount which, together with Deliveries to Carryover Storage during such year, does not exceed 30,000 acre-feet through 2025 and thereafter 40,000 acre-feet for the remaining Term of this Agreement. Annual Deliveries of water will be made in accordance with the provisions of Exhibit "H" and will be made by direct delivery and from seasonal storage in accordance with applicable law.

5.1.2 Deliveries from Carryover Storage. In any year in which the El Dorado Parties are restricted from receiving Annual Deliveries to the full extent permitted under this Agreement due to drought or an El Dorado Parties Emergency Condition, SMUD will deliver El Dorado Water from Carryover Storage to the El Dorado Parties in an amount which does not exceed the least of (i) the then-existing amount of Carryover Storage, (ii) 15,000 acre-feet, or (iii) that quantity which when added to Annual Deliveries during that year does not exceed 35,000 acre-feet through 2025 and thereafter 40,000 acre-feet for the remaining Term of this Agreement.

5.1.3 Deliveries to Carryover Storage. At any time when the Daily Net Storage is above 150,000 acre-feet, SMUD will make deliveries of El Dorado Water to Carryover Storage in reservoirs determined by SMUD in an amount up to the lesser of (i) the quantity which when added to the total quantity of water then in Carryover Storage does not exceed 15,000 acre-feet, or (ii) the quantity which when added to Annual Deliveries during that year does not exceed 30,000 acre-feet through 2025 and thereafter 40,000 acre-feet for the remaining Term of this Agreement. To be eligible for Carryover Storage, El Dorado Water must physically flow into one of the Loon Lake, Union Valley, and Ice House Reservoirs. Deliveries to Carryover Storage in any year will be made by a delivery of El Dorado Water to storage from the source or during the last quarter of any year by a conversion to Carryover Storage of El Dorado Water previously placed in Seasonal Storage during the same year.

5.2 Notice for Initiation of Deliveries and Storage; Construction of Interconnections.

5.2.1 Delivery Initiation Notice. The El Dorado Parties will give SMUD at least six (6) months advance notice of their intent to initiate delivery and storage of El Dorado Water under this Agreement ("Delivery Initiation Notice"), such notice to include the following: (i) a detailed specification of all water rights pursuant to which El Dorado Water will be diverted, stored, and delivered, (ii) the sources of all El Dorado Water to be diverted into the UARP for delivery to the El Dorado Parties or storage and by source the annual quantity to be diverted, the maximum rate of diversion, and the point of diversion, (iii) the date on which diversions into the UARP are to begin, and (iv) the date on which deliveries to the El Dorado Parties are to begin. In addition, at least ninety (90) days prior to the initiation of deliveries, the El Dorado Parties will provide SMUD with an annual forecast meeting the requirements of

Section 5.3 for the remainder of the year in which deliveries are to begin and, if the notice is given on or after September 1, for the following year.

5.2.2 Interconnection with White Rock Penstock.

5.2.2.1 White Rock Delivery Notice. Concurrently with or after giving the Delivery Initiation Notice specified in Section 5.2.1, the El Dorado Parties will also give SMUD notice of their intent to take delivery of El Dorado Water at the White Rock Delivery Point ("White Rock Delivery Notice") at least six (6) months prior to beginning siting and engineering for the pipeline and other facilities necessary to interconnect with the White Rock Penstock.

5.2.2.2 Interconnection Construction Agreement. Promptly after delivery of the White Rock Delivery Notice, the Parties will begin and diligently pursue good faith negotiations over an agreement addressing the interconnection of the pipeline facilities of the El Dorado Parties to SMUD's existing takeout on the White Rock Penstock, the agreement to cover timing, construction, and equipment necessary for such purpose. Such agreement will be based on, and incorporate, the following principles: (1) SMUD will design, construct, own, maintain and control that portion of the interconnection extending from the existing White Rock Penstock tap to a point immediately downstream of a shutoff valve to enable SMUD to shutoff the flow of water in an emergency or otherwise as may be necessary to protect the White Rock Penstock and other SMUD facilities; (2) The El Dorado Parties will design, construct, own, maintain and control interconnection facilities downstream of the SMUD shutoff valve, which facilities will include a valve to control the rate of flow into the El Dorado Parties' system and to shut off such flow in an emergency or otherwise as may be necessary to protect the El Dorado Parties' system; (3) SMUD will have design approval of the interconnection facilities to be constructed by the El Dorado Parties for purposes of determining, in its reasonable discretion, that such facilities do not adversely affect the safety, operation, or maintenance of the White Rock Penstock as it then exists; and (4) SMUD and the El Dorado Parties will, collectively, each bear its own costs associated with the construction of its respective portion of the interconnection facilities.

5.2.2.3 Point of Delivery. All El Dorado Water delivered by SMUD through the White Rock Penstock will be deemed delivered at the interconnection shutoff valve controlled by the El Dorado Parties as described in Section 5.2.2.2.

5.2.2.4 FERC Approval of Interconnection Facilities. SMUD will make all necessary applications to FERC to obtain FERC approval to use the UARP facilities to withdraw and store water for consumptive use in a manner consistent with this Agreement. The El Dorado Parties will bear the cost of the applications, including costs associated with conducting all environmental and other studies FERC may request and will provide to SMUD for filing with FERC such additional information as FERC may require in connection with such applications.

5.3 Annual Delivery Forecasts. The El Dorado Parties will by notice provide SMUD with an annual forecast ("Annual Forecast") of their estimated delivery requirements for

each calendar year no later than September 1 of the prior year. Each forecast will specify, by month, (i) the quantity, rate of delivery, and point of delivery for Annual Deliveries, (ii) the quantity of water to be delivered to Carryover Storage, and (iii) the quantity, rate of delivery, and point of delivery for deliveries from Carryover Storage to the extent known. The El Dorado Parties may periodically revise such forecasts by notice to SMUD given at least thirty (30) days prior to the beginning of the month in which the forecast is to take effect.

5.4 Delivery Scheduling.

5.4.1 Annual Deliveries; Deliveries from Carryover Storage. The El Dorado Parties will schedule all Annual Deliveries and Deliveries from Carryover Storage by delivery point on a daily basis in accordance with the then-effective Annual Forecast, the scheduling requirements set forth in Exhibit "E," the delivery constraints set forth in Exhibit "H", and other applicable provisions of this Agreement. Subject to the provisions of Exhibit "H", SMUD will operate the UARP so as to deliver the total quantity so scheduled to the extent physically and legally possible. The El Dorado Parties will be under no obligation to schedule deliveries in any year or at all.

5.4.2 Deliveries to Carryover Storage. The El Dorado Parties will schedule all deliveries to Carryover Storage in accordance with the then-effective Annual Forecast on a monthly basis by notice to SMUD at least fifteen (15) days prior to the first month in which such deliveries are to occur.

5.4.3 Scheduling Communications. Promptly after the El Dorado Parties have given their Delivery Initiation Notice, the Parties will begin and diligently pursue good faith negotiations over an data interchange agreement ("DI Agreement") that will provide for all necessary operational procedures, data transfer, and communications protocols between the El Dorado Parties and SMUD pertaining to delivery scheduling, emergency conditions, conditions requiring constraints on or curtailments of deliveries, delivery monitoring, the giving of notices by electronic means, and other pertinent subjects.

5.5 Delivery Points. Annual Deliveries and deliveries from Carryover Storage will be made at the White Rock Delivery Point as further specified in Section 5.2.2.3 or the SFAR Delivery Point.

5.6 Storage Constraints.

5.6.1 Carryover Storage Losses. El Dorado Water in Carryover Storage or Seasonal Storage is not subject to spill or other loss, except as specifically provided herein. In the event that SMUD sustains a significant loss of storage in any of Loon Lake, Union Valley, or Ice House Reservoirs by reason of (i) a condition (other than that caused by a dry water year type) or event (by way of example only, an earthquake) beyond SMUD's control, or (ii) an order of FERC or any other governmental entity or court that requires SMUD to operate the UARP for needs other than the direct needs of SMUD (by way of example only, a state or regional energy crisis), then the El Dorado Parties will sustain a loss in total Carryover Storage proportionate to the loss in total storage sustained by SMUD.

5.6.2 Status of Reservoirs. SMUD will provide written notice to the El Dorado Parties on the first of each month the status of its reservoirs within the UARP, including, without limitation, information on Full Capacity, Daily Net Storage, as well as projected Daily Net Storage.

5.7 Rate of Deliveries at White Rock Delivery Point. Annual Deliveries and deliveries from Carryover Storage at the White Rock Delivery Point cannot exceed a delivery rate of 100 cfs, provided that during the period of May 1 through October 31 of any year, the El Dorado Parties may schedule deliveries at a rate of up to 200 cfs during the hours from Midnight to 6:00 a.m.

5.8 Constraints on Delivery.

5.8.1 Constraints Based on Daily Net Storage, Climatic Conditions. Constraints on deliveries to the El Dorado Parties that are based on Daily Net Storage or the existence of a Critically Dry Condition are specified in Exhibit H.

5.8.2 Curtailments for Super-Peaking Hours, Outages, Slab Creek Minimum Operating Level. The El Dorado Parties will not be entitled to receive any deliveries at the White Rock Delivery Point when any one or more of the following conditions exist:

(i) From May 1 through September 30 of any year from 2:00 p.m. to 7:00 p.m. (referred to as "Super-Peaking Hours");

(ii) During planned, unplanned, or emergency outages in the UARP that impact SMUD's ability to make water available to the White Rock Delivery Point; and

(iii) Whenever the elevation of Slab Creek Reservoir drops below 5 feet above SMUD's Slab Creek Reservoir Minimum Operating Level, which level as of the Effective Date is 1,815 feet.

5.8.2.1 Changes in Slab Creek Minimum Operating Level. The El Dorado Parties acknowledge that SMUD may adjust the Slab Creek Reservoir Minimum Operating Level from time to time to reflect changes in the operating characteristics of that reservoir. SMUD agrees, however, that a proposed adjustment to the Slab Creek Reservoir Minimum Operating Level associated with SMUD's election to proceed with the Iowa Hill Development will be initially addressed in accordance with Section 13.6. Subsequent adjustments remain subject to the provisions of this Section 5.8.2. SMUD will promptly notify the El Dorado Parties of any adjustment in the Slab Creek Reservoir Minimum Operating Level.

5.8.3 SMUD Emergency Condition. During a SMUD Emergency Condition, SMUD will be excused from making Annual Deliveries and from delivering El Dorado Water from Carryover Storage to the El Dorado Parties for the period and to the extent such deliveries are precluded by the emergency condition.

5.8.4 Notices of Existence of Conditions Constraining Deliveries. SMUD will give notice to the El Dorado Parties of the existence of the conditions that will constrain deliveries to the El Dorado Parties as follows, such notice to be given by telecopier or other electronic means and to include information as to the reason for the outage, the expected duration of the outage, and the expected impact on deliveries:

(i) For a planned outage as specified in Section 5.8.2(ii), as soon as practicable after SMUD has placed the outage in its operating schedule;

(ii) For an unplanned or emergency outage as specified in Section 5.8.2(ii), promptly upon learning of the outage or determining that the outage will occur;

(iii) For curtailments pursuant to Section 5.8.2(iii) because the Slab Creek Reservoir elevation is below 5 feet above SMUD's Slab Creek Reservoir Minimum Operating Level, as soon as practicable after SMUD determines that the reservoir elevation will be or is below such operating level;

(iv) For a SMUD Emergency Condition, as soon as practicable after the condition has been declared;

(v) For delivery constraints pursuant to Exhibit "H" attributable to Daily Net Storage, no notice will be required unless the pertinent reservoir conditions are different than those specified in SMUD's applicable status of reservoirs notice given under Section 5.6.2, in which case notice will be given as soon as practicable after SMUD determines that the Daily Net Storage will be or is at a level that triggers such delivery constraints.

5.9 Compliance with FERC License. Nothing in this Agreement will be construed to require SMUD to deliver El Dorado Water to, or store El Dorado Water for, the El Dorado Parties in a manner that violates or that SMUD reasonably determines may violate the FERC license then in effect for the UARP. Whenever SMUD believes that the delivery of water to the El Dorado Parties may violate the FERC license, SMUD will provide advance written notice identifying the time it intends to suspend delivery and the reasons for the suspension unless it is impracticable to do so under the circumstances. Following SMUD's suspension of water deliveries to the El Dorado Parties because of an actual or threatened violation of the FERC license, SMUD will meet with the El Dorado Designated Representative to determine what measures must be implemented to resume scheduled deliveries as soon as possible and propose a timeline for correcting the violation and resuming scheduled deliveries if physically possible. SMUD will use its best efforts during the course of such meetings to determine measures that will allow the El Dorado Parties to receive scheduled deliveries if physically possible. SMUD will use its best efforts during the course of any relicensing process to the end that a New License or Subsequent New License contain provisions that would not require SMUD to take an action that is inconsistent with its obligations under this Agreement.

ARTICLE VI
ACQUISITION OF RIGHTS TO EL DORADO WATER; SMUD WATER RIGHTS

6.1 **Acquisition of Rights to El Dorado Water.** The El Dorado Parties will secure, as more specifically provided in Exhibit "G", all necessary water rights and authorizations for the delivery, storage, and use of American River water for purposes of this Agreement ("El Dorado Water") through either:

(a) first, a transfer and/or assignment of water right permits from the City of Sacramento and an amendment of such permits by the SWRCB or, if the El Dorado Parties are unable to secure such a transfer or assignment

(b) any or all of (i) a new appropriation of American River water under applicable law, (ii) the partial assignment of state-filed applications nos. 5644, 5645, 7937, 7939, 18063, 18065, 18067, 18069, 18071, and 18072, and (iii) a transfer or assignment from a third party in accordance with applicable law.

Such authorizations for El Dorado Water together will not exceed the amounts to which the El Dorado Parties are entitled to receive delivery as Annual Deliveries and deliveries to Carryover Storage under this Agreement and will otherwise be consistent with this Agreement.

6.2 **Facilitation, Notice Regarding City Negotiations.** Given the statements contained in Recital S respecting an agreement between the El Dorado Parties and the City for the acquisition of water that may be diverted under this Agreement, the El Dorado Parties will provide SMUD with a written statement of the progress of their effort to engage in good faith negotiations with the City within twenty (20) days after the Effective Date. In addition, on the written request of the El Dorado Parties or the City, SMUD will exercise reasonable efforts to assist the negotiations and discussions between and among El Dorado Parties, the City, and the Water Forum. However, if the El Dorado Parties are not successful in obtaining a transfer and/or assignment of the City's water rights as specified in Section 6.1(a) and Exhibit "G", the El Dorado Parties will give SMUD written notice of the same, containing a summary of the reasons for terminating the negotiations, at least fifteen (15) days prior to pursuing an alternative source of water under Section 6.1(b) and Exhibit "G".

6.3 **Water Forum.** The El Dorado Parties will enter into good faith negotiations with the Water Forum in order to obtain its support by means of a purveyor specific agreement of the El Dorado Parties' acquisition of water rights and authorizations respecting El Dorado Water pursuant to Section 6.1 and the delivery and storage of such water pursuant to this Agreement. The El Dorado Parties will engage in diligent negotiations through December 31, 2006, after which the El Dorado Parties will be deemed to have satisfied their obligation with regard to the Water Forum, without regard to the source of water supply selected for acquisition and use by the El Dorado Parties or method of procurement. The El Dorado Parties will have sole and complete discretion as to whether the form and conditions of Water Forum support and/or the terms of a purveyor specific agreement are satisfactory to proceed with the consummation of a purveyor specific agreement. If the El Dorado Parties are unable to obtain the support of the Water Forum in a manner acceptable to the El Dorado Parties as to any source of water within the period specified above, the El Dorado Parties will promptly give SMUD notice to that effect,

such notice to specify with particularity the terms and conditions insisted on by the Water Forum that are unacceptable to the El Dorado Parties and the reasons they are unacceptable.

6.4 **Section 8 of 1961 Agreement.** The Parties agree that their rights and obligations under this Agreement will be subject to the following:

> The El Dorado Parties agree that they will not protest any petition or application SMUD may file with the SWRCB for changes in points of diversion, changes in places of use for generation of hydroelectric energy, or for additional water rights for SMUD's UARP as now constituted or as it may be enlarged or modified in the future, provided that all of SMUD's water rights hereinbefore or hereafter acquired for said UARP will remain subject to Conditions 8 in Permits 10703, 10704, and 10705, which conditions reads as follows: "No diversion or use of water will be made under the permits which will in any way interfere with diversion or use of water for irrigation or domestic purposes, whether such higher uses are made under either prior or subsequent rights." The El Dorado Parties agree that they will not object to any requests which SMUD may file with the FERC for changes in the capacities or location of the UARP Facilities or the inclusion of additional facilities as a part of said project subject to Condition 8.

So long as the El Dorado Parties' priority referenced above is acknowledged and respected, the El Dorado Parties will not contest any adjustments in SMUD's existing water rights or application for new non-consumptive water rights deemed necessary by SMUD to ensure that SMUD's water rights accommodate SMUD's actual, historic operations, and to accommodate the Iowa Hill Development. SMUD has included the above-listed condition in its application for new water rights referenced in Exhibit "B" and will include such condition in any additional application for new water rights to be used in connection with the UARP or Iowa Hill Development.

6.5 **Reservation of Rights.** Nothing in this Agreement limits or affects the El Dorado Parties' rights to secure water rights for storage or use in facilities other than the UARP. Subject to the provisions of Section 6.4, the Parties expressly reserve their rights, whatever they may be, in relation to any proposed appropriation, diversion, or storage of water by any Party at locations, in amounts, and from sources other than as specified in this Agreement.

ARTICLE VII
METERING; ACCOUNTING; AUDIT

7.1 **Metering.** The El Dorado Parties will provide for metering of all water delivered to the El Dorado Parties at the White Rock Delivery Point as provided in this Section 7.1 ("White Rock Meter(s)").

7.1.1 Installation. Prior to initiating diversions from the White Rock Delivery Point, the El Dorado Parties will install a White Rock Meter(s) which will measure the quantity of water delivered by SMUD to the El Dorado Parties at the White Rock Delivery Point. The White Rock Meter(s) will comply with all requirements of applicable laws and prudent industry practices, be capable of measuring rate of flow and quantity of water delivered, and be capable of being electronically polled by SMUD for both real-time and after-the-fact data.

7.1.2 Calibration and Maintenance. The El Dorado Parties will calibrate and adjust the White Rock Meter(s) prior to initiation of deliveries and thereafter on a regular basis in accordance with all requirements of applicable laws and prudent industry practices, and in any event, as soon as practicable after receipt of information, from SMUD or otherwise, that indicates that the device(s) may be inaccurate. The El Dorado Parties will operate, maintain, repair, and replace the White Rock Meter(s) as may be required by all provisions of applicable law and prudent industry practices. The El Dorado Parties will give SMUD reasonable advance notice of any testing or calibration of the White Rock Meter(s) and the opportunity to be present at such testing or calibration.

7.1.3 Recording, Reporting. The El Dorado Parties will provide for daily recordation of such deliveries, with summaries of the resulting readings to be transmitted monthly to SMUD in accordance with Section 7.3.

7.2 Deliveries at SFAR Delivery Point. Deliveries at the SFAR Delivery Point will not be metered or otherwise measured, but will be deemed to have been delivered pursuant to the then-effective schedule of the El Dorado Parties.

7.3 Accounting, Reporting and Audit Rights. Within twenty (20) days after the end of each month, the El Dorado Parties will provide SMUD a written report stating for such month all reasonably necessary information to determine the payments due to SMUD under Article VIII hereof, including, without limitation, (a) the daily quantity of all water delivered to the El Dorado Parties, separately identifying the quantities delivered as part of Annual Deliveries and the quantities delivered from Carryover Storage, and (b) the delivery point for such deliveries. SMUD will have the right, during the twelve month period following the end of each year and upon advance notice of not less than ten (10) days, to conduct an examination and audit of the books, records, and other supporting data of the El Dorado Parties for such year to the extent reasonably necessary to verify the payments due to SMUD hereunder. The El Dorado Parties will cooperate in the scheduling of such audit and will cooperate in the sharing of necessary information.

ARTICLE VIII
PAYMENTS BY EL DORADO PARTIES

8.1 SMUD Compensation.

8.1.1 Pricing for Water Delivered at White Rock Delivery Point.

8.1.1.1 <u>All Deliveries.</u> For water delivered to the El Dorado Parties at the White Rock Delivery Point, the El Dorado Parties will pay to SMUD the sum of the Annual Value of Foregone Power plus the Annual Surcharge for deliveries from Seasonal Storage plus the Annual Surcharge for deliveries from Carryover Storage, determined as provided in Exhibit "F".

8.1.1.2 <u>Excess Deliveries at White Rock Delivery Point</u>. If on any day the El Dorado Parties take water from the White Rock Delivery Point in a total quantity that exceeds the maximum quantity that would be have been deliverable under the rate-of-delivery limitations specified in Section 5.7 by more than 5%, the El Dorado Parties will make an additional payment to SMUD in an amount equal to 2 times the value of foregone power on a daily basis calculated using the following formula:

> 2 x {[105%] [Daily Power Price Index] [White Rock Power House Water Duty] [(quantity of water delivered at the White Rock Delivery Point) - (maximum quantity of water deliverable under Section 5.7 limitations)]}

If in any month the El Dorado Parties take water from the White Rock Delivery Point in a total quantity that exceeds the total quantity specified for such month in the then-effective Annual Forecast by more than 10%, the El Dorado Parties will make an additional payment to SMUD in an amount equal to 2 times the value of foregone power on a monthly basis calculated using the following formula:

> 2 x {[105%] [Daily Power Price Index] [White Rock Power House Water Duty] [(Quantity of water delivered at the White Rock Delivery Point – Quantity of water specified in then-effective Annual Forecast)]}

8.1.2 <u>Pricing for Water Delivered at SFAR Delivery Point</u>. For water delivered to the El Dorado Parties at the SFAR Delivery Point, the El Dorado Parties will pay to SMUD the sum of the Annual Surcharge for deliveries from Seasonal Storage plus the Annual Surcharge for deliveries from Carryover Storage in proportion to the deliveries made, as provided in Exhibit "F".

8.1.3 <u>Pricing Components</u>.

(a) <u>Annual Value of Foregone Power</u>. The Annual Value of Foregone Power will be a function of the Daily Power Price Index, the White Rock Powerhouse Water Duty, the daily quantities of all deliveries to the El Dorado Parties at the White Rock Delivery Point (whether Annual Deliveries or deliveries from Carryover Storage) expressed in acre-feet, and a factor to cover ISO fees calculated using the formula and values specified in Exhibit "F". Without limiting the foregoing, SMUD acknowledges and agrees that any foregone compensation for lost peaking capacity is not recoverable under this Agreement.

(b) <u>Annual Surcharge for Deliveries from Seasonal Storage</u>. For all water delivered to the El Dorado Parties at the White Rock Delivery Point or the SFAR

Delivery Point during the last quarter of each calendar year, a surcharge will be assessed to cover SMUD's costs of providing Seasonal Storage to the El Dorado Parties. This surcharge will be a function of the Daily Power Price Index, the respective Cumulative Powerhouse Water Duty, the daily quantities of water delivered at such delivery points expressed in acre-feet during such calendar quarter, and a factor to cover ISO fees, calculated using the formula and values specified in Exhibit "F".

(c) **Annual Surcharge for Deliveries from Carryover Storage.** For all water delivered to the El Dorado Parties from Carryover Storage at the White Rock Delivery Point or the SFAR Delivery Point, a surcharge will be assessed to cover SMUD's costs of providing Carryover Storage to the El Dorado Parties. This surcharge will be a function of the Daily Power Index, the respective Cumulative Powerhouse Water Duty, the daily quantities of water delivered at the White Rock Delivery Point and the SFAR Delivery Point expressed in acre-feet, and a factor to cover ISO fees, calculated using the formula and values specified in Exhibit "F".

8.2 **Payment to SMUD.**

8.2.1 **In General.** The annual payments due to SMUD under Section 8.1 will be in arrears and payable in the year immediately following the year in which the deliveries are made ("Payment Year") as provided in this Section 8.2.

8.2.2 **Invoice by SMUD.** By January 31 of each Payment Year, SMUD will determine the amount due from the El Dorado Parties under Section 8.1 for all deliveries of El Dorado Water during the previous year and by notice invoice the El Dorado Parties for payment of such amount ("Delivery Invoice"). The invoice will include sufficient information regarding the amounts delivered, source of water delivered, point of delivery, time of delivery, and the factors specified on Exhibit "F" to enable the El Dorado Parties to verify the amount due.

8.2.3 **Payment by El Dorado Parties.** By February 28 of the Payment Year the El Dorado Parties will pay the amount shown on SMUD's Delivery Invoice as being due except to the extent that the El Dorado Parties dispute such amount as provided in Section 17.2.

ARTICLE IX
PAYMENT PROCEDURES

9.1 **Late Payments.** Amounts not paid by either the El Dorado Parties or SMUD on or before the applicable due date for each payment will accrue late payment charges computed at a rate per annum which is equal to the lesser of (a) a rate which is two percent (2%) above the prime rate of interest as published by The Wall Street Journal (such rate being the base rate on corporate loans posted by at least 75% of the United States' 30 largest banks or another standard adopted by The Wall Street Journal) or (b) the maximum rate from time to time permitted by applicable law.

9.2 Payment Mechanisms.

9.2.1 Payments to SMUD by the El Dorado Parties. Payments made by the El Dorado Parties to SMUD will be made through Electronic Funds Transfer (EFT) or Fedwire as specified by SMUD by notice to an account, the number of which will be provided to the El Dorado Parties by notice.

9.2.2 Payments to the El Dorado Parties by SMUD. Payments made by SMUD to the County will be made through Electronic Funds Transfer (EFT) or Fedwire as specified by the County by notice to an account, the number of which will be provided to SMUD by notice.

ARTICLE X
USE OF AGREEMENT BY PARTIES

10.1 El Dorado Parties Use of Agreement. The El Dorado Parties may use this Agreement to support their acquisition pursuant to Section 6.1 of water rights for the use of American River water as El Dorado Water, including the acquisition of new water rights and changes in and transfers of existing water rights. The El Dorado Parties may not use this Agreement to support the acquisition or transfer of or change in any other water right.

10.2 SMUD Use of Agreement. SMUD may utilize this Agreement as evidence that it has fully satisfied those matters described in Section 4.4 in its dealings with all other parties to the Current Relicensing Process and related processes.

ARTICLE XI
COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT

11.1 Notice Regarding CEQA. When any El Dorado Party decides it wishes to initiate proceedings under CEQA in regards to this Agreement, that Party will promptly give the other Parties notice of such fact and of the commencement of actions to comply with CEQA as specified in this Article XI and as required by CEQA and the CEQA Guidelines.

11.2 Responsibilities of Parties.

11.2.1 Lead Agency; Responsible Agencies. The Parties shall cooperate in determining which of the El Dorado Parties shall be lead or responsible agencies for each Project or Projects under this Agreement pursuant to Pub. Res. Code §§ 21067 and CEQA Guidelines § 15051. SMUD may be a responsible agency for each Project or Projects under this Agreement pursuant to Pub. Res. Code § 21069.

11.2.2 Environmental Review and Analysis by Lead Agency. The Lead Agency or Agencies will first consider whether the Project is exempt under CEQA. If the Project is not

exempt, the Lead Agency or Agencies will prepare an initial study to determine whether the Project may have a significant effect on the environment. The Lead Agency or Agencies will then determine if it will prepare a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report ("EIR") for the Project. If the Lead Agency or Agencies prepare an EIR for the Project, the EIR will include all analysis required by law, including identification and meaningful evaluation of (1) a range of reasonable alternatives to the Project that could feasibly attain the basic objectives of the Project, (2) feasible mitigation measures that would lessen any significant adverse effects of that Project, and (3) a no Project alternative.

11.2.3 SMUD's Responsibility for Mitigation Measures. SMUD will have the responsibility for mitigating or avoiding, at its cost, the direct or indirect environmental effects of only those parts of the Project which it decides to carry out, finance, or approve and will have the sole discretion to determine what mitigation measures under its responsibility are "feasible," as that term is defined in section 15364 of the CEQA Guidelines, to avoid, eliminate or reduce such impacts.

11.2.4 El Dorado Parties' Responsibility for Mitigation Measures. The El Dorado Parties will be responsible for implementing, at their cost, all environmental mitigation measures adopted as part of the environmental review process in order to mitigate the impacts of any Project, other than as provided in Section 11.2.3. Each El Dorado Party will have the sole discretion to determine what mitigation measures under its responsibility are "feasible," as that term is defined in section 15364 of the CEQA Guidelines, to avoid, eliminate or reduce such impacts.

11.2.5 Cooperation of Parties. The Parties will cooperate with each other, in good faith and as needed, to conduct a thorough and legally sufficient CEQA review of any Project pursuant to this Agreement.

11.3 Discretion of the El Dorado Parties. Each El Dorado Party retains its discretion to independently, fairly, and fully evaluate each Project and environmental documentation prepared pursuant to CEQA. Prior to final approval or implementation of any Project, each El Dorado Party, either as a lead agency or responsible agency as required by CEQA, shall consider the environmental documentation prepared pursuant to CEQA. If an EIR is utilized and (1) identifies significant adverse impacts that can be reduced to a less than significant level through the adoption of feasible alternatives and/or mitigation measures, or (2) identifies significant adverse impacts that cannot be reduced to a level that is less than significant, the El Dorado Parties shall have complete discretion, subject to the requirements of CEQA, to determine whether to adopt such alternatives and/or feasible mitigation measures and whether to approve the Project notwithstanding one or more significant environmental impacts together with a statement of overriding considerations, as the case may be.

If any such El Dorado Party determines not to adopt such alternatives or mitigation measures and decides not to issue a statement of overriding considerations, such El Dorado Party will not implement any provision of this Agreement to have SMUD store or deliver El Dorado Water and will not construct any water delivery facilities as contemplated under this Agreement, unless the El Dorado Party otherwise first complies with CEQA.

11.4 Discretion of SMUD. SMUD retains its discretion to independently, fairly, and fully evaluate each Project and environmental documentation prepared pursuant to CEQA. Prior to final approval or implementation of any Project, SMUD, as a responsible agency, shall consider the environmental documentation prepared pursuant to CEQA. If an EIR is utilized and (1) identifies significant adverse impacts that can be reduced to a less than significant level through the adoption of feasible alternatives and/or mitigation measures, or (2) identifies significant adverse impacts that cannot be reduced to a level that is less than significant, SMUD shall have complete discretion, subject to the requirements of CEQA, to determine whether to adopt such alternatives and/or feasible mitigation measures and whether to approve the Project notwithstanding one or more significant environmental impacts together with a statement of overriding considerations, as the case may be.

If SMUD determines not to adopt such alternatives or mitigation measures and decides not to issue a statement of overriding considerations, the El Dorado Parties and SMUD will promptly enter into good faith negotiations pursuant to Section 11.5. Until SMUD and the El Dorado Parties conclude their negotiations pursuant to Section 11.5, SMUD will not implement any provision of this Agreement to have SMUD store or deliver El Dorado Water and will not construct any water delivery facilities as contemplated under this Agreement until SMUD complies with CEQA.

11.5 Good Faith Negotiations. If SMUD determines not to adopt alternatives or mitigation measures and decides not to issue a statement of overriding considerations as provided in Section 11.4 because of the costs associated with mitigation, then the Parties shall negotiate in good faith to modify the provisions of Article VIII of this Agreement so that SMUD will be compensated for the cost of adopting such alternatives or mitigation measures. Upon such modification to this Agreement, SMUD will promptly adopt the alternatives or mitigation measures or a statement of overriding considerations on which the modification or modifications to the Agreement are based.

11.6 Additional Procedures. Consistent with the provisions of this Agreement and with CEQA, the Parties may, in good faith, establish additional and further procedures for implementing and conducting any environmental review under this Article XI. The Parties shall cooperate and take all steps reasonably necessary to obtain any additional permits from any other state or federal agency that may be necessary to implement this Agreement.

ARTICLE XII
FUTURE RELICENSING PROCEEDINGS; AMENDMENTS TO LICENSE

12.1 Notice of Subsequent Re-License. SMUD will notify the El Dorado Parties in writing of its intent to apply for any Subsequent New License concurrent with its notification provided to FERC and in no event later than five (5) years prior to the expiration of then-effective New License or Subsequent New License.

12.2 <u>Subsequent Relicensing Processes.</u> Promptly after the notice specified in Section 12.1, SMUD and the El Dorado Parties will begin and diligently pursue good faith negotiations over any of the amendments to this Agreement specified in the next sentence that would be appropriate in consideration of:

(1) any changes in applicable law, or

(2) any changes resulting from the Subsequent New License in the impacts of the UARP on then-existing (i) available public resources within El Dorado County, (ii) facilities owned or services provided by any of the El Dorado Parties, and (iii) any resource or other interest subject to the jurisdiction of any of the El Dorado Parties.

The amendments that will be the subject of negotiation are: (i) any changes in mitigation measures to be included in the relevant Subsequent New License, (ii) any additional capital payments to be made by SMUD, and (iii) any changes in annual payments to be made by SMUD. If the Parties are unable to reach agreement on such matters in time for the El Dorado Parties to intervene in such Subsequent Relicensing Process, nothing herein waives the right of any El Dorado Party to intervene and request additional mitigation associated with the impacts of the UARP on facilities owned or services provided by, or any resource or other interest subject to the jurisdiction of, such El Dorado Party that would be occasioned by such Subsequent New License.

12.3 <u>Amendments to New License, Subsequent New License.</u> Except in the case of dam safety or security, SMUD will notify the El Dorado Parties prior to filing an application for a capacity-related amendment to the New License or to any Subsequent New License or prior to making any modification to the UARP that may in SMUD's reasonable judgment have a material effect on the delivery of El Dorado Water. Such notice will specify with particularity the nature of the amendment or modification SMUD will seek. A capacity related amendment will have the same meaning as that term is defined in FERC regulations (18 CFR § 4.201(b)), and SMUD will provide 90-days prior notice for any capacity-related amendment that will not have a material effect on the delivery of El Dorado Water. For any capacity-related amendment or modification that will have a material effect on the delivery of El Dorado Water, SMUD will provide at least twelve (12) months advance written notice. If the El Dorado Parties believe that the amendment or modification would cause an increase in any of the impacts of the UARP on facilities owned or services provided by, or any resource or other interest within the jurisdiction of, any of the El Dorado Parties, they will give SMUD notice to that effect. The Parties then will begin and diligently pursue good faith negotiations over the matters specified in Section 12.2 with respect to such amendment or modification. If the Parties are unable to reach agreement on such matters in time for the El Dorado Parties to intervene in the license amendment process, nothing herein waives the right of any El Dorado Party to intervene and request additional mitigation associated with changes in the impacts of the UARP on facilities owned or services provided by, or any resource or other interest within the jurisdiction of, such El Dorado Party that would be occasioned by such amendment to the FERC license for the UARP.

ARTICLE XIII
RE-OPENERS

13.1 **General.** This Agreement will be subject to being re-opened for good faith negotiations by the Parties on the issues and on the terms and conditions specified in this Article XIII. During such negotiations, each Party will make available to the other Parties all non-privileged information available to such Party that bears on the issue under negotiation.

13.1.1 **Notice of Re-Opener.** Any Party seeking to re-open this Agreement will provide written notice to the other Parties that it is exercising its right to re-open this Agreement ("Notice of Re-Opener"). The Notice of Re-Opener will set forth with particularity the facts that support the existence of such right and the issues to be re-negotiated.

13.2 **Criteria Applicable to All Re-Opener Negotiations and Arbitrations.** The following general criteria will govern, and the criteria specified in Sections 13.2.1 through 13.2.6 will be maintained in, all re-opener negotiations and any subsequent arbitrations:

13.2.1 SMUD must remain financially whole and risk neutral as measured by the configuration of the UARP as of the Effective Date of this Agreement in a manner consistent with the principles underlying the provisions of Article VIII;

13.2.2 For purposes of upholding SMUD system operational reliability and UARP operational flexibility and complying with license, regulatory, and other legal requirements, the Daily Net Storage Threshold must be a volume and calculated in a manner that is comparable to the Daily Net Storage Threshold of 150,000 acre-feet for such reservoirs under the Original License;

13.2.3 SMUD must be compensated for any re-operation conducted below the Daily Net Storage Threshold for the benefit of the El Dorado Parties in a manner consistent with the principles underlying the provisions of Article VIII and Exhibit "F";

13.2.4 SMUD must continue to be able to operate the UARP primarily as a dispatchable hydroelectric generating project;

13.2.5 The operational elevations and constraints for Slab Creek Reservoir must be sufficient to uphold SMUD system operational reliability and UARP operational flexibility and to comply with license, regulatory, and other legal requirements;

13.2.6 The extent of the El Dorado Parties' reasonable, detrimental reliance upon their rights under this Agreement to store and receive delivery of water or their pre-existing right, to the extent of 30,000 afy (40,000 afy after 2025), to use the White Rock Penstock or Slab Creek Reservoir for Annual Deliveries will be taken into account; such reliance to be through investment in infrastructure, approval of development, or forbearance from pursuing viable transactional opportunities or asserting legal claims against third Parties which, if successful, would have secured for the El Dorado Parties advantages similar to those under this Agreement.

13.3 Source of Water Re-Opener. The El Dorado Parties will re-open this Agreement if the El Dorado Parties desire that SMUD store and deliver water from any source of water obtained pursuant to Section 6.1(b) and Paragraph 2 of Exhibit "G" to the extent that, prior to the time that such water is obtained, the source of water does not physically flow into and through the UARP as it is then configured or the water rights for such source of water do not contain the provisions specified in Paragraph 2(b) of Exhibit "G". In such event, the following issues as to the relevant source of water will be subject to renegotiation:

(i) amount and timing of Seasonal Storage and Carryover Storage;

(ii) timing and rate of any and all deliveries; and

(iii) amount of and measure for any modification in the payments due to SMUD under Article VIII hereof.

The criteria set forth in Section 13.2 above will be applied in such a manner to keep SMUD in the same position it would have been were the El Dorado Parties to support their storage and deliveries exclusively by a partial transfer and/or assignment from the City.

13.4 Points of Delivery Re-Opener. The El Dorado Parties may re-open this Agreement if the El Dorado Parties desire to add points of delivery (other than the White Rock Delivery Point, the SFAR Delivery Point, and at the Iowa Hill Development) within the UARP. In such event, the following issues as to the proposed additional points of delivery will be subject to renegotiation:

(i) whether and to the extent to which the proposed additional points of delivery should be added;

(ii) timing and rate of any and all deliveries; and

(iii) amount of and measure for any modification in the payments due to SMUD under Article VIII hereof.

The criteria set forth in Section 13.2 above will be applied in such a manner to keep SMUD in the same position it would have been in if the proposed point(s) of delivery were not added.

13.5 Iowa Hill License Re-Opener. SMUD may re-open this Agreement if FERC grants SMUD a New License that allows SMUD to build and construct the proposed Iowa Hill Development, and the Board of Directors of SMUD has decided to proceed with the construction of the Iowa Hill Development. In such event, the following issues will be subject to renegotiation:

(i) constraints, if any, on the extent, quantity, and timing of the El Dorado Parties' right to take deliveries from the White Rock Delivery Point; and

(ii) amount of and measure for any modification in the payments due from the El Dorado Parties to SMUD under Article VIII hereof.

The criteria set forth in Section 13.2 above will be applied to ensure that (a) SMUD can effectively use the Slab Creek Reservoir as the lower reservoir for the Iowa Hill Development while providing the ability for the El Dorado Parties to take deliveries under this Agreement; and (b) the Annual Value of Foregone Power payment to SMUD by the El Dorado Parties is not increased.

13.6 <u>Re-Opener for New License</u>.

13.6.1 SMUD may re-open this Agreement no later than forty-five (45) days after the issuance of the New License, if the New License contains Flow-Related PM&E Measures that would require SMUD to change its operations and result in an Annual Loss of Net Generation Value of greater than five percent (5%). In such event, the following issues will be subject to renegotiation:

(i) increases in the Daily Net Storage Threshold;

(ii) accommodation of other physical and operational constraints resulting from the PM&E Measures;

(iii) corresponding reductions in, or changes in the timing of, deliveries to, and storage for the El Dorado Parties under this Agreement; and

(iv) amount of and measure for any modification in the payments due from the El Dorado Parties to SMUD under Article VIII hereof.

SMUD may only exercise its right under this re-opener prior to the date the New License is issued under the terms of this Agreement if both (a) the El Dorado Parties are receiving Annual Deliveries or deliveries from Carryover Storage; and (b) SMUD is unsuccessful in seeking a stay of implementation of the Flow-Related PM&E Measures pending action under Section 313 of the Federal Power Act or under state law provisions governing appeals of conditions of a Clean Water Act 401 certification and/or an NPDES permit. To the extent SMUD is ultimately successful in its challenge to the inclusion of the Flow-Related PM&E Measures in its New License or its challenges to the 401 Certification or the NPDES Permit, the Parties will modify the renegotiated terms accordingly.

The criteria set forth in Section 13.2 above will be applied to ensure that (a) the operational considerations specified in Section 13.2 are not materially impaired by deliveries to and storage for the El Dorado Parties; and (b) payments from the El Dorado Parties to SMUD are commensurate with the changes resulting from the Flow-Related PM&E Measures.

13.6.2 For purposes of Section 13.6.1, (i) the Annual Loss of Net Generation Value of the UARP will be determined taking into account the increase or decrease that operation of the Iowa Hill Development would have on the Net Generation Value of the UARP

under the New License versus the Net Generation Value of the UARP under the Original License, (ii) in so determining the Annual Loss of Net Generation Value of the UARP it will be assumed that the Board of Directors of SMUD has decided to proceed with the construction of the Iowa Hill Development, and (iii) the amount of the increase or decrease that the Iowa Hill Development would have on Net Generation Value will be based on the best information available to SMUD at the time.

13.6.3 If SMUD ultimately elects not to construct the Iowa Hill Development, SMUD may reopen this Agreement, and the issues subject to renegotiation will be as specified in Section 13.6.1 without reference to the Iowa Hill Development.

ARTICLE XIV
TERMINATION; SURVIVAL

14.1 Termination. This Agreement will terminate prior to the expiration of the Term upon the occurrence of any of the following events: (i) by mutual written agreement of the Parties, (ii) at such time as SMUD is no longer the licensee of the UARP, unless and to the extent the successor licensee assumes, or is directed by FERC to assume, the obligations of SMUD hereunder, or (iii) by any Party in the event the UARP is no longer being operated by any entity.

14.2 Survival of Provisions. The following provisions will survive any termination of this Agreement: Article IV to the extent payments from SMUD to the County are accrued and unpaid; Section 16.1 (Remedies); this Section 14.2 (Survival); Article XVII (Dispute Resolution); Section 2.2 (Effect on 1957 and 1961 Agreements); Article VIII to the extent payments due from the El Dorado Parties to SMUD are accrued and unpaid.

ARTICLE XV
REPRESENTATIONS AND WARRANTIES

15.1 Representations and Warranties of El Dorado Parties. Each El Dorado Party separately represents and warrants to SMUD that:

15.1.1 Due Authority and Approval. It has all legal power and prior unqualified and un-rescinded authority to enter into this Agreement, and to consummate the transactions contemplated hereby.

15.1.2 Validity. This Agreement has been duly executed and delivered by the representing El Dorado Party, and constitutes a valid and binding obligation, enforceable against such representing El Dorado Party in accordance with its terms.

15.1.3 No Violation. To the best of the representing El Dorado Party's knowledge, neither the execution and delivery of this Agreement, nor the consummation of the transactions contemplated hereby will, as of the date of this Agreement, violate any provision of law applicable to the representing El Dorado Party, or any agreement or other instrument to

which such representing El Dorado Party is a party or by which it is bound in any material respect.

15.1.4 Litigation. There are no pending or, to the best of the representing El Dorado Party's knowledge, after due diligence, threatened proceedings against such representing El Dorado Party by or before any Governmental Entity as of the date of this Agreement concerning the execution and delivery of this Agreement, its subject matter, or the consummation by the representing El Dorado Party of the transactions contemplated hereby.

15.1.5 Decisions Respecting Delivery and Storage of Water. The El Dorado Party has not decided (1) whether it will exercise any rights provided in this Agreement for the delivery and storage of water, or (2) if it ultimately decides to exercise such right, how, or to what extent such right will be exercised, where delivery of water will be taken, what facilities will be constructed or where they will be located, or where or for what purpose such water will be put to beneficial use.

15.2 Representations and Warranties of SMUD. SMUD represents and warrants to the El Dorado Parties that:

15.2.1 Due Authority and Approval. SMUD has all legal power and prior unqualified and un-rescinded authority to enter into this Agreement, and to consummate the transactions contemplated hereby.

15.2.2 Validity. This Agreement has been duly executed and delivered by SMUD, and constitutes a valid and binding obligation of SMUD, enforceable against SMUD in accordance with its terms.

15.2.3 No Violation. To the best of SMUD's knowledge, neither the execution and delivery of this Agreement, nor the consummation by SMUD of the transactions contemplated hereby will, as of the date of this Agreement, violate any provision of law applicable to SMUD, or any agreement or other instrument to which SMUD is a party or by which it is bound in any material respect.

15.2.4 Litigation. There are no pending or, to the best of SMUD's knowledge, after due diligence, threatened proceedings against SMUD by or before any Governmental Entity as of the date of this Agreement concerning the execution and delivery of this Agreement, its subject matter, or the consummation by SMUD of the transactions contemplated hereby.

ARTICLE XVI
REMEDIES

16.1 Remedies.

16.1.1 Specific Performance. The Parties acknowledge and agree that the covenants and agreements of the Parties as set forth in this Agreement, other than the agreement to pay money, are unique and of such a nature as to be inherently difficult or impossible to value

in monetary damages, and that a remedy at law for any breach will be by itself inadequate. Accordingly, each Party agrees that if any breach occurs, the remedy of specific performance or other injunctive or equitable relief in addition to compensatory relief will be available to the fullest extent available under the law.

16.1.2 Cumulation of Remedies. No remedy or election will be deemed exclusive but will, wherever possible, be cumulative with all other remedies at law or in equity.

ARTICLE XVII
DISPUTE RESOLUTION

17.1 General. The Parties will resolve any dispute, claim, or controversy arising out of or relating to this Agreement or its interpretation, enforcement, or performance exclusively in accordance with sequential processes steps provided in this Article XVII, unless all Parties to the dispute or that may be affected by its resolution ("Disputing Parties") agree in writing to dispense with one or more of the steps that precede arbitration. No Party may seek judicial relief with respect to any dispute other than in a Neutral County, (i) in the event of an emergency as provided in Section 17.6.3, (ii) to enforce the provisions of this Agreement requiring the resolution of disputes through arbitration, and (iii) to enforce an arbitration award. All remedies shall be available to such neutral arbitrator, including injunctive relief, in order to preserve the status quo pending resolution of any dispute.

17.2 Dispute by El Dorado Parties over SMUD Delivery Invoice. If the El Dorado Parties dispute any aspect of SMUD's Delivery Invoice, they will pay to SMUD the amount not in dispute and give SMUD notice of such dispute by February 28 of the Payment Year specifying the total amount of the Delivery Invoice that is in dispute and, with reasonable particularity, the basis for the dispute, including information regarding disputed deliveries, disputed calculation of payment factors, and any other aspect of the Delivery Invoice to which the dispute extends. The amount in dispute will be submitted for expedited dispute resolution in accordance with Section 17.3.3.4, and any amount determined to be owing to SMUD will bear interest as specified in Section 9.1.

17.3 Negotiation of Re-opener Disputes under Article XIII; Suspension; Termination. The sequential steps specified in this Section 17.3 will govern all disputes between the Parties under Article XIII respecting re-openers.

17.3.1 Effectiveness of This Agreement. During negotiations on reopened issues and any arbitration conducted in accordance with Section 17.5, this Agreement will remain in full force and effect and the Parties will be obligated to continue their performance under this Agreement during such negotiations, except as provided in Section 17.3.3 below.

17.3.2 Good Faith Negotiations. If the Parties are unable to reach agreement on an issue as to which a right of re-opener has been exercised after diligent, good faith negotiations for a six (6)-month period commencing upon the Notice of Re-Opener, and the Parties do not

agree to extend the period for such negotiations, then any Party may submit the matter to binding arbitration in accordance with Section 17.5 below.

17.3.3 <u>Suspension and Termination of this Agreement</u>.

17.3.3.1 <u>Suspension</u>. If SMUD exercises its right to re-open this Agreement pursuant to Section 13.6 above (Re-Opener for New License), SMUD may, in its sole discretion, temporarily suspend (until resolution of said re-opener issues by negotiation and/or arbitration) its performance of those provisions of this Agreement that are subject to such negotiation and/or arbitration and the performance of which would, in light of the terms and conditions of the New License, impair SMUD system operational reliability or impair SMUD's ability to comply with license, regulatory, or other legal requirements.

17.3.3.2 <u>Impairment; Notice</u>. If SMUD elects to temporarily suspend its performance under this Section 17.3.3, SMUD will include in its Notice of Re-Opener a specification of (i) the provisions of this Agreement that are to be temporarily suspended; (ii) the terms and conditions of the New License that bear on the impairment of SMUD; (iii) the reasons the provisions, terms, and conditions would cause such impairment; and (iv) the proposed effective date of suspension. If the El Dorado Parties conclude that they would be injured by such suspension, they will provide written notice to SMUD specifying in reasonable detail the nature of such injury and the extent to which and the reason the injury is irreparable ("Notice of Injury"). Said notice will be provided to SMUD within fifteen (15) days of SMUD's Notice of Re-Opener.

17.3.3.3 <u>Meet and Confer</u>. The Parties will meet and confer in good faith within fifteen (15) days of the El Dorado Parties' Notice of Injury to attempt to agree upon the nature of, and the actions which might be taken to minimize, the impairments and the injuries so noticed. If the Parties are unable to agree in these informal negotiations, then within forty-five (45) days of SMUD's Notice of Re-Opener, either SMUD or the El Dorado Parties may seek expedited binding arbitration in accordance with Section 17.3.3.4 below. The arbitrator will be selected in accordance with Section 17.5.3. The arbitrator, in reaching his decision, will consider, without limitation, (i) the extent to which SMUD is entitled to temporarily suspend its performance of the provisions specified in its Notice of Re-Opener, and (ii) the extent to which such temporary suspension will cause irreparable injury to the El Dorado Parties.

17.3.3.4 <u>Expedited Binding Arbitration</u>. The procedural rules set forth in Section 17.5 will apply, subject to the following differences: (i) the petition for arbitration must be filed within forty-five (45) days of the Notice of Re-Opener; (ii) the responding Party must file a response within ten (10) days; (iii) arbitration hearing will be set for a date that falls within sixty (60) days of the filing of the petition for arbitration; and (iv) the arbitrator, in reaching its decision, will consider, without limitation, the extent to which SMUD is entitled to temporarily suspend its performance of the provisions specified in its Notice of Re-Opener, and the extent to which such temporary suspension will cause irreparable injury to the El Dorado Parties.

17.3.3.5 **Termination.** If the arbitrator sustains any aspect of SMUD's suspension, but determines that such suspension causes irreparable injury to the El Dorado Parties, then the El Dorado Parties, in their sole and absolute discretion, may terminate the following provisions of this Agreement by providing SMUD with written notice of termination within ten (10) days of the arbitrator's final determination, with the termination to be effective thirty (30) days thereafter: Article V, Section 6.1, Section 6.2, Article VII, Article VIII except with respect to deliveries made by SMUD prior to the effective date of the termination, and Article XIII.

17.4 **Negotiation and Mediation of Other Disputes.** The sequential steps specified in this Section 17.4 will govern all disputes between the Parties other than those disputes under Section 17.2 respecting a SMUD Delivery Invoice and Section 17.3 respecting re-openers.

17.4.1 **Informal Negotiations.** The Disputing Parties will first attempt to resolve the dispute through informal negotiation between representatives that are knowledgeable of the issues in dispute and have the authority to settle or recommend settlement of the dispute.

17.4.2 **Formal Negotiations.** If at any time it appears to a Disputing Party that the dispute will not be resolved by informal negotiation as provided in Section 17.4.1, the Disputing Party may initiate formal negotiations by providing written notice to all other Disputing Parties setting forth the subject of the dispute, the relief requested, and the reason the Party believes it is entitled to such relief under this Agreement. Each recipient of such notice will respond within ten (10) days with a written statement of its position on and recommended resolution of the dispute. If the dispute is not resolved through this exchange of correspondence, a senior executive of each Disputing Party, with full settlement authority, will meet at a mutually agreeable time and place within ten (10) days of the date of the last response to attempt to resolve the dispute. If the dispute is not resolved by these formal negotiations within thirty (30) days after the date of the notice initiating formal negotiations, any Disputing Party may submit the issue for mediation in accordance with Section 17.4.3 hereof.

17.4.3 **Mediation.**

17.4.3.1 **Notice; Selection of Mediator.** Any Disputing Party may initiate mediation by providing the other Disputing Parties with a written request to enter into mediation. The Parties will select an agreed-upon neutral mediator within ten (10) days of the written notice. The mediator selected will be experienced, neutral, without conflicts of interest, and qualified to mediate disputes of the nature of those that have arisen under this Agreement, as such qualifications are described in Section 17.5.3. If the Parties are unable to agreed upon a mediator, the El Dorado Parties, collectively, and SMUD will each appoint one mediator, with the two appointed mediators selecting a third qualified, neutral mediator who will serve as the sole mediator of the dispute.

17.4.3.2 **Mediation Conference; Settlement of Dispute.** Within ten (10) days of the selection of the sole mediator as provided in Section 17.4.3.1, an initial mediation conference will take place at the offices of the mediator, or such other place as the mediator may designate. The mediator may schedule two additional mediation conferences on

dates and at places reasonably determined by the mediator, to be held within thirty (30) days after selection of the sole mediator. The mediator will preside, and the Disputing Parties will be represented by a senior executive, at all mediation conferences. If the Parties reach agreement on the settlement of the dispute, within ten (10) days after the conclusion of the last mediation conference, the Parties will enter into a written settlement agreement setting out the terms and conditions of the settlement of the dispute.

17.4.3.3 **Failure to Resolve Dispute.** If the Parties are unable to resolve the dispute through mediation, any Disputing Party may submit the dispute to arbitration pursuant to Section 17.5.

17.5 Binding Arbitration.

17.5.1 Rules of Arbitration. The arbitration will be conducted pursuant to the Commercial Arbitration Rules, including the Procedures for Large, Complex Commercial Disputes, of the American Arbitration Association in effect at the time of the dispute ("AAA Rules"), except as otherwise provided in this Agreement.

17.5.2 Initiation of Arbitration. Any Party may initiate arbitration by giving the other Party notice of its intention to arbitrate ("Arbitration Demand") within thirty (30) days after the conclusion of any mediation proceedings conducted under Section 17.4.

17.5.3 Appointment of Arbitrator. Within thirty (30) days after delivery of the Arbitration Demand, the Parties will mutually agree upon a single arbitrator who will be experienced in (i) the economics and operations of electric utilities with complex hydro-electric projects, (ii) the requirements of water districts with delivery obligations similar to those of the El Dorado Parties, and (iii) the process of deciding disputes and interpreting contracts similar to this Agreement. If the Parties are unable to agree upon an arbitrator within such thirty-day period, then within fifteen (15) days after the expiration of such 30-day period SMUD and the El Dorado Parties collectively will each appoint one arbitrator with the two appointed arbitrators selecting a third, neutral, qualified arbitrator who will serve as the sole arbitrator of the dispute. If the appointed arbitrators are unable to agree on the third arbitrator within thirty (30) days after their appointment, then the sole arbitrator shall be made as provided in the AAA Rules.

17.5.4 Discovery. The Parties will be entitled to take discovery of any person or entity by any or all methods specified provided in the California Code of Civil Procedure on such conditions respecting relevancy of information sought, timing, and duplicative discovery as the arbitrator may direct in order to preserve the expedited nature of arbitration.

17.5.5 Arbitration Award. The arbitrator's award, including the relief granted, must be consistent with the provisions of this Agreement, and the arbitrator will not have jurisdiction to award relief not contemplated by the provisions of this Agreement.

17.6 Miscellaneous Provisions.

17.6.1 Good Faith. The Parties will participate in all steps of the dispute resolution process required by this Article XVII diligently and in good faith.

17.6.2 Confidentiality. All offers, promises, statements, and other communications (whether oral or written) made in the course of informal negotiation, formal negotiation, and mediation under this Article XVII by any of the Parties, their agents, employees, experts, and attorneys, and by the mediator, are confidential, privileged, and inadmissible for any purposes in any arbitration under Section 17.5, litigation, or other proceeding involving the Parties, provided that evidence that is otherwise admissible or discoverable will not be rendered inadmissible or non-discoverable as a result of its use in the mediation.

17.6.3 Emergency Relief. Any Disputing Party may be permitted to seek a preliminary injunction or temporary restraining order in a Neutral County prior to the initiation of arbitration proceedings to preserve the status quo pending the resolution of the dispute before the arbitrator and only in the event of an existing or threatened emergency which has or imminently will cause substantial interference with the public health, safety and welfare. Such emergency relief will continue only until the neutral arbitrator has been designated pursuant to Section 17.5.3 and has had an opportunity to consider whether to continue such relief in effect.

17.6.4 Costs of Mediation, Arbitration. All Parties will bear their own costs of mediation and arbitration, including charges and expenses of any mediator and arbitrator appointed by them. SMUD and the El Dorado Parties collectively will share equally all charges and expenses of neutral mediators and arbitrators.

ARTICLE XVIII
GENERAL PROVISIONS

18.1 Governing Law. This Agreement will be governed by and construed in accordance with the laws of the State of California applicable to contracts made and to be performed in this State.

18.2 Entire Agreement. This Agreement contains the entire understanding and agreement of the Parties and there have been no promises, representations, agreements, warranties, or undertakings by any of the Parties, either oral or written, of any character or nature binding except as stated or referenced in this Agreement. This Agreement may be altered, amended, or modified only by an instrument in writing, executed by the Parties to this Agreement and by no other means. Each Party waives its right to claim, contest, or assert that this Agreement was modified, canceled, superseded, or changed by any oral agreement, course of conduct, waiver, or estoppel.

18.3 Severability. If any provision of this Agreement is determined by final judgment of any court of competent jurisdiction to be invalid or unenforceable, the remaining provisions of this Agreement will remain in full force and effect and will not be affected thereby. The provision that is so invalidated or held to be unenforceable will be modified or changed by the Parties to the extent possible to carry out the intentions and directives set forth in this Agreement. However, if any Party contends the invalid or unenforceable provision remains material to its continuing performance under this Agreement, and no modification can be mutually agreed upon, then such Party may initiate the Dispute Resolution provisions set forth in

Article XVII. If a mutually satisfactory resolution is not achieved through mediation, the Party contending the invalid or unenforceable provision is material may seek arbitration in accordance with the provisions of Section 17.5 for the sole purpose of determining whether the invalid or unenforceable provision is sufficiently material that it would be unfair and inequitable to require the Party's continuing performance under this Agreement and whether any proposed modification can be incorporated so as to make performance reasonable under the circumstance. If a Party obtains a determination that continuing performance would be unfair and inequitable and that there are no reasonable modifications available, this Agreement will terminate upon the terms that may be provided by the arbitrator.

18.4 Assignment; Successors and Assigns. No Party may transfer or assign this Agreement or any part thereof without the other Parties' prior written consent, which consent may be withheld in any Party's absolute discretion. This Agreement will be binding upon and will inure to the benefit of the parties hereto and their respective permitted assigns and successors in interest.

18.5 No Third Party Rights. Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies on any persons other than the Parties and their respective successors and assigns.

18.6 Incorporation of Recitals and Exhibits. The Recitals sets forth above are incorporated in this Agreement and made a part hereof. All exhibits attached hereto are incorporated by this reference as though fully stated herein.

18.7 Waiver. The waiver of any breach of any provision hereunder by any Party to this Agreement will not be deemed to be a waiver of any preceding or subsequent breach hereunder, nor will any waiver constitute a continuing waiver. No waiver will be binding unless executed in writing by the Party making the waiver.

18.8 Attorneys' Fees; Costs. If any legal action is brought by any Party against any other Party respecting the enforcement, interpretation, or performance of this Agreement, each Party will bear its own attorneys' fees and court costs.

18.9 No Precedent. This Agreement is entered into as a compromise and with the specific understanding that it is without any admission of fault by either Party and is without precedential value. It is not intended to be, nor will it be construed as an interpretation of any preexisting agreement and will not be used as evidence, or in any other manner, in any court or dispute resolution proceeding (with the exception of an action or proceeding to enforce the terms of this Agreement) to create, prove or interpret the obligations of any Party hereto or any of its individual members, associates, successors, or predecessors under any other agreement(s) with a Party or any non-Party to this Agreement.

18.10 Good Faith. This Agreement is subject to the covenant of good faith and fair dealing.

18.11 Other Instruments. Each Party from time to time will execute and deliver such other and further documents as another Party may reasonably deem necessary to effect the intent and carry out the provisions of this Agreement.

18.12 Representation by Counsel; Interpretation. Each Party acknowledges that it has been represented by counsel in connection with this Agreement and the transactions contemplated hereby. Accordingly, any rule of law or any legal decision that would require interpretation of any claimed ambiguities in this Agreement against the Party that drafted it has no application and is expressly waived. The provisions of this Agreement will be interpreted in a reasonable manner to effect the intent of the Parties.

18.13 Notices. All notices and other communications given under this Agreement will be given in writing as provided in this Section 18.13 or given pursuant to the DI Agreement provided for in Section 5.4.3. Notices will be conclusively deemed to have been duly given (1) when hand delivered to the other Party; (2) when received if sent by facsimile to the number set forth below and the receiving facsimile machine confirms such receipt to the sender, provided that any notice given by facsimile will be deemed received on the next business day if such notice is received after 5:00 p.m. or on a non-business day; (3) three business days after the same have been deposited in a United States post office with first class or certified mail return receipt requested postage prepaid and addressed to the Parties as set forth below; (4) the next business day after same have been deposited with a national overnight delivery service (Federal Express, DHL Worldwide Express, Express Mail, etc.), postage prepaid, addressed to the Parties as set forth below with next-business-day delivery guaranteed, provided that the sending Party receives a confirmation of delivery from the delivery service provider; or (5) as provided in the DI Agreement.

To SMUD:	General Manager Sacramento Municipal Utility District 6201 S Street Sacramento, CA 95817 Phone: (916) 452-3211 Fax: (916) 732-6562
To County:	County of El Dorado 330 Fair Lane Placerville, CA 95667 Phone: (530) 621-5770 Fax: (530) 621-2937
To EID:	El Dorado Irrigation District 2890 Mosquito Road Placerville, CA 95667 Phone: (530) 622-4513 Fax: (530) 622-1195

To EDCWA:	El Dorado County Water Agency 3932 Ponderosa Road, Suite 200 Shingle Springs, CA 95682 Phone: (530) 621-5392 Fax: (530) 672-6721
To EDWPA:	El Dorado Water & Power Authority 3932 Ponderosa Road, Suite 200 Shingle Springs, CA 95682 Phone: (530) 621-5392 Fax: (530) 672-6721
To GDPUD:	Georgetown Divide Public Utility District P.O. Box 4240 6425 Main Street Georgetown, CA 95634 Phone: (530) 333-4356 Fax: (530) 333-9442

A Party may change or supplement the addresses given above, or designate additional addresses, for purposes of this Section by giving the other Party written notice of the new address in the manner set forth above.

18.14 Captions, Headings. The captions, headings, and index of this Agreement are for convenience only and have no force and effect in the interpretation or construction of this Agreement.

18.15 Signatures - Counterparts. This Agreement and any amendment hereto, may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument. This Agreement will not be effective until the execution and delivery between each of the Parties of at least one set of counterparts. The Parties authorize each other to detach and combine original signature pages and consolidate them into a single identical original. Any of such completely executed counterparts will be sufficient proof of this Agreement.

18.16 Condition Precedent to Construction, Delivery, and Storage. The Parties will comply with the provisions of Article XI as an express condition precedent to exercising any of the rights in this Agreement that would require: 1) the acquisition of water rights for the storage and delivery of water to the El Dorado Parties; 2) modification of SMUD's operation of the UARP for delivery of water to the El Dorado Parties; or 3) construction of facilities necessary for delivery of water to any of the El Dorado Parties.

ARTICLE XIX
ALLOCATION OF RIGHTS AND OBLIGATIONS AMONG EL DORADO PARTIES

19.1 El Dorado Designated Representative. The El Dorado Parties agree that the El Dorado Designated Representative will be the sole and exclusive Party that may and is responsible for the exercise the obligations described in this Section 19.1. The El Dorado Designated Representative will be the El Dorado Water and Power Authority unless and until that entity ceases to exist, in which case the El Dorado County Water Agency will succeed to the rights and responsibilities of the El Dorado Designated Representative. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties for the following purposes under this Agreement:

19.1.1 Water Supply Acquisition. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties for all purposes in the process of acquiring the water rights and water supplies to be stored in and diverted through and from the UARP in a manner consistent with this Agreement, as contemplated by Sections 6.1, 6.2, and 6.3 of this Agreement, as follows: (a) in seeking regulatory approvals from the SWRCB and the Bureau of Reclamation; (b) in all negotiations related thereto, including but not limited to negotiations with the City, the Bureau of Reclamation, the SWRCB, the Central Valley Project Contractors and the State Water Project Contractors; and (c) in any Water Forum process that may be established as contemplated by Section 6.3 of this Agreement, except to the extent a "Purveyor Specific Agreement" requires separate representation and individual participation by one or more of the El Dorado Parties.

19.1.2 Notices. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties for providing and receiving all notices required under this Agreement, including Notices of Re-opener under Article XIII.

19.1.3 Scheduling of Deliveries. The El Dorado Designated Representative will comply with all forecasting, scheduling and notice requirements contained in Sections 5.2.1, 5.2.2, 5.3, and 5.4 of this Agreement and it will specifically identify for each El Dorado Party the quantity of water delivery being forecasted.

19.1.4 Negotiation of Interconnection Construction Agreement. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties in the negotiations of the Interconnection Construction Agreement pursuant to Section 5.2.2.2 of this Agreement.

19.1.5 Construction, Maintenance and Operation of Interconnection Facilities. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties in all matters related to the construction, maintenance and operation of the interconnection facilities described in Section 5.2.2 of this Agreement.

19.1.6 Negotiation of and communications under the Data Interchange Agreement. The El Dorado Designated Representative will serve as the representative of the El

Dorado Parties in the negotiation of and communications under the DI Agreement, pursuant to Section 5.4.3 of this Agreement.

19.1.7 Installation, Maintenance and Calibration of White Rock Meter. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties in all matters related to the installation, maintenance and calibration of the White Rock Meter pursuant to Section 7.1 of this Agreement.

19.1.8 Reporting of Deliveries. The El Dorado Designated Representative will comply with the reporting requirements set forth in Sections 7.1.3 and 7.3 of this Agreement.

19.1.9 Re-opening of this Agreement. The El Dorado Designated Representative will serve as the representative of the El Dorado Parties in any negotiations pursuant to a re-opener as identified in Article XIII hereof.

19.1.10 Resolution of Disputes under this Agreement. In the case of any dispute that may arise under this Agreement, as between the El Dorado Parties on the one hand, and SMUD on the other, the El Dorado Designated Representative will serve as the representative of the El Dorado Parties in any proceedings in order to resolve such a dispute, as described in Article XVII of this Agreement, including litigation to the extent permitted by Sections 17.1 and 17.6.3.

19.2 Power Foregone Payments. The El Dorado Designated Representative will detail in its monthly reporting, pursuant to Sections 7.1.3 and 7.3, to which El Dorado Party the deliveries have been made and provide copies to each El Dorado Party. Any El Dorado Party that requests a correction in any El Dorado Designated Representative monthly reporting will notify El Dorado Designated Representative within fifteen (15) days of the reporting. Any disputes among the El Dorado Parties regarding the accuracy of any monthly reporting by the El Dorado Designated Representative will be resolved no later than January 15 of each Payment Year. By January 15 of each Payment Year, the El Dorado Designated Representative will provide SMUD with a final reporting of the total deliveries made to each El Dorado Party in the prior Payment Year. Such final reporting shall contain the allocation of all deliveries metered at the White Rock Meter and scheduled at the SFAR Delivery Point. The final reporting issued to SMUD by El Dorado Designated Representative will be deemed conclusive for all purposes as among the El Dorado Parties of the apportionment of water provided and the accuracy of the quantities stated therein. SMUD will provide an invoice notice to El Dorado Designated Representative as required by Section 8.2.2 of this Agreement, detailing the payments due from each El Dorado Party that received deliveries in the prior year. Each El Dorado Party receiving deliveries in the prior year shall make direct payments to SMUD for the amount of water delivered to it, pursuant to the procedures described in Section 8.2. In the event any El Dorado Party fails to make timely payment to SMUD of amounts due for Power Foregone, SMUD may proceed to initiate collection directly against the invoiced El Dorado Party.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year set forth above.

County of El Dorado

By: James R. Sweeney 10-18-05

James R. Sweeney
Second Vice-Chairman

Attest: CINDY KECK, Clerk
of the Board of Supervisors

By Kathryn Tyler 10-18-05
Deputy Clerk

El Dorado County Water Agency

By: _____

Attest:

_____

_____

Georgetown Divide Public Utility District

By: _____

Attest:

_____

_____

El Dorado Irrigation District

By: _____

Attest:

_____

_____

El Dorado Water and Power Authority

By: _____

Attest:

_____

_____

Sacramento Municipal Utility District

By: _____

APPROVED AS TO FORM:

By: Louis B. Green
EL DORADO COUNTY COUNSEL

By: _____

By: _____

By: _____

By: _____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year set forth above.

County of El Dorado

By: _____

Attest:

_____

_____

El Dorado County Water Agency

By: James R Sweeney
1st Vice-Chairman

Attest:
CATHY A. MONAGHAN - BOARD CLERK
Cathy A. Monaghan

Georgetown Divide Public Utility District

By: _____

Attest:

_____

_____

El Dorado Irrigation District

By: _____

Attest:

_____

_____

El Dorado Water and Power Authority

By: James R Sweeney
Chairman

Attest:
CATHY A. MONAGHAN - BOARD CLERK
Cathy A. Monaghan

Sacramento Municipal Utility District

By: _____

APPROVED AS TO FORM:

By:_____

By: Frederick L. Ahlstedt
General Counsel
El Dorado County Water Agency

By:_____

By:_____

By: Frederick L. Ahlstedt
General Counsel
El Dorado Water & Power Authority

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year set forth above.

County of El Dorado

By: _____

Attest:

_____

_____

El Dorado County Water Agency

By: _____

Attest:

_____

_____

Georgetown Divide Public Utility District

By: _____

Attest: _____

Assistant Clerk

El Dorado Irrigation District

By: _____

Attest:

_____

_____

El Dorado Water and Power Authority

By: _____

Attest:

_____

_____

Sacramento Municipal Utility District

By: _____

APPROVED AS TO FORM:

By:_____

By:_____

By: Wm M. Wright
General Counsel, Georgetown Divide Public Utility District

By:_____

By:_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year set forth above.

County of El Dorado

By: _____

Attest:

_____

_____

El Dorado County Water Agency

By: _____

Attest:

_____

_____

Georgetown Divide Public Utility District

By: _____

Attest:

_____

STACEY AUGUST
CLERK TO THE BOARD

El Dorado Irrigation District

By: _____

Attest:

_____

_____

El Dorado Water and Power Authority

By: _____

Attest:

_____

_____

Sacramento Municipal Utility District

By: _____

APPROVED AS TO FORM:

By:_____

By:_____

By:_____

By:_____
EID General Counsel

By:_____

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year set forth above.

County of El Dorado

By: _____

Attest:

_____

_____

El Dorado County Water Agency

By: _____

Attest:

_____

_____

Georgetown Divide Public Utility District

By: _____

Attest:

_____

_____

El Dorado Irrigation District

By: _____

Attest:

_____

_____

El Dorado Water and Power Authority

By: _____

Attest:

_____

_____

Sacramento Municipal Utility District

By: _____
JAN SCHORI
General Manager

APPROVED AS TO FORM:

By:_____

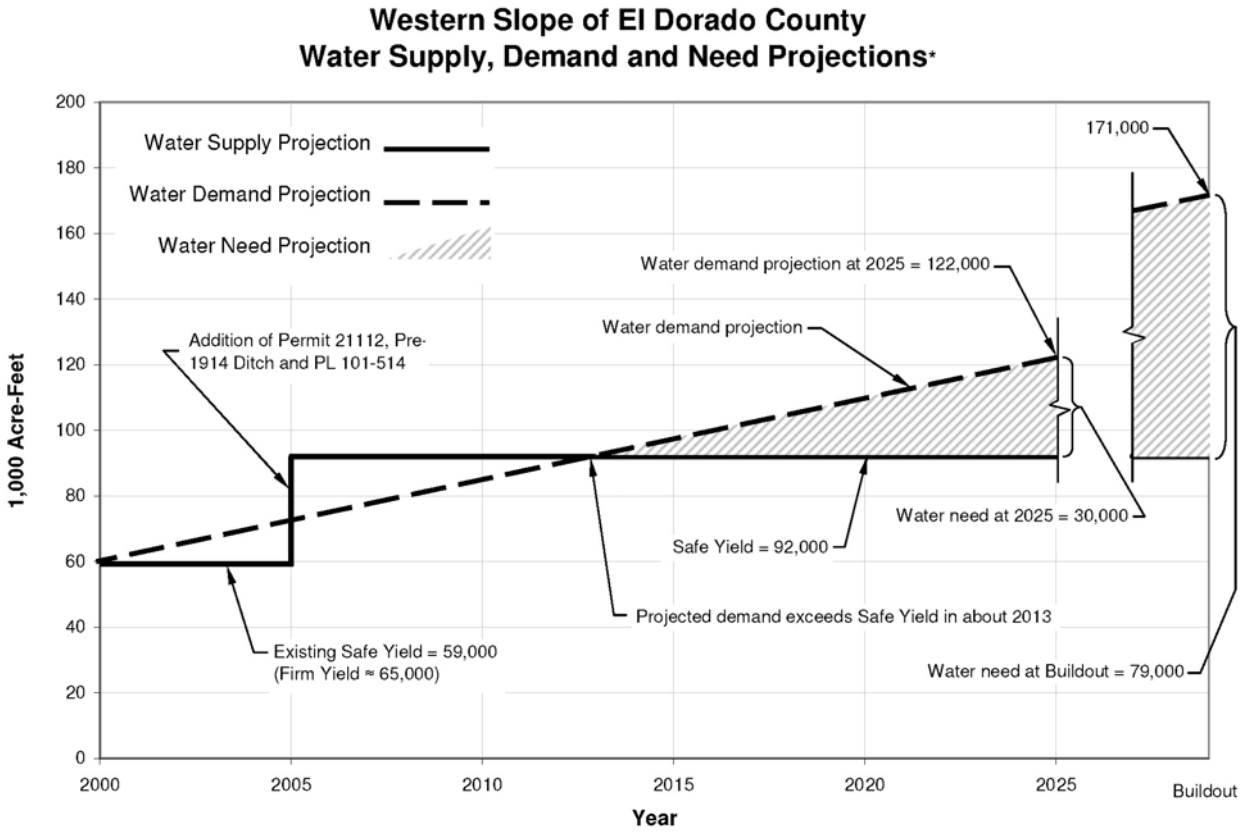
By:_____

By:_____

By:_____

By:_____
LESLIE A. DUNSWORTH
Assistant General Counsel

EXHIBIT "A"



*Based on information contained in the El Dorado County Water Agency Draft Water Resources Development and Management Plan, June 2003.

EXHIBIT "B"

Summary of Pending Water Right Applications for UARP

On May 24, 2005, SMUD filed two water right applications with the State Water Resources Control Board. These applications seek additional direct diversion and storage rights on the Upper American River Project. The first application concerns water sources in the Rubicon River basin and is intended to provide a water right that would enable SMUD to continue its historical operations during very wet years, even if the basin's runoff pattern becomes more variable during the term of SMUD's impending new FERC license. This application seeks the following rights:

- increase direct diversions from four streams at five existing diversion facilities
  - 800 cubic feet per second (cfs) at Rubicon Reservoir on Rubicon River
  - 160 cfs at Buck Island Reservoir on Little Rubicon River
  - 950 cfs at Loon Lake, Gerle Creek Reservoir and Robbs Peak Reservoir on Gerle Creek and South Fork Rubicon
- recognize existing storage at four reservoirs that provide minimal seasonal storage or are operated to regulate the flow of water into penstocks and tunnels for power generation
  - 1,550 acre-feet at Rubicon Reservoir
  - 760 acre-feet at Buck Island Reservoir
  - 1,200 acre-feet at Gerle Creek Reservoir
  - 100 acre-feet at Robbs Peak Reservoir
- increase the total annual quantity of water that may be diverted from Rubicon River stream sources and put to immediate beneficial use during a single hydrological year
  - up to an additional 155,000 acre-feet would be available for generation at Robbs Peak Powerhouse
  - up to an additional 129,000 acre-feet would be available for direct diversion or diversion to storage from all Rubicon River sources

The second application concerns water sources in the Silver Creek and South Fork American River basins. The application would recognize existing storage at four reservoirs that are operated to regulate the flow of water into penstocks and tunnels for power generation.

- 1,400 acre-feet at Camino Reservoir

— 6,300 acre-feet at Junction Reservoir

— 2,500 acre-feet at Brush Creek Reservoir

— 17,000 acre-feet at Slab Creek Reservoir

EXHIBIT "C"

1957 WATER SOURCES

<u>EID Supplies in place in 1957</u>

1. USBR/EID Contract 14-06-200-949 IR3 (Sly Park)

2. Pre-1914 water rights:

    - from Camp Creek, at Jenkinson Lake
    - from the South Fork American River, at Kyburz
    - from the North Fork Cosumnes River, at the North Fork Cosumnes Extension
    - from Clear Creek, at Crawford Ditch
    - from Squaw Hollow Creek, at East Diamond Ditch
    - from Weber Creek, at Farmer's Free Ditch
    - from Slab Creek, at the Summerfield Ditch
    - from Hangtown Creek, at the Gold Hill Ditch
    - from Bass Lake watershed, at the Bass lake Reservoir

3. Rights under Statement of Diversion and Use 10717

4. SWRCB permitted rights under Applications 7478, 1692, 15140, and 11675

<u>GDPUD Supplies in place in 1957</u>

1. GDPUD's Stumpy Meadows Project, consisting of various pre-1914 rights:

    - from Pilot Creek
    - from Mutton Canyon
    - from Bacon Canyon
    - from Deep Canyon
    - from an unnamed tributary to Pilot Creek

2. SWRCB permitted rights under Applications 5644A, 16212, and 16688

EXHIBIT "D"
DEFINED TERMS

"1957 Agreement" will mean that certain "Agreement Between County of El Dorado and Sacramento Municipal Utility District" entered into on July 11, 1957, by and between the County and SMUD.

"1961 Agreement" will mean that certain "Supplemental Agreement Between County of El Dorado, El Dorado County Water Agency and Sacramento Municipal Utility District" entered into on December 7, 1961, by and between the County, EDCWA and SMUD.

"Annual Deliveries" will mean delivery of water by SMUD to the El Dorado Parties under this Agreement pursuant to Section 5.1.1.

"Annual Forecast" is defined in Section 5.3.

"Annual Loss of Net Generation Value" will mean the difference between the monetary value in dollars of the average annual simulated electric generation of the UARP as a whole operating under (i) the Original License (Base Case relicensing conditions), and (ii) any New License, such simulations using the CHEOPS Model and hydrologic data for the period 1976-2000, and such values being calculated using commonly referenced forward wholesale electric market prices for NP15 the following calendar year.

"Annual Surcharge" is defined in Sections 8.1.3(b) and 8.1.3(c).

"Annual Value of Foregone Power" is defined in Section 8.1.3(a).

"Carryover Storage" will mean water that has been delivered to storage in one calendar year for delivery from such storage in any subsequent calendar year.

"CEQA" will mean the California Environmental Quality Act, as amended from time to time.

"City" will mean the City of Sacramento.

"County" will mean the County of El Dorado.

"Critically Dry Condition". A Critically Dry Condition is declared when a forecast or estimate of actual runoff shows the total water year unimpaired runoff at the American River below Folsom Lake to be less than or equal to 900,000 acre-feet. The declaration is triggered when any of the February 1, March 1, April 1, or May 1 California Department of Water Resources (CDWR) median (expected) forecasts for total water year unimpaired runoff at the American River below Folsom Lake indicate water year totals at or below this threshold. An additional trigger is the water year-end (October 1)

estimate by CDWR of the unimpaired flow of the American River below Folsom Lake. A Critically Dry Condition if triggered, is declared upon publication of the CDWR forecast/estimate, and remains in place until the next published forecast/estimate changes that declaration. (An October 1 declaration is in effect until publishing of the next February 1 forecast.)

"Current Relicensing Process" is defined in Recital L.

"Daily Net Storage" will mean the combined storage volume of SMUD's Loon Lake, Ice House, and Union Valley Reservoirs, less any Carryover Storage, computed daily.

"Daily Net Storage Threshold" will mean the amount of water that must be in active storage for SMUD in SMUD's Loon Lake Reservoir, Ice House Reservoir and Union Valley Reservoir at the beginning of the second year of the most critically dry period of record (as of the Effective Date of this Agreement, the 1976-77 water years).

"Delivery Initiation Notice" is defined in Section 5.2.1.

"Delivery Invoice" is defined in Section 8.2.2.

"EDCWA" will mean El Dorado County Water Agency.

"EDWPA" is defined in Recital B.

"Effective Date" is defined in the introductory paragraph.

"EID" will mean the El Dorado Irrigation District, a special district organized in 1925 and existing under the Irrigation District Law (Cal. Wat. Code, § 20500 et seq.) and authorizing statutes (Cal. Wat. Code, § 22975 et seq.).

"El Dorado Designated Representative" is defined in Section 19.1.

"El Dorado Parties" will mean, collectively, El Dorado County, the El Dorado County Water Agency, the El Dorado Water and Power Authority, the El Dorado Irrigation District, and the Georgetown Divide Public Utility District.

"El Dorado Parties Emergency Condition" will mean a condition beyond the El Dorado Parties' control (other than that caused by water year type) resulting from a sudden occurrence such as a storm, flood, fire, or an unexpected equipment outage which affects the El Dorado Parties' water diversion, storage, or delivery system and impairs the El Dorado Parties' ability to make water deliveries, and which is declared by resolution of, or pursuant to a procedure adopted by, resolution of the El Dorado Parties, governing board.

"El Dorado Water" is defined in Section 6.1.

“FERC” will mean the Federal Energy Regulatory Commission or any successor.

“Flow-Related PM&E Measures” will mean any PM&E measure imposed in the New License that will affect Net Generation Value, including, but not limited to, measures setting reservoir storage levels, minimum streamflows, and recreation streamflows.

“Full Capacity” will mean the full capacity of the Ice House, Loon Lake, and Union Valley Reservoirs, and will be 340,000 acre-feet, or less if changed by SMUD.

“GDPUD” will mean Georgetown Divide Public Utility District, a public utility district created under the Public Utility District Act in1946.

“Governmental Entity” will mean any government, or any agency, bureau, board, commission, court, department, official, political subdivision, tribunal, or other instrumentality of such government, whether federal, state, or local.

“Impacts” are defined in Recital M.

“Iowa Hill Annual Payment” is defined in Section 4.3.2.

“Iowa Hill Development” will mean the proposed pump storage project on Iowa Hill adjacent to the existing Slab Creek reservoir within the UARP, and more particularly described in that certain document entitled “Iowa Hill Pumped Storage Development Project Description.”

“ISO” will mean the California Independent System Operator.

“Major or Material Amendments” will have the definition given them in section 4.35(f) of the Federal Power Act.

"Neutral County" is any county in which none of SMUD or any of the El Dorado Parties has physical facilities or provides services.

“New License” is defined in Recital L. The New License will be considered to have been issued, for the purposes of Section 13.6.1 of this Agreement, upon the exhaustion of all rights of appeal under the provisions of Section 313 of the Federal Power Act and/or state law provisions governing appeals of conditions of a Clean Water Act 401 certification and/or an NPDES permit.

“Notice of Re-opener” is defined in Section 13.1.1.

“Original License” is defined in Recital L.

“Payment Year” is defined in Section 8.2.1.

"PM&E Measures" will mean those measures included by FERC in any New License to protect, mitigate and enhance those facilities or resources impacted by the existence and operation of the UARP.

"Project" will have the meaning attributed to it under the California Environmental Quality Act.

"Seasonal Storage" will mean storage used by SMUD within a calendar year for purposes of making Annual Deliveries to the El Dorado Parties or deliveries to Carryover Storage during the last quarter of any calendar year.

"SFAR Delivery Point" will mean the point in the South Fork of the American River immediately below the discharge point from the White Rock Powerhouse.

"Slab Creek Reservoir Minimum Operating Level" is defined in Section 5.8.2.

"SMUD" will mean Sacramento Municipal Utility District.

"SMUD Emergency Condition" will mean a condition on or affecting SMUD's operations (other than that caused by water year type), declared in accordance with SMUD's established practices such that its UARP operations are significantly impacted and SMUD's ability to make deliveries to the El Dorado Parties is restricted or eliminated. Such emergency conditions include, but are not limited to, any of the following types of events: (i) an order of any Governmental Entity or court that (a) prevents SMUD from releasing water from its reservoirs for purposes of power generation or delivery of water supply, or (b) requires SMUD to release water from its reservoirs under conditions which preclude deliveries to the El Dorado Parties; and (ii) a failure of one or more of the major UARP Facilities due to any cause (act of nature or man) that restricts SMUD's ability to deliver water to the El Dorado Parties requiring either a complete curtailment or a limit upon deliveries to the El Dorado Parties.

"Subsequent New License" is defined in Recital L.

"Subsequent Relicensing Process" is defined in Recital L.

"SWRCB" will mean the State Water Resources Control Board or a successor agency.

"Term" is defined in Section 1.2.

"UARP" will mean the Upper American River Project.

"UARP Facilities" is defined in Recital H.

"Unusable Storage Level" will mean the storage volume of SMUD's Loon Lake, Ice House and Union Valley Reservoirs at the level below which plant intake structures are

considered to be no longer physically capable of withdrawing water from such reservoirs. The Unusable Storage Level will be at least 50,000 acre-feet, and may vary seasonally due to the impact of winter conditions on intake structures.

“Water Forum” will mean that group of parties signatory to The Water Forum Agreement.

“White Rock Delivery Point” will mean the existing 36-inch branch outlet constructed on the White Rock Penstock.

EXHIBIT "E"

SCHEDULING REQUIREMENTS

The El Dorado Parties must schedule hourly water deliveries with SMUD by 10:00 a.m. on the business day prior to the Pre-scheduling Day as defined by Western Electricity Coordinating Council (WECC) Protocols.[1] For example, typical Pre-scheduling Days will conform to the following:

(i) Sunday, Monday – the Pre-scheduling Day is Friday, therefore, the El Dorado Parties must schedule its hourly water deliveries for Sunday and Monday by 10:00 a.m. on Thursday.

(ii) Tuesday - the Pre-scheduling Day is Monday, therefore, the El Dorado Parties must schedule its hourly water deliveries for Tuesday by 10:00 a.m. on Friday.

(iii) Wednesday – the Pre-scheduling Day is Tuesday, therefore, the El Dorado Parties must schedule its hourly water deliveries for Wednesday by 10:00 a.m. on Monday.

(iv) Thursday – the Pre-scheduling Day is Wednesday, therefore, the El Dorado Parties must schedule its hourly water deliveries for Thursday by 10:00 a.m. on Tuesday.

(v) Friday, Saturday – the Pre-scheduling Day is Thursday, therefore, the El Dorado Parties must schedule its hourly water deliveries for Friday and Saturday by 10:00 a.m. on Wednesday.

(vi) Holidays and WECC Meeting Dates – the Pre-scheduling Day is two or more business days in advance of the holiday or WECC meeting date, therefore, the El Dorado Parties must schedule its hourly water deliveries for Holidays or WECC meeting dates, three or more business days in advance of such date.

[1] The "Pre-scheduling Days" are defined on an annual basis by the WECC, taking into account holidays, weekends and WECC meetings that need to be considered to coordinate scheduling activities in the region.

EXHIBIT "F"

PRICING CALCULATIONS AND COMPONENTS

1. The Annual Value of Foregone Power is the sum of the 365 Daily Values of Foregone Power calculated using the following formula:

   105% x {(Daily Power Price Index) x (White Rock Powerhouse Water Duty) x (Quantity of water delivered at the White Rock Delivery Point)}

   based on the following components:

   a) The Daily Power Price Index to be utilized throughout any given year will be:

      - January through April: Dow Jones NP15 Day-Ahead On-Peak Index, in $/MWh
      - May through September: Weighted average of Dow Jones NP15 Day-Ahead On-Peak and Off-Peak Indices, in $/MWh
      - October through December: Dow Jones NP15 Day-Ahead On-Peak Index, in $/MWh

   b) The White Rock Powerhouse Water Duty is deemed to be 0.7 MWh/af.

   c) The ISO fee factor is deemed to be a 5% adder.

2. The Annual Surcharge for Seasonal Storage is the sum of the 92 Daily Surcharges for Seasonal Storage calculated using the following formula:

   105% x (0.25 x Daily Power Price Index) x {(Cumulative Powerhouse Water Duty for the White Rock Delivery Point) x (Quantity of water delivered daily at the White Rock Delivery Point) + (Cumulative Powerhouse Water Duty for the SFAR Delivery Point) x (Quantity of water delivered daily at the SFAR Delivery Point)}

   based on the following components:

   a) The Daily Power Price Index will be the Dow Jones NP15 Day-Ahead On-Peak Price expressed in $/MWh. The factor to cover the Daily Power Price Index is deemed to be 25%.

   b) The Cumulative Powerhouse Water Duty for the White Rock Delivery Point is deemed to be 3.0 MWh/af.

c) The Cumulative Powerhouse Water Duty for the SFAR Delivery Point is deemed to be 3.7 MWh/af.

d) The ISO fee factor is deemed to be a 5% adder.

3. The Annual Surcharge for Carryover Storage is the sum of the Daily Surcharge for Carryover Storage for all the days within the year in which Carryover Storage is delivered to the El Dorado Parties. The Daily Surcharge for Carryover Storage will be calculated, under the following conditions, using the following formulas:

3.1 For any deliveries from Carryover Storage when the conditions in Exhibit "H", Section 2.ii. are in effect:

105% x (0.30 x Daily Power Price Index) x {(Cumulative Powerhouse Water Duty for the White Rock Delivery Point) x (Quantity of water delivered daily at the White Rock Delivery Point from Carryover Storage) + (Cumulative Powerhouse Water Duty for the SFAR Delivery Point) x (Quantity of water delivered daily at the SFAR Delivery Point from Carryover Storage)}

3.2 For any deliveries from Carryover Storage when the conditions in Exhibit "H", Section 3.ii.b.(i) are in effect:

105% x (0.40 x Daily Power Price Index) x {(Cumulative Powerhouse Water Duty for the White Rock Delivery Point) x (Quantity of water delivered daily at the White Rock Delivery Point from Carryover Storage) + (Cumulative Powerhouse Water Duty for the SFAR Delivery Point) x (Quantity of water delivered daily at the SFAR Delivery Point from Carryover Storage)}

3.3 For any deliveries from Carryover Storage when the conditions in Exhibit "H", Section 3.ii.b.(ii) are in effect:

105% x (0.45 x Daily Power Price Index) x {(Cumulative Powerhouse Water Duty for the White Rock Delivery Point) x (Quantity of water delivered daily at the White Rock Delivery Point from Carryover Storage) + (Cumulative Powerhouse Water Duty for the SFAR Delivery Point) x (Quantity of water delivered daily at the SFAR Delivery Point from Carryover Storage)}

3.4 For any deliveries from Carryover Storage when the conditions in Exhibit "H", Section 3.ii.b.(iii) are in effect:

105% x (0.50 x Daily Power Price Index) x {(Cumulative Powerhouse Water Duty for the White Rock Delivery Point) x

(Quantity of water delivered daily at the White Rock Delivery Point from Carryover Storage) + (Cumulative Powerhouse Water Duty for the SFAR Delivery Point) x (Quantity of water delivered daily at the SFAR Delivery Point from Carryover Storage)}

based on the following components:

a) The Daily Power Price Index to be utilized throughout any given year will be:

- January through April: Dow Jones NP15 Day-Ahead On-Peak Index, in $/MWh
- May through September: Weighted average of Dow Jones NP15 Day-Ahead On-Peak and Off-Peak Indices, in $/MWh
- October through December: Dow Jones NP15 Day-Ahead On-Peak Index, in $/MWh

b) The Cumulative Powerhouse Water Duty for the White Rock Delivery Point is deemed to be 3.0 MWh/af.

c) The Cumulative Powerhouse Water Duty for the SFAR Delivery Point is deemed to be 3.7 MWh/af.

d) The ISO fee factor is deemed to be a 5% adder.

EXHIBIT "G"

SOURCE FOR EL DORADO PARTIES WATER RIGHT; PROCEDURES

1. (a) The El Dorado Parties first will enter into good faith negotiations with the City of Sacramento in order to consummate a partial transfer or assignment from the City of Sacramento of the City's water right permits numbered 11359 and 11360. The El Dorado Parties will be deemed to have satisfied its good faith obligation with regard to the City once it has engaged in diligent negotiations for a period extending through July 31, 2006.

(b) Any partial transfer or assignment will include a provision by which the City waives any claim to water stored or delivered by SMUD to the El Dorado Parties under this Agreement and any claim the City may have against SMUD respecting such storage or delivery. SMUD, if requested by the City, will contemporaneously release City of any obligation to SMUD to use such water to provide service to SMUD's customers in SMUD's service area, as it now exists or may be enlarged. The El Dorado Parties will have sole and complete discretion as to the acceptability of the terms of any transfer or assignment resulting from its negotiations with the City.

(c) If an agreement is reached as specified in section 1 (a) and the requirements of (b) and Section 6.3 have been met, the El Dorado Parties will seek modification of the transferred or assigned permits by the SWRCB to the extent necessary for the El Dorado Parties to exercise its rights under this Agreement, and SMUD will file such documents with the SWRCB as the El Dorado Parties may reasonably request advising the SWRCB that SMUD supports such modification.

2. (a) If the El Dorado Parties are not successful in obtaining a transfer or assignment from the City, the El Dorado Parties may seek to obtain any or all of the following water rights (i) a new appropriation of American River water under applicable law, (ii) a partial assignment of state-filed applications nos. 5644, 5645, 7937, 7939, 18063, 18065, 18067, 18069, 18071, and 18072, so modified by the SWRCB to the extent necessary for the El Dorado Parties to exercise its rights under this Agreement, and (iii) any other means available under applicable law. The conditions specified in (b) through (e) will apply in such event, in addition to those specified in the last sentence of 1 above and in Section 6.3.

(b) Any water rights obtained under Section 2 must (i) contain provisions relating to diversion, rediversion, storage, purpose of use, and place of use sufficient for purposes of this Agreement and to allow water to be used within the UARP system between the point of initial introduction into the UARP system until the water is delivered by SMUD from the UARP to the El Dorado Parties under this Agreement; (ii) specify as points at which water is initially diverted into the UARP system only those points at which SMUD is then diverting or rediverting water into the UARP system; and (iii) authorize seasonal or carry-over storage only at Loon Lake, Union Valley, and Ice House Reservoirs. To the extent the El Dorado Parties secures source(s) of supply other than by means of an assignment or transfer from the City of Sacramento and the water source enters the UARP at locations downstream of the Loon Lake, Union Valley, and Ice

House Reservoirs, then SMUD's obligation to store water from the identified source for the benefit of the El Dorado Parties will be reduced proportionately.

(c) Subject to (e) below, SMUD will take no position either in favor of or against the granting of a water right to the El Dorado Parties by the SWRCB as specified herein.

(d) SMUD is free to participate in the SWRCB proceeding to the extent SMUD believes its interests may be prejudiced by any interpretation advanced by the El Dorado Parties of law, SMUD's water rights, or the El Dorado Parties' water rights.

(e) To the extent that the El Dorado Parties secure a source of water other than an assignment/transfer from the City of Sacramento, the El Dorado Parties agree to defend SMUD and hold SMUD harmless against any claim by the City of Sacramento that SMUD's performance under this Agreement breaches any implied or express contractual obligation of SMUD to the City under its assignment agreement with the City.

3. Any SWRCB order or permit that authorizes storage, conveyance, or diversion of water in, through, or from UARP facilities pursuant to water rights that the El Dorado Parties obtains under Section 1. or 2. and that is issued prior to the time specified in this Agreement for SMUD to exercise its right of reopener under Section 13.6 will contain the following conditions, to become effective if the El Dorado Parties terminate this Agreement under Section 17.3.3.

(a) The El Dorado Parties' right to directly divert 30,000 afy (40,000 afy after 2025) from White Rock Penstock or Slab Creek Reservoir will continue to be in full force and effect.

(b) Any provision authorizing storage or any other diversion will continue in force or terminate as specified in (i) through (iii) following.

(i) If the El Dorado Parties believe they presently have the legal right (by contract or otherwise) to use UARP facilities for purposes beyond those specified in (a), within 30 days of giving notice of termination, the El Dorado Parties will provide SMUD with a reasonably detailed statement of the basis for such legal right, and within 30 days thereafter SMUD and the El Dorado Parties will confer on the matter.

(ii) If SMUD and the El Dorado Parties do not reach agreement within the 30-day period, the El Dorado Parties may file a declaratory relief action respecting their claimed rights in the Superior Court of a Neutral County.

(iii) If the El Dorado Parties and SMUD reach agreement or the El Dorado Parties commence a declaratory relief action within 90 days of its termination notice, the SWRCB will modify the order or permit to conform to the agreement between the El Dorado Parties and SMUD or to any final judgment in the declaratory relief action; otherwise the provision will terminate. The termination of the provision, however, will be without prejudice to any right of the El Dorado

Parties to obtain, and any right of SMUD to oppose, similar authorization as if the Agreement had never existed.

EXHIBIT "H"

DELIVERY CONSTRAINTS

1. During a SMUD Emergency Condition, SMUD will be excused from making Annual Deliveries or from delivering the El Dorado Parties water from Carryover Storage to the El Dorado Parties for the period and to the extent such deliveries are precluded by the emergency condition.

2. On any given day when the Daily Net Storage is greater than 150,000 af, the following conditions apply:

    i. During times when neither a Critically Dry Condition nor a SMUD Emergency Condition has been declared:

        a. The El Dorado Parties may continue to receive Annual Deliveries up to a combined maximum of 30,000 afy.

        b. The El Dorado Parties may not receive deliveries from the El Dorado Parties Carryover Storage.

    ii. During times when a Critically Dry Condition or an El Dorado Parties Emergency Condition has been declared:

        a. The El Dorado Parties may continue to receive Annual Deliveries up to a combined maximum of 30,000 afy.

        b. The El Dorado Parties may receive deliveries from the El Dorado Parties Carryover Storage.

        c. The sum of the El Dorado Parties Annual Deliveries and deliveries from the El Dorado Parties Carryover Storage may not exceed 35,000 afy.

3. On any given day when the Daily Net Storage is greater than the Unusable Storage Level and less than or equal to 150,000 af, the following constraints apply:

    i. During times when neither a Critically Dry Condition nor a SMUD Emergency Condition have been declared:

        a. The El Dorado Parties may continue to receive Annual Deliveries up to a combined maximum of 30,000 afy.

        b. The El Dorado Parties may not receive deliveries from the El Dorado Parties Carryover Storage unless an El Dorado Parties Emergency Condition has also been declared.

ii. During times when a Critically Dry Condition has been declared, the following restrictions on deliveries of water to the El Dorado Parties will apply:

a. Annual Deliveries - There will be no Annual Deliveries at the White Rock Takeout, but Annual Deliveries will continue to be permitted to the SF American River Delivery Point on the same basis as in non-critically dry years, subject to the following conditions:

(i) SMUD acting in its absolute discretion has first discharged the water through and/or around its White Rock Powerhouse;

(ii) Such water is within the quantity scheduled by the El Dorado Parties for delivery during the January 1 through September 30 period;

(iii) Such water was scheduled for delivery prior to the beginning of the year of delivery or within 30 days after declaration of the Critically Dry Condition.

b. Carryover Storage - The maximum amount of deliveries to the El Dorado Parties from Carryover Storage specified in B.1 will be modified as follows:

	Net Daily Storage	Maximum Delivery
(i)	125,000-150,000 af	15,000 afy
(ii)	100,000 – 125,000 af	7,500 afy
(iii)	Less than 100,000 af	5,000 afy

At such time as a Critically Dry Year declaration is lifted, delivery of water to the El Dorado Parties from Carryover Storage will continue to be limited as specified above until Daily Net Storage is once again greater than 150,000 af.

4. If the Daily Net Storage drops to the Unusable Storage Level or less, withdrawal of any remaining El Dorado Parties Carryover Storage will be suspended until Daily Net Storage returns to 90% of the Full Capacity of the three reservoirs noted in Section A.3 (340,000 af), at which time the remaining amount of the El Dorado Parties Carryover Storage will be reinstated.

EXHIBIT "I"

SOCIOECONOMIC ASSESSMENT METHODOLOGY

Guidelines for Calculation and Mitigation of Socioeconomic Impacts of Iowa Hill Project

1. *Purpose*. SMUD and the El Dorado Parties disagree regarding whether the construction of the Iowa Hill project has the potential to cause negative socioeconomic impacts in the Iowa Hill area. Given the uncertainties surrounding the potential for and magnitude and duration of these impacts, SMUD and the El Dorado Parties agree to form a study panel to assess these impacts according to the guidelines described herein. Assessed impacts will form the basis for SMUD liability for socioeconomic impacts, subject to payment caps described herein.

2. *Panel Composition and Financing.* The study panel will be comprised of three members. SMUD and the El Dorado Parties will each appoint one member. The third member will be appointed by mutual consent of the first two panel members.

SMUD and the El Dorado Parties collectively will each cover the costs of its representative. Costs for the third member will be borne equally by SMUD and the El Dorado Parties. The total cost SMUD spent on its representative and the third member will be capped at $50,000. Any additional amount spend beyond this cap will be deducted from the EDC payment cap described in Section 5 below.

3. *Timeline*. The SMUD and the El Dorado Parties' representatives will be appointed no later than three months prior to the anticipated completion of Iowa Hill Pumped Storage Project construction. Within two months of such appointment, these representatives will select a third panel member.

The panel will complete its calculation of socioeconomic impacts and submit its findings on traffic, business and the then-available aesthetic impacts in a final report within three months of completion of construction of the Iowa Hill project. If necessary, business and aesthetic impacts may be measured up to five years from the completion of construction of the Iowa Hill project, as described herein. The panel will complete this additional business and aesthetic impacts calculation and submit its findings no later than sixty-three months after the completion of construction of the Iowa Hill project.

4. *Method for Calculation of Impacts*. The panel will consider three types of socioeconomic impacts of construction of the Iowa Hill project: traffic congestion caused by construction of the project, business impacts, and aesthetic impacts. The panel will adhere to the following guidelines in its assessment of socioeconomic impacts:

a) **Traffic Congestion**: **Mitigation Measured During Construction Period**

Roads and road segments potentially affected by construction of the Iowa Hill project are defined in Attachment A (TBD).

In determining the effect of Iowa Hill construction on traffic congestion, the panel will consider the following, non-exclusive set of parameters:

- Relevant average rate of travel for the roads and road segments identified in Attachment A for weekdays vs. weekend and for various seasons. This average rate of travel will be measured periodically (a) prior to the commencement of Iowa Hill Project construction to develop baseline conditions and (b) for coincident periods during the actual period of construction.
- The lengths of affected roads and road segments.
- Relevant average car trips per day on potentially affected roads and road segments for weekdays vs. weekend and for various seasons.
- Average hourly wage rate in El Dorado County deemed to be $15/hour.
- Effect on road congestion of other economic activities that may cause baseline average rate of travel measurements to be inaccurate.

Rates of travel prior to and during construction of the Iowa Hill project on affected roads and road segments will be measured seasonally during peak travel times, and on weekend afternoons. Measurements of rates of travel will be taken according to a method to be developed by SMUD and EDC staff within 90 days of SMUD's decision to undertake the Iowa Hill project. The El Dorado Parties collectively and SMUD will share equally in the costs of collecting annual estimates of rates of travel on affected roads. SMUD's share of these measurement costs does not count towards the $2 million cap set forth in Section 5 below.

Traffic impacts will be calculated by the panel post-construction. Total annual traffic congestion impacts for each affected road segment are the sum of weekday and weekend impacts for the various seasons. Total traffic congestion impacts are determined by summing annual impacts for each affected road segment over the years of construction and the affected road segments.

b) **Business Impacts: Mitigation Measured Post-Construction**

Business impacts will be measured as the change in sales revenue experienced by a defined set of potentially affected businesses in El Dorado County resulting from construction of the Iowa Hill project. Potentially affected businesses are defined as those a) in existence at the commencement of construction of the Iowa Hill project and b) within the Apple Hill Agricultural Area (AHAA) as described in Attachment B (TBD).

SMUD's payment for business impacts will be calculated as the difference in cumulative annual sales over the period of construction that is most likely attributable to construction of Iowa Hill.

In determining the effect of Iowa Hill construction on AHAA sales revenues, the panel will consider the following, non-exclusive set of parameters:

- Relevant average actual sales revenue data (based on the county sales tax receipts and other sources) from the AHAA for (a) the 5 years prior to the commencement of Iowa Hill Project construction and (b) the actual period of construction.
- The typical percentage of business allocated for weekdays vs. weekend and harvest vs. non-harvest seasons, and the frequency of construction-related road congestion during these periods.
- Road usage by construction crews and input suppliers that are coincidental to the typical business hours of the AHAA.
- Sales trends for comparable businesses in other similar areas of California.
- Trends in bearing acreage of wine grapes, apples and other crops in the AHAA.

If necessary, business impacts will also be measured five years after completion of the Iowa Hill project. This second round of analysis may be needed to assess lingering effects on AHHA businesses caused by changes in consumer habits or other intertemporal factors.

c) **Aesthetic Impacts: Mitigation Measured Post-Construction**

Aesthetic impacts may result from construction of Iowa Hill. While owners of real property in areas with a view of the Iowa Hill Reservoir may experience these losses, the potential realized financial loss would deemed to have occur if an affected home is actually sold during the actual construction period. These potentially affected homes are identified in Attachment C (TBD).

Aesthetic losses will be measured as the change in actual property sales values resulting from construction of the Iowa Hill project. In estimating the change in actual property sales values, the panel will determine the ratios of average home sales prices of the affected Iowa Hill Area vs. the average home sales prices of similar areas in El Dorado County for (a) the 5 years prior to the commencement of Iowa Hill Project construction, (b) the actual construction period and (c) the 5-year period after completion of construction.

SMUD's liability for aesthetic impacts is sum of the loss in value for each home sold during the period of construction and a period of 5 years after completion of construction.

5**.** *Mitigation Fund Payment Cap and Payment Schedule*. SMUD will pay to the El Dorado Parties an amount equal to the measured socioeconomic losses determined in Section 4 as calculated by the panel ("Iowa Hill Measured Impacts Payments"), but not to exceed $2 million cap. Such payment shall be paid by SMUD to the El Dorado Parties no later than 90 days after the issuance of the final report by the panel.

If SMUD's payment is less than the $2 million, then SMUD will pay to the El Dorado Parties the lesser of (a) an amount equal to the additional business and aesthetic impact for the 5-year period after completion of construction of the Iowa Hill project and (b) the difference between $2 million and the SMUD payment previously made. Such payment under this paragraph will be

paid by SMUD to the El Dorado Parties no later than 90 days after the issuance of the additional report by the Panel.

In no event will SMUD's total payment for this Mitigation Fund, including those panel fees paid under Section 2 in excess of $50,000, exceed a $2 million cap.

6. *Additional Mitigation and Measures Undertaken to Avoid Socioeconomic Impacts*

SMUD's cost of undertaking mitigation identified in this section is in addition to the $2 million cap set forth in Section 5 above.

SMUD will agree to repair any road segment damaged by construction related traffic. All roads and road segments identified in Attachment A will be videotaped before and after construction to determine the scope of repair required.

SMUD will undertake measures to mitigate or minimize the visual impact of the Iowa Hill reservoir and accompanying facilities. Such measures generally include minimization of the introduction of new landscape features, relocation of facilities to minimize visual impacts, elimination of the need for new landscape features, reduction of color contrasts of the upper reservoir berm and transmission lines, limitation of the visible features of the Iowa Hill project to four primary features: the upper reservoir berm, the generation tie line, the switchyard, and the portal entrance to the powerhouse tunnel.

Appendix D

2008 Water Rights Applications

WORKING COPY

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BY CA WATER RIGHTS SACRAMENTO

TYPE OR PRINT IN BLACK INK
(For instructions, see booklet: "How to File an Application to Appropriate Water in California")

California Environmental Protection Agency

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
www.waterrights.ca.gov

APPLICATION NO. 5044x2

APPLICATION TO APPROPRIATE WATER

1. APPLICANT/AGENT

	APPLICANT	ASSIGNED AGENT (if any)
Name	El Dorado Water & Power Authority	Bradley J. Herrema
	c/o William T. Hetland	Brownstein Hyatt Farber Schreck
Mailing Address	3932 Ponderosa Road, Suite 200	21 E. Carrillo Street
City, State & Zip	Shingle Springs, CA 95682	Santa Barbara, CA 93101
Telephone	(530) 621-5392	(805) 963-7000
Fax	(530) 672-6721	(805) 965-4333
E-mail	bhetland@co.el-dorado.ca.us	bherrema@bhfs.com

2. OWNERSHIP INFORMATION (Please check type of ownership.)

☒ Sole Owner
☐ Limited Liability Company (LLC)
☐ General Partnership*
☐ Limited Partnership*
☐ Business Trust
☐ Husband/Wife Co-Ownership
☐ Corporation
☐ Joint Venture
☐ Other _____

*Please identify the names, addresses and phone numbers of all partners.

3. PROJECT DESCRIPTION (Provide a detailed description of your project, including, but not limited to, type of construction activity, area to be graded or excavated, and how the water will be used.) Add additional pages if needed and check box below and label as an attachment.

See attachment 1, 3.

☐ *For continuation, see Attachment No.* ___

4. PURPOSE OF USE, DIVERSION/STORAGE AMOUNT AND SEASON

a. PURPOSE OF USE (irrigation, domestic, etc.)	DIRECT DIVERSION				STORAGE		
	AMOUNT		SEASON OF DIVERSION		AMOUNT	SEASON OF COLLECTION	
	Rate (cfs or gpd)*	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)
	Total afa			Total afa			

☒ *See Attachment No.* 1, 4 * If rate is less than 0.025 cubic feet per second (cfs), use gallons per day (gpd).

b. Total combined amount taken by direct diversion and storage during any one year will be 10,000 acre-feet.

c. Reservoir storage is: ☒ onstream ☐ offstream ☐ underground (If underground storage, attach Underground Storage Form.)

d. County in which diversion is located: El Dorado County in which water will be used: El Dorado

5. SOURCES AND POINTS OF DIVERSION/REDIVERSION

a. Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

☐ POD / ☐ PORD #_____ tributary to _____ thence _____

☐ POD / ☐ PORD #_____ tributary to _____ thence _____

☐ POD / ☐ PORD #_____ tributary to _____ thence _____

☐ POD / ☐ PORD #_____ tributary to _____ thence _____

If needed, attach additional pages, check box below and label attachment

☒ *See Attachment No.* 1, 5.

b. State Planar and Public Land Survey Coordinate Description:

POD/ PORD #	CALIFORNIA COORDINATES (NAD 83)	ZONE	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWN-SHIP	RANGE	BASE AND MERIDIAN
			¼ of ¼				
			¼ of ¼				
			¼ of ¼				
			¼ of ¼				

If needed, attach additional pages, check box below and label attachment

☒ *See Attachment No.* 1, 5.

c. Name of the post office most often used by those living near the proposed point(s) of diversion: Kyburz

6. WATER AVAILABILITY

a. Have you attached a water availability analysis for this project? ☐ YES ☒ NO
If NO, provide sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation: If needed, attach additional pages, check box below and label attachment.

☒ *See Attachment No.* 1, 6.

b. Is your project located on a stream system declared to be fully appropriated by the State Water Resources Control Board (State Water Board) during your proposed season of diversion?
☒ YES ☐ NO

c. In an average year, does the stream dry up at any point downstream of your project? ☐ YES ☒ NO
If YES, during which months? ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

d. What alternate sources of water are available if a portion of your requested diversion season must be excluded because water is not available for appropriation? (e.g., percolating groundwater, purchased water, etc.) If needed, attach additional pages, check box below and label attachment
N/A

☐ *See Attachment No.* ___

7. PLACE OF USE

a.

USE IS WITHIN (40-acre subdivision)	SECTION*	TOWNSHIP	RANGE	BASE & MERIDIAN	IF IRRIGATED	
					Acres	Presently cultivated?
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
				Total Acres:		

*Please indicate if section is projected with a "(P)" following the section number.

☒ *See Attachment No.* 1, 7. Please provide the Assessor's Parcel Number(s) for the place of use:

8. PROJECT SCHEDULE

a. Project is: ☐ proposed. Year construction will begin: _____
☒ partially complete. Extent of completion: UARP diversion facilities are complete. Re-diversion and delivery facilities have not been constructed.
☐ complete. Year completed: _____

b. Year of first use: _____ Year water will be used to the full extent intended: _____

9. JUSTIFICATION OF AMOUNTS REQUESTED

a. ☒ IRRIGATION: Maximum area to be irrigated in any one year: _____ acres.

CROP	ACRES	METHOD OF IRRIGATION (sprinklers, flooding, etc.)	WATER USE (Acre-feet/Yr.)	SEASON OF WATER USE	
				Beginning date (month & day)	Ending date (month & day)

☒ *See Attachment No.* 1, 9.

b. ☐ DOMESTIC: Number of residences to be served: _____ Separately owned?
☐ YES ☐ NO Number of people to be served: _____ Estimated daily use per person is:
_____ gallons per day Area of domestic lawns and gardens: _____ square feet
Incidental domestic uses:
_____
(dust control area, number and kind of domestic animals, etc.)

c. ☐ STOCKWATERING: Kind of stock: _____ Maximum number: _____
Describe type of operation: _____
(feedlot, dairy, range, etc.)

d. ☐ RECREATIONAL: Type of recreation: ☐ Fishing ☐ Swimming ☐ Boating ☐ Other _____

e. ☒ MUNICIPAL:

POPULATION List for 5-year periods until use is completed		MAXIMUM MONTH		ANNUAL USE		
Period	Population	Average daily use (gallons per capita)	Rate of diversion (cfs)	Average daily use (gallons per capita)	Acre-foot (per capita)	Total (acre-feet)
Present						

☒ *See Attachment No.* 1, 9.

Month of maximum use during year: _____
Month of minimum use during year: _____

f. ☐ HEAT CONTROL: Area to be heat controlled: _____ net acres
Type of crops protected: _____
Rate at which water is applied to use: _____ gpm per acre
Heat protection season will begin _____ (month and day) and end _____ (month and day).

g. ☐ FROST PROTECTION: Area to be frost protected: _____ net acres
Type of crops protected: _____
Rate at which water is applied to use: _____ gpm per acre
The frost protection season will begin _____ (month & day) and end _____ (month & day).

h. ☐ INDUSTRIAL: Type of industry: _____
Basis for determination of amount of water needed: _____

i. ☐ MINING: Name of the claim: _____ ☐ Patented ☐ Unpatented

Nature of the mine: _____ Mineral(s) to be mined: _____
Type of milling or processing: _____
After use, the water will be discharged into _____ (watercourse)
in _____ ¼ of _____ ¼ of Section _____, T _____, R _____, _____B. & M.

j. ☐ POWER: Total head to be utilized: _____ feet
Maximum flow through the penstock: _____ cfs Maximum theoretical horsepower capable of being generated by the works (cfs x fall ÷ 8.8): _____
Electrical capacity (hp x 0.746 x efficiency): _____ kilowatts at: _____% efficiency
After use, the water will be discharged into _____ (watercourse)
in ____ ¼ of ____ ¼ of Section _____, T _____, R _____, _____B&M. FERC No.:_____

k. ☐ FISH AND WILDLIFE PRESERVATION AND/OR ENHANCEMENT: List specific species and habitat type that will be preserved or enhanced: _____

l. ☐ OTHER: Describe use: _____
Basis for determination of amount of water needed: _____

10. DIVERSION AND DISTRIBUTION METHOD

a. Diversion will be by gravity by means of: dams, tunnels.
(dam, pipe in unobstructed channel, pipe through dam, siphon, weir, gate, etc.)

b. Diversion will be by pumping from: _____
(sump, offset well, channel, reservoir, etc)
Pump discharge rate: _____ ☐ cfs or ☐ gpd Horsepower: _____
Pump Efficiency: _____

c. Conduit from diversion point to first lateral or to offstream storage reservoir:

CONDUIT (pipe or channel)	MATERIAL (type of pipe or channel lining; indicate if pipe is buried or not)	CROSS-SECTION (pipe diameter, or ditch depth and top and bottom width) (inches or feet)	LENGTH (feet)	TOTAL LIFT OR FALL		CAPACITY (cfs, gpd or gpm)
				feet	+ or -	

☒ *See Attachment No.* 1, 10.

d. Storage reservoirs: (For underground storage, complete and attach underground storage form)

RESERVOIR NAME OR NUMBER	DAM				RESERVOIR		
	Vertical height from downstream toe of slope to spillway level (feet)	Construction material	Length (feet)	Freeboard: dam height above spillway crest (feet)	Surface area when full (acres)	Capacity (acre-feet)	Maximum water depth (feet)

☒ *See Attachment No.* 1, 10.

e. Outlet pipe: Complete for storage reservoirs having a capacity of 10 acre-feet or more.

RESERVOIR NAME OR NUMBER	OUTLET PIPE				
	Diameter in inches	Length in feet	Fall: Vertical distance between entrance and exit of outlet pipe in feet	Head: Vertical distance from spillway to entrance of outlet pipe in feet	Dead Storage: Storage below entrance of outlet pipe in acre-feet

☒ *See Attachment No.* 1, 10.

e. If water will be stored and the reservoir is not at the point of diversion, the maximum rate of diversion to off-stream storage will be _____ cfs. Diversion to offstream storage will be made by:
☐ Pumping ☐ Gravity

11. CONSERVATION AND MONITORING

a. What methods will you use to conserve water? Explain.
See attachment No. 1, 11.

b. How will you monitor your diversion to be sure you are within the limits of your water right and you are not wasting water? ☐ Weir ☐ Meter ☐ Periodic sampling ☐ Other (describe)
Attachment 1, 11.

12. RIGHT OF ACCESS

a. Does the applicant own all the land where the water will be diverted, transported and used?
☐ YES ☒ NO
If NO, I ☐ do ☒ do not have a recorded easement or written authorization allowing me access.

b. List the names and mailing addresses of all affected landowners and state what steps are being taken to obtain access:

☒ *See Attachment No.* 1, 12.

13. EXISTING WATER RIGHTS AND RELATED FILINGS

a. Do you claim an existing right for the use of all or part of the water sought by this application?
☒ YES ☐ NO
If YES, please specify: ☐ Riparian ☐ Pre-1914 ☐ Registration ☐ Permit ☐ License
☐ Percolating groundwater ☐ Adjudicated ☒ Other (specify) See attachment No. 1, 13.

b. For each existing right claimed, state the source, year of first use, purpose, season and location of the point of diversion (to within quarter-quarter section). Include number of registration, permit, license, or statement of water diversion and use, if applicable.

☐ *See Attachment No.* ___

c. List any related applications, registrations, permits, or licenses located in the proposed place of use or that utilize the same point(s) of diversion.

_____

_____

☒ *See Attachment No.* 1, 13.

14. OTHER SOURCES OF WATER

Are you presently using, or do you intend to use, purchased water or water supplied by contract in connection with this project? ☐ Yes ☒ No If yes, please explain:_____

_____

15. MAP REQUIREMENTS

The Division cannot process your application without accurate information showing the source of water and location of water use. You must include a map with this application form that clearly indicates the quarter/quarter, section, township, range, and meridian of (1) the proposed points of diversion and (2) the place of use. A copy of a U.S.G.S. quadrangle/topographic map of your project area is preferred, and can be obtained from sporting goods stores or through the Internet at http://topomaps.usgs.gov. A certified engineering map is required when (1) appropriating more than three cubic feet per second by direct diversion, (2) constructing a dam which will be under the jurisdiction of the Division of Safety of Dams, (3) creating a reservoir with a surface area in excess of ten acres or (4) appropriating more than 1,000 acre-feet per annum by underground storage. See the instruction booklet for more information.

☒ *See Attachment No.* 1,15.

ENVIRONMENTAL INFORMATION

Note: Before a water right permit may be issued for your project, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared for your project, a determination must be made of who is responsible for its preparation. If the State Water Board is determined to be responsible for preparing the CEQA document, the applicant will be required to pay all costs associated with the environmental evaluation and preparation of the required documents. Please answer the following questions to the best of your ability and submit with this application any studies that have been conducted regarding the environmental evaluation of your project.

16. COUNTY PERMITS

a. Contact your county planning or public works department and provide the following information:

Person contacted: _____ Date of contact: _____

Department: _____ Telephone: (_____) _____

County Zoning Designation:

_____

Are any county permits required for your project? ☐ YES ☒ NO If YES, check appropriate box below:

☐ Grading permit ☐ Use permit ☐ Watercourse ☐ Obstruction permit ☐ Change of zoning

☐ General plan change ☐ Other (explain):

_____

_____

b. Have you obtained any of the required permits described above? ☐ YES ☒ NO

If YES, provide a complete copy of each permit obtained.

☐ *See Attachment No.* ___

17. STATE/FEDERAL PERMITS AND REQUIREMENTS

a. Check any additional state or federal permits required for your project:
☒ Federal Energy Regulatory Commission ☐ U.S. Forest Service ☐ U.S. Bureau of Land Management ☐ U.S. Corps of Engineers ☐ U.S. Natural Res. Conservation Service ☐ Calif. Dept. of Fish and Game ☐ State Lands Commission ☐ Calif. Dept. of Water Resources (Div. of Safety of Dams) ☐ Calif. Coastal Commission ☐ State Reclamation Board ☒ Other (specify) U.S. Bureau of Reclamation.

b. For each agency from which a permit is required, provide the following information:

AGENCY	PERMIT TYPE	PERSON(S) CONTACTED	CONTACT DATE	TELEPHONE NO.
FERC				
USBR	Warren Act contract			

☒ *See Attachment No.* 1, 17.

c. Does your proposed project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank, or riparian habitat of any stream or lake? ☐ YES ☒ NO
If YES, explain:

☐ *See Attachment No.* ___

d. Have you contacted the California Department of Fish and Game concerning your project?
☐ YES ☒ NO If YES, name, telephone number and date of contact:

18. ENVIRONMENTAL DOCUMENT

a. Has any California public agency prepared an environmental document for your project?
☐ YES ☒ NO

b. If YES, submit a copy of the latest environmental document(s) prepared, including a copy of the notice of determination adopted by the California public agency. Public agency:

c. If NO, check the appropriate box and explain below, if necessary:
☒ The applicant is a California public agency and will be preparing the environmental document.*
☐ I expect that the State Water Board will be preparing the environmental document.**
☐ I expect that a California public agency other than the State Water Board will be preparing the environmental document.* Public agency: ___
☒ *See Attachment No.* 1, 18.

* Note: When completed, submit a copy of the final environmental document (including notice of determination) or notice of exemption to the State Water Board, Division of Water Rights and proof of payment of the State Clearinghouse filing fee. Processing of your application cannot be completed until these documents are submitted.

** Note: CEQA requires that the State Water Board, as Lead Agency, prepare the environmental document. The information contained in the environmental document must be developed by the applicant and at the applicant's expense under the direction of the State Water Board, Division of Water Rights.

19. WASTE/WASTEWATER

a. Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation? ☒ YES ☐ NO
If YES, or you are unsure of your answer, explain below and contact your local Regional Water Quality Control Board for the following information (See instruction booklet for address and telephone no.):

_____
_____
_____

☒ *See Attachment No.* 1, 19.

b. Will a waste discharge permit be required for your project? ☐ YES ☐ NO
Person contacted: _____ Date of contact: _____

c. What method of treatment and disposal will be used? _____
_____
_____

☐ *See Attachment No.* ___

20. ARCHEOLOGY

a. Have any archeological reports been prepared on this project? ☐ YES ☒ NO
b. Will you be preparing an archeological report to satisfy another public agency? ☐ YES ☒ NO
c. Do you know of any archeological or historic sites located within the general project area?
☐ YES ☒ NO If YES, explain:

_____
_____
_____

☐ *See Attachment No.* ___

21. ENVIRONMENTAL SETTING

Attach **two complete sets of color photographs**, clearly dated and labeled, showing the vegetation that exists at the following three locations:

☐ Along the stream channel immediately downstream from the proposed point(s) of diversion.
☐ Along the stream channel immediately upstream from the proposed point(s) of diversion.
☐ At the place(s) where the water is to be used.
☒ *See Attachment No.* 1, 21.

SUBMITTAL FEES

Calculate your application filing fee using the "Water Right Fee Schedule Summary" that was enclosed in the application packet. The "Water Right Fee Schedule Summary" can also be viewed at the Division of Water Rights' website (www.waterrights.ca.gov).

A check for the application filing fee, payable to the "Division of Water Rights" and an $850 check for the Streamflow Protection Standards review fee [Pub. Resources Code § 10005(a)], payable to the "California Department of Fish and Game," must accompany this application. All applicable fees are required at the time of filing. If the application fees are not received, your application will not be accepted and will be returned to you. Please check the fee schedule for any fee changes prior to submitting the application.

DECLARATION AND SIGNATURE

I declare under penalty of perjury that all information provided is true and correct to the best of my knowledge and belief. I authorize my agent, if I have designated one above, to act on my behalf regarding this water right application.

William T. Helland	Executive Director	10-23-08
Signature of Applicant	Title or Relationship	Date
Signature of Co-Applicant (if any)	Title or Relationship	Date

Applications that are not completely filled out and/or do not have the appropriate fees will not be accepted. In the event that the Division has to return the application because it is incomplete, a portion of the application submittal fee will be charged for the initial review.

"APPLICATION TO APPROPRIATE WATER" CHECKLIST

Before you submit your application, be sure to:

- ☐ **Answer each question completely.**
- ☐ **Number, label and include all necessary attachments.**
- ☐ **Include a legible map that meets the requirements discussed in the instruction booklet.**
- ☐ **Include the Water Availability Analysis or sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation.**
- ☐ **Include two complete sets of color photographs of the project site.**
- ☐ **Enclose a check for the required fee, payable to the Division of Water Rights.**
- ☐ **Enclose an $850 check for the Streamflow Protection Standards review fee, payable to the Department of Fish and Game.**
- ☐ **Sign and date the application.**

Send the original and one copy of the entire application to:

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

3. PROJECT DESCRIPTION

PROJECT DESCRIPTION

The El Dorado Water & Power Authority (EDWPA), on behalf of its member agencies[1] (collectively the "El Dorado Parties"), is seeking a supplemental water supply to meet future water supply needs occasioned by population growth in El Dorado County, in accordance with its approved 2004 General Plan. This need is identified in the Water Resources Development and Management Plan ("Water Plan") commissioned by the El Dorado County Water Agency (EDCWA) (adopted in October 2007), and designed to coordinate water resource planning activities within El Dorado County. The Water Plan identifies an additional (above existing rights and allocations) water supply need within the EDWPA member agencies' service areas for municipal and irrigation uses of about 31,500 acre-feet annually ("AFA") at the year 2025 demand level and approximately 86,500 acre-feet annually at buildout.

The El Dorado Parties have recognized these increasing water supply needs and have been diligent in their planning and actions to acquire necessary supplemental water and water storage rights. Recognizing that there are limited opportunities for the construction of new water storage locations within the County, as well as the environmental concerns associated with such construction, the El Dorado Parties elected to pursue another arrangement: they have secured diversion and storage rights in the Sacramento Municipal Utility District's (SMUD) existing Upper American River Project (UARP) facilities. These rights are more fully described in the El Dorado – SMUD Cooperation Agreement ("Cooperation Agreement") approved in November of 2005, attached hereto as Attachment No. 2. So long as the El Dorado Parties secure the legal right to divert water, the Cooperation Agreement requires SMUD to make deliveries to the El Dorado Parties from the UARP, including deliveries to and from carryover storage, of up to 35,000 AFA through 2025 and thereafter, 40,000 AFA for the remaining term of the Agreement.

To secure supplemental water to meet a portion of its projected water needs in a manner consistent with the Cooperation Agreement, EDWPA requests the State Board approve the assignment of a portion of Application 5644 filed by the State pursuant to Water Code section 10500 *et seq.* and the conformation of the assigned portion of the application to the application allowing diversion and storage in the UARP facilities attached hereto.

PURPOSE AND NEED

Physical Setting

[1] The El Dorado Water & Power Authority comprises the County of El Dorado, the El Dorado County Water Agency (EDCWA), the El Dorado Irrigation District (EID) and the Georgetown Divide Public Utility District (GDPUD).

El Dorado County is situated between Lake Tahoe and the Nevada border on the east and Folsom Reservoir and Sacramento County on the west. The County is predominantly situated on the western slope of the Sierra Nevada Mountains and is bounded by the Rubicon and Middle Fork American Rivers on the north, the South Fork of the Cosumnes River on the south and is bisected by the South Fork American River and its tributaries. With an abundance of natural resources and spectacular beauty, the County is home to more than 175,000 people and enjoys a billion-dollar economy.

Among the natural resources within the County are the water resources of the Middle and South Forks of the American River ("Upper American River"). The Upper American River and its tributaries – regional water resources sustained by local run-off – travel through El Dorado County. A substantial water supply source, the watershed theoretically could meet all of the County's projected west slope water supply demands.

The UARP, a hydroelectric power project built by the SMUD in the late 1950s, collects vast quantities of local run-off and Upper American River flows. In its current configuration, the UARP consists of eleven reservoirs and eight powerhouses, all of which are located within the boundaries of El Dorado County on the tributaries of the South Fork and Middle Fork American Rivers. The UARP collects the waters of the Upper American River for the purpose of generating power, and ultimately releases the diverted water downstream. The power produced by the UARP is utilized by SMUD customers in Sacramento County and small portions of Placer and Yolo Counties, while the waters which generate that power are currently put to consumptive use by the City of Sacramento and Central Valley Project (CVP) contractors.

Present El Dorado Water Use

Two of the El Dorado County western slope purveyors[2], EID and GDPUD, currently meet their needs through the utilization of a variety of water supplies, extending those supplies through their implementation of various water conservation measures. EID serves approximately 40,000 acre-feet of water each year, utilizing various pre-1914 and State Water Resources Control Board ("State Board") permitted and licensed rights in the South Fork American River, Echo Creek, and the Cosumnes River Basins, and a CVP Contract allowing diversions from Folsom Reservoir. Additionally, EID has a State Board permitted right within the South Fork American River Basin totaling 17,000 AFA. EID is working to secure approval from the United States Bureau of Reclamation (the "Bureau") to utilize Folsom Reservoir as a point of diversion and rediversion for this supply.[3]

GDPUD serves approximately 11,000 acre-feet of water each year, utilizing its

[2] The third western slope purveyor is the Grizzly Flats Community Service District (GFCSD). Water sought through this application is not intended for use in the GFCSD service area.

[3] Pursuant to Public Law 101-514, EDCWA intends to enter into a contract with the Bureau for the right to an additional 15,000 AFA of CVP M&I water from Folsom Reservoir or points upstream, for the benefit of both the EID and GDPUD service areas. This Application does not assume the availability of this supply.

pre-1914 and State Board permitted rights in the Middle Fork American River Basin. It primarily relies on its main water storage and diversion facility, the Stumpy Meadows Project.

As an extension of their commitment to steward the resources within the County, EID and GDPUD have adopted and implemented industry-leading water conservation practices to stretch the County's precious water supplies as far as possible. EID is a signatory to the California Urban Water Conservation Council's Memorandum of Understanding, outlining fourteen comprehensive conservation Best Management Practices, which all signatories pledge to implement. EID also has a United States Bureau of Reclamation required and approved Water Conservation Plan. Further, EID serves approximately 3,000 AFA (2005) of tertiary-treated recycled water generated at its wastewater treatment plants, in lieu of potable supplies.

As El Dorado County was without a general plan at the time the Sacramento Area Water Forum Agreement ("Water Forum Agreement") was finalized in 1999, EID and GDPUD were unable to enter into Purveyor Specific Agreements as part of that multi-party agreement. They did, however, participate in the negotiations toward the Water Forum Agreement and are signatories to Procedural Agreements anticipating their eventual accession to the Water Forum Agreement itself.

Projected Water Supply Need

In 2004, the El Dorado County Board of Supervisors adopted a General Plan for the County that fairly balances the need to continue the County's stewardship of public land and natural resources with the demand for new agricultural, commercial and residential development. In March 2005, the voters of the County approved a referendum on the plan adopted by the Board of Supervisors, which allowed a Superior Court writ of mandate regarding the plan to be lifted. Subsequently, litigation over the new General Plan was settled, meaning that the General Plan is now of unquestioned legal validity.

It is the mission of EDCWA to ensure that present and future water demands within the County are met. To that end, EDCWA, in collaboration with water purveyors within the County, developed the Water Plan. It is the goal of the Water Plan to coordinate water resource planning efforts within the County in a manner consistent with the General Plan. The Water Plan assumes that in certain areas in close proximity to the EID and GDPUD boundaries, where facilities exist or where the planned land use allows for higher density, development may eventually be provided water service ("Favorable Areas"). Consistent with the planned urban and agricultural land uses identified in the General Plan, the Plan projects additional consumptive water needs within the EID and GDPUD service areas and the Favorable Areas resulting in a total water need of 31,500 AFA by the year 2025. The most logical source for this supply is the Upper American River watershed.

The General Plan additionally anticipates that the population will continue to grow after year 2025. Build-out under the General Plan would result in a future water need within the areas to be served under this application of approximately 86,500 AFA. However, this application is limited to 40,000 AFA as the maximum use of UARP facilities permitted under the El Dorado – SMUD Cooperation Agreement. Moreover, consistent with the future use by municipalities (Wat. Code, § 106.5), the El Dorado Parties would condition their diversion of quantities greater than 30,000 AFA under an approved permit upon a showing of increased demand and the existence of a valid General Plan.

PETITION AND APPLICATION

Petition

EDWPA requests that the State Board, pursuant to California Code of Regulations, Title 23, section 736(a), treat this application as a petition for assignment of a portion of Application 5644, filed pursuant to section 10500 *et seq.* of the Water Code. EDWPA asks that the assigned portion of Application 5644 be conformed to the diversion, re-diversion and storage regime proposed under this application.

In the processing of this application, EDWPA further requests the State Board to consider permit conditions on the American River water rights of the City of Sacramento and the Bureau pursuant to State Water Board Decision 893. (In the Matter of Applications 12140, et al. by the City of Sacramento and other applicants, to appropriate waters of the American River and its tributaries (1958) D-893; *see also* In the Matter of Applications 11331, 11332, 11761, 11762, 11989 (1958) D-886.) Specifically, by prior order of the State Board, the amounts that may be diverted under those permits are subject to reduction by future appropriation of water for reasonable, beneficial use within the upstream watershed, which includes the service areas of the El Dorado Parties and the Favorable Areas. The State Board also maintained continuing jurisdiction over all rights and privileges under those previously issued permits.

Diversion and Storage Facilities

The vast UARP has occupied virtually all the premier sites for diversion and storage of water from the American River. However, as a condition of withdrawing its objection to SMUD's operation of the UARP, El Dorado County executed agreements with SMUD in 1957 and again in 1961 that permitted El Dorado County to divert water from specified UARP facilities when the need arose. Subsequently, the El Dorado Parties and SMUD entered into the Cooperation Agreement, which largely supersedes the 1957 and 1961 agreements and specifies the terms and conditions under which SMUD will operate the UARP to capture, store and deliver water for the benefit of the El Dorado Parties.

In brief, the Cooperation Agreement enables the El Dorado Parties to avoid the

costs and permitting issues associated with the construction of new water diversion and storage facilities by securing use of existing physical facilities. The El Dorado Parties rely upon the Cooperation Agreement for the purpose of demonstrating their legal right to use of the physical facilities that may be required to divert and store the waters of the Upper American River that are the subject of this application.

The Cooperation Agreement requires SMUD to operate the UARP to divert and store water under the water rights of the El Dorado Parties. SMUD in turn will deliver the directly diverted and stored water to the El Dorado Parties in quantities of up to 35,000 acre-feet per year (40,000 acre-feet after 2025), including the right to carry-over as much as 15,000 acre-feet for drought and other emergencies. SMUD will deliver the water to the White Rock Penstock or the point in the South Fork of the American River immediately below the discharge point from the White Rock Powerhouse.

The Cooperation Agreement authorizes the El Dorado Parties to redivert the delivered water at one point within the UARP (the White Rock Penstock turnout, a valve located in the White Rock Penstock) or anywhere downstream of the UARP facilities, which the El Dorado Parties propose to do at Folsom Reservoir. These points of rediversion are described as points of "take" to distinguish them from the described points of diversion and rediversion in these Applications, although in some cases they are the same points. The points of take represent the last point from which water is taken from either an existing conveyance or from the river system by rediversion directly into EID or GDPUD facilities for conveyance, storage, treatment and distribution to consumptive end users. There are only two points of take to be considered for these Applications: the White Rock Penstock and Folsom Reservoir. However, the El Dorado Parties request that the State Board retain jurisdiction to consider adding additional points of rediversion to the permits at the following locations: (i) below the discharge point from the White Rock Powerhouse, and (ii) within the UARP if the El Dorado Parties have exercised their reopener rights under Section 13.4 of the Cooperation Agreement and the requisite negotiations with SMUD have resulted in an agreement to add one or more UARP points of delivery.

Diversion Amounts and Rates

Because the water appropriated under the applications will be diverted through and stored in SMUD's existing facilities, pursuant to the Cooperation Agreement, the El Dorado Parties propose diversion and storage facilitating the delivery of up to 30,000 AFA (40,000 AFA after year 2025), with diversions and rediversions at rates equal to or less than those allowed under SMUD's UARP licenses and permit and with storage at Loon Lake, Ice House Reservoir and Union Valley Reservoir as allowed under SMUD's UARP licenses and permit. The El Dorado Parties propose that the water will be directly diverted and released from storage for take at White Rock Penstock or Folsom Reservoir at the rates agreed to in the Cooperation Agreement, as further described in this attachment.

Beneficial Use

The water appropriated under this application will be put to use for municipal and irrigation purposes in the EID and GDPUD service areas. Water taken from the UARP facilities via the White Rock Penstock will be conveyed into EID's service area for treatment and distribution. EID currently withdraws water from Folsom Reservoir pursuant to a Water Service contract and a Warren Act contract with the Bureau. In order to take water from Folsom Reservoir pursuant to the proposed appropriation, EID will increase its diversion capacity at Folsom Reservoir, likely through the construction of an additional pumping plant and pipeline from Folsom Reservoir to its El Dorado Hills water treatment plant.

GDPUD, in order to utilize in its service area water appropriated pursuant to this application, may subsequently complete a water exchange with the Placer County Water Agency (PCWA). Such an exchange would allow GDPUD to divert at the North Folsom Pumping Plant (also known as the "Auburn Pumps") along the North Fork American River, and in turn allow PCWA to take water at Folsom Reservoir. Such an exchange is not part of this application and depending upon its terms, may require further State Board approvals. GDPUD has a right to a portion of the capacity of PCWA's recently constructed North Folsom Pumping Plant, but will need to construct a pipeline for conveyance of water from the pumping plant to its intended service area.

Prior Rights

The El Dorado Parties seek partial assignment of State-filed applications for the appropriation of water from the Upper American River. Pursuant to the Cooperation Agreement, the appropriated water will be diverted into and stored within the UARP facilities. Though the American River and its tributaries are considered fully appropriated for a portion of the year, this petition and application are consistent with the Declaration of Fully Appropriated Stream Systems, which states that "petitions for assignment of existing state filings…together with accompanying applications, which implement Water Code section 10500 et seq., and which propose appropriation of water from stream systems identified in the Declaration as fully appropriated, should be accepted for filing." (In the Matter of the Declaration of Fully Appropriated Stream Systems in California (1998) Order WR 98-08, § 4.4.)

The waters of the American River subject to Application 5644 originate within El Dorado County, and the El Dorado Parties may petition for the assignment of those applications to meet future water needs within the County.

4. PURPOSE OF USE, DIVERSION/STORAGE AMOUNT AND SEASON

	DIRECT DIVERSION				STORAGE		
	AMOUNT		SEASON OF DIVERSION		AMOUNT	SEASON OF COLLECTION	
PURPOSE OF USE	Rate (cfs)	Acre-feet per year	Beginning Date	Ending Date	Acre-feet per year	Beginning Date	Ending Date
Municipal	112.5	7,000	January 1	December 31	7,000	January 1	December 31
Irrigation	112.5	3,000	January 1	December 31	3,000	January 1	December 31

5. SOURCES AND POINTS OF DIVERSION/REDIVERSION

a. Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

☐ POD/ ☑ PORD #(2) Silver Creek, tributary to South Fork American River (Union Valley Reservoir Dam)

☐ POD/ ☑ PORD #(3): Silver Creek, tributary to South Fork American River (Junction Reservoir Dam)

☐ POD/ ☑ PORD #(4): Silver Creek, tributary to South Fork American River (Camino Reservoir Dam)

☐ POD/ ☑ PORD #(5): Brush Creek, tributary to South Fork American River (Brush Creek Reservoir Dam)

☑ POD/ ☐ PORD #(6): Rubicon River, tributary to Middle Fork American River (Rubicon Reservoir Dam): 75 cfs direct diversion

☑ POD/ ☑ PORD #(7): Buck Island Reservoir, tributary to Little Rubicon River, thence Rubicon River, thence Middle Fork American River (Buck Island Reservoir Dam): 25 cfs direct diversion

☑ POD/ ☑ PORD #(8): Loon Lake, tributary to South Fork Rubicon River, thence Rubicon River, thence Middle Fork American River (Loon Lake Reservoir Dam): 25 cfs direct diversion; 10,000 AFA to storage

☑ POD/ ☑ PORD #(9): Gerle Creek, tributary to South Fork Rubicon River, thence Rubicon River, thence Middle Fork American River (Gerle Creek Reservoir Dam): 50 cfs direct diversion

☑ POD/ ☑ PORD #(10): South Fork Rubicon River, thence Rubicon River, thence Middle Fork American River (Robbs Peak Reservoir Dam): 50 cfs direct diversion

☐ POD/ ☑ PORD #(15): Slab Creek Reservoir, thence the White Rock Powerhouse Penstock

☐ POD/ ☑ PORD #(16): Folsom Reservoir

b. State Planar and Public Land Survey Coordinate Description

POD/ PORD #	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWNSHIP	RANGE	BASE AND MERIDIAN
# (2)	SW ¼ of SW ¼	20	12N	14E	MDB&M
# (3)	SW ¼ of SW ¼	30	12N	14E	MDB&M
# (4)	null ¼ of null ¼	4	11N	13E	MDB&M
# (5)	NW ¼ of SE ¼	10	11N	12E	MDB&M
# (6)	NW ¼ of SW ¼	9	13N	16E	MDB&M
# (7)	SW ¼ of NW ¼	6	13N	16E	MDB&M
# (8)	SE ¼ of NE ¼	5	13N	15E	MDB&M
# (9)	null ¼ of null ¼	15	13N	14E	MDB&M
# (10)	SW ¼ of NE ¼	27	13N	14E	MDB&M
# (15)	SE ¼ of SW ¼	29	11N	11E	MDB&M
# (16)	NW ¼ of NE ¼	10	10N	8E	MDB&M

6. WATER AVAILABILITY

Physical Availability

SMUD presently diverts, captures and stores more than 500,000 acre-feet per year from the American River for non-consumptive uses. SMUD is additionally presently seeking approval from the State Board to increase the authorized quantities set forth in its licenses and permit by as much as 123,900 acre-feet per year to conform with its actual practices and in anticipation of predicted future changes in runoff patterns. (See Applications 31595, 31596.) The UARP and the American River have been the subject of extensive monitoring and hydrologic modeling, all of which establish that the UARP controls vastly greater quantities of water than the El Dorado Parties now request for consumptive uses within El Dorado County. The El Dorado Parties will submit further water availability analyses as such information is developed in their environmental review of the project.

Fully Appropriated Stream Exception

The portion of the Upper American River from which the El Dorado Parties propose to divert water has been declared to be fully appropriated during a portion of the proposed diversion season. However, the State Board has determined that requests for assignment of existing state filings that implement Water Code section 10500 et seq., and which propose appropriation of water from stream systems identified by the State Board as being fully appropriated, should nonetheless be accepted for filing as they are consistent with the Declaration of Fully Appropriated Stream Systems. (In the Matter of the Declaration of Fully Appropriated Stream Systems in California (1998) Order WR 98-08, slip copy, at p. 19.)

As described in section 13., this application is based upon the priority of the State filings of which assignment is requested. In this regard, EDWPA requests the State Board to consider its prior orders imposing conditions on the American River water right permits of the City of Sacramento and the Bureau in State Board Decision 893 (see In the Matter of Applications 12140, et al. by the City of Sacramento and other applicants, to appropriate waters of the American River and its tributaries. (1958) D-893; *see also* In the Matter of Applications 11331, 11332, 11761, 11762, 11989 (1958) D-886) and Water Code sections 11128 and 11460.

Legal Availability

As described above, the El Dorado Parties petition the State Board to assign to them a portion of Application 5644, filed by the State pursuant to Water Code section 10500 et seq. This application has a priority date of 1927, prior in time to the rights of the City and the Bureau. (See In the Matter of Applications 12140, et al. by the City of Sacramento and other applicants, to appropriate waters of the American River and its tributaries. (1958) D-893; In the Matter of Application 26375 and 26373 to Appropriate

Water From The South Fork of the American River and Its Tributaries (1982) D-1587, slip copy, pp 43-45; Amending and Affirming Decision 1587 and Denying Petitions for Reconsideration (1983) WRO 83-1, slip copy, pp. 22-23 ["Persons planning water development projects have actual or constructive notice of state-held applications and must plan for the effect of such applications...The Bureau should have planned for a reduction in the water available to the Folsom Project for local needs inasmuch as Congress specifically instructed the Bureau to plan a project in accordance with state laws protecting local needs."]; In the matter of applications 29919, 29920, 29921, 29922 and petition for assignment of SFA 5645 of El Dorado Irrigation District and El Dorado County Water Agency to appropriate water from Silver Lake, Caples Lake, Lake Aloha, South Fork American River in Alpine, Amador and El Dorado Counties (1996) D-1635.)

Through Decision 893, the State Board imposed conditions subjecting the water right permits of the City of Sacramento and the Bureau to reduction by future appropriation of water for reasonable, beneficial use within the upstream watershed, which includes the El Dorado Parties' service areas and the Favorable Areas. (In the Matter of Application 26375 and 26373 to Appropriate Water From The South Fork of the American River and Its Tributaries, Amending and Affirming Decision 1587 and Denying Petitions for Reconsideration (1983) WRO 83-1, slip copy, p. 16 ["The operative effect of...the permit condition is to make [Bureau] Applications 13370 et seq. junior to all applications for the appropriation and use of water in the county or watershed in which the water originates"].) Decision 893 previously found sufficient water available for the applications permitted in those proceedings beyond the amount of water for which the El Dorado Parties now apply. Accordingly, water should be available for the requested diversions under the present application. (See, e.g., In the Matter of Eleven Petitions for Partial Assignment of Application 5348C and Proposed Completed Applications 5648C-1/11 (1982) State Board Decision D-1581.)

7. PLACE OF USE

The EID and GDPUD boundaries encompass approximately 137,000 and 75,000 acres, respectively. The water sought under this application and petition is intended to be put to use within the EID and GDPUD service area boundaries and the Favorable Areas. This Place of Use is delineated on the accompanying Place of Use Map.

9. JUSTIFICATION OF AMOUNTS REQUESTED[1]

Consistent with the planned urban and agricultural land uses identified in the General Plan, the Water Resources Development and Management Plan reallocates a portion of the additional consumptive water needs from outside the district boundaries (within the Favorable Areas) to EID and GDPUD, resulting in a total water need of 31,500 AFA by the year 2025. However, this planning level demand projection does not consider adjustments to 1999 (General Plan base year) growth projections to reflect actual conditions or demand from additional favorable areas identified since the Plan's completion. On this basis, for purposes of this application, the following adjustments have been made:

- Growth Projection Adjustment – As a result of General Plan legal challenges, development in the GDPUD area of the County has been curtailed since the General Plan growth projections were originally made in the 1999. Accordingly, to date, increases in water demands have not occurred as projected. It is estimated that the 2025 demand level will be approximately 2,100 AFA less than projected by the General Plan as a result of these recent growth constraints.

- Demand from Additional Favorable Areas – Favorable area mapping dates back to the General Plan base year of 1999. Adjustments have been made to either eliminate areas that have been determined to be impracticable to serve with public water or include additional areas based on actual annexations and new development agreements and/or proposals. As a result, the 2025 demand as been increase by approximately 500 AFA.

When these demand adjustments are made to the gross planning demand level of 31,500 AFA identified in the Plan, the demand level decreases to approximately 29,900 acre-feet in 2025. The Plan also identifies approximately 4,400 AFA of water conservation savings that may be possible to achieve by 2025, thereby potentially reducing 2025 demand by an additional 4,400 AFA to 25,500. At buildout, the demand level within the EID and GDPUD service areas (including the favorable areas) is projected to be approximately 87,000 AFA, less conservation, which is unquantified at this time. As described herein, the Cooperation Agreement limits the El Dorado Parties' diversion through and storage in the UARP facilities to 30,000 AFA through 2025 and 40,000 AFA thereafter.

[1] The amounts contained in this section include those applied for under EDWPA's request for assignment of portions of both Application 5644 and Application 5645.

a. IRRIGATION: Maximum area to be irrigated in any one year: 6,093 acres.

CROP	ACRES	METHOD OF IRRIGATION	WATER USE (Acre-feet/Yr.)	SEASON OF WATER USE	
				Beginning date	Ending date
Deciduous Orchard	2,337	Portable sprinklers	7,240	15 May	15 Sept
Vineyard, Christmas Tree, Olive/Citrus, Berries	3,757	Micro spray/drip	5,305	15 May	15 Sept
TOTAL	6,093		12,545		

e. MUNICIPAL:

POPULATION		MAXIMUM MONTH		ANNUAL USE		
Period	Population w/ latent	Average daily use (gallons/capita)	Rate of diversion (cfs)	Average daily use (gallons/capita)	Acre-foot (per capita)	Total w/ latent (AF)
Present (2006)	130,970	565	116.32	295	0.33	43,261
New supply only						
2011	2,958	458	2.13	239	0.27	793
2016	23,288	551	20.18	288	0.33	7,504
2021	44,086	561	38.94	293	0.33	14,482
2026	65,392	562	57.78	293	0.33	21,487
2031	88,241	564	78.28	295	0.33	29,112

Month of maximum use during year: July/August
Month of minimum use during year: February

Footnotes:

1. Total municipal demand includes latent demand to determine when new water rights are needed. Latent demand is a liability the purveyor is required to plan for and hold rights for. Actual diversions associated with latent demands will occur later than shown.
2. Population is based on 2004 General Plan projections, adjusted to include population associated with latent demand.
3. Month of Maximum use is projected to be July or August, each at approximately 16% of annual average use. (EID 2005 Water Diversion Report.) This application assumes use in GDPUD will be similar.
4. Municipal demand includes residential, commercial, industrial, losses and recreational turf irrigation such as parks, schools and golf courses.
5. Agricultural demand includes irrigation and losses and corresponds to the 2031 Municipal demand level.

10. DIVERSION AND DISTRIBUTION METHOD

The El Dorado Parties' appropriation of water is made possible and will occur through the UARP facilities. Pursuant to the Cooperation Agreement, the El Dorado Parties have the right to take water from the UARP facilities at the White Rock Penstock turnout, a valve located in the White Rock Penstock, and additionally to directly divert and take water released from storage below the UARP facilities, which the El Dorado Parties propose to take at the Folsom Reservoir.

The water appropriated under this application will be put to use for municipal and irrigation purposes in the EID and GDPUD service areas and the Favorable Areas. Water taken from the UARP facilities via the White Rock Penstock will be conveyed into EID's service area for treatment and distribution. EID currently withdraws water from Folsom Reservoir pursuant to a Water Service contract and a Warren Act contract with the Bureau. In order to take water from Folsom Reservoir, pursuant to the proposed appropriation, EID will increase its diversion capacity at Folsom Reservoir, likely through the construction of an additional pumping plant and pipeline from Folsom Reservoir to its El Dorado Hills water treatment plant.

GDPUD, in order to utilize in its service area water appropriated pursuant to this application, might subsequently complete a water exchange with the Placer County Water Agency (PCWA). Such an exchange would allow GDPUD to divert at the North Folsom Pumping Plant (also known as the "Auburn Pumps") along the North Fork American River, and in turn allow PCWA to take water at Folsom Reservoir. Such an exchange is not part of this application and depending upon its terms, might require further State Board approvals. GDPUD has a right to a portion of the capacity of PCWA's recently constructed North Folsom Pumping Plant, but will need to construct a pipeline for conveyance of water from the pumping plant to its intended service area.

d. Storage reservoirs:

RESERVOIR NAME OR NUMBER	DAM				RESERVOIR		
	Vertical height from downstream toe of slope to spillway level (ft)	Construction material	Length (feet)	Freeboard: dam height above spillway crest (feet)	Surface area when full (acres)	Capacity (acre-feet)	Maximum water depth (feet)
Loon Lake Reservoir	108	Rockfill	2,130	8	1,450	76,200	165
Union Valley Reservoir	453	Earthfill	1,835	28	2,860	277,290	360

11. CONSERVATION AND MONITORING

a. As an extension of their commitment to steward the resources within the County, EID and GDPUD have adopted and implemented industry-leading water conservation practices to stretch the County's precious water supplies as far as possible. EID is a signatory to the California Urban Water Conservation Council's Memorandum of Understanding, outlining fourteen comprehensive conservation Best Management Practices, which all signatories pledge to implement. EID also has a United States Bureau of Reclamation required and approved Water Conservation Plan. Further, EID served approximately 3,000 AFA of tertiary-treated recycled water in 2005 generated at its wastewater treatment plants, in lieu of potable supplies.

12. RIGHT OF ACCESS

The El Dorado Parties have the right to interconnect their pipeline facilities with SMUD's existing takeout on the White Rock Penstock subject to an interconnection construction agreement with SMUD under Section 5.2.2.2 of the Cooperation Agreement. EID presently holds access rights allowing its transport of water from Folsom Reservoir to EID treatment and distribution facilities. Access rights for water transport facilities from the White Rock Penstock to EID treatment and distribution facilities will be secured either through negotiations with affected landowners or eminent domain proceedings. GDPUD has a right to a portion of the capacity of PCWA's recently constructed North Folsom Pumping Plant, and will be required to secure, through negotiations with affected landowners or eminent domain proceedings, those lands necessary to develop required conveyance, treatment and distribution facilities.

13. EXISTING WATER RIGHTS AND RELATED FILINGS

The State of California has taken steps to assure that the areas in which water originates will have an adequate supply for their reasonable, beneficial use when those areas' water needs require its use. This policy is evidenced by Water Code § 10500, et seq., which provides for the reservation of priority applications for future development and that the priority of state-filed applications may not be released, nor may such applications be assigned such that the county of origin is deprived of water covered by the application necessary for its development. The waters of the American River applied for under this application originate within El Dorado County, and the El Dorado Parties may assert these statutory protections to provide for future consumptive needs within the County.

REQUESTED PERMIT TERMS

The El Dorado Parties request that any State Board order or permit authorizing storage, conveyance, or diversion of water in, through, or from UARP facilities pursuant to water rights that the El Dorado Parties obtain under this petition and application contain the following conditions, to become effective only if the El Dorado Parties terminate the Cooperation Agreement, pursuant to Cooperation Agreement Section 17.3.3.

(a) The El Dorado Parties' right to take 30,000 AFA (40,000 AFA after 2025) from White Rock Penstock or Slab Creek Reservoir will continue to be in full force and effect.

(b) Any provision authorizing storage or any other diversion will continue in force or terminate as specified in (i) through (iii) following.

> (i) If the El Dorado Parties believe they presently have the legal right (by contract or otherwise) to use UARP facilities for purposes beyond those specified in (a), within 30 days of giving notice of termination, the El Dorado Parties will provide SMUD with a reasonably detailed statement of the basis for such legal right, and within 30 days thereafter SMUD and the El Dorado Parties will confer on the matter.
>
> (ii) If SMUD and the El Dorado Parties do not reach agreement within the 30-day period, the El Dorado Parties may file a declaratory relief action respecting their claimed rights in the Superior Court of a Neutral County.
>
> (iii) If the El Dorado Parties and SMUD reach agreement or the El Dorado Parties commence a declaratory relief action within 90 days of its termination notice, the State Board

> will modify the order or permit to conform to the agreement between the El Dorado Parties and SMUD or to any final judgment in the declaratory relief action; otherwise the provision will terminate. The termination of the provision, however, will be without prejudice to any right of the El Dorado Parties to obtain, and any right of SMUD to oppose, similar authorization as if the Agreement had never existed.

(c) Under the rights permitted based on the assignment of portions of Applications 5644 and 5645, prior to placing more than 30,000 acre-feet per year to beneficial use after 2025, the El Dorado Parties will file an approved General Plan and a statement with the Water Division demonstrating the need for up to 40,000 acre-feet per year.

(d) The State Board will reserve jurisdiction to consider a request by the El Dorado Parties to add additional points of diversion/rediversion at the following locations: (i) below the discharge point from the White Rock Powerhouse, and (ii) within the UARP if the El Dorado Parties have exercised their reopener rights under Section 13.4 of the El Dorado – SMUD Cooperation Agreement and the requisite negotiations with SMUD have resulted in an agreement to add one or more points of delivery within the UARP.

15. MAP REQUIREMENTS

The points of direct diversion, diversion to storage and point of rediversion are shown on the attached map. Additionally, the two points of take sought under this application are also shown.

17. STATE/FEDERAL PERMITS AND REQUIREMENTS

SMUD and the El Dorado Parties have agreed that SMUD will make all necessary applications to the Federal Energy Regulatory Commission to obtain its approval for the El Dorado Parties' utilization of the UARP facilities to withdraw and store water for consumptive use in a manner consistent with the Cooperation Agreement.

18. ENVIRONMENTAL DOCUMENT

The EDWPA is a California joint powers authority and plans to prepare an Environmental Impact Report (EIR), acting as Lead Agency pursuant to the requirements of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. The EIR will consider a range of reasonable alternatives to the project, a no project alternative, and potential impacts, mitigation measures, and monitoring requirements. The Draft and Final EIRs, along with the notice of determination, will be submitted to the State Board.

19. WASTE/WASTEWATER

Water put to municipal use pursuant to this application will result in the generation of wastewater. Within the EID service area, wastewater is treated at its Deer Creek and El Dorado Hills wastewater treatment plants. These plants fulfill all regulatory requirements for discharges, pursuant to permits from the Regional Water Quality Control Board, and treated effluent is discharged into the Cosumnes River Basin. In 2005, EID's El Dorado Hills wastewater treatment plant was named "Plant of the Year" by the Sacramento Section of the California Water Environment Association and EID was named "Collections System of the Year" for systems with 250 to 500 miles of collection lines. EID's wastewater treatment plants additionally generate 3,000 AFA (2005) of recycled water that is put to use for irrigation purposes each year.

Portions of EID's water service area do not receive wastewater treatment service from EID, but wastewater generated from these customers receives primary treatment in on-site septic tanks and is then disposed of pursuant to El Dorado County Regulations. Wastewater generated as a result of municipal use in GDPUD's service territory is similarly treated through customers' or community on-site septic systems.

Use of water under this application for irrigation purposes may result in agricultural runoff. This runoff is subject to and regulated under the Central Valley Regional Water Quality Control Board's regulation of irrigated lands, the vast majority of which is included in the Board's Irrigated Lands Conditional Waiver program.

21. ENVIRONMENTAL SETTING

El Dorado County is situated between Lake Tahoe and the Nevada border on the east and Folsom Reservoir and Sacramento County on the west. The County is predominantly situated on the western slope of the Sierra Nevada Mountains and is bounded by the Rubicon and Middle Fork American Rivers to the north. The South and Middle Fork American rivers as well as the Rubicon River drain much of the central and northern portions of the County into Folsom Reservoir. The southern portion of the County lies within the Cosumnes River watershed. At its eastern end, the County lies within the Lake Tahoe Basin and is drained by the Upper Truckee River, which is unconnected, hydrologically, with the American River watershed.

The American River watershed above Folsom Reservoir is very rugged, with rocky slopes, V-shaped canyons, and few flat valley or plateau areas. Elevations range from 10,400 feet msl at the headwaters to about 200 ft msl at Folsom Reservoir, with an average basin slope of approximately 80 feet per mile. The upper third of the basin has been intensely glaciated and is alpine in character, with bare peaks and ridges, considerable areas of granite pavement, and only scattered areas of timber. The middle third is dissected by profound forested canyons, which have reduced the inter-stream areas to narrow ribbons of relatively flat land. The lower third consists of low rolling mountains and Sierra Nevada foothills.

With the completion of Folsom Dam in 1955, as part of the U.S. Bureau of Reclamation's Central Valley Project (CVP), Folsom Reservoir, an impoundment capable of holding 975,000 acre-feet was formed. A regulating water body, Lake Natoma, was formed immediately downstream of Folsom Dam with the construction of Nimbus Dam. Below Nimbus Dam, the river passes through the urbanized Sacramento metropolitan area but is buffered by a riparian park, the American River Parkway, which extends 23 miles to the river's confluence with the Sacramento River. This portion of the American River is known as the Lower American River and is classified as a "recreation" river within both the State and federal Wild and Scenic River systems. While immediately downstream of Nimbus Dam, the river flows through a more incised channel with high bluffs, nearer the mouth, this topography flattens and the river is constrained by a series of adjacent levees and set-back levees.

Flows in this stretch of the river vary widely with season. Flows are controlled by releases from Folsom Dam under a variety of operational rules including D-893, modified D-1400, Folsom's flood control diagram, and voluntary releases made under the CVPIA Anadromous Fish Restoration Program by the Lower American River Operations Group. Flows can range anywhere from 500 cfs during dry periods to over 25,000 cfs during high runoff periods. The levees are designed to convey and hold flows up to 115,000 cfs.

The lower American River drains into the Sacramento River near downtown Sacramento where it then flows south into the Sacramento-San Joaquin River Delta.

5644 x 2

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

2008 OCT 29 AM 11:56
WATER RIGHTS
SACRAMENTO

PETITION FOR CHANGE
(WATER CODE 1700)

X Point of Diversion, X Point of Rediversion, X Place of Use, X Purpose of Use
Application 5644 Permit _____ License _____ Statement or Other _____

I (we) hereby petition for change(s) noted above and shown on the accompanying map and described as follows: See Attachment

Point of Diversion or Rediversion (Give coordinate distances from section corner or other ties as allowed by CCR, tit. 23, section 715, and the 40-acre subdivision in which the present and proposed points of diversion lie.)
Present _____
Proposed _____

Place of Use (If irrigation, then state number of acres to be irrigated within each 40-acre tract.)
Present _____
Proposed _____

Purpose of Use
Present _____
Proposed _____
Does the proposed use serve to preserve or enhance wetlands habitat, fish and wildlife resources, or recreation in or on the water (See Water Code section 1707)? No (yes/no)

- GIVE REASON FOR PROPOSED CHANGE: to conform application to proposed use.
- WILL THE OLD POINT OF DIVERSION OR PLACE OF USE BE ABANDONED? Yes (yes/no)
- WATER WILL BE USED FOR Municipal & Irrigation PURPOSES.

I(we) have access to the proposed point of diversion or control the proposed place of use by virtue of ?Written Agreement (ownership, lease verbal or written agreement)

Are there any persons taking water from the stream between the old point of return flow and the new point of return flow? N/A (yes/no)

If by lease or agreement, state the name and address of party(s) from whom access has been obtained.

Sacramento Municipal Utility District

6201 S. Street, Sacramento, CA 95817

Give name and address of any person(s) taking water from the stream between the present point of diversion or rediversion and the proposed point of diversion or rediversion, as well as any other person(s) known to you who may be affected by the proposed change.

City of Sacramento

Sacramento Municipal Utility District

THIS CHANGE DOES NOT INVOLVE AN INCREASE IN THE AMOUNT OF THE APPROPRIATION OR SEASON OF USE.
I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief.

Dated October 23, 20 08 at Shingle Springs, California

William T. Helland
Signature(s)

530-621-5392
Telephone No.

NOTE: All petitions must be accompanied by the **fee (see fee schedule at www.waterrights.ca.gov)**, made payable to the State Water Resources Control Board (State Water Board) and an **$850 fee** made payable to the Department of Fish and Game must accompany the petition. Separate petitions are required for each water right. Separate State Water Board fees are required if both a change and time extension petition are being filed

Points of Diversion or Rediversion

Present: (1) Sec. 35, T 13 N, R 13 E, M.D.B.&M.,: ~~10,000 AFA to storage~~ 225 cfs direct diversion

(3) NW 1/4 Sec. 4, T 13 N, R 15 E, M.D.B&M., 225 ~~cfs direct diversion~~ 10,000 AFA to storage

Proposed Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

KMG 5/5/09

☐ POD/ ☑ PORD #(2) Silver Creek, tributary to South Fork American River (Union Valley Reservoir Dam)

☐ POD/ ☑ PORD #(3): Silver Creek, tributary to South Fork American River (Junction Reservoir Dam)

☐ POD/ ☑ PORD #(4): Silver Creek, tributary to South Fork American River (Camino Reservoir Dam)

☐ POD/ ☑ PORD #(5): Brush Creek, tributary to South Fork American River (Brush Creek Reservoir Dam)

☑ POD/ ☐ PORD #(6): Rubicon River, tributary to Middle Fork American River (Rubicon Reservoir Dam): 75 cfs direct diversion

☑ POD/ ☑ PORD #(7): Buck Island Reservoir, tributary to Little Rubicon River, thence Rubicon River, thence Middle Fork American River (Buck Island Reservoir Dam): 25 cfs direct diversion

☑ POD/ ☑ PORD #(8): Loon Lake, tributary to South Fork Rubicon River, thence Rubicon River, thence Middle Fork American River (Loon Lake Reservoir Dam): 25 cfs direct diversion; 10,000 AFA to storage

☑ POD/ ☑ PORD #(9): Gerle Creek, tributary to South Fork Rubicon River, thence Rubicon River, thence Middle Fork American River (Gerle Creek Reservoir Dam): 50 cfs direct diversion

☑ POD/ ☑ PORD #(10): South Fork Rubicon River, thence Rubicon River, thence Middle Fork American River (Robbs Peak Reservoir Dam): 50 cfs direct diversion

☐ POD/ ☑ PORD #(15): Slab Creek Reservoir, thence the White Rock Powerhouse Penstock

☐ POD/ ☑ PORD #(16): Folsom Reservoir

State Planar and Public Land Survey Coordinate Description

POD/ PORD #	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWNSHIP	RANGE	BASE AND MERIDIAN
# (2)	SW ¼ of SW ¼	20	12N	14E	MDB&M
# (3)	SW ¼ of SW ¼	30	12N	14E	MDB&M
# (4)	null ¼ of null ¼	4	11N	13E	MDB&M
# (5)	NW ¼ of SE ¼	10	11N	12E	MDB&M
# (6)	NW ¼ of SW ¼	9	13N	16E	MDB&M
# (7)	SW ¼ of NW ¼	6	13N	16E	MDB&M
# (8)	SE ¼ of NE ¼	5	13N	15E	MDB&M
# (9)	null ¼ of null ¼	15	13N	14E	MDB&M
# (10)	SW ¼ of NE ¼	27	13N	14E	MDB&M
# (15)	SE ¼ of SW ¼	29	11N	11E	MDB&M
# (16)	NW ¼ of NE ¼	10	10N	8E	MDB&M

Place of Use

Present: 50,000 acres in Townships 11 to 13 North inclusive, Ranges 8 to 11 East inclusive M.D.B.&M.

Proposed: The water sought under this application and petition is intended to be put to use within the service area boundaries of the El Dorado Irrigation District (EID) and the Georgetown Divide Public Utility District (GDPUD) certain areas in close proximity to the EID and GDPUD boundaries, where facilities exist or where the planned land use allows for higher density, development may eventually be provided water service (known as the "Favorable Areas"). The EID and GDPUD boundaries presently encompass approximately 137,000 and 75,000 acres, respectively. This Proposed Place of Use is delineated on the accompanying Place of Use Map.

Purpose of Use

Present: Irrigation and Domestic

Proposed: Municipal and Irrigation

State Water Resources Control Board

Division of Water Rights
1001 I Street, 14th Floor ♦ Sacramento, California 95814 ♦ 916.341.5300
P.O. Box 2000 ♦ Sacramento, California 95812-2000
Fax: 916.341.5400 ♦ www.waterboards.ca.gov/waterrights

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

NOTICE OF APPLICATIONS 5645X12 AND 5644X02 PETITIONS FOR PARTIAL ASSIGNMENT OF STATE-FILED APPLICATIONS 5645 AND 5644 AND PETITIONS TO CHANGE STATE-FILED APPLICATIONS 5645 AND 5644

COUNTY: El Dorado

STREAM SYSTEM: Rubicon River and South Fork American River Stream Systems

El Dorado Water and Power Authority, c/o Bradley J. Herrema, Brownstein Hyatt Farber Schreck, 21 E. Carillo Street, Santa Barbara, CA 93101, filed: 1) two water right applications and accompanying petitions seeking partial assignment of State-filed water right Applications 5645 and 5644; and 2) petitions to change points of diversion, place of use, and purpose of use of State-filed Applications 5645 and 5644 to conform to their proposed project.

***Table 1*: Summary of Water Right Application 5645X12 (Petition for Partial Assignment of State-filed Application 5645)**

Points of Diversion* (POD) and Sources	**POD 1) Ice House Reservoir Dam** Source: South Fork Silver Creek tributary to Silver Creek thence South Fork American River thence American River Location: within the SE ¼ of SW ¼ of Section 1, T11N, R14E, MDB&M **POD 2) Union Valley Reservoir Dam** Source: Silver Creek tributary to South Fork American River thence American River Location: within the SW ¼ of SW ¼ of Section 20, T12N, R14E, MDB&M **POD 3) Junction Reservoir Dam** Source: Silver Creek tributary to South Fork American River thence American River Location: within the SW ¼ of SW ¼ of Section 30, T12N, R14E, MDB&M **POD 4) Camino Reservoir Dam** Source: Silver Creek tributary to South Fork American River thence American River Location: within the SW ¼ of NW ¼ of Section 4, T11N, R13E, MDB&M **POD 5) Brush Creek Reservoir Dam** Source: Brush Creek tributary to South Fork American River Location: within the NW ¼ of SE ¼ of Section 10, T11N, R12E, MDB&M
Points of Rediversion (PORD)	PORD 2) Union Valley Reservoir Dam Location: within the SW ¼ of SW ¼ of Section 20, T12N, R14E, MDB&M PORD 3) Junction Reservoir Dam Location: within the SW ¼ of SW ¼ of Section 30, T12N, R14E, MDB&M PORD 4) Camino Reservoir Dam Location: within the SW ¼ of NW ¼ of Section 4, T11N, R13E, MDB&M PORD 5) Brush Creek Reservoir Dam Location: within the NW ¼ of SE ¼ of Section 10, T11N, R12E, MDB&M

	PORD 15) Slab Creek Reservoir Location: within the SE ¼ of SW ¼ of Section 29, T11N, R11E, MDB&M PORD 16) Folsom Reservoir Location: within the NW ¼ of NE ¼ of Section 10, T10N, R8E, MDB&M
Amount	Direct Diversion: 450 cfs with a maximum quantity of 40,000 afa Storage: 37,069 afa Total Combined Quantity from Direct Diversion and Storage: 40,000 afa
Diversion Season	January 1 through December 31
Purpose of Use	Municipal and Irrigation
Place of Use	El Dorado Irrigation District and Georgetown Public Utility District service area boundaries, a total of 137,000 acres and 75,000 acres, respectively, and Favorable Areas as noted on project place of use map. Irrigation of 6,093 net acres within the place of use.

*Note: The PODs in application 5645X12 *do not* represent the same PODs in State-filed Application 5645.

***Table 2*: Summary of State-filed Water Right Application 5645**

Points of Diversion (POD) and Sources	**POD 1)** Source: Sly Park Creek tributary to Camp Creek thence North Fork Cosumnes River thence Cosumnes River thence Mokelumne River thence San Joaquin River Location: within SE ¼ of Section 17, T10N, R13E, MDB&M **POD 2)** Source: North Fork Cosumnes River tributary to Cosumnes River thence Mokelumne River thence San Joaquin River Location: within NE ¼ of Section 10, T9N, R14E, MDB&M **POD 3)** Source: North Fork Cosumnes River tributary to Cosumnes River thence Mokelumne River thence San Joaquin River Location: within Section 7, T9N, R13E, MDB&M **POD 4)** Source: Camp Creek tributary to North Fork Cosumnes River thence Cosumnes River thence Mokelumne River thence San Joaquin River Location: within SE ¼ of Section 25, T10N, R14E, MDB&M **POD 5)** Source: Camp Creek tributary to North Fork Cosumnes River thence Cosumnes River thence Mokelumne River thence San Joaquin River Location: within Section 26, T10N, R12E, MDB&M **POD 6)** Source: North Fork Cosumnes River tributary to Cosumnes River thence Mokelumne River thence San Joaquin River Location: within NW ¼ of Section 7, T9N, R12E, MDB&M **POD 7)** Source: Cosumnes River thence Mokelumne River thence San Joaquin River Location: within NW ¼ of Section 14, T8N, R10E, MDB&M **POD 8)** Source: South Fork American River tributary to American River thence Sacramento River Location: within Section 15, T11N, R9E, MDB&M

	POD 9) Source: South Fork American River tributary to American River thence Sacramento River Location: within Section 28, T11N, R15E, MDB&M
Amount*	POD 1) 50 cfs direct diversion, 30,600 afa to storage POD 2) 10,000 afa to storage POD 3) 50 cfs direct diversion POD 4) 10,000 afa to storage POD 5) 50 cfs direct diversion POD 6) 200 cfs direct diversion, 30,000 afa to storage POD 7) 600 cfs direct diversion, 60,000 afa to storage POD 8) 700 cfs direct diversion, 70,000 afa to storage POD 9) 60 cfs direct diversion
Diversion Season	January 1 through December 31
Purpose of Use	Irrigation and Domestic
Place of Use	Irrigation of a total of 210,000 acres in T8-11N inclusive, R8-13E inclusive, MDB&M
Change Petition	The applicant has petitioned to change the sources, points of diversion, purpose of use and place of use in State-filed Application 5645 to the sources and locations shown in Table 1.

*The State Water Board has previously assigned 210.9 cfs direct diversion and 47,731 afa of storage of State-filed Application 5645 under water right Applications 5645A and 5645B, thereby reducing the quantities available for appropriation.

Table 3: Summary of Water Right Application 5644X02 (Petition for Partial Assignment of State-filed Application 5644)

Points of Diversion* (POD) and Sources	**POD 6) Rubicon Reservoir Dam** Source: Rubicon River tributary to Middle Fork American River thence American River thence Sacramento River Location: within the NW ¼ of SW ¼ of Section 9, T13N, R16E, MDB&M **POD 7) Buck Island Reservoir Dam** Source: Little Rubicon River tributary to Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: within the SW ¼ of NW ¼ of Section 6, T13N, R16E, MDB&M **POD 8) Loon Lake Reservoir Dam** Source: Gerle Creek tributary to South Fork Rubicon River thence Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: within the SE ¼ of NE ¼ of Section 5, T13N, R15E, MDB&M **POD 9) Gerle Creek Reservoir Dam** Source: Gerle Creek tributary to South Fork Rubicon River thence Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: SE ¼ of SW ¼ of Section 15, T13N, R14E, MDB&M **POD 10) Robbs Peak Reservoir Dam** Source: South Fork Rubicon River thence Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: SW ¼ of NE ¼ of Section 27, T13N, R14E, MDB&M
Points of Rediversion (PORD)	PORD 2) Union Valley Reservoir Dam Location: within the SW ¼ of SW ¼ of Section 20, T12N, R14E, MDB&M

	PORD 3) Junction Reservoir Dam Location: within the SW ¼ of SW ¼ of Section 30, T12N, R14E, MDB&M PORD 4) Camino Reservoir Dam Location: within the SW ¼ of NW ¼ of Section 4, T11N, R13E, MDB&M PORD 5) Brush Creek Reservoir Dam Location: within the NW ¼ of SE ¼ of Section 10, T11N, R12E, MDB&M PORD 7) Buck Island Reservoir Dam Location: within the SW ¼ of NW ¼ of Section 6, T13N, R16E, MDB&M PORD 8) Loon Lake Reservoir Dam Location: within the SE ¼ of NE ¼ of Section 5, T13N, R15E, MDB&M PORD 9) Gerle Creek Reservoir Dam Location: within the SE ¼ of SW ¼ of Section 15, T13N, R14E, MDB&M PORD 10) Robbs Peak Reservoir Dam Location: within the SW ¼ of NE ¼ of Section 27, T13N, R14E, MDB&M PORD 15) Slab Creek Reservoir Location: within the SE ¼ of SW ¼ of Section 29, T11N, R11E, MDB&M PORD 16) Folsom Reservoir Location: within the NW ¼ of NE ¼ of Section 10, T10N, R8E, MDB&M
Amount	Direct Diversion: 225 cubic feet per second (cfs) with a maximum quantity of 10,000 acre-feet annually (afa) Storage: 10,000 afa Total Combined Quantity from Direct Diversion and Storage: 10,000 afa
Diversion Season	January 1 through December 31
Purpose of Use	Municipal and Irrigation
Place of Use	El Dorado Irrigation District and Georgetown Public Utility District service area boundaries, a total of 137,000 acres and 75,000 acres, respectively, and Favorable Areas as noted on project place of use map. Irrigation of 6,093 net acres within the place of use.

* Note: The PODs in Application 5644X02 *do not* represent the same PODs in State-filed Application 5644.

***Table 4*: Summary of State-filed Water Right Application 5644**

Points of Diversion and Sources	**POD 1)** Source: Rubicon River tributary to Middle Fork American River thence American River thence Sacramento River Location: within Section 35, T13N, R13E, MDB&M **POD 2)** Source: Pilot Creek tributary to Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: within Section 32, T13N, R12E, MDB&M **POD 3)** Source: Gerle Creek tributary to South Fork Rubicon River thence Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: within NW ¼ of Section 4, T13N, R15E, MDB&M **POD 4)** Source: Unnamed stream tributary to Rubicon River thence Middle Fork American River thence American River thence Sacramento River Location: within the SE ¼ of Section 6, T13N, R16E, MDB&M
Amount*	POD 1) 450 cfs direct diversion POD 2) 50 cfs direct diversion

	POD 3) 44,000 afa to storage POD 4) 6,000 afa to storage
Diversion Season	January 1 through December 31
Purpose of Use	Irrigation and Domestic
Place of Use	Irrigation use on 50,000 acres located in T11-13N inclusive, R8-11E inclusive, MDB&M
Change Petition	The applicant has petitioned to change the sources, points of diversion, purpose of use and place of use in State-filed Application 5644 to the sources and locations shown in Table 3

*The State Water Board has previously assigned 100 cfs direct diversion and 20,000 afa to storage of State-filed Application 5644 under water right Application 5644A, thereby reducing the quantities available for appropriation.

Project information, procedures for protesting and protest forms are available at: http://www.waterboards.ca.gov/waterrights/. The contact person for this application is Kate Gaffney at (916) 341-5360 or by e-mail at kgaffney@waterboards.ca.gov.

Protests must be received by the Division of Water Rights by **4:30 p.m. on July 10, 2009.** A copy of the protest must also be sent to the applicant at the address shown above.

Date of Notice: May 11, 2009

WORKING COPY

2008 OCT 29 AM 11:55

DIV OF WATER RIGHTS
SACRAMENTO

TYPE OR PRINT
IN BLACK INK
(For instructions, see booklet: "How to File an Application to Appropriate Water in California")

California Environmental Protection Agency

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
www.waterrights.ca.gov

APPLICATION NO. 5645x12

APPLICATION TO APPROPRIATE WATER

1. APPLICANT/AGENT

	APPLICANT	ASSIGNED AGENT (if any)
Name	El Dorado Water & Power Authority	Bradley J. Herrema
	c/o William T. Hetland	Brownstein Hyatt Farber Schreck
Mailing Address	3932 Ponderosa Road, Suite 200	21 E. Carrillo Street
City, State & Zip	Shingle Springs, CA 95682	Santa Barbara, CA 93101
Telephone	(530) 621-5392	(805) 963-7000
Fax	(530) 672-6721	(805) 965-4333
E-mail	bhetland@co.el-dorado.ca.us	bherrema@bhfs.com

2. OWNERSHIP INFORMATION (Please check type of ownership.)

☒ Sole Owner
☐ Limited Liability Company (LLC)
☐ General Partnership*
☐ Limited Partnership*
☐ Business Trust
☐ Husband/Wife Co-Ownership
☐ Corporation
☐ Joint Venture
☐ Other _____

*Please identify the names, addresses and phone numbers of all partners.

3. PROJECT DESCRIPTION (Provide a detailed description of your project, including, but not limited to, type of construction activity, area to be graded or excavated, and how the water will be used.) Add additional pages if needed and check box below and label as an attachment.

See attachment 1, 3.

☐ *For continuation, see Attachment No.* ___

4. PURPOSE OF USE, DIVERSION/STORAGE AMOUNT AND SEASON

a. PURPOSE OF USE (irrigation, domestic, etc.)	DIRECT DIVERSION				STORAGE		
	AMOUNT		SEASON OF DIVERSION		AMOUNT	SEASON OF COLLECTION	
	Rate (cfs or gpd)*	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)
Total afa			Total afa				

☒ *See Attachment No.* 1, 4 * If rate is less than 0.025 cubic feet per second (cfs), use gallons per day (gpd).

b. Total combined amount taken by direct diversion and storage during any one year will be 40,000 acre-feet.

c. Reservoir storage is: ☒ onstream ☐ offstream ☐ underground (If underground storage, attach Underground Storage Form.)

d. County in which diversion is located: El Dorado County in which water will be used: El Dorado

5. SOURCES AND POINTS OF DIVERSION/REDIVERSION

a. Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

☐ POD / ☐ PORD # _____ tributary to _____ thence _____

☐ POD / ☐ PORD # _____ tributary to _____ thence _____

☐ POD / ☐ PORD # _____ tributary to _____ thence _____

☐ POD / ☐ PORD # _____ tributary to _____ thence _____

If needed, attach additional pages, check box below and label attachment

☒ *See Attachment No.* 1, 5.

b. State Planar and Public Land Survey Coordinate Description:

POD/ PORD #	CALIFORNIA COORDINATES (NAD 83)	ZONE	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWN-SHIP	RANGE	BASE AND MERIDIAN
			¼ of ¼				
			¼ of ¼				
			¼ of ¼				
			¼ of ¼				

If needed, attach additional pages, check box below and label attachment

☒ *See Attachment No.* 1, 5.

c. Name of the post office most often used by those living near the proposed point(s) of diversion: Kyburz

6. WATER AVAILABILITY

a. Have you attached a water availability analysis for this project? ☐ YES ☒ NO
If NO, provide sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation: If needed, attach additional pages, check box below and label attachment.

☒ *See Attachment No.* 1, 6.

b. Is your project located on a stream system declared to be fully appropriated by the State Water Resources Control Board (State Water Board) during your proposed season of diversion?
☒ YES ☐ NO

c. In an average year, does the stream dry up at any point downstream of your project? ☐ YES ☒ NO
If YES, during which months? ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

d. What alternate sources of water are available if a portion of your requested diversion season must be excluded because water is not available for appropriation? (e.g., percolating groundwater, purchased water, etc.) If needed, attach additional pages, check box below and label attachment
N/A

☐ *See Attachment No.* ___

7. PLACE OF USE

a.

USE IS WITHIN (40-acre subdivision)	SECTION*	TOWNSHIP	RANGE	BASE & MERIDIAN	IF IRRIGATED	
					Acres	Presently cultivated?
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
¼ of ¼						☐ YES ☐ NO
				Total Acres:		

*Please indicate if section is projected with a "(P)" following the section number.

☒ *See Attachment No.* 1, 7. Please provide the Assessor's Parcel Number(s) for the place of use:

8. PROJECT SCHEDULE

a. Project is: ☐ proposed. Year construction will begin: _____
☒ partially complete. Extent of completion: UARP diversion facilities are complete. Re-diversion and delivery facilities have not been constructed.
☐ complete. Year completed: _____

b. Year of first use: _____ Year water will be used to the full extent intended: _____

9. JUSTIFICATION OF AMOUNTS REQUESTED

a. ☒ IRRIGATION: Maximum area to be irrigated in any one year: _____ acres.

CROP	ACRES	METHOD OF IRRIGATION (sprinklers, flooding, etc.)	WATER USE (Acre-feet/Yr.)	SEASON OF WATER USE	
				Beginning date (month & day)	Ending date (month & day)

☒ *See Attachment No.* 1, 9.

b. ☐ DOMESTIC: Number of residences to be served: _____ Separately owned? ☐ YES ☐ NO Number of people to be served: _____ Estimated daily use per person is: _____ gallons per day Area of domestic lawns and gardens: _____ square feet
Incidental domestic uses:
_____
(dust control area, number and kind of domestic animals, etc.)

c. ☐ STOCKWATERING: Kind of stock: _____ Maximum number: _____
Describe type of operation: _____
(feedlot, dairy, range, etc.)

d. ☐ RECREATIONAL: Type of recreation: ☐ Fishing ☐ Swimming ☐ Boating ☐ Other _____

e. ☒ MUNICIPAL:

POPULATION List for 5-year periods until use is completed		MAXIMUM MONTH		ANNUAL USE		
Period	Population	Average daily use (gallons per capita)	Rate of diversion (cfs)	Average daily use (gallons per capita)	Acre-foot (per capita)	Total (acre-feet)
Present						

☒ *See Attachment No.* 1, 9.

Month of maximum use during year: _____
Month of minimum use during year: _____

f. ☐ HEAT CONTROL: Area to be heat controlled: _____ net acres
Type of crops protected: _____
Rate at which water is applied to use: _____ gpm per acre
Heat protection season will begin _____ (month and day) and end _____ (month and day).

g. ☐ FROST PROTECTION: Area to be frost protected: _____ net acres
Type of crops protected: _____
Rate at which water is applied to use: _____ gpm per acre
The frost protection season will begin _____ (month & day) and end _____ (month & day).

h. ☐ INDUSTRIAL: Type of industry: _____
Basis for determination of amount of water needed: _____

i. ☐ MINING: Name of the claim: _____ ☐ Patented ☐ Unpatented

Nature of the mine: _____ Mineral(s) to be mined: _____
Type of milling or processing: _____
After use, the water will be discharged into _____ (watercourse)
in _____ ¼ of _____ ¼ of Section _____, T _____, R _____, _____B. & M.

j. ☐ POWER: Total head to be utilized: _____ feet
Maximum flow through the penstock: _____ cfs Maximum theoretical horsepower capable of being generated by the works (cfs x fall ÷ 8.8): _____
Electrical capacity (hp x 0.746 x efficiency): _____ kilowatts at: _____% efficiency
After use, the water will be discharged into _____ (watercourse)
in ____ ¼ of ____ ¼ of Section _____, T _____, R _____, _____B&M. FERC No.:_____

k. ☐ FISH AND WILDLIFE PRESERVATION AND/OR ENHANCEMENT: List specific species and habitat type that will be preserved or enhanced: _____

l. ☐ OTHER: Describe use: _____
Basis for determination of amount of water needed: _____

10. DIVERSION AND DISTRIBUTION METHOD

a. Diversion will be by gravity by means of: dams, tunnels.
(dam, pipe in unobstructed channel, pipe through dam, siphon, weir, gate, etc.)

b. Diversion will be by pumping from: _____
(sump, offset well, channel, reservoir, etc)

Pump discharge rate: _____ ☐ cfs or ☐ gpd Horsepower: _____
Pump Efficiency: _____

c. Conduit from diversion point to first lateral or to offstream storage reservoir:

CONDUIT (pipe or channel)	MATERIAL (type of pipe or channel lining; indicate if pipe is buried or not)	CROSS-SECTION (pipe diameter, or ditch depth and top and bottom width) (inches or feet)	LENGTH (feet)	TOTAL LIFT OR FALL		CAPACITY (cfs, gpd or gpm)
				feet	+ or -	

☒ *See Attachment No.* 1, 10.

d. Storage reservoirs: (For underground storage, complete and attach underground storage form)

RESERVOIR	DAM				RESERVOIR		
NAME OR NUMBER	Vertical height from downstream toe of slope to spillway level (feet)	Construction material	Length (feet)	Freeboard: dam height above spillway crest (feet)	Surface area when full (acres)	Capacity (acre-feet)	Maximum water depth (feet)

☒ *See Attachment No.* 1, 10.

e. Outlet pipe: Complete for storage reservoirs having a capacity of 10 acre-feet or more.

RESERVOIR NAME OR NUMBER	OUTLET PIPE				
	Diameter in inches	Length in feet	Fall: Vertical distance between entrance and exit of outlet pipe in feet	Head: Vertical distance from spillway to entrance of outlet pipe in feet	Dead Storage: Storage below entrance of outlet pipe in acre-feet

☒ *See Attachment No.* 1, 10.

e. If water will be stored and the reservoir is not at the point of diversion, the maximum rate of diversion to off-stream storage will be _____ cfs. Diversion to offstream storage will be made by:
☐ Pumping ☐ Gravity

11. CONSERVATION AND MONITORING

a. What methods will you use to conserve water? Explain.
See attachment No. 1, 11.

b. How will you monitor your diversion to be sure you are within the limits of your water right and you are not wasting water? ☐ Weir ☐ Meter ☐ Periodic sampling ☐ Other (describe)
Attachment 1, 11.

12. RIGHT OF ACCESS

a. Does the applicant own all the land where the water will be diverted, transported and used?
☐ YES ☒ NO
If NO, I ☐ do ☒ do not have a recorded easement or written authorization allowing me access.

b. List the names and mailing addresses of all affected landowners and state what steps are being taken to obtain access:

☒ *See Attachment No.* 1, 12.

13. EXISTING WATER RIGHTS AND RELATED FILINGS

a. Do you claim an existing right for the use of all or part of the water sought by this application?
☒ YES ☐ NO
If YES, please specify: ☐ Riparian ☐ Pre-1914 ☐ Registration ☐ Permit ☐ License
☐ Percolating groundwater ☐ Adjudicated ☒ Other (specify) See attachment No. 1, 13.

b. For each existing right claimed, state the source, year of first use, purpose, season and location of the point of diversion (to within quarter-quarter section). Include number of registration, permit, license, or statement of water diversion and use, if applicable.

☐ *See Attachment No.* ___

c. List any related applications, registrations, permits, or licenses located in the proposed place of use or that utilize the same point(s) of diversion.

☒ *See Attachment No.* 1, 13.

14. OTHER SOURCES OF WATER

Are you presently using, or do you intend to use, purchased water or water supplied by contract in connection with this project? ☐ Yes ☒ No If yes, please explain:

15. MAP REQUIREMENTS

The Division cannot process your application without accurate information showing the source of water and location of water use. You must include a map with this application form that clearly indicates the quarter/quarter, section, township, range, and meridian of (1) the proposed points of diversion and (2) the place of use. A copy of a U.S.G.S. quadrangle/topographic map of your project area is preferred, and can be obtained from sporting goods stores or through the Internet at http://topomaps.usgs.gov. A certified engineering map is required when (1) appropriating more than three cubic feet per second by direct diversion, (2) constructing a dam which will be under the jurisdiction of the Division of Safety of Dams, (3) creating a reservoir with a surface area in excess of ten acres or (4) appropriating more than 1,000 acre-feet per annum by underground storage. See the instruction booklet for more information.

☒ *See Attachment No.* 1,15.

ENVIRONMENTAL INFORMATION

Note: Before a water right permit may be issued for your project, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared for your project, a determination must be made of who is responsible for its preparation. If the State Water Board is determined to be responsible for preparing the CEQA document, the applicant will be required to pay all costs associated with the environmental evaluation and preparation of the required documents. Please answer the following questions to the best of your ability and submit with this application any studies that have been conducted regarding the environmental evaluation of your project.

16. COUNTY PERMITS

a. Contact your county planning or public works department and provide the following information:

Person contacted: _____ Date of contact: _____
Department: _____ Telephone: ( )
County Zoning Designation:

Are any county permits required for your project? ☐ YES ☒ NO If YES, check appropriate box below:

☐ Grading permit ☐ Use permit ☐ Watercourse ☐ Obstruction permit ☐ Change of zoning
☐ General plan change ☐ Other (explain):

b. Have you obtained any of the required permits described above? ☐ YES ☒ NO
If YES, provide a complete copy of each permit obtained.
☐ *See Attachment No.* ___

17. STATE/FEDERAL PERMITS AND REQUIREMENTS

a. Check any additional state or federal permits required for your project:
☒ Federal Energy Regulatory Commission ☐ U.S. Forest Service ☐ U.S. Bureau of Land Management ☐ U.S. Corps of Engineers ☐ U.S. Natural Res. Conservation Service ☐ Calif. Dept. of Fish and Game ☐ State Lands Commission ☐ Calif. Dept. of Water Resources (Div. of Safety of Dams) ☐ Calif. Coastal Commission ☐ State Reclamation Board ☒ Other (specify) U.S. Bureau of Reclamation.

b. For each agency from which a permit is required, provide the following information:

AGENCY	PERMIT TYPE	PERSON(S) CONTACTED	CONTACT DATE	TELEPHONE NO.
FERC				
USBR	Warren Act contract			

☒ *See Attachment No.* 1, 17.

c. Does your proposed project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank, or riparian habitat of any stream or lake? ☐ YES ☒ NO
If YES, explain:

☐ *See Attachment No.* ___

d. Have you contacted the California Department of Fish and Game concerning your project?
☐ YES ☒ NO If YES, name, telephone number and date of contact:

18. ENVIRONMENTAL DOCUMENT

a. Has any California public agency prepared an environmental document for your project?
☐ YES ☒ NO

b. If YES, submit a copy of the latest environmental document(s) prepared, including a copy of the notice of determination adopted by the California public agency. Public agency:

c. If NO, check the appropriate box and explain below, if necessary:
☒ The applicant is a California public agency and will be preparing the environmental document.*
☐ I expect that the State Water Board will be preparing the environmental document.**
☐ I expect that a California public agency other than the State Water Board will be preparing the environmental document.* Public agency: _____
☒ *See Attachment No.* 1, 18.

* Note: When completed, submit a copy of the final environmental document (including notice of determination) or notice of exemption to the State Water Board, Division of Water Rights and proof of payment of the State Clearinghouse filing fee. Processing of your application cannot be completed until these documents are submitted.

** Note: CEQA requires that the State Water Board, as Lead Agency, prepare the environmental document. The information contained in the environmental document must be developed by the applicant and at the applicant's expense under the direction of the State Water Board, Division of Water Rights.

19. WASTE/WASTEWATER

a. Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation? ☒ YES ☐ NO
If YES, or you are unsure of your answer, explain below and contact your local Regional Water Quality Control Board for the following information (See instruction booklet for address and telephone no.):

_____
_____
_____

☒ *See Attachment No.* 1, 19.

b. Will a waste discharge permit be required for your project? ☐ YES ☐ NO
Person contacted: _____ Date of contact: _____

c. What method of treatment and disposal will be used? _____
_____
_____

☐ *See Attachment No.* ___

20. ARCHEOLOGY

a. Have any archeological reports been prepared on this project? ☐ YES ☒ NO
b. Will you be preparing an archeological report to satisfy another public agency? ☐ YES ☒ NO
c. Do you know of any archeological or historic sites located within the general project area?
☐ YES ☒ NO If YES, explain:

_____
_____
_____

☐ *See Attachment No.* ___

21. ENVIRONMENTAL SETTING

Attach **two complete sets of color photographs**, clearly dated and labeled, showing the vegetation that exists at the following three locations:

☐ Along the stream channel immediately downstream from the proposed point(s) of diversion.
☐ Along the stream channel immediately upstream from the proposed point(s) of diversion.
☐ At the place(s) where the water is to be used.
☒ *See Attachment No.* 1, 21.

SUBMITTAL FEES

Calculate your application filing fee using the "Water Right Fee Schedule Summary" that was enclosed in the application packet. The "Water Right Fee Schedule Summary" can also be viewed at the Division of Water Rights' website (www.waterrights.ca.gov).

A check for the application filing fee, payable to the "Division of Water Rights" and an $850 check for the Streamflow Protection Standards review fee [Pub. Resources Code § 10005(a)], payable to the "California Department of Fish and Game," must accompany this application. All applicable fees are required at the time of filing. If the application fees are not received, your application will not be accepted and will be returned to you. Please check the fee schedule for any fee changes prior to submitting the application.

DECLARATION AND SIGNATURE

I declare under penalty of perjury that all information provided is true and correct to the best of my knowledge and belief. I authorize my agent, if I have designated one above, to act on my behalf regarding this water right application.

William T. Hetland	Executive Director	10-23-08
Signature of Applicant	Title or Relationship	Date
Signature of Co-Applicant (if any)	Title or Relationship	Date

Applications that are not completely filled out and/or do not have the appropriate fees will not be accepted. In the event that the Division has to return the application because it is incomplete, a portion of the application submittal fee will be charged for the initial review.

"APPLICATION TO APPROPRIATE WATER" CHECKLIST

Before you submit your application, be sure to:

- ☐ **Answer each question completely.**
- ☐ **Number, label and include all necessary attachments.**
- ☐ **Include a legible map that meets the requirements discussed in the instruction booklet.**
- ☐ **Include the Water Availability Analysis or sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation.**
- ☐ **Include two complete sets of color photographs of the project site.**
- ☐ **Enclose a check for the required fee, payable to the Division of Water Rights.**
- ☐ **Enclose an $850 check for the Streamflow Protection Standards review fee, payable to the Department of Fish and Game.**
- ☐ **Sign and date the application.**

Send the original and one copy of the entire application to:

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

3. PROJECT DESCRIPTION

PROJECT DESCRIPTION

The El Dorado Water & Power Authority (EDWPA), on behalf of its member agencies[1] (collectively the "El Dorado Parties"), is seeking a supplemental water supply to meet future water supply needs occasioned by population growth in El Dorado County, in accordance with its approved 2004 General Plan. This need is identified in the Water Resources Development and Management Plan ("Water Plan") commissioned by the El Dorado County Water Agency (EDCWA) (adopted in October 2007), and designed to coordinate water resource planning activities within El Dorado County. The Water Plan identifies an additional (above existing rights and allocations) water supply need within the EDWPA member agencies' service areas for municipal and irrigation uses of about 31,500 acre-feet annually ("AFA") at the year 2025 demand level and approximately 86,500 acre-feet annually at buildout.

The El Dorado Parties have recognized these increasing water supply needs and have been diligent in their planning and actions to acquire necessary supplemental water and water storage rights. Recognizing that there are limited opportunities for the construction of new water storage locations within the County, as well as the environmental concerns associated with such construction, the El Dorado Parties elected to pursue another arrangement: they have secured diversion and storage rights in the Sacramento Municipal Utility District's (SMUD) existing Upper American River Project (UARP) facilities. These rights are more fully described in the El Dorado – SMUD Cooperation Agreement ("Cooperation Agreement") approved in November of 2005, attached hereto as Attachment No. 2. So long as the El Dorado Parties secure the legal right to divert water, the Cooperation Agreement requires SMUD to make deliveries to the El Dorado Parties from the UARP, including deliveries to and from carryover storage, of up to 35,000 AFA through 2025 and thereafter, 40,000 AFA for the remaining term of the Agreement.

To secure supplemental water to meet a portion of its projected water needs in a manner consistent with the Cooperation Agreement, EDWPA requests the State Board approve the assignment of a portion of Applications 5645 filed by the State pursuant to Water Code section 10500 *et seq.* and the conformation of the assigned portion of the application to the application allowing diversion and storage in the UARP facilities attached hereto.

PURPOSE AND NEED

Physical Setting

[1] The El Dorado Water & Power Authority comprises the County of El Dorado, the El Dorado County Water Agency (EDCWA), the El Dorado Irrigation District (EID) and the Georgetown Divide Public Utility District (GDPUD).

El Dorado County is situated between Lake Tahoe and the Nevada border on the east and Folsom Reservoir and Sacramento County on the west. The County is predominantly situated on the western slope of the Sierra Nevada Mountains and is bounded by the Rubicon and Middle Fork American Rivers on the north, the South Fork of the Cosumnes River on the south and is bisected by the South Fork American River and its tributaries. With an abundance of natural resources and spectacular beauty, the County is home to more than 175,000 people and enjoys a billion-dollar economy.

Among the natural resources within the County are the water resources of the Middle and South Forks of the American River ("Upper American River"). The Upper American River and its tributaries – regional water resources sustained by local run-off – travel through El Dorado County. A substantial water supply source, the watershed theoretically could meet all of the County's projected west slope water supply demands.

The UARP, a hydroelectric power project built by the SMUD in the late 1950s, collects vast quantities of local run-off and Upper American River flows. In its current configuration, the UARP consists of eleven reservoirs and eight powerhouses, all of which are located within the boundaries of El Dorado County on the tributaries of the South Fork and Middle Fork American Rivers. The UARP collects the waters of the Upper American River for the purpose of generating power, and ultimately releases the diverted water downstream. The power produced by the UARP is utilized by SMUD customers in Sacramento County and small portions of Placer and Yolo Counties, while the waters which generate that power are currently put to consumptive use by the City of Sacramento and Central Valley Project (CVP) contractors.

Present El Dorado Water Use

Two of the El Dorado County western slope purveyors[2], EID and GDPUD, currently meet their needs through the utilization of a variety of water supplies, extending those supplies through their implementation of various water conservation measures. EID serves approximately 40,000 acre-feet of water each year, utilizing various pre-1914 and State Water Resources Control Board ("State Board") permitted and licensed rights in the South Fork American River, Echo Creek, and the Cosumnes River Basins, and a CVP Contract allowing diversions from Folsom Reservoir. Additionally, EID has a State Board permitted right within the South Fork American River Basin totaling 17,000 AFA. EID is working to secure approval from the United States Bureau of Reclamation (the "Bureau") to utilize Folsom Reservoir as a point of diversion and rediversion for this supply.[3]

GDPUD serves approximately 11,000 acre-feet of water each year, utilizing its pre-1914 and State Board permitted rights in the Middle Fork American River Basin. It

[2] The third western slope purveyor is the Grizzly Flats Community Service District (GFCSD). Water sought through this application is not intended for use in the GFCSD service area.

[3] Pursuant to Public Law 101-514, EDCWA intends to enter into a contract with the Bureau for the right to an additional 15,000 AFA of CVP M&I water from Folsom Reservoir or points upstream, for the benefit of both the EID and GDPUD service areas. This Application does not assume the availability of this supply.

primarily relies on its main water storage and diversion facility, the Stumpy Meadows Project.

As an extension of their commitment to steward the resources within the County, EID and GDPUD have adopted and implemented industry-leading water conservation practices to stretch the County's precious water supplies as far as possible. EID is a signatory to the California Urban Water Conservation Council's Memorandum of Understanding, outlining fourteen comprehensive conservation Best Management Practices, which all signatories pledge to implement. EID also has a United States Bureau of Reclamation required and approved Water Conservation Plan. Further, EID serves approximately 3,000 AFA (2005) of tertiary-treated recycled water generated at its wastewater treatment plants, in lieu of potable supplies.

As El Dorado County was without a general plan at the time the Sacramento Area Water Forum Agreement ("Water Forum Agreement") was finalized in 1999, EID and GDPUD were unable to enter into Purveyor Specific Agreements as part of that multi-party agreement. They did, however, participate in the negotiations toward the Water Forum Agreement and are signatories to Procedural Agreements anticipating their eventual accession to the Water Forum Agreement itself.

Projected Water Supply Need

In 2004, the El Dorado County Board of Supervisors adopted a General Plan for the County that fairly balances the need to continue the County's stewardship of public land and natural resources with the demand for new agricultural, commercial and residential development. In March 2005, the voters of the County approved a referendum on the plan adopted by the Board of Supervisors, which allowed a Superior Court writ of mandate regarding the plan to be lifted. Subsequently, litigation over the new General Plan was settled, meaning that the General Plan is now of unquestioned legal validity.

It is the mission of EDCWA to ensure that present and future water demands within the County are met. To that end, EDCWA, in collaboration with water purveyors within the County, developed the Water Plan. It is the goal of the Water Plan to coordinate water resource planning efforts within the County in a manner consistent with the General Plan. The Water Plan assumes that in certain areas in close proximity to the EID and GDPUD boundaries, where facilities exist or where the planned land use allows for higher density, development may eventually be provided water service ("Favorable Areas"). Consistent with the planned urban and agricultural land uses identified in the General Plan, the Plan projects additional consumptive water needs within the EID and GDPUD service areas and the Favorable Areas resulting in a total water need of 31,500 AFA by the year 2025. The most logical source for this supply is the Upper American River watershed.

The General Plan additionally anticipates that the population will continue to grow after year 2025. Build-out under the General Plan would result in a future water need within the areas to be served under this application of approximately 86,500 AFA.

However, this application is limited to 40,000 AFA as the maximum use of UARP facilities permitted under the El Dorado – SMUD Cooperation Agreement. Moreover, consistent with the future use by municipalities (Wat. Code, § 106.5), the El Dorado Parties would condition their diversion of quantities greater than 30,000 AFA under an approved permit upon a showing of increased demand and the existence of a valid General Plan.

PETITION AND APPLICATION

Petition

EDWPA requests that the State Board, pursuant to California Code of Regulations, Title 23, section 736(a), treat this application as a petition for assignment of a portion of Application 5645, filed pursuant to section 10500 *et seq.* of the Water Code. EDWPA asks that the assigned portion of Application 5645 be conformed to the diversion, re-diversion and storage regime proposed under this application.

In the processing of this application, EDWPA further requests the State Board to consider permit conditions on the American River water rights of the City of Sacramento and the Bureau pursuant to State Water Board Decision 893. (In the Matter of Applications 12140, et al. by the City of Sacramento and other applicants, to appropriate waters of the American River and its tributaries (1958) D-893; *see also* In the Matter of Applications 11331, 11332, 11761, 11762, 11989 (1958) D-886.) Specifically, by prior order of the State Board, the amounts that may be diverted under those permits are subject to reduction by future appropriation of water for reasonable, beneficial use within the upstream watershed, which includes the service areas of the El Dorado Parties and the Favorable Areas. The State Board also maintained continuing jurisdiction over all rights and privileges under those previously issued permits.

Diversion and Storage Facilities

The vast UARP has occupied virtually all the premier sites for diversion and storage of water from the American River. However, as a condition of withdrawing its objection to SMUD's operation of the UARP, El Dorado County executed agreements with SMUD in 1957 and again in 1961 that permitted El Dorado County to divert water from specified UARP facilities when the need arose. Subsequently, the El Dorado Parties and SMUD entered into the Cooperation Agreement, which largely supersedes the 1957 and 1961 agreements and specifies the terms and conditions under which SMUD will operate the UARP to capture, store and deliver water for the benefit of the El Dorado Parties.

In brief, the Cooperation Agreement enables the El Dorado Parties to avoid the costs and permitting issues associated with the construction of new water diversion and storage facilities by securing use of existing physical facilities. The El Dorado Parties rely upon the Cooperation Agreement for the purpose of demonstrating their legal right to use of the physical facilities that may be required to divert and store the waters of the

Upper American River that are the subject of this application.

The Cooperation Agreement requires SMUD to operate the UARP to divert and store water under the water rights of the El Dorado Parties. SMUD in turn will deliver the directly diverted and stored water to the El Dorado Parties in quantities of up to 35,000 acre-feet per year (40,000 acre-feet after 2025), including the right to carry-over as much as 15,000 acre-feet for drought and other emergencies. SMUD will deliver the water to the White Rock Penstock or the point in the South Fork of the American River immediately below the discharge point from the White Rock Powerhouse.

The Cooperation Agreement authorizes the El Dorado Parties to redivert the delivered water at one point within the UARP (the White Rock Penstock turnout, a valve located in the White Rock Penstock) or anywhere downstream of the UARP facilities, which the El Dorado Parties propose to do at Folsom Reservoir. These points of rediversion are described as points of "take" to distinguish them from the described points of diversion and rediversion in these Applications, although in some cases they are the same points. The points of take represent the last point from which water is taken from either an existing conveyance or from the river system by rediversion directly into EID or GDPUD facilities for conveyance, storage, treatment and distribution to consumptive end users. There are only two points of take to be considered for these Applications: the White Rock Penstock and Folsom Reservoir. However, the El Dorado Parties request that the State Board retain jurisdiction to consider adding additional points of rediversion to the permits at the following locations: (i) below the discharge point from the White Rock Powerhouse, and (ii) within the UARP if the El Dorado Parties have exercised their reopener rights under Section 13.4 of the Cooperation Agreement and the requisite negotiations with SMUD have resulted in an agreement to add one or more UARP points of delivery.

Diversion Amounts and Rates

Because the water appropriated under the applications will be diverted through and stored in SMUD's existing facilities, pursuant to the Cooperation Agreement, the El Dorado Parties propose diversion and storage of up to 30,000 AFA (40,000 AFA after year 2025), with diversions and rediversions at the same rates allowed under SMUD's UARP licenses and permit and with storage at Loon Lake, Ice House Reservoir and Union Valley Reservoir as allowed under SMUD's UARP licenses and permit. The El Dorado Parties propose that the water will be directly diverted and released from storage for take at White Rock Penstock or Folsom Reservoir at the rates agreed to in the Cooperation Agreement, as further described in this attachment.

Beneficial Use

The water appropriated under this application will be put to use for municipal and irrigation purposes in the EID and GDPUD service areas. Water taken from the UARP facilities via the White Rock Penstock will be conveyed into EID's service area for treatment and distribution. EID currently withdraws water from Folsom Reservoir

pursuant to a Water Service contract and a Warren Act contract with the Bureau. In order to take water from Folsom Reservoir pursuant to the proposed appropriation, EID will increase its diversion capacity at Folsom Reservoir, likely through the construction of an additional pumping plant and pipeline from Folsom Reservoir to its El Dorado Hills water treatment plant.

GDPUD, in order to utilize in its service area water appropriated pursuant to this application, may subsequently complete a water exchange with the Placer County Water Agency (PCWA). Such an exchange would allow GDPUD to divert at the North Folsom Pumping Plant (also known as the "Auburn Pumps") along the North Fork American River, and in turn allow PCWA to take water at Folsom Reservoir. Such an exchange is not part of this application and depending upon its terms, may require further State Board approvals. GDPUD has a right to a portion of the capacity of PCWA's recently constructed North Folsom Pumping Plant, but will need to construct a pipeline for conveyance of water from the pumping plant to its intended service area.

Prior Rights

The El Dorado Parties seek partial assignment of State-filed applications for the appropriation of water from the Upper American River. Pursuant to the Cooperation Agreement, the appropriated water will be diverted into and stored within the UARP facilities. Though the American River and its tributaries are considered fully appropriated for a portion of the year, this petition and application are consistent with the Declaration of Fully Appropriated Stream Systems, which states that "petitions for assignment of existing state filings…together with accompanying applications, which implement Water Code section 10500 et seq., and which propose appropriation of water from stream systems identified in the Declaration as fully appropriated, should be accepted for filing." (In the Matter of the Declaration of Fully Appropriated Stream Systems in California (1998) Order WR 98-08, § 4.4.)

The waters of the American River subject to Application 5645 originate within El Dorado County, and the El Dorado Parties may petition for the assignment of those applications to meet future water needs within the County.

4. PURPOSE OF USE, DIVERSION/STORAGE AMOUNT AND SEASON

	DIRECT DIVERSION				STORAGE		
	AMOUNT		SEASON OF DIVERSION		AMOUNT	SEASON OF COLLECTION	
PURPOSE OF USE	Rate (cfs)	Acre-feet per year	Beginning Date	Ending Date	Acre-feet per year	Beginning Date	Ending Date
Municipal	225	28,000	January 1	December 31	25,948	January 1	December 31
Irrigation	225	12,000	January 1	December 31	11,121	January 1	December 31

5. SOURCES AND POINTS OF DIVERSION/REDIVERSION

a. Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

☑ POD/ ☐ PORD #(1): South Fork Silver Creek, tributary to Silver Creek, thence South Fork American River (Ice House Reservoir Dam): 75 cfs direct diversion; 10,000 AFA to storage[1]

☑ POD/ ☑ PORD #(2) Silver Creek, tributary to South Fork American River (Union Valley Reservoir Dam): 200 cfs direct diversion; 30,000 AFA to storage[1]

☑ POD/ ☑ PORD #(3): Silver Creek, tributary to South Fork American River (Junction Reservoir Dam): 100 cfs direct diversion

☑ POD/ ☑ PORD #(4): Silver Creek, tributary to South Fork American River (Camino Reservoir Dam): 50 cfs direct diversion

☑ POD/ ☑ PORD #(5): Brush Creek, tributary to South Fork American River (Brush Creek Reservoir Dam): 25 cfs

☐ POD/ ☑ PORD #(15): Slab Creek Reservoir, thence the White Rock Powerhouse Penstock

☐ POD/ ☑ PORD #(16): Folsom Reservoir

[1] Total diversion to storage in any year will be limited to 37,069 acre-feet between POD 1 and POD 2.

b. State Planar and Public Land Survey Coordinate Description

POD/ PORD #	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWNSHIP	RANGE	BASE AND MERIDIAN
# (1)	SE ¼ of SW ¼	1	11N	14E	MDB&M
# (2)	SW ¼ of SW ¼	20	12N	14E	MDB&M
# (3)	SW ¼ of SW ¼	30	12N	14E	MDB&M
# (4)	null ¼ of null ¼	4	11N	13E	MDB&M
# (5)	NW ¼ of SE ¼	10	11N	12E	MDB&M
# (15)	SE ¼ of SW ¼	29	11N	11E	MDB&M
# (16)	NW ¼ of NE ¼	10	10N	8E	MDB&M

6. WATER AVAILABILITY

Physical Availability

SMUD presently diverts, captures and stores more than 500,000 acre-feet per year from the American River for non-consumptive uses. SMUD is additionally presently seeking approval from the State Board to increase the authorized quantities set forth in its licenses and permit by as much as 123,900 acre-feet per year to conform with its actual practices and in anticipation of predicted future changes in runoff patterns. (See Applications 31595, 31596.) The UARP and the American River have been the subject of extensive monitoring and hydrologic modeling, all of which establish that the UARP controls vastly greater quantities of water than the El Dorado Parties now request for consumptive uses within El Dorado County. The El Dorado Parties will submit further water availability analyses as such information is developed in their environmental review of the project.

Fully Appropriated Stream Exception

The portion of the Upper American River from which the El Dorado Parties propose to divert water has been declared to be fully appropriated during a portion of the proposed diversion season. However, the State Board has determined that requests for assignment of existing state filings that implement Water Code section 10500 et seq., and which propose appropriation of water from stream systems identified by the State Board as being fully appropriated, should nonetheless be accepted for filing as they are consistent with the Declaration of Fully Appropriated Stream Systems. (In the Matter of the Declaration of Fully Appropriated Stream Systems in California (1998) Order WR 98-08, slip copy, at p. 19.)

As described in section 13., this application is based upon the priority of the State filings of which assignment is requested. In this regard, EDWPA requests the State Board to consider its prior orders imposing conditions on the American River water right permits of the City of Sacramento and the Bureau in State Board Decision 893 (see In the Matter of Applications 12140, et al. by the City of Sacramento and other applicants, to appropriate waters of the American River and its tributaries. (1958) D-893; *see also* In the Matter of Applications 11331, 11332, 11761, 11762, 11989 (1958) D-886) and Water Code sections 11128 and 11460.

Legal Availability

As described above, the El Dorado Parties petition the State Board to assign to them a portion of Application 5645, filed by the State pursuant to Water Code section 10500 et seq. This application has a priority date of 1927, prior in time to the rights of the City and the Bureau. (See In the Matter of Applications 12140, et al. by the City of Sacramento and other applicants, to appropriate waters of the American River and its tributaries. (1958) D-893; In the Matter of Application 26375 and 26373 to Appropriate

Water From The South Fork of the American River and Its Tributaries (1982) D-1587, slip copy, pp 43-45; Amending and Affirming Decision 1587 and Denying Petitions for Reconsideration (1983) WRO 83-1, slip copy, pp. 22-23 ["Persons planning water development projects have actual or constructive notice of state-held applications and must plan for the effect of such applications...The Bureau should have planned for a reduction in the water available to the Folsom Project for local needs inasmuch as Congress specifically instructed the Bureau to plan a project in accordance with state laws protecting local needs."]; In the matter of applications 29919, 29920, 29921, 29922 and petition for assignment of SFA 5645 of El Dorado Irrigation District and El Dorado County Water Agency to appropriate water from Silver Lake, Caples Lake, Lake Aloha, South Fork American River in Alpine, Amador and El Dorado Counties (1996) D-1635.)

Through Decision 893, the State Board imposed conditions subjecting the water right permits of the City of Sacramento and the Bureau to reduction by future appropriation of water for reasonable, beneficial use within the upstream watershed, which includes the El Dorado Parties' service areas and the Favorable Areas. (In the Matter of Application 26375 and 26373 to Appropriate Water From The South Fork of the American River and Its Tributaries, Amending and Affirming Decision 1587 and Denying Petitions for Reconsideration (1983) WRO 83-1, slip copy, p. 16 ["The operative effect of...the permit condition is to make [Bureau] Applications 13370 et seq. junior to all applications for the appropriation and use of water in the county or watershed in which the water originates"].) Decision 893 previously found sufficient water available for the applications permitted in those proceedings beyond the amount of water for which the El Dorado Parties now apply. Accordingly, water should be available for the requested diversions under the present application. (See, e.g., In the Matter of Eleven Petitions for Partial Assignment of Application 5348C and Proposed Completed Applications 5648C-1/11 (1982) State Board Decision D-1581.)

7. PLACE OF USE

The EID and GDPUD boundaries encompass approximately 137,000 and 75,000 acres, respectively. The water sought under this application and petition is intended to be put to use within the EID and GDPUD service area boundaries and the Favorable Areas. This Place of Use is delineated on the accompanying Place of Use Map.

9. JUSTIFICATION OF AMOUNTS REQUESTED[1]

Consistent with the planned urban and agricultural land uses identified in the General Plan, the Water Resources Development and Management Plan reallocates a portion of the additional consumptive water needs from outside the district boundaries (within the Favorable Areas) to EID and GDPUD, resulting in a total water need of 31,500 AFA by the year 2025. However, this planning level demand projection does not consider adjustments to 1999 (General Plan base year) growth projections to reflect actual conditions or demand from additional favorable areas identified since the Plan's completion. On this basis, for purposes of this application, the following adjustments have been made:

- Growth Projection Adjustment – As a result of General Plan legal challenges, development in the GDPUD area of the County has been curtailed since the General Plan growth projections were originally made in the 1999. Accordingly, to date, increases in water demands have not occurred as projected. It is estimated that the 2025 demand level will be approximately 2,100 AFA less than projected by the General Plan as a result of these recent growth constraints.

- Demand from Additional Favorable Areas – Favorable area mapping dates back to the General Plan base year of 1999. Adjustments have been made to either eliminate areas that have been determined to be impracticable to serve with public water or include additional areas based on actual annexations and new development agreements and/or proposals. As a result, the 2025 demand as been increase by approximately 500 AFA.

When these demand adjustments are made to the gross planning demand level of 31,500 AFA identified in the Plan, the demand level decreases to approximately 29,900 acre-feet in 2025. The Plan also identifies approximately 4,400 AFA of water conservation savings that may be possible to achieve by 2025, thereby potentially reducing 2025 demand by an additional 4,400 AFA to 25,500. At buildout, the demand level within the EID and GDPUD service areas (including the favorable areas) is projected to be approximately 87,000 AFA, less conservation, which is unquantified at this time. As described herein, the Cooperation Agreement limits the El Dorado Parties' diversion through and storage in the UARP facilities to 30,000 AFA through 2025 and 40,000 AFA thereafter.

[1] The amounts contained in this section include those applied for under EDWPA's request for assignment of portions of both Application 5644 and Application 5645.

a. IRRIGATION: Maximum area to be irrigated in any one year: 6,093 acres.

CROP	ACRES	METHOD OF IRRIGATION	WATER USE (Acre-feet/Yr.)	SEASON OF WATER USE	
				Beginning date	Ending date
Deciduous Orchard	2,337	Portable sprinklers	7,240	15 May	15 Sept
Vineyard, Christmas Tree, Olive/Citrus, Berries	3,757	Micro spray/drip	5,305	15 May	15 Sept
TOTAL	6,093		12,545		

e. MUNICIPAL:

POPULATION		MAXIMUM MONTH		ANNUAL USE		
Period	Population w/ latent	Average daily use (gallons/capita)	Rate of diversion (cfs)	Average daily use (gallons/capita)	Acre-foot (per capita)	Total w/ latent (AF)
Present (2006)	130,970	565	116.32	295	0.33	43,261
New supply only						
2011	2,958	458	2.13	239	0.27	793
2016	23,288	551	20.18	288	0.33	7,504
2021	44,086	561	38.94	293	0.33	14,482
2026	65,392	562	57.78	293	0.33	21,487
2031	88,241	564	78.28	295	0.33	29,112

Month of maximum use during year: July/August
Month of minimum use during year: February

Footnotes:

1. Total municipal demand includes latent demand to determine when new water rights are needed. Latent demand is a liability the purveyor is required to plan for and hold rights for. Actual diversions associated with latent demands will occur later than shown.
2. Population is based on 2004 General Plan projections, adjusted to include population associated with latent demand.
3. Month of Maximum use is projected to be July or August, each at approximately 16% of annual average use. (EID 2005 Water Diversion Report.) This application assumes use in GDPUD will be similar.
4. Municipal demand includes residential, commercial, industrial, losses and recreational turf irrigation such as parks, schools and golf courses.
5. Agricultural demand includes irrigation and losses and corresponds to the 2031 Municipal demand level.

10. DIVERSION AND DISTRIBUTION METHOD

The El Dorado Parties' appropriation of water is made possible and will occur through the UARP facilities. Pursuant to the Cooperation Agreement, the El Dorado Parties have the right to take water from the UARP facilities at the White Rock Penstock turnout, a valve located in the White Rock Penstock, and additionally to directly divert and take water released from storage below the UARP facilities, which the El Dorado Parties propose to take at the Folsom Reservoir.

The water appropriated under this application will be put to use for municipal and irrigation purposes in the EID and GDPUD service areas and the Favorable Areas. Water taken from the UARP facilities via the White Rock Penstock will be conveyed into EID's service area for treatment and distribution. EID currently withdraws water from Folsom Reservoir pursuant to a Water Service contract and a Warren Act contract with the Bureau. In order to take water from Folsom Reservoir, pursuant to the proposed appropriation, EID will increase its diversion capacity at Folsom Reservoir, likely through the construction of an additional pumping plant and pipeline from Folsom Reservoir to its El Dorado Hills water treatment plant.

GDPUD, in order to utilize in its service area water appropriated pursuant to this application, might subsequently complete a water exchange with the Placer County Water Agency (PCWA). Such an exchange would allow GDPUD to divert at the North Folsom Pumping Plant (also known as the "Auburn Pumps") along the North Fork American River, and in turn allow PCWA to take water at Folsom Reservoir. Such an exchange is not part of this application and depending upon its terms, might require further State Board approvals. GDPUD has a right to a portion of the capacity of PCWA's recently constructed North Folsom Pumping Plant, but will need to construct a pipeline for conveyance of water from the pumping plant to its intended service area.

d. Storage reservoirs:

RESERVOIR NAME OR NUMBER	DAM				RESERVOIR		
	Vertical height from downstream toe of slope to spillway level (ft)	Construction material	Length (feet)	Freeboard: dam height above spillway crest (feet)	Surface area when full (acres)	Capacity (acre-feet)	Maximum water depth (feet)
Ice House Reservoir	136	Rockfill	1650	17.5	678	43,417	140
Union Valley Reservoir	453	Earthfill	1,835	28	2,860	277,290	360

11. CONSERVATION AND MONITORING

a. As an extension of their commitment to steward the resources within the County, EID and GDPUD have adopted and implemented industry-leading water conservation practices to stretch the County's precious water supplies as far as possible. EID is a signatory to the California Urban Water Conservation Council's Memorandum of Understanding, outlining fourteen comprehensive conservation Best Management Practices, which all signatories pledge to implement. EID also has a United States Bureau of Reclamation required and approved Water Conservation Plan. Further, EID served approximately 3,000 AFA of tertiary-treated recycled water in 2005 generated at its wastewater treatment plants, in lieu of potable supplies.

12. RIGHT OF ACCESS

The El Dorado Parties have the right to interconnect their pipeline facilities with SMUD's existing takeout on the White Rock Penstock subject to an interconnection construction agreement with SMUD under Section 5.2.2.2 of the Cooperation Agreement. EID presently holds access rights allowing its transport of water from Folsom Reservoir to EID treatment and distribution facilities. Access rights for water transport facilities from the White Rock Penstock to EID treatment and distribution facilities will be secured either through negotiations with affected landowners or eminent domain proceedings. GDPUD has a right to a portion of the capacity of PCWA's recently constructed North Folsom Pumping Plant, and will be required to secure, through negotiations with affected landowners or eminent domain proceedings, those lands necessary to develop required conveyance, treatment and distribution facilities.

13. EXISTING WATER RIGHTS AND RELATED FILINGS

The State of California has taken steps to assure that the areas in which water originates will have an adequate supply for their reasonable, beneficial use when those areas' water needs require its use. This policy is evidenced by Water Code § 10500, et seq., which provides for the reservation of priority applications for future development and that the priority of state-filed applications may not be released, nor may such applications be assigned such that the county of origin is deprived of water covered by the application necessary for its development. The waters of the American River applied for under this application originate within El Dorado County, and the El Dorado Parties may assert these statutory protections to provide for future consumptive needs within the County.

REQUESTED PERMIT TERMS

The El Dorado Parties request that any State Board order or permit authorizing storage, conveyance, or diversion of water in, through, or from UARP facilities pursuant to water rights that the El Dorado Parties obtain under this petition and application contain the following conditions, to become effective only if the El Dorado Parties terminate the Cooperation Agreement, pursuant to Cooperation Agreement Section 17.3.3.

(a) The El Dorado Parties' right to take 30,000 AFA (40,000 AFA after 2025) from White Rock Penstock or Slab Creek Reservoir will continue to be in full force and effect.

(b) Any provision authorizing storage or any other diversion will continue in force or terminate as specified in (i) through (iii) following.

> (i) If the El Dorado Parties believe they presently have the legal right (by contract or otherwise) to use UARP facilities for purposes beyond those specified in (a), within 30 days of giving notice of termination, the El Dorado Parties will provide SMUD with a reasonably detailed statement of the basis for such legal right, and within 30 days thereafter SMUD and the El Dorado Parties will confer on the matter.
>
> (ii) If SMUD and the El Dorado Parties do not reach agreement within the 30-day period, the El Dorado Parties may file a declaratory relief action respecting their claimed rights in the Superior Court of a Neutral County.
>
> (iii) If the El Dorado Parties and SMUD reach agreement or the El Dorado Parties commence a declaratory relief action within 90 days of its termination notice, the State Board will modify the order or permit to conform to the

> agreement between the El Dorado Parties and SMUD or to any final judgment in the declaratory relief action; otherwise the provision will terminate. The termination of the provision, however, will be without prejudice to any right of the El Dorado Parties to obtain, and any right of SMUD to oppose, similar authorization as if the Agreement had never existed.

(c) Under the rights permitted based on the assignment of portions of Applications 5644 and 5645, prior to placing more than 30,000 acre-feet per year to beneficial use after 2025, the El Dorado Parties will file an approved General Plan and a statement with the Water Division demonstrating the need for up to 40,000 acre-feet per year.

(d) The State Board will reserve jurisdiction to consider a request by the El Dorado Parties to add additional points of diversion/rediversion at the following locations: (i) below the discharge point from the White Rock Powerhouse, and (ii) within the UARP if the El Dorado Parties have exercised their reopener rights under Section 13.4 of the El Dorado – SMUD Cooperation Agreement and the requisite negotiations with SMUD have resulted in an agreement to add one or more points of delivery within the UARP.

15. MAP REQUIREMENTS

The points of direct diversion, diversion to storage and point of rediversion are shown on the attached map. Additionally, the two points of take sought under this application are also shown.

17. STATE/FEDERAL PERMITS AND REQUIREMENTS

SMUD and the El Dorado Parties have agreed that SMUD will make all necessary applications to the Federal Energy Regulatory Commission to obtain its approval for the El Dorado Parties' utilization of the UARP facilities to withdraw and store water for consumptive use in a manner consistent with the Cooperation Agreement.

18. ENVIRONMENTAL DOCUMENT

The EDWPA is a California joint powers authority and plans to prepare an Environmental Impact Report (EIR), acting as Lead Agency pursuant to the requirements of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. The EIR will consider a range of reasonable alternatives to the project, a no project alternative, and potential impacts, mitigation measures, and monitoring requirements. The Draft and Final EIRs, along with the notice of determination, will be submitted to the State Board.

19. WASTE/WASTEWATER

Water put to municipal use pursuant to this application will result in the generation of wastewater. Within the EID service area, wastewater is treated at its Deer Creek and El Dorado Hills wastewater treatment plants. These plants fulfill all regulatory requirements for discharges, pursuant to permits from the Regional Water Quality Control Board, and treated effluent is discharged into the Cosumnes River Basin. In 2005, EID's El Dorado Hills wastewater treatment plant was named "Plant of the Year" by the Sacramento Section of the California Water Environment Association and EID was named "Collections System of the Year" for systems with 250 to 500 miles of collection lines. EID's wastewater treatment plants additionally generate 3,000 AFA (2005) of recycled water that is put to use for irrigation purposes each year.

Portions of EID's water service area do not receive wastewater treatment service from EID, but wastewater generated from these customers receives primary treatment in on-site septic tanks and is then disposed of pursuant to El Dorado County Regulations. Wastewater generated as a result of municipal use in GDPUD's service territory is similarly treated through customers' or community on-site septic systems.

Use of water under this application for irrigation purposes may result in agricultural runoff. This runoff is subject to and regulated under the Central Valley Regional Water Quality Control Board's regulation of irrigated lands, the vast majority of which is included in the Board's Irrigated Lands Conditional Waiver program.

21. ENVIRONMENTAL SETTING

El Dorado County is situated between Lake Tahoe and the Nevada border on the east and Folsom Reservoir and Sacramento County on the west. The County is predominantly situated on the western slope of the Sierra Nevada Mountains and is bounded by the Rubicon and Middle Fork American Rivers to the north. The South and Middle Fork American rivers as well as the Rubicon River drain much of the central and northern portions of the County into Folsom Reservoir. The southern portion of the County lies within the Cosumnes River watershed. At its eastern end, the County lies within the Lake Tahoe Basin and is drained by the Upper Truckee River, which is unconnected, hydrologically, with the American River watershed.

The American River watershed above Folsom Reservoir is very rugged, with rocky slopes, V-shaped canyons, and few flat valley or plateau areas. Elevations range from 10,400 feet msl at the headwaters to about 200 ft msl at Folsom Reservoir, with an average basin slope of approximately 80 feet per mile. The upper third of the basin has been intensely glaciated and is alpine in character, with bare peaks and ridges, considerable areas of granite pavement, and only scattered areas of timber. The middle third is dissected by profound forested canyons, which have reduced the inter-stream areas to narrow ribbons of relatively flat land. The lower third consists of low rolling mountains and Sierra Nevada foothills.

With the completion of Folsom Dam in 1955, as part of the U.S. Bureau of Reclamation's Central Valley Project (CVP), Folsom Reservoir, an impoundment capable of holding 975,000 acre-feet was formed. A regulating water body, Lake Natoma, was formed immediately downstream of Folsom Dam with the construction of Nimbus Dam. Below Nimbus Dam, the river passes through the urbanized Sacramento metropolitan area but is buffered by a riparian park, the American River Parkway, which extends 23 miles to the river's confluence with the Sacramento River. This portion of the American River is known as the Lower American River and is classified as a "recreation" river within both the State and federal Wild and Scenic River systems. While immediately downstream of Nimbus Dam, the river flows through a more incised channel with high bluffs, nearer the mouth, this topography flattens and the river is constrained by a series of adjacent levees and set-back levees.

Flows in this stretch of the river vary widely with season. Flows are controlled by releases from Folsom Dam under a variety of operational rules including D-893, modified D-1400, Folsom's flood control diagram, and voluntary releases made under the CVPIA Anadromous Fish Restoration Program by the Lower American River Operations Group. Flows can range anywhere from 500 cfs during dry periods to over 25,000 cfs during high runoff periods. The levees are designed to convey and hold flows up to 115,000 cfs.

The lower American River drains into the Sacramento River near downtown Sacramento where it then flows south into the Sacramento-San Joaquin River Delta.

A5645 x12

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

2008 OCT 29 AM 11:56
DIVISION OF WATER RIGHTS
SACRAMENTO

PETITION FOR CHANGE
(WATER CODE 1700)

X Point of Diversion, X Point of Rediversion, X Place of Use, X Purpose of Use
Application 5645 x 12 Permit _____ License _____ Statement or Other _____

I (we) hereby petition for change(s) noted above and shown on the accompanying map and described as follows: See Attachment

Point of Diversion or Rediversion (Give coordinate distances from section corner or other ties as allowed by CCR, tit. 23, section 715, and the 40-acre subdivision in which the present and proposed points of diversion lie.)
Present _____
Proposed _____

Place of Use (If irrigation, then state number of acres to be irrigated within each 40-acre tract.)
Present _____
Proposed _____

Purpose of Use
Present _____
Proposed _____
Does the proposed use serve to preserve or enhance wetlands habitat, fish and wildlife resources, or recreation in or on the water (See Water Code section 1707)? No (yes/no)

- GIVE REASON FOR PROPOSED CHANGE: to conform application to proposed use.
- WILL THE OLD POINT OF DIVERSION OR PLACE OF USE BE ABANDONED? Yes (yes/no)
- WATER WILL BE USED FOR Municipal & Irrigation PURPOSES.

I(we) have access to the proposed point of diversion or control the proposed place of use by virtue of ?Written Agreement (ownership, lease verbal or written agreement)

Are there any persons taking water from the stream between the old point of return flow and the new point of return flow? N/A (yes/no)

If by lease or agreement, state the name and address of party(s) from whom access has been obtained.

Sacramento Municipal Utility District

6201 S. Street, Sacramento, CA 95817

Give name and address of any person(s) taking water from the stream between the present point of diversion or rediversion and the proposed point of diversion or rediversion, as well as any other person(s) known to you who may be affected by the proposed change.

City of Sacramento

Sacramento Municipal Utility District

THIS CHANGE DOES NOT INVOLVE AN INCREASE IN THE AMOUNT OF THE APPROPRIATION OR SEASON OF USE.
I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief.

Dated October 23, 20 08 at Shingle Springs, California

William T. Hetland — Signature(s)
531-621-5392 — Telephone No.

NOTE: All petitions must be accompanied by the fee (see fee schedule at www.waterrights.ca.gov), made payable to the State Water Resources Control Board (State Water Board) and an $850 fee made payable to the Department of Fish and Game must accompany the petition. Separate petitions are required for each water right. Separate State Water Board fees are required if both a change and time extension petition are being filed.

Points of Diversion or Rediversion

Present: (8) Sec. 15, T 11 N, R 9 E, M.D.B.&M., 450 cfs direct diversion, 37,069 AFA to storage

Proposed Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

☑ POD/ ☐ PORD #(1): South Fork Silver Creek, tributary to Silver Creek, thence South Fork American River (Ice House Reservoir Dam): 75 cfs direct diversion; 10,000 AFA to storage[1]

☑ POD/ ☑ PORD #(2) Silver Creek, tributary to South Fork American River (Union Valley Reservoir Dam): 200 cfs direct diversion; 30,000 AFA to storage[1]

☑ POD/ ☑ PORD #(3): Silver Creek, tributary to South Fork American River (Junction Reservoir Dam): 100 cfs direct diversion

☑ POD/ ☑ PORD #(4): Silver Creek, tributary to South Fork American River (Camino Reservoir Dam): 50 cfs direct diversion

☑ POD/ ☑ PORD #(5): Brush Creek, tributary to South Fork American River (Brush Creek Reservoir Dam): 25 cfs

☐ POD/ ☑ PORD #(15): Slab Creek Reservoir, thence the White Rock Powerhouse Penstock

☐ POD/ ☑ PORD #(16): Folsom Reservoir

State Planar and Public Land Survey Coordinate Description:

POD/ PORD #	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWNSHIP	RANGE	BASE AND MERIDIAN
# (1)	SE ¼ of SW ¼	1	11N	14E	MDB&M
# (2)	SW ¼ of SW ¼	20	12N	14E	MDB&M
# (3)	SW ¼ of SW ¼	30	12N	14E	MDB&M
# (4)	null ¼ of null ¼	4	11N	13E	MDB&M
# (5)	NW ¼ of SE ¼	10	11N	12E	MDB&M
# (15)	SE ¼ of SW ¼	29	11N	11E	MDB&M
# (16)	NW ¼ of NE ¼	10	10N	8E	MDB&M

[1] Total diversion to storage in any year will be limited to 37,069 acre-feet between POD 1 and POD 2.

Place of Use

Present: 210,000 acres in Townships 8 to 11 North inclusive, Ranges 8 to 13 East inclusive M.D.B.&M.

Proposed: The water sought under this application and petition is intended to be put to use within the service area boundaries of the El Dorado Irrigation District (EID) and the Georgetown Divide Public Utility District (GDPUD) certain areas in close proximity to the EID and GDPUD boundaries, where facilities exist or where the planned land use allows for higher density, development may eventually be provided water service (known as the "Favorable Areas"). The EID and GDPUD boundaries presently encompass approximately 137,000 and 75,000 acres, respectively. This Proposed Place of Use is delineated on the accompanying Place of Use Map.

Purpose of Use

Present: Irrigation and Domestic

Proposed: Municipal and Irrigation

Appendix E

2019 Change in Ownership Applications 5644X02 and 5645X12

DOWNEYBRAND

David R.E. Aladjem
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Sacramento, CA 95814
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February 8, 2019

VIA ELECTRONIC MAIL
amanda.montgomery@waterboards.ca.gov
Lily.Weaver@Waterboards.ca.gov
changerequest@waterboards.ca.gov

Amanda Montgomery
State Water Resources Control Board
Division of Water Rights
1001 "I" Street
Sacramento, California 95814

Re: Change in Ownership – Application Nos. 5645X12 and 5644X02
American River Stream System, El Dorado County

Dear Ms. Montgomery:

Downey Brand LLP has served as water rights counsel for the El Dorado Water & Power Authority (EDWPA) since 2011. EDWPA is a joint powers agency that has had as its members the County of El Dorado, El Dorado Irrigation District and El Dorado County Water Agency. EDWPA has on file with the State Water Resources Control Board (State Water Board) two applications for the assignment of a total of up to 40,000 acre-feet/year from "state-filings" on the American River system for the benefit of water users within El Dorado County. Specifically, EDWPA is the applicant for the assignment of Application Nos. 5645X12 and 5644X02 to appropriate water from the American River Stream System in El Dorado County.

Recently, the County of El Dorado and El Dorado County Water Agency provided notice that they were withdrawing from EDWPA. The effective date of the latter of the two agencies' withdrawals is today. Accordingly, as of the close of business today, EDWPA will cease to exist. Under the terms of the EDWPA Joint Powers Agreement and a related agreement with the Sacramento Municipal Utility District (SMUD), all of the member agencies of EDWPA and SMUD have agreed that El Dorado County Water Agency is the successor to EDWPA in the event of the dissolution of EDWPA. Accordingly, we are requesting that the aforementioned applications be assigned to the El Dorado County Water Agency.

Enclosed for use by the State Water Board is a completed "Change of Ownership" form that will allow the State Water Board to track this change of ownership of the aforementioned applications. I have consulted with Lilly Weaver from the Office of Chief Counsel and she concurs with this procedure as the appropriate means for the transfer of ownership of these applications.

Please feel free to contact me if you have any questions.

Very truly yours,

DOWNEY BRAND LLP

David R.E. Aladjem

Enclosure: Change of Ownership form

cc: Lilly Weaver, Office of Chief Counsel
Kenneth Payne, General Manager, El Dorado County Water Agency
Fred Schaefer, General Counsel, El Dorado County Water Agency

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
CHANGE OF OWNERSHIP FORM

This form should be used to notify the State Water Board of current owner or responsible party contact updates as well as changes to the owner/diverter or responsible party for all water rights.

SUBMIT FORM BY EMAIL, POSTAL MAIL, OR FAX

Phone: (916) 341-5300 Fax: (916) 341-5400
P.O. Box 2000, Sacramento, CA 95812
changerequest@waterboards.ca.gov

1. Water Right ID(s) associated with this change in ownership:

Applications Nos. 5645X12 and 5644X02

2. New Owner Information

Primary Owner Name
El Dorado County Water Agency

Address, City, State, Zip
4330 Golden Center Drive, Suite C, Placerville, CA 95667

Phone Number	Email (if available)
530-621-5392	ken.payne@edcgov.us

Do you want the primary owner to receive all mail for this water right? ☑ Yes ☐ No

3. Agent Information
Complete this section if you checked "No" above and would like to designate an agent to receive mail for this water right.

Agent Name (if applicable)
David R.E. Aladjem, Downey Brand, LLP

Address, City, State, Zip
621 Capitol Mall, 18th Floor, Sacramento, CA 95814

Phone Number	Email (if available)
916-444-1000	daladjem@downeybrand.com

4. Co-owners
Complete this section if there are other owners whose property falls within the place of use for this water right. You may list additional co-owners in the comments box, if needed.

Co-owner 1 (if applicable)	Address, City, State, Zip
Co-owner 2 (if applicable)	Address, City, State, Zip
Co-owner 3 (if applicable)	Address, City, State, Zip

5. Comments or other instructions regarding this change:

See accompanying letter

6. Contact Information of person submitting request

To assist us in completing your request, please state your relationship to the water right(s):

- ☐ I am the previous owner assigning my rights for a property I no longer own
- ☐ I am the new owner of a property where the place of use for a water right exists
- ☐ I am an agent or real estate professional assisting in the transfer of these water rights
- ☑ Other (please explain): Other

Please provide us with your name and contact information in case we have questions:

Name: David R.E. Aladjem Company (if applicable): Downey Brand, LLP

Email: daladjem@downeybrand.com Phone: 916-444-1000

Signature: [signature] Date: February 8, 2019

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Appendix F
Climate Change

APPENDIX F
Climate Change

F.1 Introduction

This appendix presents the results of simulated changes to surface water resources associated with projected climate change and the El Dorado Water Reliability Project (Proposed Project), which involves the exercise of 40,000 acre-feet (af) of surface water rights on the upper American River. Modeling scenarios were developed as part of a sensitivity analysis to evaluate a range of assumptions about future water demand and how climate change might affect surface water hydrology. These scenarios consider future (2040) climate change conditions and integrate assumptions for both demand and hydrology in the lower American River and the Central Valley Project/State Water Project (CVP/SWP) service areas. This set of simulations is referred to in this appendix as the "Climate Change Conditions."

Development and analysis of these modeling scenarios is beyond what is required by the California Environmental Quality Act (CEQA), but the results from this additional modeling are presented herein for informational purposes. Thus, the results presented in this appendix are not used as the basis for the CEQA impact analysis. Further, the presentation of results is limited to changes in surface water hydrology parameters only.

F.2 Climate Change Effects in the Study Area

A variety of climate change effects are expected to influence the region, including alterations in temperature, precipitation, hydrology, and sea level rise. This section summarizes key findings from the American River Basin Study (Reclamation 2022).

F.2.1 Projected Temperature and Precipitation Changes

Projections indicate that surface air temperatures in the upper American River watershed are expected to increase steadily, with summer temperatures rising by approximately 7.2 degrees Fahrenheit (°F) by the end of the century. Winter temperatures are projected to increase by 4.9°F. These increases in temperature will have effects on snowpack levels, which traditionally serve as a natural reservoir (Reclamation 2022).

Although annual precipitation trends remain uncertain, seasonal variability is projected to increase. Winter months will likely see more rain and less snow, while spring and fall precipitation may decline. These changes complicate water management strategies, as increased

winter runoff may increase flood risks, while earlier and reduced spring runoff will limit water availability during critical summer months (Reclamation 2022).

F.2.2 Effects on Snowpack and Runoff Timing

The primary effect of rising temperatures will be the reduction in snowpack, which traditionally stores water until it is released as runoff during the spring and early summer. By mid-century, peak runoff in the upper American River is expected to shift from May–June to February–March. This shift will strain water management practices, requiring adjustments in reservoir operations to capture winter runoff for use in drier months (Reclamation 2022). The relatively small storage capacity of Folsom Reservoir, which regulates much of the upper American River's flow, will exacerbate these challenges, particularly as increased winter flows raise flood risks (Reclamation 2022).

F.2.3 Water Supply and Demand Imbalances

The American River Basin Study (Reclamation 2022) forecasts that by 2070, the upper American River region is expected to face substantial water supply/demand imbalances as a result of climate change, with projected shortfalls varying across different climate scenarios. These imbalances are driven by increasing water demand from population growth and agricultural development, compounded by diminishing surface water supplies as snowpack declines and runoff shifts earlier in the year.

The upper American River region, which lacks substantial groundwater reserves, is particularly vulnerable to these changes. Under a Central Tendency scenario, the region could experience a deficit of approximately 103,000 acre-feet per year (afy), while in more extreme conditions, such as the Hot-Dry scenario, the imbalance could reach up to 117,000 afy. Even under a Warm-Wet scenario, the upper American River region is projected to face a 76,000 afy shortfall, with only about 50 percent of water demands being met (Reclamation 2022).

These imbalances are also consistent with the estimates developed by the 2019 Water Resources Development and Management Plan for the western foothill region of El Dorado County (West Slope) (EDWA 2020).

F.2.4 Sea Level Rise Considerations

Although the Proposed Project focuses on the upper American River, it is important to consider the broader hydrological systems that connect the region to the Sacramento–San Joaquin Delta (Delta). Rising sea levels are expected to exacerbate challenges associated with salinity intrusion, hydrodynamic changes, and flood management in the Delta. This could influence water management strategies, as increased demand for freshwater flows from upstream sources may be necessary to mitigate the effects of rising sea levels on water quality (Reclamation 2022).

Sea levels along the California coast are projected to rise by as much as 3.11 meters by 2100 under extreme scenarios. This change will push salt water farther inland, affecting the Delta's

freshwater supply and potentially increasing the demand for fresh water from the American River. As a result, water management in the American River, including Folsom Reservoir operations, could be affected by the need to balance the freshwater flows required to prevent salinity intrusion with local water needs (Reclamation 2022).

F.3 Approach to Analysis

The hydrological effects of climate change—diminished snowpack, earlier snowmelt, and reduced late-season runoff—are the most relevant effects of climate change in the context of the Proposed Project. These changes will influence water availability, timing, and the operational management of water resources within the upper American River. Moreover, because snowpack acts as a natural reservoir, its reduction will lower water storage capacities and necessitate more complex management of reservoirs in the American River watershed.

Although sea level rise is less directly related to the Upper American River Project (UARP), it could have downstream implications, particularly for the Delta. Rising sea levels are expected to exacerbate salinity intrusion and alter hydrodynamic patterns in the Delta, potentially increasing the demand for fresh water from upstream sources such as the American River and Folsom Reservoir. It will be important to understand the effects of this added demand for surface water along with the Proposed Project.

The analysis of hydrological changes and sea level rise in this assessment follows approaches and methodologies similar to those outlined in the Delta Conveyance Project Draft Environmental Impact Report (EIR). Appendix 5A of the Delta Conveyance Project Draft EIR provides detailed modeling of hydrology and systems operations, offering insights into how climate change could affect water systems throughout the region. This dataset, along with its updated CalSim 3 model, represented the best data available at the time the technical analysis was conducted (Appendix G, *Modeling Technical Appendix*).

This appendix presents two primary modeling scenarios:

- **Climate Change Conditions Baseline:** Simulates future conditions with projected future water demand (future demand in the upper American River, and 2040 demand in the lower American River and CVP/SWP service areas) and hydrology influenced by climate change. This baseline helps evaluate the long-term effects of shifts in precipitation patterns, increased temperatures, and altered water availability, providing context for climate resilience planning.
- **Climate Change Conditions with Project:** Reflects anticipated conditions with the Proposed Project under climate change conditions. This scenario helps to assess how securing additional water rights may support regional water needs in the face of shifting hydrologic conditions driven by climate change.

The Climate Change Conditions Baseline is compared to the existing-conditions baseline to assess changes in water resources conditions attributable to climate change. Subsequently, the Climate Change Conditions with Project scenario is analyzed relative to the Climate Change Conditions Baseline, isolating the incremental effects attributable to the Proposed Project.

The analytical tools used in this appendix are the same as introduced in Section 4.1, *Approach to the Analysis,* and detailed in Appendix G, *Modeling Technical Appendix*. Specifically, two modeling tools were used to evaluate potential changes to surface water resources, primarily with regard to instream flows and to reservoir storage volumes, while a third model, HEC-5Q, was used to assess temperature changes on the lower American River. The American River Integrated Operations Model (ARIOps) was used to assess Proposed Project effects on surface water resources within the Project Area and the CalSim 3 model was used to assess effects on surface water resources in the Study Area. Modeling and assessment of model results followed the same approach as described in Section 4.2, *Summary of Surface Hydrology Results*. This approach is summarized below. More detailed information and complete model simulation results are provided in Appendix G, *Modeling Technical Appendix.*

Potential changes to surface water resources for each set of model scenarios were evaluated by comparing surface water conditions occurring under a baseline model scenario to those occurring under a With-Project model scenario. For example, for the Climate Change Conditions the comparison was between a Climate Change Conditions baseline scenario and a Climate Change Conditions With-Project scenario. All comparisons are quantified as the difference between the With-Project scenario results minus the baseline scenario results. Negative values shown for the With-Project scenario represent a decrease in modeled parameters (e.g., flow, storage) compared to the baseline. Both the magnitude of these differences and the percentage these differences represent relative to the baseline are presented. For each set of comparisons, results are generally presented as long-term annual or long-term monthly averages over the entire simulation period of 1922–2015. Results are also presented as long-term averages by water year type.

The water year types for the ARIOps modeling of the upper American River are based on Sacramento Municipal Utility District's (SMUD's) UARP water year type classification, which are defined in SMUD's UARP Federal Energy Regulatory Commission (FERC) license and are based on historical or simulated water year total unimpaired inflow to Folsom Reservoir. For CalSim 3 and HEC5Q, the water year type is dynamically calculated based on simulated runoff and forecasts of future inflows using the Sacramento Valley 40-30-30 hydrologic classification as defined in State Water Resources Control Board (State Water Board) Water Right Decision 1641 (D-1641) (State Water Board 2000). A summary of relevant model locations and parameters for assessing potential changes to surface water resources are listed in Table 4.2-2, Table 4.2-3, and Table 4.2-4.

F.4 Comparison of the Existing-Conditions Baseline to the Climate Change Conditions Baseline

The climate change hydrology input into the models results in baseline condition model outputs that differ from the existing-conditions baseline (see Chapter 4, *Effects of Proposed Water Diversions*, for a discussion of this scenario). These changes propagate into the Climate Change Conditions With-Project scenario, meaning results from this simulation can, at times, differ substantially from results from the existing-conditions baseline scenario. To characterize the

effect solely due to different input hydrology, comparison was made between the existing-conditions baseline and Climate Change conditions baseline model scenarios. Results of this comparison for ARIOps, CalSim 3, and HEC5Q simulations are provided below. For consistency, the presentation and comparison approach mimics results presented in Section 4.2, *Summary of Surface Hydrology Results*. See Appendix G, *Modeling Technical Appendix*, for more complete modeling details and results.

F.4.1 Upper American River Basin Water Operations (ARIOps)

Changes in simulated, long-term average monthly flows, end-of-month reservoir storage, end-of-month reservoir elevations, and average monthly hydropower generation for relevant locations in the upper American River Basin are summarized in **Table F-1**. The table depicts both long-term average magnitudes from simulation scenarios and summary statistics (minimum, maximum, and arithmetic mean) of percent and magnitude changes between the existing-conditions baseline and Climate Change conditions baseline calculated from long-term monthly averaged model output values.[1] Metrics are presented for all water year types and also for just Dry and Critically Dry water year types, when water supplies are often most limited.

Upper American and Cosumnes River Basin Flows

Changes in simulated, long-term average flows for relevant locations on the South Fork American River below Chili Bar Dam and Silver Creek at the mouth are summarized in Table F-1 and **Figure F-1**. Overall, long-term averaged monthly river flows for the Climate Change Conditions baseline scenario show noticeable reductions compared to the existing-conditions baseline, particularly during dry and critical water years. Flow changes vary by location, water year type, and month, making it challenging to generalize across all conditions. However, variability in flow changes is observed, with larger shifts in certain months and water year combinations (see Appendix G, *Modeling Technical Appendix* for detailed analysis).

The largest simulated percentage and magnitude changes in monthly averaged flow under the Climate Change Conditions baseline occurred on the South Fork American River below Chili Bar Dam and Total Inflow to Folsom Reservoir (Table F-1). On average, simulated monthly flows at the South Fork American River below Chili Bar Dam were 6 percent less than those under the existing-conditions baseline, reflecting an overall reduction in water availability due to earlier snowmelt and reduced snowpack in the watershed. The maximum decrease in average monthly flows relative to the existing-conditions baseline was 59.4 percent, with a corresponding magnitude reduction of 2,202 cubic feet per second (cfs). The largest flow reductions occurred from July through December, during which the system experiences greater variability and reduced inflows.

[1] Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum magnitude-change values and the minimum and maximum percent-change values do not necessarily correspond to changes occurring in the same month and water year type.

TABLE F-1
SUMMARY OF ARIOPS-SIMULATED MONTHLY LONG-TERM AVERAGE SURFACE HYDROLOGY PARAMETERS UNDER THE EXISTING-CONDITIONS BASELINE AND THE CLIMATE CHANGE CONDITIONS BASELINE

Location and Compared Modeling Scenarios	Long-term Average All Years (Magnitude)[a]	Long-term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-term Average Monthly Changes between Baseline Conditions for All Years (Percent [magnitude])[b]			Comparison of Long-term Average Monthly Changes between Baseline Conditions for Critical/ Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Union Valley Reservoir (af)								
Existing-Conditions Baseline	205,954	192,008	-	-	-	-	-	-
Climate Change Conditions Baseline	205,192	185,907	-14.4% (-25484)	18.8% (36369)	-0.3% (-762)	-14.4% (-25484)	11.5% (22075)	-3.3% (-6102)
Ice House Reservoir (af)								
Existing-Conditions Baseline	30,755	30,113	-	-	-	-	-	-
Climate Change Conditions Baseline	31,069	29,199	-13.1% (-4366)	45.4% (11702)	2% (315)	-13.1% (-4366)	13.5% (3599)	-2.6% (-915)
Loon Lake (af)								
Existing-Conditions Baseline	46,433	46,816	-	-	-	-	-	-
Climate Change Conditions Baseline	47,316	46,257	-13.3% (-8380)	109.4% (28077)	4.6% (883)	-13.3% (-8380)	31.9% (13411)	-0.2% (-559)
Jenkinson Lake (af)								
Existing-Conditions Baseline	31,310	26,761	-	-	-	-	-	-
Climate Change Conditions Baseline	29,919	24,844	-12.3% (-3546)	5.7% (1549)	-4.6% (-1391)	-12.3% (-3546)	-0.7% (-170)	-6.9% (-1916)
Stumpy Meadows Reservoir (af)								
Existing-Conditions Baseline	18,239	16,644	-	-	-	-	-	-
Climate Change Conditions Baseline	17,730	15,768	-10% (-1266)	8% (1378)	-3% (-509)	-10% (-1266)	2% (305)	-5.4% (-876)
Caples Lake (af)								
Existing-Conditions Baseline	16,478	15,385	-	-	-	-	-	-
Climate Change Conditions Baseline	16,116	14,609	-20% (-4064)	29.5% (5994)	-1.8% (-363)	-16.2% (-3296)	10% (2033)	-3.8% (-776)
Silver Lake (af)								
Existing-Conditions Baseline	4,118	3,759	-	-	-	-	-	-
Climate Change Conditions Baseline	4,041	3,570	-30.8% (-2664)	38.9% (3357)	-0.9% (-77)	-15.9% (-1374)	21.5% (1860)	-2.2% (-189)

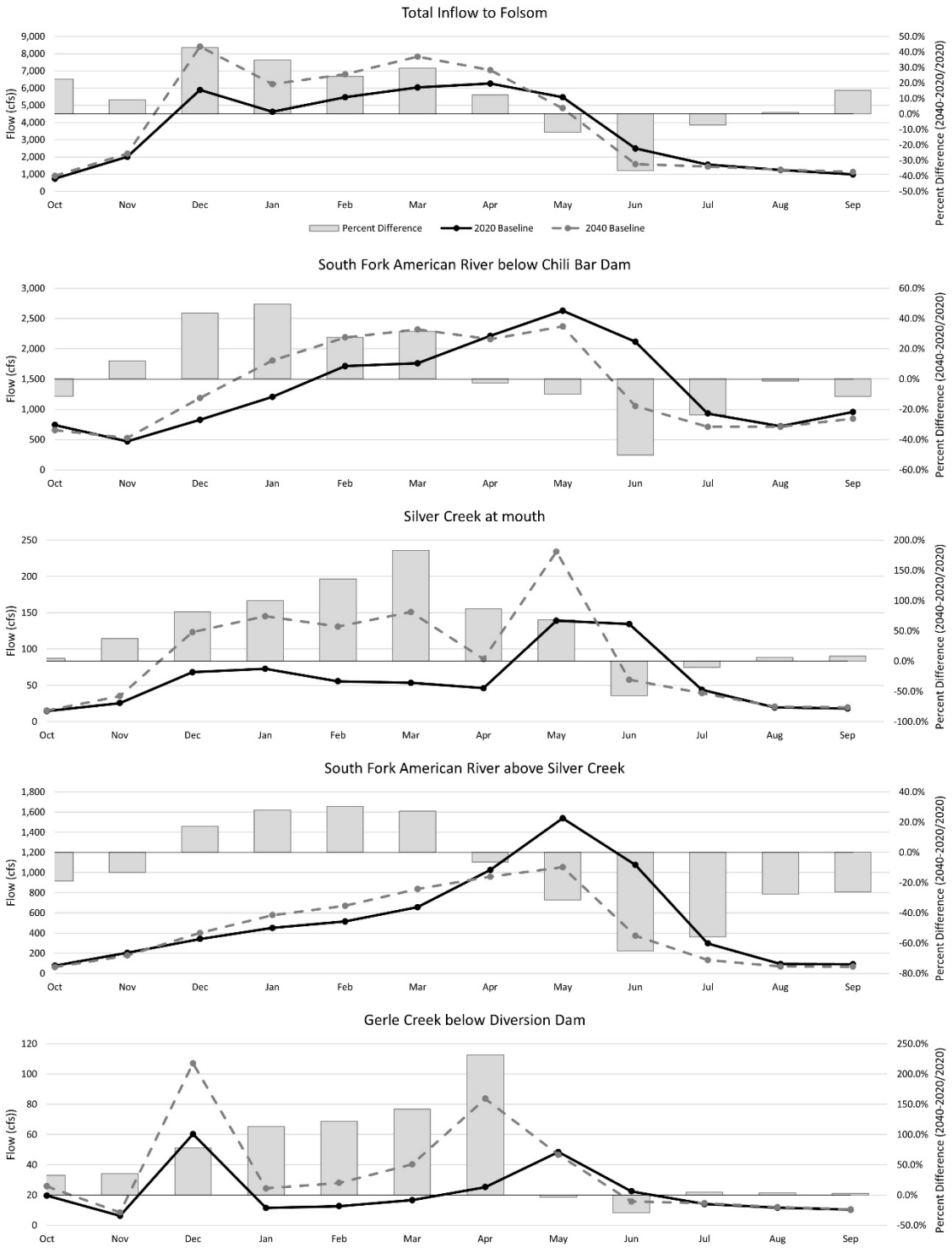
Location and Compared Modeling Scenarios	Long-term Average All Years (Magnitude)[a]	Long-term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-term Average Monthly Changes between Baseline Conditions for All Years (Percent [magnitude])[b]			Comparison of Long-term Average Monthly Changes between Baseline Conditions for Critical/ Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Aloha Lake (af)								
Existing-Conditions Baseline	1,202	925	-	-	-	-	-	-
Climate Change Conditions Baseline	1,092	856	-74.6% (-3779)	51.2% (2590)	-2.2% (-110)	-23.4% (-1186)	21.7% (1098)	-1.3% (-68)
Echo Lake (af)								
Existing-Conditions Baseline	474	468	-	-	-	-	-	-
Climate Change Conditions Baseline	633	499	-20% (-399)	75.4% (1508)	8% (159)	-20% (-399)	56.4% (1128)	1.6% (31)
Union Valley Reservoir (ft)								
Existing-Conditions Baseline	4,847	4,841	-	-	-	-	-	-
Climate Change Conditions Baseline	4,846	4,838	-0.2% (-11.9)	0.3% (14.5)	0% (-0.4)	-0.2% (-11.9)	0.2% (9.2)	-0.1% (-2.8)
Jenkinson Lake (ft)								
Existing-Conditions Baseline	3,454	3,446	-	-	-	-	-	-
Climate Change Conditions Baseline	3,451	3,442	-0.2% (-6.6)	0.1% (2.5)	-0.1% (-2.6)	-0.2% (-6.6)	0% (-0.3)	-0.1% (-3.7)
Stumpy Meadows Reservoir (ft)								
Existing-Conditions Baseline	4,253	4,248	-	-	-	-	-	-
Climate Change Conditions Baseline	4,251	4,245	-0.1% (-5)	0.1% (3.9)	0% (-1.7)	-0.1% (-5)	0% (1.3)	-0.1% (-2.9)
Caples Lake (ft)								
Existing-Conditions Baseline	7,947	7,945	-	-	-	-	-	-
Climate Change Conditions Baseline	7,946	7,944	-0.1% (-6.4)	0.1% (9.5)	0% (-0.7)	-0.1% (-5.9)	0% (2)	0% (-1.6)
Silver Lake (ft)								
Existing-Conditions Baseline	7,196	7,195	-	-	-	-	-	-
Climate Change Conditions Baseline	7,196	7,195	-0.1% (-5.9)	0.1% (6.3)	0% (0)	0% (-3)	0.1% (4.6)	0% (-0.4)
Aloha Lake (ft)								
Existing-Conditions Baseline	8,200	8,199	-	-	-	-	-	-
Climate Change Conditions Baseline	8,200	8,199	-0.1% (-9.7)	0.1% (7)	0% (-0.3)	0% (-2.9)	0% (2.8)	0% (-0.2)

Location and Compared Modeling Scenarios	Long-term Average All Years (Magnitude)[a]	Long-term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-term Average Monthly Changes between Baseline Conditions for All Years (Percent [magnitude])[b]			Comparison of Long-term Average Monthly Changes between Baseline Conditions for Critical/ Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Echo Lake (ft)								
Existing-Conditions Baseline	7,407	7,407	-	-	-	-	-	-
Climate Change Conditions Baseline	7,407	7,407	0% (-1.2)	0.1% (4.2)	0% (0.5)	0% (-1.2)	0% (3)	0% (0.1)
Total Inflow to Folsom (cfs)								
Existing-Conditions Baseline	3,861	1,634	-	-	-	-	-	-
Climate Change Conditions Baseline	3,340	1,425	-63.1% (-7065)	70.7% (1508)	-8.6% (-522)	-35.9% (-1164)	12.1% (159)	-10.6% (-209)
South Fork American River below Chili Bar Dam (cfs)								
Existing-Conditions Baseline	1,259	615	-	-	-	-	-	-
Climate Change Conditions Baseline	1,145	549	-59.4% (-2202)	47.4% (1083)	-6% (-114)	-29% (-397)	19% (171)	-8.5% (-66)
Silver Creek at Mouth (cfs)								
Existing-Conditions Baseline	56	21	-	-	-	-	-	-
Climate Change Conditions Baseline	65	20	-76.8% (-241)	197.6% (207)	11.6% (9)	-41.1% (-6)	20.6% (4)	-2.6% (0)
Gerle Creek below Diversion Dam (cfs)								
Existing-Conditions Baseline	36	12	-	-	-	-	-	-
Climate Change Conditions Baseline	29	11	-91.2% (-185)	87.9% (14)	-8.1% (-7)	-55.2% (-9)	10.1% (2)	-9.2% (-1)
South Fork American River above Silver Creek (cfs)								
Existing-Conditions Baseline	491	209	-	-	-	-	-	-
Climate Change Conditions Baseline	366	151	-74.2% (-1373)	59.6% (232)	-21.1% (-125)	-62.3% (-392)	16.4% (55)	-22.8% (-58)

NOTES: af = acre-feet; ARIOps = American River Integrated Operations model; cfs = cubic feet per second; ft = feet (surface water elevation)

See Appendix G, *Modeling Technical Appendix*, for complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type. For El Dorado Irrigation District Project 184 reservoirs, percent change calculated as a percentage of developed storage capacity. For these facilities, developed storage capacity is used instead of total storage capacity because the developed storage capacity (i.e., the volume available for water supply) of these reservoirs can be drawn down to zero unlike other reservoirs.



Key: cfs = cubic feet per second
Note: 2020 and 2040 Baselines refer to the existing-conditions baseline and Climate Change Conditions baseline, respectively.

Figure F-1 Comparison of Monthly Average ARIOps-Simulated River Flows under the Existing-Conditions Baseline and the Climate Change Conditions Baseline

At the "Silver Creek at Mouth" location, flow changes were slightly less dramatic. The long-term average monthly flow increased by 11.6 percent under climate change conditions, though variability persisted, with monthly changes ranging from a reduction of 76.8 percent to an increase of 197.6 percent (207 cfs).

These shifts indicate greater unpredictability in flow patterns under climate change, with some months experiencing considerably reduced flows, while others see increased runoff during wetter periods. During dry and critical years, the flow at Silver Creek is expected to decrease slightly, averaging -2.6 percent, with variations between -41.1 percent and +20.6 percent.

Gerle Creek below Diversion Dam is expected to see overall reductions in flow under the Climate Change Conditions baseline, particularly during dry and critical years. The average reduction in flow across all years is 8.1 percent, with more severe reductions of up to 91.2 percent during specific months. The variability in flows, particularly the significant reductions during late summer and fall, highlights the need for adaptive management strategies to mitigate the effects of climate change on water availability in Gerle Creek and its contribution to the broader American River system. These results underscore the challenges of maintaining consistent streamflows under future climate conditions, especially in snowpack-dependent regions like the Sierra Nevada.

For both the South Fork American River below Chili Bar Dam and Silver Creek at the mouth, ARIOps was able to meet minimum instream flow requirements and recreational flow requirements in the Climate Change Conditions baseline. However, there is increased variability in flows, and the system is more likely to reduce flows to the minimum thresholds during dry periods. These results underscore the challenges that future climate conditions will pose to water management, particularly during the drier months when demands on water resources are highest, and inflows are reduced.

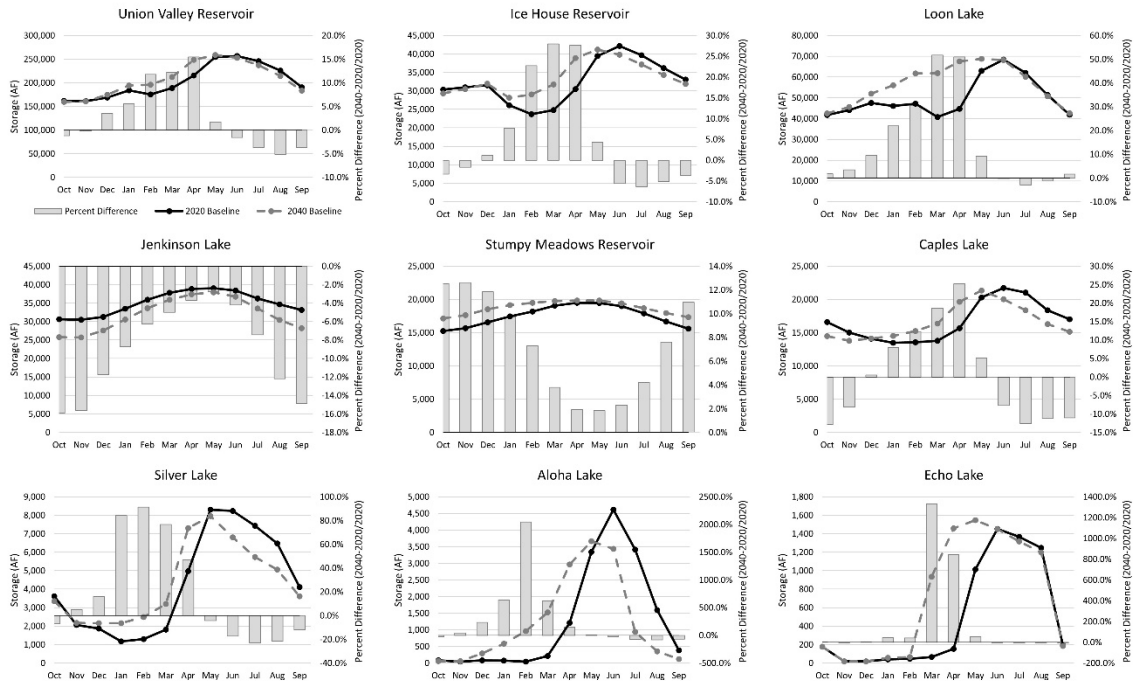
The results suggest that while the system remains capable of meeting regulatory flow requirements, the frequency at which flows approach the minimum thresholds will increase under climate change conditions. This indicates a growing strain on the system's ability to consistently provide higher flow rates during dry months and highlights the need for adaptive management strategies to cope with the increased variability in water availability.

Upper American River, SMUD Reservoirs

The overall trends of changes in Union Valley Reservoir, Ice House Reservoir, and Loon Lake under the Climate Change conditions baseline compared to the existing-conditions baseline reveal a pattern of increased variability in reservoir storage and fluctuating water levels (**Figure F-2**). While the magnitude and direction of changes differ across these locations, the general trend is toward more pronounced changes during certain months, with reduced storage during dry and critical water years, and increased variability during wetter periods.

Under all water year types, Union Valley Reservoir is projected to experience a slight reduction in long-term average storage, with a -0.3 percent decrease (762 af) under climate change conditions compared to existing conditions. However, the data indicates substantial monthly

variability, with changes ranging from a reduction of -14.4 percent (-25,484 af) to an increase of 18.8 percent (36,369 af). This variability underscores the increased volatility in reservoir inflows expected under climate change. During dry and critical years, the reduction is more pronounced, with a -3.3 percent decrease (-6,102 af), highlighting the reservoir's sensitivity to reduced inflows during drought periods.



Key: af = acre-foot
Note: 2020 and 2040 Baselines refer to the existing-conditions baseline and Climate Change Conditions baseline, respectively.

Figure F-2 Comparison of Monthly Average ARIOps-Simulated Reservoir Storage under the Existing-Conditions Baseline and the Climate Change Conditions Baseline

For Ice House Reservoir, the Climate Change Conditions baseline shows an overall slight improvement in long-term average storage across all water year types, with a 2 percent increase (315 af). However, the variability remains, with changes ranging from a -13.1 percent decrease (-4,366 af) to a 45.4 percent increase (11,702 af). During dry and critical years, the reservoir shows a more negative trend, with an average decrease of -2.6 percent (-915 af), indicating that during low-water years, Ice House Reservoir will struggle to maintain optimal storage levels.

Loon Lake exhibits a somewhat positive outlook in the Climate Change Conditions baseline, with a 4.6 percent increase (883 af) in long-term average storage under all water years, driven by a maximum increase of 109.4 percent (28,077 af) during certain months. However, during dry and critical years, the overall change is minimal, with a -0.2 percent decrease (-559 af), indicating that while Loon Lake may experience some monthly fluctuations, its overall storage capacity remains relatively stable in critical years.

El Dorado Irrigation District's Project 184 Facilities

The overall trends for Caples Lake, Silver Lake, Aloha Lake, and Echo Lake under the Climate Change Conditions baseline relative to the existing-conditions baseline show variability in water storage, with monthly fluctuations becoming more pronounced compared to the existing-conditions baseline (Figure F-2). These fluctuations highlight the sensitivity of these lakes to changes in precipitation patterns, snowpack levels, and runoff timing due to climate change. While some months may experience increases in water storage, the overall trend leans toward reduced storage during dry and critical water years, which poses challenges for maintaining consistent water availability. Each lake exhibits unique behaviors under these scenarios, reflecting their distinct hydrological settings and characteristics.

For Caples Lake, the overall long-term average storage decreases by 1.8 percent, with the most reductions occurring during dry and critical years, where storage levels fall by 3.8 percent as compared to the lake's developed storage capacity. This suggests that Caples Lake will likely face more difficulties in maintaining adequate water levels during drought conditions, although there are months where storage could increase by up to 29.5 percent due to isolated precipitation events. Despite these potential increases, the lake is still vulnerable to substantial reductions, with monthly decreases as high as 20 percent, particularly during periods of reduced inflows.

Silver Lake experiences even greater variability, with an overall decrease in storage of 0.9 percent under all water year types. During dry and critical years, this reduction deepens to 2.2 percent, although the lake shows month-to-month swings in storage levels, ranging from a 30.8 percent reduction to a 38.9 percent increase. These large fluctuations indicate that Silver Lake is highly sensitive to changing hydrological conditions, making it challenging to predict consistent water availability. The reservoir may face shortages during dry months but could also experience unexpected increases during wetter months.

Aloha Lake follows a similar pattern, with an overall decrease in long-term storage of 2.2 percent and a 1.3 percent reduction during dry and critical years. Aloha Lake is particularly prone to extreme variability, with monthly changes in storage ranging from a 74.6 percent reduction to a 51.2 percent increase. This level of volatility reflects the lake's sensitivity to changes in snowmelt and precipitation patterns, making it highly unpredictable under future climate conditions. While the lake may see occasional increases in storage, it is likely to experience severe reductions during drought periods, posing additional challenges for water management.

Echo Lake, on the other hand, demonstrates a more positive overall trend, with an increase in storage of 8 percent under all water year types and a modest 1.6 percent increase during dry and critical years. While Echo Lake exhibits substantial monthly variability—ranging from a 20 percent reduction to a 75.4 percent increase—it appears more resilient to the effects of climate change compared to the other lakes. The lake's ability to maintain positive storage levels even during dry periods suggests that it could play a crucial role in mitigating some of the water shortages expected in other parts of the upper American River watershed.

Jenkinson Lake and Stumpy Meadows Reservoir

The overall trends for Jenkinson Lake and Stumpy Meadows Reservoir under the Climate Change Conditions baseline reveal a pattern of decreasing water storage, particularly during dry and critical water years. Both reservoirs show reductions in long-term average storage, with increased variability in monthly storage levels, indicating challenges in maintaining consistent water supplies, especially during periods of low precipitation.

For Jenkinson Lake, the long-term average storage under all water year types is expected to decrease by -4.6 percent (-1,391 af), with monthly changes ranging from a -12.3 percent reduction (-3,546 af) to a 5.7 percent increase (1,549 af). This highlights the reduced ability of Jenkinson Lake to capture and store water consistently under climate change conditions. During dry and critical years, the effects are even more severe, with a -6.9 percent decrease (-1,916 af), indicating that water availability during drought periods will be notably constrained.

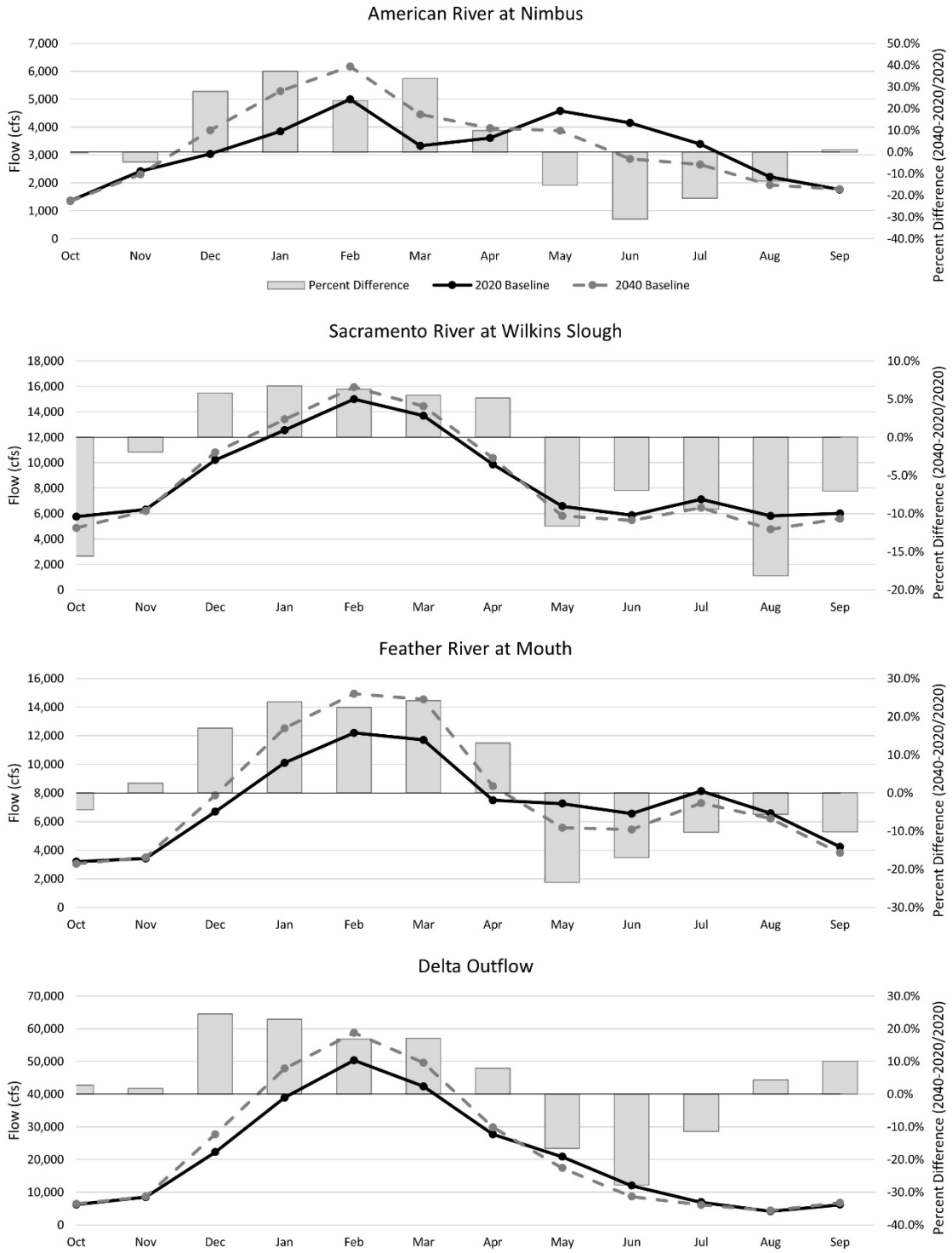
Stumpy Meadows Reservoir also shows a slight decrease in water storage under climate change conditions. For all water years, the long-term average storage declines by -3 percent (-509 af), with variability ranging from a -10 percent reduction (-1,266 af) to an 8 percent increase (1,378 af). In dry and critical years, the reservoir sees a -5.4 percent decrease (-876 af), emphasizing its vulnerability to reduced inflows during periods of low precipitation.

F.4.2 Lower American River and CVP/SWP Water Operations and Water Quality (CalSim 3 and HEC-5Q)

The result of shifting flow and reservoir storage patterns is that comparisons of individual long-term monthly average values (i.e., comparison of coincident months in coincident water year types) between the existing-conditions baseline and the Climate Change Conditions baseline often exhibited large, both negative and positive, changes (Table F-1 and **Figure F-3**). On the other hand, average changes from the complete set of results were not as drastic, and were often positive. For instance, except at South Fork American River below Chili Bar and South Fork American River above Silver Creek, monthly flows, on average, increased under the Climate Change Conditions baseline. Similarly, except for at Jenkinson Lake, end-of-month reservoir storage values increased at all other reservoirs under the Climate Change Conditions baseline.

Changes between CalSim 3–simulated surface water parameters for the existing-conditions baseline and Climate Change Conditions baseline for relevant locations in the Study Area are summarized in **Table F-2** and **Figure F-4**. Changes in simulated (HEC-5Q), long-term monthly

average water temperatures for the lower American River are summarized in **Table F-3**.



Key: cfs = cubic feet per second
Note: 2020 and 2040 Baselines refer to the existing-conditions baseline and the Climate Change Conditions baseline, respectively.

Figure F-3 Comparison of Monthly Average CalSim 3–Simulated River Flows under the Existing-Conditions Baseline and the Climate Change Conditions Baseline

TABLE F-2
SUMMARY OF CALSIM 3–SIMULATED MONTHLY LONG-TERM AVERAGE SURFACE HYDROLOGY PARAMETERS UNDER THE EXISTING-CONDITIONS BASELINE AND THE CLIMATE CHANGE CONDITIONS BASELINE

Location and Compared Modeling Scenarios	Long-term Average All Years (Magnitude)[a]	Long-term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-term Average Monthly Changes from Baseline Conditions to Project-Only Scenario for All Years (Percent [magnitude])[b]			Comparison of Long-term Average Monthly Changes from Baseline Conditions to Project-Only Scenario for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Folsom Reservoir (TAF)								
Existing-Conditions Baseline	580	450	-	-	-	-	-	-
Climate Change Conditions Baseline	545	421	-20.2% (-145)	5.6% (24)	-5.7% (-35)	-14.7% (-98)	5.6% (24)	-5.9% (-28)
Shasta Lake (TAF)								
Existing-Conditions Baseline	3,169	2,607	-	-	-	-	-	-
Climate Change Conditions Baseline	2,993	2,394	-22.1% (-491)	3.4% (104)	-6% (-175)	-22.1% (-491)	-0.5% (-12)	-8.6% (-213)
Trinity Lake (TAF)								
Existing-Conditions Baseline	1,547	1,207	-	-	-	-	-	-
Climate Change Conditions Baseline	1,455	1,108	-17.7% (-260)	8% (135)	-6% (-92)	-17.7% (-249)	2.1% (21)	-7.3% (-99)
Lake Oroville (TAF)								
Existing-Conditions Baseline	2,236	1,706	-	-	-	-	-	-
Climate Change Conditions Baseline	2,057	1,548	-21.3% (-523)	5% (117)	-8.7% (-179)	-21.1% (-329)	-0.6% (-12)	-9.9% (-158)
American River at Nimbus (cfs)								
Existing-Conditions Baseline	2,899	1,585	-	-	-	-	-	-
Climate Change Conditions Baseline	2,954	1,573	-	-	-	-	-	-
Sacramento River at Wilkins Slough (cfs)								
Existing-Conditions Baseline	8,253	6,008	-	-	-	-	-	-
Climate Change Conditions Baseline	8,166	6,132	-28.6% (-2288)	22.2% (1973)	-2.1% (-86)	-28.6% (-2097)	22.2% (1973)	1.5% (124)
Feather River Flows at Mouth (cfs)								
Existing-Conditions Baseline	6,474	3,267	-	-	-	-	-	-
Climate Change Conditions Baseline	6,679	3,304	-39.7% (-4910)	47.1% (5874)	1.6% (205)	-28.6% (-2179)	32.6% (1226)	2.5% (37)

Location and Compared Modeling Scenarios	Long-term Average All Years (Magnitude)[a]	Long-term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-term Average Monthly Changes from Baseline Conditions to Project-Only Scenario for All Years (Percent [magnitude])[b]			Comparison of Long-term Average Monthly Changes from Baseline Conditions to Project-Only Scenario for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Delta Outflow (cfs)								
Existing-Conditions Baseline	17,728	7,855	-	-	-	-	-	-
Climate Change Conditions Baseline	19,198	8,660	-45% (-9782)	50.5% (19136)	3.5% (1470)	-9.6% (-591)	30% (5157)	5.4% (805)
Delta Cross Channel (Days gate open)								
Existing-Conditions Baseline	204	171	-	-	-	-	-	-
Climate Change Conditions Baseline	173	146	-64.4% (-169)	13.3% (31)	-13.9% (-31)	-64.4% (-169)	7.2% (11)	-12.9% (-25)
X2 Position (km)								
Existing-Conditions Baseline	6	6	-	-	-	-	-	-
Climate Change Conditions Baseline	4	3	-100% (-37.7)	647.1% (8.7)	1.5% (-2)	-100% (-16.9)	72.2% (4.1)	-16.6% (-3)

NOTES: cfs = cubic feet per second; km = kilometer; TAF = thousand acre-feet

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

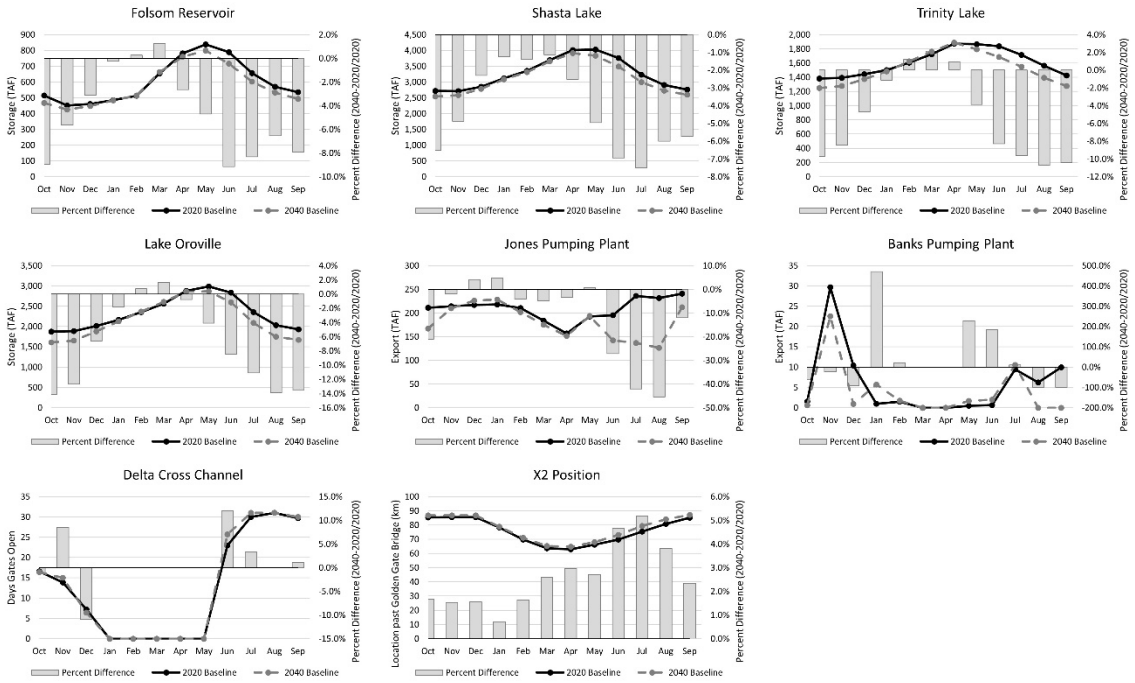
TABLE F-3
SUMMARY OF HEC-5Q SIMULATED MONTHLY LONG-TERM AVERAGE WATER TEMPERATURES UNDER THE EXISTING-CONDITIONS BASELINE AND THE CLIMATE CHANGE CONDITIONS BASELINE

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Existing-Conditions Baseline to Climate Change Conditions Baseline for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Existing-Conditions Baseline to Climate Change Conditions Baseline for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
American River below Folsom Dam (°F)								
Existing-Conditions Baseline	56.4	58.0	-	-	-	-	-	-
Climate Change Conditions Baseline	57.6	59.6	-2.1% (-1.1)	6.3% (3.1)	2% (1.1)	0% (0)	6.3% (3.1)	2.8% (1.6)
American River below Nimbus (Hazel Avenue) Dam (°F)								
Existing-Conditions Baseline	57.0	58.6	-		-	-	-	-
Climate Change Conditions Baseline	58.3	60.4	-1.5% (-0.8)	6.5% (3.1)	2.2% (1.3)	1.1% (0.6)	6.5% (3.1)	3.1% (1.8)
American River at Watt Avenue (°F)								
Existing-Conditions Baseline	59.1	61.2	-	-	-	-	-	-
Climate Change Conditions Baseline	60.6	63.2	-0.7% (-0.4)	6.3% (3.8)	2.5% (1.5)	1.7% (1.1)	6.1% (3)	3.4% (2)

NOTES: °F = degrees Fahrenheit

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.



Key: km = kilometer; TAF = thousand acre-feet
Note: 2020 and 2040 Baselines refer to the existing-conditions baseline and the Climate Change Conditions baseline, respectively.

Figure F-4 Comparison of Monthly Average CalSim 3–Simulated Reservoir Storage and Surface Water Parameters under the Existing-Conditions Baseline and the Climate Change Conditions Baseline

Lower American River Flows and Temperatures, and Folsom Lake Storage

Most changes in storage at Folsom Lake and river flows in the lower American River are modest but noticeable, particularly during dry and critical water years. The largest change in Folsom Lake storage under the Climate Change Conditions baseline is a maximum decrease of 20.2 percent (or -145 thousand acre-feet [TAF]) compared to the existing-conditions baseline. These reductions are concentrated between August and January, reflecting the effect of reduced inflows from the South Fork American River due to earlier snowmelt and lower snowpack levels. However, such large decreases are temporally limited, and on average, the long-term monthly reduction is 5.7 percent (or approximately -35 TAF). During dry and critical years, the average reduction is slightly higher at 5.9 percent (or -28 TAF), with maximum monthly reductions reaching 14.7 percent (or -98 TAF). These changes underscore the vulnerability of Folsom Lake to climate-induced reductions in water availability during critical periods.

For the American River at Nimbus, long-term average monthly flows show a slight increase of +2.9 percent (or 55 cfs) under the Climate Change Conditions baseline compared to the existing-conditions baseline. However, there is variability in flow changes across different months. The maximum decrease in flow reaches 43.7 percent (or -2,749 cfs), while some months see increases of up to 77.9 percent (or +2,817 cfs). These fluctuations are driven by altered precipitation and runoff patterns under climate change, with earlier snowmelt leading to higher flows during certain

months and lower flows during others. Despite these fluctuations, the average reduction during dry and critical years is only 1.2 percent (or -12 cfs), indicating that while some months may experience decreases, overall flow reductions are generally small.

The most noticeable reductions in American River flows at Nimbus occur during dry years, particularly in January, February, May, and June, when simulated flow reductions exceed 5 percent for the Climate Change Conditions baseline. Similarly, during wet years, reductions are more prominent in September. The maximum monthly average flow decrease is 9.3 percent, which occurs in specific months, reflecting the increased stress on the river system during drier periods. Like the changes in Folsom Lake storage, these flow reductions are temporally limited, and on average, the long-term monthly simulated flows at the American River at Nimbus decrease by only 1.6 percent compared to the existing-conditions baseline. This suggests that while climate change will cause variability in river flows, the system remains capable of maintaining flow levels within acceptable ranges during most months.

Comparing the existing-conditions baseline to the Climate Change Conditions baseline for water temperatures in the lower American River shows significant warming, particularly during dry and critical water years. Climate-driven factors such as higher air temperatures, reduced snowpack, and altered runoff patterns contribute to this increase. Across all key locations, temperature increases frequently exceed 1°F, highlighting the effect of climate change on river conditions.

The long-term average temperature below Folsom Dam under the Climate Change Conditions baseline increases by 2.0 percent (or 1.1°F) compared to existing conditions, with maximum increases reaching 6.3 percent (or 3.1°F). At Nimbus Dam, temperatures rise by 2.2 percent (or 1.3°F) on average, with a maximum increase of 6.5 percent (or 3.1°F). Farther downstream at Watt Avenue, the average temperature increase is 2.5 percent (or 1.5°F), with a maximum of 6.3 percent (or 3.8°F).

The shift from the existing-conditions baseline to the Climate Change Conditions baseline results in noticeable warming, with temperature increases often exceeding 1°F and reaching up to 3.8°F. These changes could significantly affect cold-water species like salmon and steelhead, emphasizing the need for adaptive water management to mitigate rising temperatures. The findings underscore the broader effect of climate change on river ecosystems and the importance of adjusting water management strategies to address these challenges.

Overall, the changes in Folsom Lake storage and American River flows under the Climate Change Conditions baseline show some variability, particularly during dry and critical water years. Folsom Lake experiences reduced storage primarily between August and January, with maximum decreases of up to 20.2 percent in certain months, though the average reduction is more modest at 5.7 percent. Similarly, the American River at Nimbus sees both reductions and increases in flows depending on the season, with average reductions of only 1.6 percent across all water year types. These results highlight the importance of adaptive management strategies to

handle the increased variability in water resources and flow patterns under future climate conditions while ensuring the long-term sustainability of the system.

CVP/SWP–Related Rivers and Storage Facilities

The input of future hydrology under climate change resulted in a volumetric shift in the runoff distribution in selected river locations in the Study Area from May through October to earlier in the season (December to April) as secondary peaks in the hydrograph that historically occur during California's snowmelt recession period were reduced and translated into increased rainfall and associated runoff during California's winter storm period (Figure F-3). The result of these shifting flow patterns is that comparisons of individual long-term monthly average values between the existing-conditions baseline and the Climate Change Conditions baseline often exhibited large, both negative and positive, changes (Table F-2), but that average changes were not as drastic and were often positive. Unlike Project Area reservoirs, Study Area reservoirs (i.e., Folsom, Shasta, Trinity, and Oroville), generally exhibited year-round decreases in simulated storage under the Climate Change Conditions baseline compared to the existing-conditions baseline (Figure F-4).

Changes in simulated (CalSim 3) long-term average monthly surface hydrology parameters between the Climate Change Conditions baseline and the existing-conditions baseline are summarized in Table F-2. The majority of changes for key water storage reservoirs—Folsom Reservoir, Shasta Lake, Trinity Lake, and Lake Oroville—as well as major rivers like the American River, Sacramento River, and Feather River, show reductions in water availability, especially during dry and critical water years. However, some months experience variability, with increases in flows and storage during certain periods under climate change conditions.

For Folsom Reservoir, the long-term average storage under the Climate Change Conditions baseline is reduced by 5.7 percent (-35 TAF) compared to the existing-conditions baseline, with a maximum monthly decrease of 20.2 percent (-145 TAF). These reductions primarily occur between August and January. During dry and critical years, the average reduction in Folsom storage increases slightly to 5.9 percent (-28 TAF), with a peak reduction of 14.7 percent (-98 TAF). These decreases are attributed to changes in runoff timing, reflecting earlier snowmelt and reduced inflows.

At Shasta Lake, the overall reduction in long-term average storage under climate change conditions is 6 percent (-175 TAF), with monthly changes ranging from -22.1 percent (-491 TAF) to +3.4 percent (104 TAF). The effects are more severe during dry and critical years, with an average storage reduction of 8.6 percent (-213 TAF), highlighting the vulnerability of Shasta Lake to reduced inflows under future climate conditions. Trinity Lake exhibits a similar trend, with long-term average storage reduced by 6 percent (-92 TAF) and monthly reductions reaching 17.7 percent (-260 TAF) during critical periods. In dry years, Trinity Lake's average reduction is 7.3 percent (-99 TAF), further illustrating the strain on reservoir systems in a climate-impacted future.

Lake Oroville experiences even more pronounced effects, with long-term average storage reduced by 8.7 percent (-179 TAF) under climate change conditions, and monthly reductions as high as 21.3 percent (-523 TAF). During dry and critical years, the average reduction grows to 9.9 percent (-158 TAF), with maximum monthly reductions of 21.1 percent (-329 TAF), underscoring the challenges of maintaining adequate storage levels at Lake Oroville under drier conditions.

The American River at Nimbus shows slight increases in long-term average flows under climate change conditions, with an overall increase of +2.9 percent (55 cfs). However, monthly variability is high, with reductions as large as 43.7 percent (-2,749 cfs) and increases of up to 77.9 percent (2,817 cfs). In dry years, the flow decreases slightly by 1.2 percent (-12 cfs). Despite these fluctuations, minimum flow requirements for the American River are expected to be consistently met under the Climate Change Conditions baseline.

For the Sacramento River at Wilkins Slough, long-term average flows decrease slightly by 2.1 percent (-86 cfs), with monthly reductions of up to 28.6 percent (-2,288 cfs) and increases of 22.2 percent (1,973 cfs). The Feather River at its mouth shows a similar pattern, with a slight overall increase in flows of 1.6 percent (205 cfs), but substantial monthly variations, including reductions of 39.7 percent (-4,910 cfs) and increases of 47.1 percent (5,874 cfs). During dry and critical years, Feather River flows decrease slightly by 2.5 percent (37 cfs), with reductions reaching 28.6 percent (-2,179 cfs).

Delta Water Quality

Changes in Delta water quality under the Climate Change Conditions baseline compared to the existing-conditions baseline are essential to understanding how salinity management, freshwater outflows, and other water quality parameters will respond to future climate conditions. Key indicators such as the operation of the Delta Cross Channel (DCC) gates, the position of X2 (the location in the Delta where salinity reaches 2 parts per thousand), and Delta outflows are critical to maintaining both water quality and ecological health in the Delta. The CalSim 3 model results summarized in Table F-2 provide insights into how these parameters might shift under climate change.

Under climate change conditions, the number of days the Delta Cross Channel gates are open decreases. On average, the days the gates are open are reduced by 13.9 percent (-31 days) compared to the existing-conditions baseline. In some months, the reduction is as large as 64.4 percent (-169 days), which could limit the ability to manage salinity intrusion in the Delta. The DCC gates are critical for controlling the mixing of fresh and saline water, and fewer open days could increase the risk of salinity intrusion, particularly during critical periods when freshwater inflows are reduced. However, despite these reductions, the system appears to maintain functionality, though the reduced operation time signals a challenge in future salinity management.

The X2 salinity position, which indicates how far saline water intrudes into the Delta, shows high variability under climate change conditions. The average changes are generally minimal, but the maximum shift in X2 position reaches +647.1 percent (8.7 kilometers [km]) farther inland, while some months see reductions of -100 percent (-37.7 km). This variability highlights how changes

in freshwater outflows due to changes in climate could lead to more frequent and severe salinity intrusion events, pushing salt water farther upstream into critical regions of the Delta. Meeting regulatory standards for X2 under climate change conditions may require additional freshwater outflows to mitigate these shifts, particularly during dry years.

The Delta outflows, critical for controlling salinity and maintaining water quality, increase by 3.5 percent (1,470 cfs) on average under climate change conditions. However, monthly variability exists, with outflows decreasing by as much as 45 percent (-9,782 cfs) in some months and increasing by 50.5 percent (19,136 cfs) in others. This fluctuation in outflows reflects the changing hydrological patterns under climate change, where increased variability in precipitation and runoff leads to more erratic water releases into the Delta. During dry and critical water years, Delta outflows still increase by 5.4 percent (805 cfs), but certain months experience reductions of up to 9.6 percent (-591 cfs), potentially complicating efforts to maintain salinity control.

Despite the variability in DCC operations and the X2 position, the model results indicate that salinity standards at critical locations in the Delta, such as Rock Slough, Emmaton, Jersey Point, and Collinsville, are generally met under the Climate Change Conditions baseline. These locations are crucial monitoring points for ensuring that salinity levels do not exceed thresholds that would harm agricultural, municipal, or environmental uses of Delta water. The model shows that salinity criteria are met more than 93 percent of the time across all simulation days, suggesting that while the system will face increased challenges, regulatory compliance can still be achieved with appropriate management strategies.

F.5 Comparison of Climate Change Conditions With-Project and Climate Change Conditions Baseline

The following presents results from comparing the Climate Change Conditions With-Project and Climate Change Conditions baseline model results.

F.5.1 Upper American River Basin Water Operations (ARIOps)

Changes in simulated, long-term average monthly flows, end-of-month reservoir storage, and end-of-month reservoir elevations for relevant locations in the upper American River Basin are summarized in **Table F-4**. It depicts both long-term average magnitudes from simulation scenarios and summary statistics (minimum, maximum, and arithmetic mean) of percent and magnitude changes between the Climate Change Conditions With-Project and Climate Change Conditions baseline calculated from long-term monthly averaged model output values.[2] Metrics are presented for all water year types and again for just Dry and Critically Dry water year types, when water supplies are often most limited.

[2] Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum magnitude-change values and the minimum and maximum percent-change values do not necessarily correspond to changes occurring in the same month and water year type.

TABLE F-4
SUMMARY OF ARIOPS-SIMULATED MONTHLY LONG-TERM AVERAGE STREAMFLOW UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE CONDITIONS WITH-PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent change [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent change [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Total Inflow to Folsom (cfs)								
Climate Change Conditions Baseline	3,966	1,799	-	-	-	-	-	-
Climate Change Conditions With-Project	3,915	1,749	-10.3% (-170)	0.1% (15)	-2.2% (-50)	-10.3% (-157)	0% (0)	-3.3% (-50)
South Fork American River below Chili Bar Dam (cfs)								
Climate Change Conditions Baseline	1,381	681	-	-	-	-	-	-
Climate Change Conditions With-Project	1,331	630	-20.9% (-170)	0.4% (13)	-6% (-50)	-20.9% (-157)	-0.1% (0)	-7.4% (-50)
South Fork American River above Silver Creek (cfs)								
Climate Change Conditions Baseline	375	137	-	-	-	-	-	-
Climate Change Conditions With-Project	374	136	-11.3% (-7)	1% (2)	-0.5% (-1)	-11.3% (-7)	1% (2)	-1.1% (-1)
Silver Creek at Mouth (cfs)								
Climate Change Conditions Baseline	89	25	-	-	-	-	-	-
Climate Change Conditions With-Project	88	25	-23.7% (-11)	2.5% (9)	-0.8% (-1)	-13.5% (-4)	0% (0)	-2% (-1)
Gerle Creek below Diversion Dam (cfs)								
Climate Change Conditions Baseline	26	11	-	-	-	-	-	-
Climate Change Conditions With-Project	24	11	-10.5% (-27)	20.5% (3)	0.1% (-2)	-1% (0)	0% (0)	-0.1% (0)

NOTES: ARIOps = American River Integrated Operations model; cfs = cubic feet per second

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

Upper American and Cosumnes River Basin Flows

Overall, long-term averaged monthly river flows for the Climate Change Conditions With-Project scenario were found to have negligible differences compared to the Climate Change Conditions baseline (i.e., simulated changes were within 5 percent). Differences varied by location, water year type, and month, making generalizations difficult. Different combinations of these variables also resulted in variability in the patterns of flow changes, with larger changes in flow sometimes concentrated in certain month and water year combinations (Appendix G, *Modeling Technical Appendix*).

The largest simulated percent and magnitude changes in monthly averaged flow for the Climate Change Conditions With-Project scenario occurred on the South Fork American River below Chili Bar Dam and to Total Inflow to Folsom (Table F-4). On average, Climate Change Conditions With-Project simulated average monthly flows at South Fork American River below Chili Bar Dam were 6 percent less than those under the Climate Change Conditions baseline and Climate Change Conditions With-Project Total Inflow to Folsom was 2.2 percent less than Climate Change Conditions baseline. Across all water year types and months, the maximum decrease in average monthly Climate Change Conditions With-Project simulated flow relative to Climate Change Conditions baseline for the South Fork American River below Chili Bar Dam was 20.9 percent (the maximum magnitude decrease was 170 cfs). Flow decreases at the South Fork American River below Chili Bar Dam model node were greatest from July through December. At the Total Inflow to Folsom model node the maximum decrease in average monthly Climate Change Conditions With-Project simulated flow relative to Climate Change Conditions baseline was 10.3 percent (the maximum magnitude decrease was 170 cfs). Flow decreases at this location were greatest from August through December. During the remaining months, average flows at both locations differed little from Climate Change Conditions baseline flows.

Simulated flow changes between the Climate Change Conditions With-Project scenario and Climate Change Conditions baseline in other relevant tributaries: Silver Creek near the mouth, Gerle Creek and the South Fork of Silver Creek, were generally minimal, with average changes in the long-term average monthly flows being less than 0.8 percent (Table F-4).

For the Climate Change Conditions baseline scenario, ARIOps is always able to meet minimum instream flow requirements and recreational flow requirements for all output locations (e.g., pulse flows, ramping rates/flows, and/or recreation flows set forth by the State Water Board water quality certifications for both the SMUD UARP [FERC Project No. 2101] and the Chili Bar Hydroelectric Project [FERC Project No. 2155]). For the Climate Change Conditions With-Project scenario, ARIOps is able to meet minimum instream flow requirements and recreational flow requirements at all output locations for more than 99.9 percent of the daily outputs. However, the frequency that flows are being reduced to and/or held at required levels increases under the Climate Change Conditions With-Project scenario. Specifically, **Table F-5** summarizes how often Climate Change Conditions With-Project flows at South Fork American River at Chili Bar were near or below numerical thresholds for both daily minimum flows and recreational flows (the latter typically being higher). The analysis indicates the Climate Change Conditions

With-Project scenario would result in a 2.6 percent increase in the number of days that flows at South Fork American River at Chili Bar are at or within 5 percent of the minimum required flow. Regarding recreational flow requirements, the analysis indicates the Climate Change Conditions With-Project scenario would result in a 4.7 percent increase in the number of days that flows at South Fork American River at Chili Bar are at or within 5 percent of the minimum required recreational flow.

TABLE F-5
SOUTH FORK AMERICAN RIVER AT CHILI BAR DAILY FLOW ANALYSIS

	Percent of Days that Simulated Flows Are:					
	Less than the Flow Requirement [a]		At the Flow Requirement [b]		Within 5 Percent of the Flow Requirement	
Modeling Scenario	Minimum Flow	Recreational Flow	Minimum Flow	Recreational Flow	Minimum Flow	Recreational Flow
Climate Change Conditions Baseline	0.0%	0.0%	6.3%	23.1%	6.6%	24.3%
Climate Change Conditions With-Project	0.0%	0.0%	8.5%	27.4%	9.2%	29.0%

NOTES: See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Within approximately 1 percent of the flow requirement.

SMUD, and by proxy the Agency through cooperative agreements, are obligated to meet all minimum instream flow and recreational flow requirements and minimum reservoir storage requirements and would make good faith attempts to adjust operations accordingly (e.g., all entities perform operational forecasts for planning purposes, consult with resource agencies, and perform real-time monitoring of instream flows and would take subsequent actions and/or make operational changes in response to such actions). Operationally, this means that if SMUD believes deliveries to meet demands associated with the Proposed Project would result in FERC license violations, the deliveries would be reduced (see Section 4.2, *Summary of Surface Water Hydrology Results* for additional discussion on this topic).

Upper American River, SMUD Reservoirs

Like river flows, simulated changes in long-term average end-of-month reservoir storage volumes in the upper American River and Cosumnes River basins between the Climate Change Conditions With-Project and Climate Change Conditions baseline model scenarios varied by output location, month, and water year type; the results are summarized in **Table F-6**.

TABLE F-6
SUMMARY OF ARIOPS-SIMULATED MONTHLY LONG-TERM AVERAGE RESERVOIR STORAGE UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE WITH-PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Union Valley Reservoir (af)								
Climate Change Conditions Baseline	213,179	185,907	-	-	-	-	-	-
Climate Change Conditions With-Project	206,730	172,896	-20.1% (-28725)	0% (44)	-3.2% (-6449)	-20.1% (-28725)	-2.2% (-3766)	-7.4% (-13011)
Ice House Reservoir (af)								
Climate Change Conditions Baseline	31,944	29,199	-	-	-	-	-	-
Climate Change Conditions With-Project	31,928	29,198	-0.5% (-128)	0.1% (34)	-0.1% (-16)	0% (-1)	0% (1)	0% (0)
Loon Lake (af)								
Climate Change Conditions Baseline	47,734	46,257	-	-	-	-	-	-
Climate Change Conditions With-Project	47,790	46,257	-0.2% (-71)	2.9% (868)	0.2% (56)	0% (0)	0% (0)	0% (0)

NOTES: af = acre-feet; ARIOps = American River Integrated Operations model

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent and magnitude change values do not necessarily correspond to changes occurring in the same month and water year type.

Under the Climate Change Conditions With-Project scenario, most SMUD UARP reservoirs would generally experience little change in long-term average end-of-month storage volumes or elevations relative to Climate Change Conditions baseline. The largest decreases in storage under the Climate Change Conditions With-Project scenario were simulated to occur at Union Valley Reservoir, which was found to decrease on average by 3.2 percent (Table F-6). During certain month and water year combinations the decreases in long-term average end-of-month storage at Union Valley were in excess of 5 percent. These decreases tended to occur in Critically Dry water year types. These decreases are necessary to convey stored Proposed Project water to the downstream point of diversion.

Results from the Climate Change Conditions baseline scenario were able to meet minimum end-of-month reservoir storage requirements at Union Valley Reservoir, Ice House Reservoir, and Loon Lake more than 94, 76, and 89 percent of the time at each reservoir, respectively. At Union Valley Reservoir, the minimum reservoir storage requirement is not met on 16 of 282 relevant end-of-month simulation days; at Ice House Reservoir, the minimum reservoir storage requirement is not met on 67 of 282 relevant end-of-month simulation days, and at Loon Lake the minimum reservoir storage requirement is not met on 30 of 282 relevant end-of-month simulation days.[3] Under the Climate Change Conditions With-Project scenario, there was no change in the ability to meet storage requirements at Ice House Reservoir and Loon Lake (i.e., Climate Change Conditions With-Project meet storage conditions with the same frequency as the Climate Change Conditions baseline) and minimum storage requirements at Union Valley Reservoir were met more than 85 percent of the time (Union Valley minimum reservoir storage requirement was not met on 41 of 282 relevant end-of-month simulation days).

As discussed in Section 4.2, *Summary of Surface Water Hydrology Results*, while the modeling results predict instances when storage levels would not meet the requirements, this would not occur under actual reservoir operations. SMUD would not violate FERC conditions for the Proposed Project. As occurs now and would continue to occur under the Proposed Project, SMUD consistently monitors and would adjust operations at facilities (e.g., real-time adjustment to releases) to achieve compliance with applicable agreements and regulatory requirements.

El Dorado Irrigation District's Project 184 Facilities

End-of-month storage in Aloha, Echo, Caples and Silver Lakes under the Climate Change Conditions With-Project scenario were generally either negligible or any average decreases were below one percent of the lake's developed storage capacity (**Table F-7**). Slightly larger decreases were simulated to occur at Silver Lake. End-of-month storage at Silver Lake was found to decrease on average by 0.9 percent as a result of the Climate Change Conditions With-Project scenario. The average Silver Lake storage decrease of 78 af amounts to approximately 0.9 percent of Silver Lake's developed storage capacity, with largest decreases of 7.7 percent or 661 af.

[3] Minimum reservoir storage requirements apply only three months of the year (July, August, and September); thus, over the 94-year simulation period there are (94*3) 282 end-of-month simulation days with minimum reservoir storage requirements.

TABLE F-7
SUMMARY OF ARIOPS-SIMULATED MONTHLY LONG-TERM AVERAGE RESERVOIR STORAGE AT EID PROJECT 184 RESERVOIR STORAGE LOCATIONS UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE CONDITIONS WITH-PROJECT

Location and Compared Modeling Scenarios	Developed storage capacity	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent [magnitude])[b]		
				Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Caples Lake (af)									
Climate Change Conditions Baseline	20,338	16,586	14,609	-	-	-	-	-	-
Climate Change Conditions With-Project	20,338	16,552	14,549	-0.9% (-181)	0.7% (137)	-0.2% (-33)	-0.7% (-143)	0.1% (15)	-0.3% (-59)
Silver Lake (af)									
Climate Change Conditions Baseline	8,640	4,305	3,570	-	-	-	-	-	-
Climate Change Conditions With-Project	8,640	4,227	3,448	-7.7% (-661)	0.7% (64)	-0.9% (-78)	-7.7% (-661)	0.7% (64)	-1.4% (-122)
Aloha Lake (af)									
Climate Change Conditions Baseline	5,063	1,247	856	-	-	-	-	-	-
Climate Change Conditions With-Project	5,063	1,230	836	-3.0% (-150)	1.0% (50)	0.3% (-16)	-3.0% (-150)	0.4% (18)	-0.4% (-20)
Echo Lake (af)									
Climate Change Conditions Baseline	2,000	702	499	-	-	-	-	-	-
Climate Change Conditions With-Project	2,000	700	495	-1.0% (-19)	0% (0)	-0.1% (-2)	-1.0% (-19)	0% (0)	-1.2% (-4)

NOTES: af = acre-feet; ARIOps = American River Integrated Operations model; EID = El Dorado Irrigation District

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type. Percent change calculated as a percentage of developed storage capacity.

The average percent decreases to storage at Aloha Lake and Echo Lake were relatively small, 0.3 percent and 0.1 percent, respectively, and the magnitude of average decreases were also small amounting to only 16 af and 2 af, respectively (Table F-7). As with the SMUD FERC projects (UARP and Chili Bar), all flows and storage elevations at El Dorado Irrigation District (EID) Project 184 facilities are subject to requirements set forth by the State Water Board water quality certifications for the El Dorado Project (FERC Project No. 184). These flow requirements were developed by the State Water Board and others to be protective of upper American River water quality standards and beneficial uses; these requirements are implemented in ARIOps as criteria and are met in all model scenarios for these locations.

Jenkinson Lake and Stumpy Meadows Reservoir

Implementation of the Proposed Project would allow EID and Georgetown Divide Public Utility District more flexibility in their operation of Jenkinson Lake and Stumpy Meadows Reservoir, respectively, and thus presents a unique situation. For instance, comparing the existing-conditions baseline to the Climate Change Conditions baseline, both reservoirs are simulated to experience potentially large reductions in average end-of-month storage under a scenario with climate change and future demands but without the Proposed Project (**Table F-8**). These decreases in storage without the Proposed Project are generally only attributable to water management operations, i.e., decreases are due to increased West Slope water demands and EID and Georgetown Divide Public Utility District facilities being operated to meet the full capacity demand without available supply. However, with implementation of the Proposed Project, these decreases would be less; as such, while a scenario with climate change and future demands with the Proposed Project still results in reductions in average end-of-month storage compared to the Climate Change Conditions baseline, the magnitude of reductions is substantially reduced compared to what would occur without the Proposed Project (Table F-8).

TABLE F-8
SUMMARY OF ARIOPS-SIMULATED MONTHLY LONG-TERM AVERAGE RESERVOIR STORAGE AT JENKINSON LAKE AND STUMPY MEADOWS RESERVOIR UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE CONDITIONS WITH-PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Baseline Conditions to With-Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Baseline Conditions to With-Project for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Jenkinson Lake (af)								
Climate Change Conditions Baseline	31,609	24,844	-	-	-	-	-	-
Climate Change Conditions With-Project	26,248	18,161	-39.8% (-8,278)	-2.5% (-982)	-17.3% (-5361)	-39.8% (-8278)	-15.3% (-3,720)	-27.3% (-6,683)
Stumpy Meadows Reservoir (af)								
Climate Change Conditions Baseline	18,435	15,768	-	-	-	-	-	-
Climate Change d Conditions With-Project	15,946	11,684	-38% (-4,736)	0% (0)	-14% (-2,489)	-38% (-4,736)	-17% (-3,157)	-26.5% (-4,084)

NOTES: af = acre-feet; ARIOps = American River Integrated Operations model

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent and magnitude change values do not necessarily correspond to changes occurring in the same month and water year type.

F.5.2 Lower American River and CVP/SWP Water Operations and Water Quality (CalSim 3 and HEC-5Q)

Lower American River Flows and Temperatures, and Folsom Lake Storage

Changes in simulated (CalSim 3), long-term average monthly surface water parameters between the Climate Change Conditions With-Project scenario under the Climate Change Conditions baseline are summarized in **Table F-9**. Changes in simulated (HEC-5Q), long-term monthly average water temperatures for the Lower American River are summarized in **Table F-10**.

Based on CalSim 3 and HEC5Q modeling results, the majority of the changes for Folsom Lake and the lower American River under the Climate Change Conditions With-Project scenario were relatively negligible compared to Climate Change Conditions baseline. Across all water year types, the maximum decrease in average end-of-month Folsom Lake storage under the With-Project conditions was 7.9 percent (or 25,000 af). However, decreases of this magnitude were temporally limited and, on average, the long-term monthly decrease was 1.7 percent (or approximately 8,000 af).[4] These simulated storage changes are attributable to the simulated decreases in South Fork American River flows into Folsom Lake and primarily occurred between August and January and were greater in drier water year types.

Comparison of Climate Change Conditions With-Project and Climate Change Conditions baseline long-term monthly average flows for the Lower American River at Nimbus for each of the five water year types found that in January, February, May, and June of Dry years and September of Wet years did simulated flow reductions exceed 5 percent for the Project-Only scenario (the maximum simulated long-term monthly average flow decrease was 9.3 percent). Like storage decreases at Folsom Lake, flow decreases of these magnitudes (e.g., greater than 3–4 percent) were temporally limited and, on average, long-term monthly Project-Only simulated flows at the American River at Nimbus decreased by only 1.6 percent compared to Baseline conditions. Despite the slight decreases, simulated flows at this location always met the minimum-flow requirements set forth in State Water Board Decision 893 and were above the minimum-flow targets set forth in the Modified American River Flow Management Standard (Sacramento Water Forum 2015; ARWA 2017) at a near-identical rate across all modeling scenarios. (For example, flows recommended in the standard were met above 98.7 percent of the time in each model scenario.)

HEC-5Q model results for several locations along the Lower American River show no changes in long-term monthly average water temperatures greater than 5 percent (Table F-10). Overall, simulated water temperatures along the Lower American River under the Climate Change Conditions With-Project scenario were always similar to Climate Change Conditions baseline and effectively showed very little change. Maximum simulated increases in long-term average monthly temperature at all Lower American River HEC-5Q model output locations between the Climate Change Conditions With-Project scenario and Climate Change Conditions baseline were always no more than approximately 0.5 percent (i.e., no more than 0.4°F).

[4] Decreases of this magnitude represent roughly 0.8 percent of total Folsom storage capacity.

TABLE F-9
SUMMARY OF CALSIM 3–SIMULATED MONTHLY LONG-TERM AVERAGE STREAMFLOWS AND RESERVOIR STORAGE UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE CONDITIONS WITH-PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent change [magnitude change])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent change [magnitude change])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
American River at Nimbus (cfs)								
Climate Change Conditions Baseline	3,379	1,585	-	-	-	-	-	-
Climate Change Conditions With-Project	3,323	1,548	-6.1% (-172)	1.2% (18)	-1.6% (-49)	-6.1% (-112)	1.2% (18)	-2.1% (-37)
Sacramento River at Wilkins Slough (cfs)								
Climate Change Conditions Baseline	8,682	6,008	-	-	-	-	-	-
Climate Change Conditions With-Project	8,682	6,023	-1.4% (-61)	1.6% (193)	0.1% (9)	-1.4% (-61)	1.6% (193)	0.1% (14)
Feather River Flows at Mouth (cfs)								
Climate Change Conditions Baseline	7,766	3,267	-	-	-	-	-	-
Climate Change Conditions With-Project	7,765	3,267	-1.8% (-113)	2% (119)	0.1% (1)	-1.5% (-113)	1% (28)	0.1% (-1)
Delta Outflow (cfs)								
Climate Change Conditions Baseline	22,685	7,855	-	-	-	-	-	-
Climate Change Conditions With-Project	22,626	7,851	-1% (-547)	1.7% (379)	-0.2% (-33)	-0.8% (-137)	1.7% (379)	-0.1% (-3)
Folsom Reservoir (TAF)								
Climate Change Conditions Baseline	576	450	-	-	-	-	-	-
Climate Change Conditions With-Project	567	437	-5% (-20)	0.1% (0)	-1.3% (-7)	-5% (-20)	-1.5% (-6)	-2.8% (-12)
Shasta Lake (TAF)								
Climate Change Conditions Baseline	3,125	2,607	-	-	-	-	-	-
Climate Change Conditions With-Project	3,122	2,590	-1.7% (-30)	0% (1)	-0.3% (-8)	-1.7% (-30)	0% (-1)	-0.8% (-17)
Trinity Lake (TAF)								
Climate Change Conditions Baseline	1,527	1,207	-	-	-	-	-	-
Climate Change Conditions With-Project	1,525	1,203	-0.8% (-7)	0% (1)	-0.1% (-2)	-0.8% (-7)	-0.1% (-2)	-0.4% (-4)

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent change [magnitude change])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent change [magnitude change])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Lake Oroville (TAF)								
Climate Change Conditions Baseline	2,172	1,706	-	-	-	-	-	-
Climate Change Conditions With-Project	2,171	1,697	-0.9% (-13)	0% (0)	-0.3% (-6)	-0.9% (-13)	-0.3% (-5)	-0.5% (-8)

NOTES: cfs = cubic feet per second; TAF = thousand acre-feet

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

TABLE F-10
SUMMARY OF HEC-5Q SIMULATED MONTHLY LONG-TERM AVERAGE WATER TEMPERATURES UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE CONDITIONS WITH-PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
American River below Folsom Dam (°F)								
Climate Change Conditions Baseline	57.6	59.6	-	-	-	-	-	-
Climate Change Conditions With-Project	57.6	59.6	-0.9% (-0.5)	0.6% (0.4)	0% (0)	-0.9% (-0.5)	0.6% (0.4)	0% (0)
American River below Nimbus (Hazel Avenue) Dam (°F)								
Climate Change Conditions Baseline	58.3	60.4	-	-	-	-	-	-
Climate Change Conditions With-Project	58.3	60.4	-0.6% (-0.4)	0.5% (0.3)	0% (0)	-0.6% (-0.4)	0.5% (0.3)	0% (0)
American River at Watt Avenue (°F)								
Climate Change Conditions Baseline	60.6	63.2	-	-	-	-	-	-
Climate Change Conditions With-Project	60.7	63.3	-0.3% (-0.2)	0.5% (0.4)	0.1% (0)	-0.3% (-0.2)	0.5% (0.4)	0.1% (0.1)

NOTES: °F = degrees Fahrenheit

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

CVP/SWP–Related Rivers and Storage Facilities

Based on CalSim 3 modeling results, average changes in long-term average end-of-month storage at Shasta Lake, Trinity Lake, and Lake Oroville reservoirs under the Climate Change Conditions With-Project scenario were all less than 10 TAF and all changes were below 1 percent of total reservoir storage capacity. Further, no simulated changes in long-term, average end-of-month storage at Shasta Lake, Trinity Lake, and Lake Oroville reservoirs under the Climate Change Conditions With-Project scenario exceeded 5 percent when compared to the Climate Change Conditions baseline (Table F-9). During certain months and water year types, potentially large-magnitude simulated storage decreases (e.g., 10 TAF) occurred at Shasta Lake and Lake Oroville. These decreases occurred primarily during drier water year types. A main driver of these small changes in reservoir storages is re-balancing of CVP north-of-Delta reservoirs and changing requirements under the Coordinated Operations Agreement, to make up for the slight reductions in releases from Folsom due to the Proposed Project (per the CalSim 3 model results). In other words, the reservoirs are releasing more water to meet downstream obligations (e.g., Delta flows, water deliveries), which is why many of the simulated monthly flow changes for the Sacramento and Feather River are slightly positive.

Like the CVP/SWP reservoirs, long-term average monthly flows for the Sacramento and Feather Rivers and Delta outflows were very similar between the Climate Change Conditions With-Project scenario and Climate Change Conditions baseline. For example, on average, average monthly flows for these locations were nearly identical between these modeling scenarios. Further, no simulated changes in long-term, average monthly flows under the Climate Change Conditions With-Project scenario exceeded 5 percent when compared to Climate Change Conditions baseline (Table F-9).

Delta Water Quality

Changes in Delta water quality between the Climate Change Conditions With-Project scenario and the Climate Change Conditions baseline were found to be minimal. The key parameters assessed, including the number of days the DCC gates are open and the X2 salinity position, exhibited only negligible differences between the two scenarios. The results, summarized in **Table F-11**, indicate that the Proposed Project's effect on Delta water quality is limited, with no significant deviations from baseline conditions.

The simulated number of days the DCC gates are open under both the Climate Change Conditions baseline and the With-Project scenario remains virtually unchanged, with only minor variations. On average, there was a maximum decrease of -4.8 percent (or -1 day) in the number of days the gates were open, and a maximum increase of 3 percent (or 0 days). Overall, the change in DCC gate operation due to the project is negligible, with an average variation of 0.1 percent (0 days), indicating that the project does not significantly affect gate operations or salinity management through the DCC.

TABLE F-11
SUMMARY OF CALSIM 3–SIMULATED MONTHLY LONG-TERM AVERAGE WATER QUALITY PARAMETERS UNDER THE CLIMATE CHANGE CONDITIONS BASELINE AND CLIMATE CHANGE CONDITIONS WITH-PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Climate Change Conditions Baseline to With-Project for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Delta Cross Channel (Days gates open)								
Climate Change Conditions Baseline	13	13	-	-	-	-	-	-
Climate Change Conditions With-Project	13	13	-4.8% (-1)	3% (0)	-0.1% (0)	0% (0)	0.5% (0)	0% (0)
X2 Position (km)								
Climate Change Conditions Baseline	78	84	-	-	-	-	-	-
Climate Change Conditions With-Project	78	84	-0.1% (-0.1)	0.9% (0.7)	0.1% (0)	0% (0)	0.9% (0.7)	0.1% (0.1)

NOTES: km = kilometers

See Appendix G, *Modeling Technical Appendix*, for complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).

b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

The X2 salinity position, which indicates the location where the salinity level in the Delta reaches 2 parts per thousand (ppt), also showed minimal changes between the With-Project scenario and the Climate Change baseline. The maximum change in X2 position was an increase of 0.9 percent (or 0.7 km), and the average change across all water year types was 0.1 percent (or 0.1 km). These shifts are small enough to be considered insignificant in terms of their effect on salinity control in the Delta. All modeled X2 positions remained within acceptable limits, ensuring compliance with D-1641 objectives, which require the X2 position to remain west of Collinsville during critical months (i.e., less than 81 km).

In addition to the minor changes in the DCC gate operations and X2 position, the modeling results indicate that salinity criteria at key Delta locations—such as Rock Slough, Emmaton, Jersey Point, and Collinsville—were consistently met under both the Climate Change baseline and With-Project scenarios. Salinity objectives, as outlined in D-1641 standards, including the Net Delta Outflow Index and the export-to-inflow ratio, were also maintained across all model scenarios. The results show that salinity criteria were met on more than 93 percent of simulation days, consistent with previous CalSim 3 modeling (DWR 2017, 2021). This highlights the effectiveness of the existing water management systems in meeting regulatory requirements, even under climate change conditions.

The comparison of Delta water quality between the Climate Change Conditions With-Project scenario and the Climate Change Conditions baseline shows that the project has a negligible effect on critical water quality parameters such as the Delta Cross Channel gate operations and the X2 salinity position. Both parameters remain within regulatory limits, and the project does not significantly alter salinity control or water quality management in the Delta. This indicates that the project's contribution to changes in Delta water quality is minimal, ensuring continued compliance with D-1641 objectives and other water quality standards under future climate conditions.

F.6 Summary of Findings

Broadly, changes in simulated surface hydrology parameters follow projected changes to future surface air temperature, precipitation, and runoff patterns and associated expected water system responses. For instance, while there is uncertainty around the magnitude and direction of projected precipitation patterns, most global climate models forecast that regional average fall and spring precipitation in the upper American River basin will decrease, winter and summer precipitation will increase, and a greater proportion of precipitation will occur as rainfall rather than snow (Reclamation 2022). Coupled with increasing surface air temperatures the result is a shift in runoff distribution from May and June to earlier in the season (January to March). These shifts were clearly illustrated in Climate Change Conditions baseline simulated flow patterns, which often exhibited a decrease in May–June flow rates and an increase in November–April flows compared to the existing-conditions baseline (Figure F-1). A similar shift is seen in simulated upper American River basin reservoir storage patterns, whereby peak storage occurs

one to two months earlier in the water year under the Climate Change Conditions baseline (i.e., May vs. June) (Figure F-2).

When comparing the Climate Change Conditions With-Project to the Climate Change Conditions baseline, the changes in water storage and river flows are generally modest. At Folsom Reservoir, storage decreases by a maximum of 7.9 percent (or -25,000 af), with an average reduction of 1.7 percent (or -8,000 af). These reductions are mostly concentrated between August and January, particularly during dry years, due to decreased inflows from the South Fork American River. Similarly, American River flows at Nimbus show slight reductions, with an average decrease of 1.6 percent and a maximum monthly reduction of 9.3 percent during certain months. These decreases are limited in duration, indicating that the overall effect of the Proposed Project on river flows is minimal. Water temperatures along the lower American River show little to no change, with a maximum increase of 0.5 percent (or 0.4°F), demonstrating that the Proposed Project has negligible effects on river temperatures.

The transition from the existing-conditions baseline to the Climate Change Conditions baseline reveals more significant effects. Folsom Reservoir experiences an average storage reduction of 5.7 percent (or -35,000 af), with a maximum reduction of 20.2 percent (or -145,000 af), primarily due to earlier snowmelt and reduced snowpack. Shasta, Trinity, and Oroville Lakes also show considerable reductions in storage. Shasta Lake's average storage decreases by 6 percent (or -175,000 af), Trinity Lake by 6 percent (or -92,000 af), and Lake Oroville by 8.7 percent (or -179,000 af), with the most pronounced reductions occurring during dry years. American River flows at Nimbus increase slightly by 2.9 percent (or 55 cfs), but monthly variability is significant, with flow reductions of up to 43.7 percent in some months and increases of 77.9 percent in others. Delta outflows also exhibit variability, with an average increase of 3.5 percent (or 1,470 cfs), although reductions of up to 45 percent occur in some months due to changes in runoff and reservoir operations.

These findings reveal that the Climate Change Conditions baseline introduces noticeable reductions in water storage and increased variability in river flows compared to the existing-conditions baseline. Reservoirs like Folsom, Shasta, Trinity, and Oroville face declines in storage, particularly during dry and critical water years, while river flows become more unpredictable.

In contrast, the Climate Change Conditions With-Project scenario results in only minor additional changes compared to the Climate Change Conditions baseline. Folsom Reservoir and the American River see small reductions in storage and flows, and water temperatures remain stable, indicating that the Proposed Project has minimal incremental effects on the system.

F.7 References

DWR (California Department of Water Resources). 2017. *A Water Resources Planning Model for State Water Project and Central Valley Project.* CalSim 3 Draft Report. Sacramento, CA. December 2017.

DWR (California Department of Water Resources). 2021. CalSim 3. Modeling Support Branch, Bay-Delta Office, California Department of Water Resources, Sacramento, CA. Available: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-3.

Reclamation (U.S. Bureau of Reclamation). 2022. *American River Basin Study.* Great Basin Region 10, Sacramento, CA.

State Water Board (State Water Resources Control Board). 2000. *Revised Water Right Decision 1641*. Sacramento, CA. March 2000.

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Appendix G
Modeling Technical Appendix

El Dorado Water Agency

El Dorado Water Reliability Project Environmental Impact Report

Modeling Technical Appendix

October 2024

1. INTRODUCTION

This modeling appendix to the El Dorado Water Reliability Project Environmental Impact Report presents the approach, tools, and results of water operations, and water quality modeling. The purpose of the operations and water quality modeling is to identify potential effects associated with the Proposed Project.

1.1 Background

El Dorado County Water Agency (Agency or EDCWA) proposes to implement the El Dorado Water Reliability Project (Proposed Project) to secure the partial assignment of surface water rights of up to 40,000 acre-feet (TAF) per year from the upper American River and its tributaries to help meet long-term water supply needs for the West Slope in El Dorado County. Refer to Chapter 3 of the Draft Environmental Impact Report (EIR) for the full project description.

This modeling appendix describes the considerations of model use and selection, the modeling assumptions, different water use scenarios in existing and future hydrological conditions with and without Project Water. It presents the results of the modeling effort to support the EIR analysis and the water rights application.

1.2 Project Area and Study Area

Refer to Chapter 3 of the Draft EIR for a description of the Project Area and Study Area. While the largest operational changes from the Proposed Project would be upstream of Folsom Reservoir in the Upper American River Basin (Project Area), impacts downstream of Folsom Reservoir are also possible due to changes in Folsom Reservoir storage and transfers of water to lower American River water users, instream flows, or wildlife refuges. Storage of the Project Water in Sacramento Municipal Utility District (SMUD) reservoirs, and an increase in water diversions under the Proposed Project, may affect inflows to Folsom Reservoir, and potential subsequent operation of Folsom Reservoir by the US Department of the Interior, Bureau of Reclamation (Reclamation) as part of the Central Valley Project (CVP) for authorized purposes, including joint CVP and State Water Project (SWP) water supply allocations and reservoir operations, and flows and salinity in the Sacramento–San Joaquin Delta (Delta). To support the analyses for the water rights applications and an environmental review under CEQA, simulation modeling was conducted for the Study Area, defined in Section 1.2, Geographic Scope of Analysis.

1.3 Appendix Organization

The Modeling Appendix is organized as follows:

- **Chapter 1** – Introduction to the appendix.
- **Chapter 2** – Overview of the model selection and basic assumptions for all models.
- **Chapter 3** – Detailed description of Upper American River Basin Hydrology and System Operations Modeling and results

- **Chapter 4** – Detailed description of hydrology and systems operations modeling and result
- **Chapter 5** –Water temperature modeling description and results

2. MODELING APPROACH

2.1 Overview of Selected Models

Two modeling tools were used to evaluate potential changes to surface water resources primarily with regards to instream flows and to reservoir storage volumes, while a third model was used to assess temperature changes on the Lower American River. The American River Integrated Operations model (ARIOps) was used to assess Proposed Project effects on surface water resources within the Project Area: upstream of Folsom Reservoir, in the Upper American River Basin. The Calsim 3 model was used to assess effects on surface water resources for Folsom Reservoir and areas downstream within the Project Study Area, including the Lower American River, the Sacramento River and Delta, and the CVP/SWP systems. Water temperatures for the Lower American River from Folsom Dam to the confluence with the Sacramento River were simulated using the United States Army Corps of Engineers (USACE) HEC-5Q modeling code. **Table 2-1** summarizes the models used in the Draft EIR analysis. These modeling tools and the analytical framework used in this Draft EIR are described below.

TABLE 2-1. SELECTED MODELS

Model	Analysis Area
Water Operations	
ARIOps	Upper American River basin
CalSim 3	Lower American River basin, Sacramento River and Delta, CVP-SWP system
River and Reservoir Temperature	
HEC-5Q	Lower American River, Sacramento River
Hydropower	
ARIOps	Upper American River basin facilities

Notes: ARIOps = American River Integrated Operations Model; CVP = Central Valley Project; SWP = State Water Project

2.1.1 Upper American River Basin Water Operations

Water operations and flows for the Upper American River (UAR) basin were simulated using the American River Integrated Operations Model (ARIOps) model. The ARIOps model is a reservoir operations model that simulates the independent interconnected operations of six major water agencies operating in the Upper American River basin (Western Hydrologics 2023). The ARIOps model was chosen to simulate the Upper American River for the following reasons:

- Best up-to-date representation of operations on the South Fork American River. The ARIOps model incorporates model specifications where applicable from the American River Daily Model and the USACE ResSim model.
- Detailed operations of Upper American River basin.

- Long period of record, covering the standard 94-year period (Water Years 1921 to 2015) used in CalSim 3 (described below). The Water Year starts in October and ends in September. Namely the simulation period from October 1921 to September 2015.
- Daily timestep as compared to many other models' monthly timestep, providing more detailed output and enabling the ability to simulate power generation.

2.1.2 Lower American River Basin and Statewide Water Operations

The California Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation) jointly developed CalSim 3 as a planning model to simulate operations of the SWP and CVP over a range of hydrologic conditions. The model represents the best available planning model for the SWP and CVP system operations and is an improved and expanded version of CalSim II, which has been the standard planning model for system operations since the early 2000s. A description of CalSim 3 is available from DWR (2017, 2021a).

The CalSim 3 model includes facilities and operations of all major water projects within the Central Valley. The inflow hydrology is based on the 94-year historical weather sequence from October 1921 through September 2015. (The ARIOps model uses this same 94-year historic hydrologic sequence for consistency.) Though using a monthly timestep, the model includes several adjustments to reflect the effect of daily patterns of flow on weir spills and selected instream flow requirements. Inputs to CalSim 3 include unimpaired inflows and rainfall runoff, agricultural, urban, and wetland water demands, return flows, and groundwater recharge from precipitation and irrigation. Sacramento Valley and tributary hydrology are developed using a process designed to adjust the historical sequence of monthly stream flows over a 94-year period (1921 to 2015) to represent a sequence of flows at existing and future levels of development. Additional outputs from ARIOps modeling are used as inputs to CalSim 3 for modeling of Folsom Reservoir.

CalSim 3 produces outputs for river and channel flows and diversions, reservoir storage, Delta flows and exports, Delta inflow and outflow, deliveries to CVP and SWP users and other users, and controls on the operations of CVP/SWP facilities and others. These outputs can be used to assess effects resulting from the Proposed Project.

2.1.3 River and Reservoir Temperature

HEC-5Q is a modeling tool that simulates reservoir and river water temperatures based on input storage, flow, and meteorological data. HEC-5Q consists of two model components, HEC5 and HEC-5Q. HEC5 is the daily flow simulation component of the model, where daily storage and flows are simulated at specific nodes (HEC 1998). HEC-5Q is the temperature simulation component of the model, where 6-hour input meteorological data (equilibrium temperatures, exchange rates, shortwave radiation, and wind speed) are applied to the simulated storages and flows from the HEC5 model to simulate water temperatures at specified locations (RMA 1998).

The HEC-5Q modeling tool is often used for long-term planning analyses. It has been applied to numerous rivers across the United States. The HEC-5Q model simulates daily reservoir and river temperatures throughout the CalSim 3 94-year period of record for the Lower American River from

Folsom Dam to the confluence with the Sacramento River. It is the standard planning-level model used for assessing the temperature effects of CalSim simulated operations on the Lower American River.

The HEC5Q model simulates water temperatures for the lower American River from Folsom Dam to the confluence with the Sacramento River. The model has the capability of simulating the selective withdrawal operations at Folsom Dam in order to meet specified tailwater temperature targets. It is the standard planning-level model used for assessing the temperature effects of CalSim simulated operations on the American River.

2.2 Modeling Assumptions

2.2.1 Simulation Period

The period that will be modeled for this EIR for all scenarios will be based on hydrology from Water Years 1922 to 2015 (October 1921 to September 2015). This is the available period for the CalSim 3 model. To be consistent all other models will be run for the same period.

2.2.2 Hydrology Assumptions

The operation models selected for use, ARIOps and CalSim 3, are “level of demand” type models. This type of model assumes a specific level of demand based on the land use, physical features, and regulatory environment representative of a specific point in time and simulated over a range of different hydrologic conditions. The hydrology and meteorology information for existing conditions and future climate conditions are used for the ARIOps, CalSim 3, and HEC-5Q models.

The hydrology for the existing conditions analysis represents historic hydrological and meteorological conditions. The period modeled for this Draft EIR is based on hydrology from water years 1922 to 2015 (October 1921 to September 2015). The water year types documented during this period represent a wide range of hydrologic conditions, and this same type of hydrologic variability is expected to occur into the future during the operation of the Proposed Project. This is the available period for the CalSim 3 model. To be consistent all other models were parameterized and run for the same time period. For ARIOps, existing condition hydrology inputs were calculated from USGS stream gage and reservoir storage records using a mass balance approach or statistical methods where data is missing. The calculation of this inflow hydrology is described in detail in the ARIOps Hydrology Development Report (Western Hydrologics 2021).

Existing hydrologic inputs for CalSim 3 are the historical record from October 1921 to September 2015, adjusted to account for the influence of land-use change and upstream flow regulation to represent conditions are constant with the level of demand assumptions. Hydrologic inputs for the EIR modeling are those developed for the 2021 Delivery Capability Report prepared by the DWR (2022a). Together these data are used as hydrology and meteorology information for the ARIOps, CalSim 3, and HEC-5Q existing conditions model simulations.

To account for climate change, hydrology is further adjusted to account for future climate change projections. Future climate change scenarios in this EIR will be based on the 2040 median climate scenario (Central Tendency) developed by DWR for the Delta Conveyance Project Draft EIR (DWR,

2022b). This dataset along with its update CalSim 3 model, represents the current best available data. Note that another climate change dataset is available from the American River Basin Study (ARBS) (Reclamation, 2022) for 2050, 2070, and 2085 Central Tendency climate scenarios. However, the ARBS climate data has only been validated for the American River Basin and not the entire CVP/SWP system.

2.2.3 Demand Assumptions

For this EIR analysis, water demands are set to reflect two levels of development, existing and future. Water demands are set separately for the Upper American River basin from the rest of the Study Area, including Lower American River basin the CVP/SWP area.

For the Upper American River basin, existing and future demands are set as follows:

- Existing demands are the 2020 level of development, consistent with those developed for the ARBS
- Future demands reflect the 2004 adopted El Dorado County General Plan full capacity for the West Slope area.
  - The future M&I water demands development for the West Slope is documented in the "El Dorado County West Slope Municipal and Industrial Water Demand Review" (EN2 Resources 2020).
  - The future irrigation water demands are estimated for the economically viable lands within the adopted General Plan–designated agricultural districts and adjacent areas outside the agricultural districts. Viability analysis considered land suitability for specific crop types, cost of land development, and cost of water. The methodologies employed and the resulting agricultural demand estimates have been documented in the El Dorado County Agricultural Development Feasibility Assessment, conducted by Davids Engineering and ERA Economics in 2020.

For the rest of the Study Area outside the Upper American River basin, existing and future demands are set as follows:

- Existing demands are the 2020 level of development, as represented in CalSim 3 studies for the 2021 Delivery Capability Report (DWR, 2022a).
- Future demands are the 2040 level of development, as represented in CalSim 3 studies for the Delta Conveyance Project Draft EIR (DWR, 2022b).

2.2.4 Instream Flow and Reservoir Operations Criteria and Requirements

Instream flow and reservoir operations criteria are important regulations and permit conditions that the Proposed Project must operate within their framework. For the Upper American River, aside from meeting the operational criteria in the 2005 Cooperation Agreement, all reservoirs are also operated to meet instream flow and reservoir minimum pool requirements. All operations related to existing conditions as well as Proposed Project conditions are and would be subject to the State Water Board water quality certification requirements for the SMUD UARP (FERC Project No. 2101), the Chili Bar Hydroelectric Project (FERC Project No. 2155), the El Dorado Project (FERC Project No. 184), as well as all relevant water rights orders. Some reservoir operations and storage levels, such as for Silver Lake, are also governed in part by California Division of Safety of Dams (DSOD) requirements.

Flow-, storage-, and water quality-based requirements are implemented in the ARIOps and CalSim 3 models as operating criteria that are met according to a hierarchical framework (i.e., certain criteria take precedent over others). Throughout the ARIOps model, instream flows (e.g., minimum flow, recreation flow, and pulse flow requirements) are considered at a higher priority than reservoir storage levels. After instream flows, maintaining minimum pool requirements and reservoir elevation objectives are the next highest priority above other uses such as energy generation and/or water supply delivery. Instream flow requirements are always met in the model runs, whereas minimum reservoir pool requirements may not always be met in water shortage situations under existing and/or Proposed Project conditions. This also means that relevant flow requirements for Upper American River stream reaches, and reservoir minimum pool and storage requirements are always satisfied prior to providing water supply delivery for the Proposed Project. Though ARIOps is a daily model, some recreational flow requirements are at an hourly timestep (e.g., a 4-hour rafting requirement); in these cases, the daily minimum flow volume comprises the hourly requirements plus whatever the default daily minimum flow value may be for the remaining hours. For instance, if there is a 4-hour rafting requirement, then the daily flow is: (4 times rafting flow in cfs + 20 times minimum flow in cfs) divided by 24 hours.

For the Lower American River, CalSim 3 makes storage release decisions and routes water through the stream network based on a set of pre-defined rules that represent existing or future assumed regulations and operations criteria. This means the model "behaves" such that reservoirs and facilities of the SWP and CVP are operated to comply with regulatory flow and water quality requirements. For instance, minimum flow targets in the American River below Nimbus Dam are based on the American River Modified Flow Management Standard, per the 2017 Water Forum Agreement (WFA) and minimum flows further downstream at the H Street bridge are based on State Water Board Decision 893 (D-893). CalSim 3 assumptions for additional, downstream regulatory requirements related to operations of the SWP and CVP are from the 2019 National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Biological Opinions (BiOps) (under the Reinitiation of Consultation [ROC] on Long-term Operations [LTO]), and 2020 California Department of Fish and Wildlife (CDFW) Incidental Take Permit (ITP). The regulatory assumptions also include continued operations under the CVP-SWP Coordinated Operations Agreement; State Water Board D-1641; and the State Water Board Water Quality Control Plan adopted in 2006. Overall, meeting regulatory requirements, including Delta water quality objectives, is the highest operational priority in the CalSim 3 model. The sources and locations for the relevant Upper American River, Lower American River, and Delta instream flow and reservoir storage criteria are summarized in **Table 2-2**.

TABLE 2-2. SELECTED MODELS
SUMMARY OF INSTREAM FLOW AND RESERVOIR POOL CRITERIA THAT APPLY TO WATER BODIES WITHIN THE PROJECT STUDY AREA

Water Body	Point of "Compliance" in ARIOps (for flows)	Minimum instream flows	Minimum recreation flows	Pulse flows	Min. reservoir/pool elevation
Silver Lake	Silver Lake outflow	see Western Hydrologics (2023)	NA	NA	see Western Hydrologics (2023)
Caples Lake	Caples Lake outflow	see Western Hydrologics (2023)	NA	NA	see Western Hydrologics (2023)
Echo Lake	Echo Lake outflow	see Western Hydrologics (2023)	NA	NA	see Western Hydrologics (2023)
Silver Lake	Silver Lake outflow	see Western Hydrologics (2023)	NA	NA	see Western Hydrologics (2023)
Loon Lake	Gerle Creek below Loon Lake	Appendix A (1)	NA	Table 21 (1)	Table 22 (1)
Ice House Reservoir	South Fork Silver Creek below Ice House Reservoir	Appendix A (1)	Table 23 (1)	Table 24 (1)	Table 25 (1)
Union Valley Reservoir	Silver Creek below Junction Reservoir	Appendix A (1)	NA	NA	Table 26 (1)
Union Valley Reservoir	Silver Creek below Camino Reservoir	Appendix A (1)	NA	NA	Table 26 (1)
South Fork American River	South Fork American River below Slab Creek Reservoir	Appendix A (1)	Table 27 (1)	NA	NA
South Fork American River	South Fork American River at Chili Bar	Appendix A (1)	Table 28 (1)	NA	NA
Lower American River	Below Nimbus Dam	Modified Flow Management Standard with a planning minimum end of Dec storage target of 275 TAF (2)	NA	NA	NA
Lower American River	At H Street Bridge	State Water Board D-893	NA	NA	NA
Delta	Delta Outflow	State Water Board D-1641	NA	NA	NA
Delta	X2 Position	State Water Board D-1641	NA	NA	NA

SOURCES:
1. Western Hydrologics (2023)
2. Sacramento Water Forum (2017)

2.3 Modeling Scenarios

A range of modeling scenarios were developed to comprehensively assess the potential impacts of the Proposed Project. These scenarios are organized into sets, each consisting of a baseline scenario and a with-Project scenario. The baseline scenario represents conditions that would prevail without the implementation of the Proposed Project, while the with-Project scenario simulates the changes and outcomes directly attributable to the Proposed Project. This structured approach helps to clearly

differentiate the impacts introduced by the Proposed Project from the baseline conditions, providing a robust framework for environmental assessment and decision-making.

- Baseline Scenario: This scenario reflects conditions that would exist without securing additional water rights from the American River. It represents the anticipated conditions if the Proposed Project is not implemented, and thus serves as a reference point for comparison. For the West Slope of El Dorado County, this means relying on existing water sources without the addition of the Proposed Project's 40 TAF/year of water rights.
- With-Project Scenario: This scenario considers the conditions that would arise if the Proposed Project is implemented, specifically through securing an additional 40 TAF/year of water rights from the American River. This scenario is used to evaluate how the enhanced water supply would affect water availability, distribution, and usage, as well as other environmental and socio-economic factors in El Dorado County. It offers insight into how securing these additional water rights can help meet the region's long-term water supply needs.

Table 2-3 provides a summary of the modeling scenarios developed to support the Environmental Impact Report (EIR) assessment, comparing the effects of the Proposed Project against the baseline under various conditions.

TABLE 2-3. SUMMARY OF MODELING SCENARIOS

ID	Scenario Title	Hydrology	Level of Development (Water Demands)		
			Upper American River	Lower American River	CVP/SWP
Group 1 - Existing Conditions					
1.0	Existing Conditions Baseline	Historical	Existing, 2020	Existing, 2020	Existing, 2020
1.1	Existing Conditions with Full UAR Capacity		Future		
1.2	Existing Conditions with Full UAR Capacity and Project		Future		
1.3	Existing Conditions with Project		Existing, 2020		
1.2A	Existing Conditions with Full UAR Capacity and 30,000 AF Alternative		Future		
1.3A	Existing Conditions with 30,000 AF Alternative		Existing, 2020		
Group 2 - Cumulative Conditions					
2.1	Cumulative Conditions Baseline	Historical	Future	Future, 2040	Future, 2040
2.2	Cumulative Conditions with Project		Future		
Group 3 - Climate Change Conditions					
3.1	Climate Change Conditions Baseline	Future Climate Change	Future	Future, 2040	Future, 2040
3.2	Climate Change Conditions with Project		Future		
Group 4 – Full WFA Diversions					
4.1	Full WFA Diversions Baseline	Historical	Future	Future, 2040	Future, 2040
4.2	Full WFA Diversions with Project		Future		

Key: AF = acre-foot UAR = Upper American River WFA = Sacramento Water Forum Agreement

2.3.1 Modeling Scenarios for CEQA Impact Analysis

The Draft EIR evaluates the significance of potential impacts under both existing and cumulative conditions, aligning with the CEQA requirements. This analysis includes the following scenarios:

- Existing Conditions Baseline: Represents the conditions at the time the Notice of Preparation (NOP) is issued, encompassing the water demands and historical hydrologic conditions in the study area. This scenario serves as a snapshot of the present situation, which is critical for understanding the current water use and hydrology before any new interventions are applied.
- Existing Conditions with Project: Reflects conditions that would result from the Proposed Project if implemented under the existing conditions. This scenario isolates the direct impacts of the Proposed Project on the current water supply and hydrological balance.
- Cumulative Conditions Baseline: Represents future conditions, including projected water demands and historical hydrologic trends, while also considering other relevant and reasonably foreseeable projects within the study area. It provides a forward-looking view that factors in regional growth, planned developments, and anticipated changes in water use.
- Cumulative Conditions with Project: Reflects conditions attributable solely to the Proposed Project when combined with cumulative future developments and demands. This scenario is essential for understanding how the project's impacts interact with broader trends and developments, providing a comprehensive picture of potential long-term effects.

2.3.2 Additional Modeling Scenarios Conducted for Information Purposes Only

In addition to the primary scenarios, several additional modeling scenarios were developed to provide deeper insights into the Proposed Project's potential impacts. These scenarios were formulated for informational purposes and are not intended for formal CEQA impact assessment. They include:

- Climate Change Conditions Baseline: Simulates future conditions with projected water demands and hydrology influenced by climate change. This baseline helps evaluate the long-term effects of shifts in precipitation patterns, increased temperatures, and altered water availability, providing context for climate resilience planning.
- Climate Change Conditions with Project: Reflects the anticipated conditions of the Proposed Project under climate change scenarios. This analysis assesses how securing additional water rights may support regional water needs in the face of shifting hydrologic conditions and increased demand driven by climate change.
- Full WFA Diversions Conditions Baseline: Considers future water demands and historical hydrology while modeling increased water diversions up to the limits established by the Sacramento Water Forum Agreement (WFA). This scenario explores how increased diversions could impact the Lower American River, which is critical for understanding potential stress on river ecosystems.
- Full WFA Diversions Conditions with Project: Reflects the impact of the Proposed Project under conditions of maximum potential diversions as allowed by the WFA. This scenario explores the interaction between additional water rights and increased diversion limits, helping to evaluate potential effects on water availability and environmental flows in the Lower American River.

2.3.3 Modeling Scenarios Conducted for Alternative Analysis

To assess the potential impacts of different strategies, the analysis includes scenarios for alternative project configurations. These scenarios aim to evaluate the performance of different approaches against the Proposed Project, including:

- No Action Alternative: This scenario reflects future water demands and hydrologic conditions without the Proposed Project, where increased water demands in the Upper American River area are met with existing supplies. This alternative serves as a critical point of comparison to understand the potential benefits or drawbacks of not implementing the Proposed Project.
- 30 TAF Alternative: This scenario explores conditions attributable to a reduced version of the Proposed Project, securing 30 TAF/year instead of 40 TAF/year. It aims to assess how this smaller allocation might help meet a portion of the future water demands and how it compares with the Proposed Project in terms of environmental and hydrological impacts.
- Both alternatives are assessed against the existing conditions to determine their relative advantages, trade-offs, and potential benefits. This analysis helps stakeholders understand the implications of adopting a less intensive water rights acquisition strategy or forgoing the project altogether.

2.3.4 Development of the Existing Conditions With-Project Scenario

The modeling of the Proposed Project (or "with Project" scenario) assumes future demand for the Upper American River to identify potential supply deficits. This scenario introduces changes from the existing baseline conditions because the system operates differently to meet increased demand. Even without the Proposed Project, other West Slope water providers, like EID and GDPUD, would still increase their water usage up to their full permitted water rights allocations, if necessary. This increase, while not reflected in the Existing Conditions Baseline, would take place in the future.

In the "Existing Conditions with Project" scenario, it is important to isolate the specific impacts of the Proposed Project on the water system, separate from other ongoing and future changes. Because of the timing of the Proposed Project and the interconnected nature of water system operations, it is essential to differentiate between the effects directly caused by the project and those resulting from actions by other water providers or broader system changes.

This issue does not arise in the "with Project" scenarios under other conditions, such as Cumulative, Climate Change, or Full WFA Diversions. In these cases, the baseline already accounts for future water demand in the UAR. Therefore, the changes from the baseline to the "with Project" scenario would clearly isolate the effects attributable solely to the Proposed Project.

Attempting to model the "Existing Conditions with Project" without considering the actions of other water providers would contradict the realistic operational setup of the ARIOps model. This inconsistency leads to unrealistic and anomalous modeling outcomes. As a result, the analysis cannot simply use the "Existing Conditions with Project" scenario by itself to project future demand and produce realistic results.

To accurately isolate the effects of the Proposed Project under existing conditions, two scenarios were developed:

- **Existing Conditions with Full UAR Capacity Scenario**: This represents the physical conditions without the Proposed Project, assuming full utilization of existing West Slope water rights and entitlements to meet future demand in the Upper American River.
- **Existing Conditions with Full UAR Capacity and Project Scenario**: This represents the physical conditions with the Proposed Project and full utilization of existing West Slope water rights and entitlements to meet future demand in the Upper American River.

The two scenarios— "with" and "without" the Proposed Project—were compared, and differences were identified and isolated. Specifically, results of scenario 1.1 (Existing Conditions with Full UAR Capacity Scenario) were subtracted from scenario 1.2 (Existing Conditions with Full UAR Capacity and Project Scenario). (Table 2-3) This approach ensures that the impact of the Proposed Project is distinguished from the combined effects of increased water use by other providers. These identified differences were then applied to the "Existing Conditions Baseline" (scenario 1.0) to create the "Existing Conditions with Project" scenario 1.3, which depicts the physical changes solely attributable to the Proposed Project.

2.3.5 Comparisons

To provide a comprehensive evaluation of the Project's environmental impacts, detailed comparisons of six scenario pairs are presented in the Attachments to this appendix. **Table 2-4** outlines the purpose of each comparison and the specific conditions under which the Project's effects are assessed. For each comparison set, modeling results of the ARIOps, CalSim 3, and HEC-5Q are presented for key model parameters at presentative locations. These locations and parameters are described in the "Presentation of Results" section corresponding to each model in Section 3 through 5.

TABLE 2-4. SUMMARY OF MODELING STUDIES CONDUCTED TO ASSESS EFFECTS OF THE PROPOSED PROJECT IN COMPARISON TO DIFFERENT BASELINE ASSUMPTIONS

Attachment	Purpose	Base Scenario	Comparison Scenario
A	Assess significance of Project impacts (CEQA impacts)	1.0. Existing Conditions Baseline	1.3. Existing Conditions with Project
B	Assess the overall cumulative change in the environment	1.0. Existing Conditions Baseline	2.2. Cumulative Conditions with Project
B	Assess incremental effects of Project under cumulative conditions	2.1. Cumulative Conditions Baseline	2.2. Cumulative Conditions with Project
D	Isolate expected change in the environment solely attributable to future climate change conditions	1.1. Existing Conditions with Full UAR Capacity	3.1. Climate Change Conditions Baseline
D	Assess incremental effects of Project under future climate change conditions	3.1. Climate Change Conditions Baseline	3.2. Climate Change Conditions with Project
D	Assess incremental effects of Project under Full WFA diversions conditions.	3.1. Full WFA Diversions Baseline	3.2. Full WFA Diversions with Project
E	Assess 30,000 AF Alternative impacts	1.0. Existing Conditions Baseline	1.3A. Existing Conditions with 30,000 AF Alternative

Key: AF = acre-feet UAR =Upper American River WFA = Water Forum Agreement

2.4 Appropriate Use of Model Results

Numerical models developed and/or applied for this EIR analysis are generalized and simplified representations of complex 'real-world' water resources systems. For example, both ARIOps and CalSim 3 are "level of demand" type models; this type of model assumes a specific level of demand based on the land use, physical features, and regulatory environment representative of a specific point in time and simulated over a range of different hydrologic conditions. Both ARIOps and CalSim 3 were developed for long-term, planning level analyses (e.g., comparing different water demand and use scenarios) and are not intended to replicate historical operations (DWR 2017, 2021c; Western Hydrologics 2023).

2.4.1 Relative Comparisons are Preferred

These planning levels models are not considered predictive models (i.e., calibrated and validated to replicate or predict real world conditions) and therefore the results cannot be considered as absolute within a quantifiable confidence interval. Even so, these models are informative and accepted tools for understanding the performance and potential effects (both positive and negative) of a proposed project or alternative and its interaction with the water resources system under consideration. This is primarily accomplished by using model results as a "comparative tool" to assess relative changes between two simulations, e.g., baseline conditions simulation compared to with Project simulation. Such comparative analyses can serve as an indicator of meeting specific conditions (e.g., compliance with a standard) and/or of trends or tendencies (e.g., generalized impacts), and allow for reasonable inference of how different project conditions might perform under different scenarios and effect environmental resources.

2.4.2 Statistical Comparisons are Preferred

Use of absolute differences computed at a point in time between model results from an alternative and a baseline to evaluate potential impacts is an inappropriate use of model results (e.g., calculating differences between the results from a baseline and an alternative for a particular month and year within the period of simulation). Statistics based on the absolute differences at a point in time (e.g., maximum of monthly differences) are an inappropriate use of model results. By computing the absolute differences in this way, an analysis disregards the changes in antecedent conditions between individual scenarios and distorts the evaluation of impacts of a specific action or project.

Reporting seasonal patterns from long-term averages and water year type averages is an appropriate use of model results. Statistics based on long-term and water year type averages are an appropriate use of model results. Computing differences between long-term or water year type averages of model results from two scenarios is appropriate. Care should be taken to use the appropriate water year type for presenting water year type average statistics of model results (e.g., D-1641 Sacramento River 40-30-30 or San Joaquin River 60-20-20, and with or without climate modified conditions).

2.4.3 Model Output Metrics and Locations

The most appropriate presentation of monthly and annual model results is in the form of probability distributions and comparisons of probability distributions (e.g., cumulative probabilities). If necessary, comparisons of model results against threshold or standard values should be limited to comparisons based on cumulative probability distributions.

Appropriate formats to present model results include:

- Long-term and water-year-type summary tables and charts showing monthly and/or annual statistics derived from the model results.
- Cumulative exceedance probability monthly and/or annual model results shown only by rank/order or only by probability statistic.
- Comparative statistics based on these two types of presentations are generally acceptable.

Reporting of model results typically correspond to appropriate reference locations and/or boundaries (e.g., reservoir releases, compliance locations for regulatory flow requirements, or flows at stream gauges, where the model developers have strived for consistency with real-world flows.

Locations and parameters for comparisons of each modeling tool are outlined in the corresponding "Presentation of Results" section.

2.5 References

Central Valley Water Board (California Regional Water Quality Control Board, Central Valley Region). 2016. The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region, The Sacramento River Basin and the San Joaquin River Basin, Fourth Edition, Revised July 2016 (with approved amendments). Available at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/2016july_1994_sacsjr_bpas.pdf.

County of El Dorado, EDCWA, EID, GDPUD, EDWPA, and SMUD. El Dorado – SMUD Cooperation Agreement. September 2005. Available at: https://www.edcgov.us/waterandpower/water_power_pdf/ElDoradoSMUDCooperationAgreement.pdf.

Draper, A. J., A. Munévar, S. Arora, E. Reyes, N. Parker, F. Chung, and L. Peterson. 2004. "CalSim: A generalized model for reservoir system analysis." Journal of Water Resources Planning and Management, ASCE, 130(6).

DWR. 2017. A Water Resources Planning Model for State Water Project and Central Valley Project. CalSim 3CalSim 3 Draft Report. California Department of Water Resources, Sacramento, CA. December.

DWR. 2020. State Water Project Delivery Capability Report (DCR) 2019. California Department of Water Resources, Sacramento, CA. Available at: https://data.ca.gov/dataset/state-water-project-delivery-capability-report-dcr-2019.

DWR. 2021. CalSim 3CalSim 3. Modeling Support Branch, Bay-Delta Office, California Department of Water Resources, Sacramento, CA. Available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-3.

DWR. 2022a. Delivery Capability Report and Studies 2021. Available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-3/DCR2021.

DWR. 2022b. Delta Conveyance Project Draft EIR. Available at: https://www.deltaconveyanceproject.com/.

EDCWA. West Slope Update to Water Resources Development and Management Plan. November 2014. Available at: https://www.edcgov.us/Water/documents/EDCWA%20WRDMP%20NOVEMBER%202014%20Update%20FINAL%201_28_2015.pdf.

Federal Energy Regulatory Commission (FERC) and U.S. Forest Service, 2008. Final Environmental Impact Statement for Hydropower License, Upper American River Hydroelectric Project, FERC Project No. 2101-084, California and Chili Bar Hydroelectric Project, FERC Project No. 2155-024, California. Available at: https://www.smud.org/en/Corporate/Environmental-Leadership/Power-Sources/Upper-American-River-Project/Hydro-Relicensing.

Federal Energy Regulatory Commission (FERC), 2008. Relicensing Settlement Agreement for the Upper American River Project, FERC Project No. 2101-084, and Chili Bar Hydroelectric Project, FERC Project No. 2155-024. Available at: https://www.ferc.gov/docs-filing/elibrary.asp.

Federal Energy Regulatory Commission (FERC), 2013. Final Environmental Impact Statement for Hydropower License, Middle Fork American River Hydroelectric Project, FERC Project No. 2079-69, California. Available at: http://relicensing.pcwa.net/.

Resource Management Associates, Inc. (RMA). 1998. HEC-5 User's Manual: Simulation of Flood Control and Conservation Systems, Appendix on Water Quality Analysis.

U.S. Department of Interior, Bureau of Reclamation (Reclamation). 2019. Appendix D Modeling. Reclamation ROC on LTO Modeling to Support the January 2019 BA Qualitative Analysis. Available at: https://www.usbr.gov/mp/bdo/docs/ba-appendix-d-modeling.pdf. Accessed June 26, 2021.

Water Forum, 2015. Water Forum Agreement, January 2000, Updated October 2015.

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3. UPPER AMERICAN RIVER BASIN HYDROLOGY AND SYSTEM OPERATIONS MODELING

3.1 Introduction

The American River Integrated Operations Simulation Model (ARIOps Model) is a reservoir operations model that simulates the independent interconnected operations of six major water agencies operating in the upper American River basin. This single model of the interconnected American River and Cosumnes River operations can represent the American River operations above Folsom Reservoir with a common set of assumptions and matching boundary conditions.

The ARIOps model runs on the Oasis software, a generalized linear programming software for modeling the operations of water resources. Oasis simulates the routing of water through a system represented by nodes and arcs. The operations of all existing condition water management and control facilities in the ARIOps Model are described in detail in American River Integrated Operations Model Operations (Western Hydrologics, 2023).

3.2 Model Updates and Refinements

Several improvements were made to the ARIOps model to prepare the model for use in the El Dorado Water Reliability Project modeling studies.

3.2.1 Additional Demand Nodes

Demand nodes representing the Other County Areas were added to the model at the appropriate locations. These Other County Areas represent consumptive demands in El Dorado County that are not currently located in a purveyor's service area.

3.2.2 Incorporation of Stumpy Meadows Reservoir Bathymetric Survey Results

Stumpy Meadows Reservoir had an updated bathymetric survey performed in 2022 which resulted in an updated estimate of the total storage capacity in the reservoir. The storage capacity was updated from 20,000 AF to 21,327 AF. As a result of this capacity increase, the GDPUD Board of Directors incorporated an updated drought contingency plan with revised storage thresholds. As a result of these changes, the model was modified in the following ways:

- Increase the storage capacity of Stumpy Meadows Reservoir from 20,000 AF to 21,327 AF.
- Update the Stumpy Meadows Reservoir Storage Elevation relationship with the bathymetric survey data.
- Update the GDPUD allocations logic to be consistent with the updated drought contingency plan

3.2.3 Updated Power Price Index

A new hourly power price index was developed using CAISO NP15 day-ahead market (DAM) prices over an average of water years 2021 through 2023.

3.2.4 South Fork Powerhouse

SMUD's South Fork Powerhouse was added to the model. The South Fork Powerhouse is a 2.7 MW hydroelectric powerhouse that began operation in 2020. The South Fork Powerhouse is located just downstream of Slab Creek Reservoir and is used to provide recreation flows in the South Fork American River reach between Slab Creek and Chili Bar. Several model components were added to implement the South Fork Powerhouse, including:

- Modifying the model schematic to split the South Fork American River reach from Slab Creek to Chili Bar into two segments: above the South Fork Powerhouse and below the South Fork Powerhouse.
- Modifying the model schematic to include a tunnel tap from the White Rock penstock to the South Fork Powerhouse.
- Implementing a 180 cfs capacity on the South Fork Powerhouse with a 1800 cfs bypass capacity.
- Implementing a maintenance outage on the South Fork Powerhouse at the same time as the White Rock Powerhouse.
- Implementing the minimum flows in the reach between Slab Creek Reservoir and the South Fork Powerhouse.
- Implementing the minimum flows and recreation flows in the reach between the South Fork Powerhouse and Chili Bar.

3.2.5 SMUD Reservoir Management

Some model parameters governing the management of SMUD Upper American River Project (UARP) reservoirs were modified to reflect guidance from SMUD. These include:

- Modification of UARP reservoirs carryover targets.
- Modification of UARP reservoirs carryover target dates.
- Modification of Ice House pulse flow release timing.
- SMUD Recreation flow requirements

Recreation flow requirements were modified with guidance from SMUD regarding the water cost of ramping rates and over-releases to ensure compliance. Model improvements include:

- Implemented the water cost to ramp Chili Bar releases from minimum flow releases to recreational flow releases. This increases the amount of flow used to implement the requirements above what is listed in the FERC settlement agreement.
- Implemented over releases at all minimum flow requirement compliance points to ensure compliance.

3.3 Existing Conditions

3.3.1 Hydrology

The inflow hydrology used in the Existing Conditions modeling was calculated from USGS streamgage and reservoir storage records using a mass balance approach. The calculation of this inflow hydrology is described in detail in American River Integrated Operations Hydrology Development (Western Hydrologics, 2020). Calculated inflows are read into the ARIOps model from a HEC-DSS file.

3.3.2 Water Demands

The ARIOps model has 27 water demand nodes, listed in **Table 3-1**. Each demand node splits demand into municipal demand and agricultural demand. Municipal demand is further split into Indoor municipal and Outdoor municipal. The model uses the Calsim 3 method for return flows in the American River, which returns 100% of indoor municipal and 28.5% of outdoor municipal use.

TABLE 3-1. MODELED WATER DEMAND NODES

Demand Node	Demand Service Area	Agency Responsible for Demand	Model-Assigned Existing Water Demands		
			Agricultural	Municipal	Total
721	Foresthill	Foresthill PUD	0	988	988
901	Bass Lake	El Dorado Irrigation District	2	450	452
902	El Dorado Hills	El Dorado Irrigation District	1	8,616	8,617
903	Lotus/Coloma	El Dorado Irrigation District	1,204	853	2,057
904	Cameron Park	El Dorado Irrigation District	8	5,706	5,714
905	Shingle Springs	El Dorado Irrigation District	212	2,121	2,333
906	Logtown	El Dorado Irrigation District	0	564	564
907	Diamond Springs	El Dorado Irrigation District	545	4,140	4,685
909	Swansboro	El Dorado Irrigation District	18	75	93
910	Camino	El Dorado Irrigation District	1,089	1,270	2,359
911	Pleasant Valley	El Dorado Irrigation District	472	547	1,019
912	Sly Park Local	El Dorado Irrigation District	0	439	439
913	Pollock Pines	El Dorado Irrigation District	13	778	791
918	Placerville	El Dorado Irrigation District	207	3,403	3,610
921	Other County Area 1	El Dorado Irrigation District	0	0	0
922	Other County Area 2	El Dorado Irrigation District	0	0	0
923	Other County Area 3	El Dorado Irrigation District	0	0	0
924	Other County Area 4	El Dorado Irrigation District	0	0	0
925	Other County Area 5	El Dorado Irrigation District	0	0	0
926	Other County Area 6	El Dorado Irrigation District	0	0	0
933	GDPUD 1	Georgetown Divide PUD	0	0	0
934	GDPUD 2	Georgetown Divide PUD	1,035	1,681	2,716
935	GDPUD 3	Georgetown Divide PUD	1,552	1,681	3,233

Demand Node	Demand Service Area	Agency Responsible for Demand	Model-Assigned Existing Water Demands		
			Agricultural	Municipal	Total
970	American River Pump Station	Placer County Water Agency	0	12,546	12,546
971	Folsom Reservoir Pumping	Placer County Water Agency	0	26,472	26,472
973	Water Forum Deliveries	Placer County Water Agency	N/A	N/A	2,313
985	Lake Valley Exports	PG&E	Up to 36 cfs		
		El Dorado County Total	**6,358**	**32,324**	**38,682**
		Placer County Total	**0**	**40,006**	**42,319**

The existing level of development water demands are modeled as the 2020 level outlined in the Urban Water Management Plans for Placer County Water Agency (Placer County Water Agency, 2020), and Georgetown Divide PUD (Georgetown Divide PUD, 2020). Municipal water demands for El Dorado Irrigation District are the average of EID deliveries in years 2017 through 2019 as described in the 2020 EID Urban Water Management Plan (El Dorado Irrigation District, 2020). The total 2015 water demands were modeled at 38,682 AFY within El Dorado County. These existing demands are shown in Table 3-1.

3.4 Future No Project Conditions

3.4.1 Hydrology

Future Conditions studies use 2040-centered climate change hydrology developed using CDWR's 2021 Delivery Capability Report (DCR) model hydrology (California Department of Water Resources, 2021). To develop daily climate change hydrology from the DCR monthly hydrology, a perturbation factor approach was used.

Monthly perturbation factors were developed by dividing the DCR climate change hydrology inflows by the historical hydrology inflows for each watershed for each month of the simulation. These monthly perturbation factors were then multiplied by the ARIOps historical hydrology (described in section 3.3.1) for each watershed on a daily timestep. Where DCR watersheds were split into subwatersheds for the ARIOps model, the perturbation factors for the DCR watershed were used for each subwatershed. The resulting daily climate change hydrology was written to a dss file for input to the ARIOps model.

3.4.2 Water Demands

The ARIOps model has 27 water demand nodes, listed in **Table 3-2**. Each demand node splits demand into municipal demand and agricultural demand. Municipal demand is further split into Indoor municipal and Outdoor municipal. The Future level of development is modeled as a capacity-level development, which assumes service areas are at capacity as outlined in their respective county general plans and is not centered on any given year. The model uses the CalSim 3 method for return flows in the American River, which returns 100% of indoor municipal and 28.5% of outdoor municipal use. The total future water demands were modeled at an average annual of 111,126 AFY within El Dorado County. These future demands are shown in Table 3-2.

TABLE 3-2. MODELED WATER DEMAND NODES

Demand Node	Demand Service Area	Agency Responsible for Demand	Model-Assigned Future Demands		
			Agricultural	Municipal	Total
721	Foresthill	Foresthill PUD	0	3,067	3,067
901	Bass Lake	El Dorado Irrigation District	415	2,430	2,845
902	El Dorado Hills	El Dorado Irrigation District	64	13,643	13,707
903	Lotus / Coloma	El Dorado Irrigation District	2,686	1,554	4,240
904	Cameron Park	El Dorado Irrigation District	279	11,104	11,383
905	Shingle Springs	El Dorado Irrigation District	680	4,676	5,356
906	Logtown	El Dorado Irrigation District	0	1,463	1,463
907	Diamond Springs	El Dorado Irrigation District	984	9,538	10,522
909	Swansboro	El Dorado Irrigation District	175	975	1,150
910	Camino	El Dorado Irrigation District	2,431	1,756	4,186
911	Pleasant Valley	El Dorado Irrigation District	2,546	1,851	4,398
912	Sly Park Local	El Dorado Irrigation District	55	1,843	1,898
913	Pollock Pines	El Dorado Irrigation District	13	2,534	2,547
918	Placerville	El Dorado Irrigation District	822	3,218	4,040
921	Other County Area 1	El Dorado Irrigation District	1,441	2,076	3,517
922	Other County Area 2	El Dorado Irrigation District	85	1,587	1,672
923	Other County Area 3	El Dorado Irrigation District	764	1,465	2,229
924	Other County Area 4	El Dorado Irrigation District	285	488	773
925	Other County Area 5	El Dorado Irrigation District	2,690	3,053	5,743
926	Other County Area 6	El Dorado Irrigation District	8,534	8,425	16,960
933	GDPUD 1	Georgetown Divide PUD	0	110	115
934	GDPUD 2	Georgetown Divide PUD	1,354	4,397	5,751
935	GDPUD 3	Georgetown Divide PUD	2,349	4,287	6,636
970	American River Pump Station	Placer County Water Agency	42,626	27,137	69,763
971	Folsom Reservoir Pumping	Placer County Water Agency	0	49,863	49,863
973	Water Forum Deliveries	Placer County Water Agency	N/A	N/A	9,351
985	Lake Valley Exports	PG&E	Up to 36 cfs		
	El Dorado County Total		28,650	82,476	111,126
	Placer County Total		42,626	80,067	132,044

3.4.3 Water Management and Control Facilities

White Rock Penstock Tap

The project includes a tap on the White Rock Powerhouse penstock. Water diverted from the White Rock Powerhouse penstock would be diverted into the EID distribution system at EID's Reservoir 3 near Placerville. From Reservoir 3 the water can be delivered to demand nodes 901, 902, 903, 904, 905, 906, 907, 918, 923, 925, and 926.

Distributed Storage

Distributed storage was added at all El Dorado County Demand nodes. This distributed storage is an inter-annual storage pool and does not carry over storage year-to-year.

3.5 Proposed Project and Project Alternatives

The Proposed Project includes diverting surface water through and storage in SMUD's existing UARP facilities pursuant to the 2005 Cooperation Agreement at two existing points of diversion (White Rock Powerhouse penstock, and EID's Folsom Lake Intake Facility) and using the surface water to help meet projected water demand associated with the anticipated land use capacity identified in the adopted General Plan for the West Slope.

The Proposed Project is implemented by creating several modeling arcs:

- An arc linking the White Rock penstock to the EID distribution system at EID's Reservoir 3. The arc comes out of the White Rock penstock above the White Rock Powerhouse. These deliveries are not included in generation calculations at White Rock Powerhouse. In addition to meeting demands in Placerville, the water can be routed to the Gold Hill Intertie and the Highway 49 Intertie.
- A sub-arc is added at EID's Folsom Pump Station to include project deliveries at Folsom Reservoir.
- An arc linking the White Rock penstock to the GDPUD canal system upstream of all GDPUD demand nodes.

The Proposed Project deliveries are taken as needed to meet consumptive demand in combination with EID and GDPUD's other water supply sources. Other water supply sources that cannot be stored, such as direct diversion water rights and CVP contract sources are used at a higher priority than proposed project deliveries. More flexible water supply sources that utilize reservoir storage with flexible discretionary releases are used at a lower priority than the Proposed Project deliveries. As a result, flexible storage reservoirs, such as Jenkinson Lake and Stumpy Meadows Reservoir generally see higher storage levels with Project alternatives that include the Proposed Project.

The model includes operations consistent with the 2005 El Dorado SMUD Cooperation Agreement (El Dorado County Water Agency, 2005). Under this agreement, EDCWA is given a 15,000 acre-foot carryover storage account in SMUD's UARP Reservoirs. The model then tracks this carryover storage account as well as Net UARP Storage. Net UARP Storage is defined as the combined storage in Union Valley, Ice House, and Loon Lake reservoirs minus the storage in EDCWA's carryover storage account.

Exhibit H of the 2005 El Dorado SMUD Cooperation Agreement defines deliveries from SMUD to EDCWA under various hydrologic circumstances, as outlined in **Table 3-3**. Deliveries are categorized as Annual Deliveries or Deliveries from Carryover Storage. Deliveries from each of these sources may be constrained based on Net UARP Storage and whether the current water year is a critical dry condition. A critical dry condition is defined in the agreement as a year when the water year unimpaired runoff at the American River below Folsom Lake is forecasted to be less than or equal to 900,000 acre-feet.

TABLE 3-3. PROPOSED PROJECT DELIVERIES FROM SMUD TO EDCWA

Net UARP Storage	Critical Dry Condition?	Delivery Maximum Take	Delivery from Carryover Storage Maximum Take
Greater than 150,000 AF	No	40,000 AF	No Delivery
50,000 AF - 150,000 Annual AF	No	40,000 AF	No Delivery
125,000 AF - 150,000 AF	Yes	40,000 AF at Folsom. No Delivery at White Rock.	15,000 AF
100,000 AF - 125,000 AF	Yes		7,500 AF
50,000 AF - 100,000 AF	Yes		5,000 AF
Less than 50,000 AF	N/A	No Delivery	No Delivery

In project scenarios with distributed storage, the model implements distributed storage at each EID and GDPUD demand node. In these scenarios, diversions into these distributed storage reservoirs are made in the winter and spring when excess flows are available and then diverted from these distributed storage reservoirs into the connected demand node in the summer when flows are not available for diversion. This has the effect of increasing the total system storage and can provide relief to existing storage reservoirs allowing them to maintain higher storage levels.

3.6 Model Implementation

Model implementation is done using an Oasis graphical user interface which compiles and runs modeling studies and coordinates model solve output and interaction with the DGSM.

3.7 Linkage to Other Models

Outputs from ARIOps modeling studies are used as inputs to Calsim studies for modeling of Folsom Reservoir. The modeling parameters that are passed to Calsim are:

- South Fork American River inflow to Folsom Reservoir
- North Fork American River inflow to Folsom Reservoir
- Reservoir Storage at Union Valley, Hell Hole, and French Meadows Reservoirs
- PCWA take at the American River Pump Station and Folsom Municipal Intake
- El Dorado Irrigation District take at Folsom Pump Station

3.8 Model Limitations

The ARIOps model is a daily timestep model developed for long-term planning level analyses. The ARIOps model is not intended to replicate historical operations. The model runs on a set of fixed rules, assumes that all facilities are in good working order, and cannot respond to specific events that occurred historically such as powerhouse outages, forest fires, and canal failures.

The ARIOps model has been calibrated on recent historical operations (1995-2015). When running the model with future climate change hydrology some operational strategies built into the model may not represent the decisions that operators would make under those hydrological conditions.

3.9 Appropriate Use of Model Results

Due to the limitations of the model, results should not be expected to match real-time operations on any given day of the simulation. Rather, results are intended to be a reasonable representation of long-term operations and thus should be used comparatively.

3.10 Presentation of Results

The locations and parameters for the presentation of the comparisons for ARIOps model results are listed in **Table 3-4**. For each set of comparisons, the results are also presented as long-term averages, over the entire simulation period of 1922-2015, and for each comparison, SUMD UARP water year type (wet, above normal, below normal, dry, and critical dry) is used.

TABLE 3-4. LOCATIONS AND PARAMETERS OF ARIOPS MODEL RESULTS

	Title	Parameter	Indicator
1	Union Valley Reservoir Storage	Reservoir Storage (AF)	End of Month
2	Ice House Reservoir Storage	Reservoir Storage (AF)	End of Month
3	Loon Lake Storage	Reservoir Storage (AF)	End of Month
4	Jenkinson Lake Storage	Reservoir Storage (AF)	End of Month
5	Stumpy Meadow Reservoir Storage	Reservoir Storage (AF)	End of Month
6	Caples Lake Storage	Reservoir Storage (AF)	End of Month
7	Silver Lake Storage	Reservoir Storage (AF)	End of Month
8	Aloha Lakes Storage	Reservoir Storage (AF)	End of Month
9	Echo Lake Storage	Reservoir Storage (AF)	End of Month
10	Union Valley Reservoir Water Surface Elevation	Water Elevation (FT)	End of Month
11	Jenkinson Lake Water Surface Elevation	Water Elevation (FT)	End of Month
12	Stumpy Meadow Reservoir Water Surface Elevation	Water Elevation (FT)	End of Month
13	Caples Lake Water Surface Elevation	Water Elevation (FT)	End of Month
14	Silver Lake Water Surface Elevation	Water Elevation (FT)	End of Month
15	Aloha Lakes Water Surface Elevation	Water Elevation (FT)	End of Month
16	Echo Lake Water Surface Elevation	Water Elevation (FT)	End of Month
17	Flow in South Fork American River below Chili Bar Dam	Flow (CFS)	Monthly Average
18	Flow in Silver Creek at mouth	Flow (CFS)	Monthly Average
19	Flow in South Fork American River above Silver Creek	Flow (CFS)	Monthly Average
20	Gerle Creek below Diversion Dam	Flow (CFS)	Monthly Average
21	South Fork American River above Folsom Lake	Flow (CFS)	Monthly Average
22	Upper American River Project Generation	Power Generation (GWHrs)	Monthly Total
23	El Dorado Powerhouse Generation	Power Generation (GWHrs)	Monthly Total

3.11 References

California Department of Water Resources. 2021. The Draft State Water Project Delivery Capability Report 2021. State of California, Natural Resources Agency, Department of Water Resources. Sacramento, California.

El Dorado County Water Agency. 2005. El Dorado-SMUD Cooperation Agreement. El Dorado County Water Agency. Shingle Springs, California.

El Dorado Irrigation District. 2020. Urban Water Management Plan. El Dorado Irrigation District. Placerville, California.

Georgetown Divide Public Utilities District. 2020. Urban Water Management Plan. Georgetown Divide Public Utilities District. Georgetown, California.

Placer County Water Agency. 2020. Urban Water Management Plan. Placer County Water Agency. Auburn, California.

Western Hydrologics. 2020. American River Integrated Operations Hydrology Development. Western Hydrologics. Auburn, California.

Western Hydrologics. 2023. American River Integrated Operations Model Operations. Western Hydrologics. Auburn, California.

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4. HYDROLOGY AND SYSTEM OPERATIONS MODELING

This appendix provides a summary of modeling performed to simulate the hydrology, water resources, and water management of the Central Valley with particular focus on operations of the State Water Project (SWP) and Central Valley Project (CVP). It includes a description of the CalSim 3 model used for the analysis.

4.1 Introduction

The evaluation of long-term system-wide effects on SWP and CVP operations resulting from potential facility and/or policy changes is typically done using the CalSim suite of models (CalLite, CalSim II and CalSim 3), referred to generally as CalSim in this document. CalSim is a water operation planning model, jointly developed by DWR and Reclamation, that simulates the long-term operational capability of the SWP and the CVP over a period of record that includes a wide range of hydrologic variability. CalSim was originally developed over two decades ago and has been updated through a managed process. More than one version of the model is available for potential applications.

4.2 Model Selection

4.2.1 CalSim 3

DWR and U.S. Bureau of Reclamation (Reclamation) jointly developed CalSim 3 as a planning model to simulate operations of the SWP and CVP over a range of hydrologic conditions. The model represents the best available planning-level analytical tool for SWP and CVP system operations and is an improved and expanded version of CalSim II, which has been the standard planning model for system operations since the early 2000s. A description of CalSim 3 is available from DWR (California Department of Water Resources 2017, 2021a).

Inputs to CalSim 3 include unimpaired inflows and rainfall runoff, agricultural, urban, and wetland water demands, return flows, and groundwater recharge from precipitation and irrigation. Sacramento and San Joaquin Valley and tributary rim basin hydrology are developed using a process designed to adjust the historical sequence of monthly stream flows over a 94-year period (1922–2015) to represent a sequence of flows at existing and future levels of development.

CalSim 3 outputs include river and stream flows, water diversions and return flows, reservoir storage, Delta channel flows, Delta diversions and exports, Delta outflow, deliveries to project and non-project users, and controlling factors on project operations. These can be used to assess effects resulting from the proposed project and project alternatives. CalSim 3 outputs are used as boundary conditions for and inputs to other hydrologic, hydrodynamic, and biological models and analyses.

CalSim 3 contains many improvements over CalSim II. These improvements include:

- Expansion of model domain to dynamically simulate the entire watershed of the Sacramento-San Joaquin Delta (Delta) using a physically based network schematic, which is available in geo-referenced form.
- Delineation of over 230 mountain (rim) watersheds and corresponding unimpaired runoff to major reservoirs and to streams at points of diversion and points of measurement.
- Finer spatial resolution, whereby water demands are based on individual water districts and water agencies rather than large geographic regions and points of diversion are based on water rights.
- Updated agricultural land use, crop water demands, and irrigation efficiencies.
- Updated urban demands based on 2015 Urban Water Management Plans (UWMP) projections for 2020 and 2040.
- Improved simulation of groundwater flows and storage, including stream-groundwater interaction, by linking CalSim 3 to a distributed, finite element groundwater model and improved distinction between surface water use and groundwater use.
- Extended period of simulation to include water years (WY) 2004 through 2015.

DWR and Reclamation have extensively reviewed CalSim 3 performance through comparison with CalSim II and recent historical observed data. CalSim 3 is considered the best available tool for performing planning studies and supporting environmental review of proposed projects and programs, including this project.

4.2.2 Selection of CalSim 3 Model Version

During 2022 through early 2024, when the modeling analysis was conducted for the Draft EIRS, DWR's 2021 Delivery Capability Report (2021 DCR) release of CalSim 3 was the best tool available to evaluate the effect of the Proposed Project on the operations of the CVP and SWP systems. The 2021 DCR CalSim 3 Reflected the current regulatory framework for the CVP and SWP operations, including the 2019 U.S. Fish and Wildlife Service and National Marine Fisheries Service biological opinions, 2020 Record of Decision (Reclamation), and 2020 SWP incidental take permit (California Department of Fish and Wildlife).

In May 2024, DWR released an updated version of CalSim 3 along with the release of the 2023 DCR. The 2023 DCR CalSim 3 made refinements to the model performance and representation of the CVP and SWP system. The 2023 and 2021 DCR CalSim 3 models reflect the same regulatory framework for CVP and SWP operations as discussed above. A key update to input hydrology in the 2023 CalSim 3 is the extension of simulation period from 19921 to 2015 to cover the period 1921 to 2021. In addition, it shifts away from relying on historical data because of climate change. To better represent recent climatic conditions, an adjusted historical hydrologic conditions data set was developed. This adjusted data set uses precipitation and rim inflows from the most recent 30 years (1992–2021) to modify earlier data (1922–1991) through statistical scaling methods. This adjustment ensures that the data better reflects modern climate patterns, providing a more accurate baseline for future climate change scenarios.

In July 2024, the U.S. Bureau of Reclamation released a Draft Environmental Impact Statement (EIS) for the long-term operation (LTO) of California's two major water systems, the CVP and SWP. This draft

was prompted by a 2021 executive order, which mandated a review of the 2019 biological opinions. These biological opinions had previously shaped how the water projects were managed, particularly concerning endangered species. The new draft EIS presents multiple alternatives for how the CVP and SWP could be operated going forward, focusing on better protecting endangered species like the Delta smelt and winter-run Chinook salmon. Among the options, Alternative 2B has been identified as the preferred choice. Along with the draft EIS a revied LTO CalSim 3 model was released that simulates the proposed alternatives including the preferred alternative. This CalSim 3 reflects proposed updated to the regulatory framework for the CVP and SWP operations. It also uses the adjusted historical hydrology. Note that additional revisions to the LTO CalSim 3 model is possible in response to comments on the draft EIS.

Although the overall results of the Proposed Project and its changes in the physical environment are not expected to be substantially different when modelled in the 2021 DCR CalSim 3 as compared to 2023 DCR and the LTO CalSim 3 models. Note that the Proposed Project main effect on the CVP/SWP is a slight reduction to inflows into Folsom due to delivery of up 40,000 of additional supplies for consumptive use in the UAR. The impacts of the Proposed Project are assessed as the incremental different from the Baseline to the with Project scenario. Therefore, the relative change is likely to be similar across all three models.

Between 2022 and early 2024, the modeling analysis for the Draft Environmental Impact Report (EIR) used the 2021 Delivery Capability Report (DCR) version of CalSim 3 as the best tool available to assess the impact of the Proposed Project on the operations of the Central Valley Project (CVP) and State Water Project (SWP). The 2021 DCR CalSim 3 model reflects the current regulatory framework for CVP/SWP operations, including the 2019 biological opinions from the U.S. Fish and Wildlife Service and National Marine Fisheries Service, the 2020 Record of Decision by the Bureau of Reclamation, and the 2020 Incidental Take Permit by the California Department of Fish and Wildlife.

In May 2024, the DWR released an updated version of CalSim 3 with the 2023 DCR, which improved model performance and representation of the CVP and SWP systems. Although the updated model maintained the same regulatory framework as the 2021 DCR, a key enhancement was the extension of the simulation period from 1921 to 2021, with adjustments to input hydrology. This shift involved moving away from reliance on historical hydrologic data due to the influence of climate change. The new adjusted historical hydrologic data set better reflects modern climatic patterns, using precipitation and rim inflows from the past 30 years (1992–2021) to adjust earlier data (1922–1991). This adjustment provides a more accurate baseline for modeling future climate change scenarios.

In July 2024, the U.S. Bureau of Reclamation released a Draft Environmental Impact Statement (EIS) for the long-term operation of the CVP and SWP, prompted by a 2021 executive order to review the 2019 biological opinions. The draft EIS proposes multiple operational alternatives, with Alternative 2B identified as the preferred choice, focusing on improved protection for endangered species such as the Delta smelt and winter-run Chinook salmon. Alongside the EIS, a revised Long-Term Operations (LTO) CalSim 3 model was released to simulate the proposed alternatives, including Alternative 2B. This revised model incorporates the proposed updates to the regulatory framework and uses the adjusted historical hydrology. Additional revisions to the LTO CalSim 3 model may occur based on public comments on the draft EIS.

Although the 2021 DCR CalSim 3, 2023 DCR CalSim 3, and the LTO CalSim 3 models incorporate various refinements, the overall environmental impacts of the Proposed Project are expected to remain consistent across these models. The primary impact of the Proposed Project is a slight reduction in inflows to Folsom Reservoir due to the delivery of up to 40,000 acre-feet of additional supplies for consumptive use in the Upper American River (UAR). The impact analysis evaluates the incremental changes from the baseline to the "with project" scenario, meaning that the relative impacts are likely to be similar across all three models.

4.3 Modeling Approach

4.3.1 Level of Development

CalSim 3 uses a level of development approach to simulate water management facilities in the Sacramento – San Joaquin Delta watershed and flows in rivers, streams, and channels. Facilities, land use, contracts, regulations are held constant over the 94-year period of simulation. Monthly values of unimpaired runoff represent the range of water supply conditions that characterize either Existing Conditions (year 2020) or Cumulative Conditions (year 2040) influenced by climate change. Model results are best interpreted in terms of probabilities or exceedance representing the range of outcomes that could occur for the chosen level of development.

4.3.2 Timestep and Period of Simulation

CalSim 3 simulates monthly water management operations for a 94-year period. The inflow hydrology is based on the historical weather sequence October 1921 through September 2015. Though using a monthly timestep, the model includes several adjustments to better represent management operations at a daily timescale. These include (1) daily representation of Sacramento River flows for the purpose of simulating flow over the Fremont and Sacramento weirs, (2) adjustment of instream flow requirements on the Sacramento River at the Navigation Control Point to account for daily flow variation within the month, (3) daily representation of the Sacramento River flow at Wilkins Slough for triggering various Delta regulatory actions, and (4) for the proposed North Delta Diversion, daily patterning of flows at Hood when applying bypass flow and low-level pumping requirements and simulating diversions.

4.3.3 Spatial Resolution

Water Budget Areas

CalSim 3 divides the Sacramento and San Joaquin valleys into geographic regions termed water budget areas (WBA). WBAs provide a structure to simplify the organization, explanation, and presentation of CalSim 3 data, code, and results. WBAs also define the spatial resolution of hydrologic input data for calculating agricultural demands (i.e., precipitation and evapotranspiration [ET]).

Demand Units

WBAs, described above, are disaggregated into one or more demand units. A demand unit represents a collection of water users who share similar climate and soils, have the same physical, legal, and contractual access to water, and have similar land uses, water delivery systems, and water use efficiencies.

The size and number of demand units is set partly by the availability of data for model calibration but is also a compromise between a model representation that requires less data input and a very detailed, physically based, representation that requires greater levels of input and code. The number of demand units has been set to facilitate the use of local planning information and data for CalSim 3, and to facilitate future use of CalSim 3 for regional water resources planning by local agencies.

CalSim 3 has a total of 258 demand units within the model domain. Table 4-1 presents the type and distribution of demand units by hydrologic region.

TABLE 4-1. CALSIM 3 DEMAND UNITS BY HYDROLOGIC REGION

Hydrologic Region	Agricultural Demand Units	Urban Demand Units	Wetland Demand Units	Total
Sacramento River	73	64	8	145
San Joaquin River	57	17	9	83
Delta	1	1	0	2
Tulare Lake	3	1	1	5
External Areas [a]	5	18	0	23
Total	139	101	18	258

[a] Demand units located outside of the valley floor.

4.4 Existing Conditions Baseline

The Existing Conditions assumptions include existing facilities and ongoing programs, and those that have received approvals and permits. The CalSim 3 Existing Conditions model[1] represents SWP and CVP operations to comply with the regulatory environment as of 2020, as simulated in the CalSim 3 studies of the Draft SWP Delivery Capability Report 2021 (DWR, 2022).

4.4.1 Hydrology

The physical hydrology components of CalSim 3 are based on two assumptions for classifying watersheds. The first assumption is that the foothill and mountainous “rim” watersheds that surround the Central Valley are relatively undeveloped, and changes in land use over time have not significantly affected the natural outflow from these watersheds. Rim watersheds typically are characterized by complex topography, steep slopes, shallow soils, and limited aquifer systems. Precipitation percolating to groundwater quickly returns to streams as baseflow. Groundwater in these upland watersheds is not extensively used as a source of supply.

The second assumption is that the “valley floor” watersheds, which are delineated into WBAs, have been extensively developed for agriculture and contain large urban areas. For these watersheds, the timing and volume of runoff is strongly influenced by human impacts on the environment. Deep percolation from precipitation and irrigation recharges the underlying aquifer, which is hydraulically linked to the stream

[1] https://data.cnra.ca.gov/dataset/state-water-project-delivery-capability-report-dcr-2021.

system. Groundwater is an important source of water both for agricultural and urban uses. Significant changes in groundwater storage occur.

CalSim 3 represents the hydrology of the rim watersheds as preprocessed timeseries of boundary inflows derived from observed streamflow records. In contrast, the hydrology of the valley watersheds is simulated using a rainfall-runoff model, soil moisture accounting in the root zone, and a distributed finite element model of the underlying groundwater aquifer.

4.4.2 Water Demands and Water Use

CalSim 3 water demands are preprocessed using CalSimHydro. However, CalSim 3 water use is dynamically simulated in the model. Agricultural water use parameters include conveyance loss factors, factors for field-level miscellaneous evaporative losses, and tailwater reuse factors.

Agricultural Water Demands and Water Use

CalSimHydro calculates applied water demands for 20 crop types using soil moisture accounting on a monthly timestep. Water supplies available to meet crop water demands are a mix of stream and canal diversions, groundwater pumping, and reuse of tailwater. Stream diversions and deliveries from major canal systems are subject to conveyance losses (operational spills, lateral flow, evaporation, and deep percolation). In contrast, groundwater pumping is considered to be at field level and not subject to conveyance losses unless a water district supplements canal deliveries with groundwater pumping into the district canal distribution system. Tailwater (including flow-through from rice fields and drawdown of ponded water) is available for reuse. Water supplies must meet applied water demands and any minor miscellaneous evaporative losses. A fixed fraction of water demands must be met from groundwater pumping, representing farmers who do not have access to surface water.

Managed Wetlands Water Demands

A wetlands water use model was developed as part of the CalSimHydro to calculate applied water demands, surface water return flows, and deep percolation from water delivered to managed wetlands. The model considers land use, ET, precipitation, and different water management operations for seasonal, semi-permanent, and permanent wetlands.

Urban Water Demands

For major water purveyors, urban water demands for existing conditions are based on historical annual production data for the years 2016 through 2019 contained in DWR's Public Water Supply Statistics (PWSS) database. For small, unincorporated communities, water demands are based on per capita water use rates and population estimates. Annual water demands are disaggregated to monthly demands based on historical monthly production data in the PWSS database. Urban water demands input to CalSim 3 consist of a 12-month repeating timeseries with no inter-annual variation.

Urban water use is divided into indoor and outdoor components. It is assumed that indoor water use is constant throughout the year and equal to the water production for the month of lowest water use. The model assumes that all indoor water use returns to either the surface water or groundwater system,

i.e., there are no evaporative losses. In contrast, the majority of outdoor urban water is used consumptively through irrigation and ET.

The majority of urban demand units represented in CalSim 3 depend on a single source of water, either surface water or groundwater. However, for urban demand units that conjunctively use surface water and groundwater, a minimum level of groundwater pumping is specified as a fraction of urban water demand. Once this level of groundwater pumping is met, CalSim 3 diverts surface water, as physically available, to meet demand up to any restrictions imposed by water rights, contracts, and agreements. Finally, any unmet demand is met by additional groundwater pumping. Typically, no system capacity restrictions (e.g., water treatment capacities) are represented in the model. Table 3-8 summarizes urban water demands represented in the model.

4.4.3 Stream Diversions and Water Rights

CalSim 3 is not a water right model and includes only a very limited representation of water rights, although water rights are more fully represented in the upper watershed modules. Limitations on diversions from the major rivers and creeks are described in the following sections.

Sacramento River

Simulated diversions from the Sacramento River upstream from the Delta are divided into CVP diversions and non-project diversions. Diversions to CVP settlement contractors are limited by the annual CVP allocation. Additional limits are imposed for diversions in critical and non-critical months. For agricultural diversions, the period of diversion for CVP water is April through October. Outside of this period, CalSim 3 diversions are limited only by the demand for winter water. Water rights for diversion during the October through March time period have not been quantified. Simulated diversions to water service contractors are limited by the annual water allocation.

CalSim 3 representation of diversions from the Sacramento River other than by CVP contractors is limited to the City of West Sacramento, City of Sacramento, Davis-Woodland Project, Freeport Regional Water Project, and Llano Seco Ranch.

Feather River

CalSim 3 simulates diversions from the Thermalito Power Canal, Thermalito Afterbay, and the lower Feather River. Simulated diversions to Western Canal Water District, the Joint Board District, Plumas Mutual Water Company, Garden Highway Mutual Water Company, Oswald Water District, and Tudor Mutual Water Company are limited to amounts specified in various settlement agreements with DWR. Contract water is subject to deficiencies of up to 50% in dry years. Diversions to Yuba City are limited to Table A allocations and water right amounts. SWP Table A water allocated to Butte County are delivered to municipal agencies within the county.

CalSim 3 includes diversion limits for individual water right holders and riparian water users located along the lower Feather River. These limits are based on an analysis of water rights, riparian land use, and historical diversions conducted by DWR.

American River

CalSim 3 simulates diversions for M&I purposes from Folsom Lake, Lake Natomas, and the lower American River. Typically, water is diverted under a mix of water rights and CVP contracts that are explicitly represented in CalSim 3. The model includes preferences for which type of water is diverted in any particular month. City of Sacramento diversions are limited according to the settlement agreement between the City and Reclamation. City diversions are divided between the American River and the Sacramento River intakes based on upper limits of 189 TAF/year at the Fairbairn intake and 81.8 TAF/year at the Sacramento River intake. This split is dynamically adjusted to meet the American River Hodge Criteria.

Lower Yuba River

CalSim 3 simulates Yuba Water Agency deliveries from the lower Yuba River to its member units. Diversions are limited to a maximum annual water right of 162,462 acre-feet and annual contract amount of 388,513 acre-feet. CalSim 3 simulates deficiencies of up to 50% to contract water deliveries. The model does not include dry year deficiencies that are allowed under water right settlement contracts.

Lower Bear River

Simulated diversions from the Bear River below Camp Far West Dam includes deliveries to Camp Far West Irrigation District and South Sutter Water District. Simulated diversions are limited by surface water availability and water demands.

Stony Creek

CalSim 3 simulates diversions from Black Butte Dam and lower Stony Creek as part of Reclamation's Orland Project. These diversions are limited to the simulated annual allocation. In model simulation, no distinction is made between CVP water and Orland Project water, and water previously stored in Black Butte Reservoir may be delivered to the Orland Project.

Cache Creek

CalSim 3 includes two agricultural diversions from Cache Creek: private diversions in Capay Valley and diversion by Yolo County Flood Control and Water Conservation District at the Capay Diversion Dam. Simulated diversions are limited by surface water availability and water demands.

Putah Creek

Simulated diversions from Putah Creek comprise a single diversion at the Putah Diversion Dam to the Putah South Canal. Diversions are constrained to be less than the product of the annual contract amount of 207,350 acre-feet and the annual allocation established by Solano County Water Agency. Solano Project water is subsequently assigned to individual project members based on their individual contract amounts and sale agreements between these members.

Other Minor Creeks

In general, simulated diversions from minor creeks are limited by the available water supply and agricultural water demands.

Mainstem San Joaquin River

CVP Friant Division Diversions from Millerton Lake are limited to Class I and Class II allocations to CVP contractors. River diversions at the Mendota Pool and Sack Dam are limited to CVP contract allocations to the Exchange Contractors, Fresno Slough diverters, and conveyance of CVP Level 2 refuge water through Central California Irrigation District and San Luis Canal Company facilities. Riparian and appropriative diversions from the mainstem below Sack Dam are limited to a maximum flow rate and a period of diversions based on a review of the State Water Board's Electronic Water Rights Information Management System (eWRIMS database and Statements of Water Use.

Merced River

CalSim 3 simulated diversions from the Merced River include diversions to Merced Irrigation District (MID at the Merced Falls Dam and the Crocker-Huffman Diversion Dam, individual riparian and appropriative diverters on the left and right banks, and diversions to Stevenson Water District. MID simulated diversions are limited by CalSim 3 annual allocations, which are based on forecasted water supply availability. Riparian diversions in the 19-mile reach from Crocker-Huffman Diversion Dam to Shaffer Bridge are based on Statements of Water Use by the Cowell Agreement diverters. Diversions to Stevenson Water District is based on the district's license and recent reported water use. Other minor diversions from the Merced River are based on a review of the State Water Board's eWRIMS database and Statements of Water Use.

Lower Tuolumne River

CalSim 3 simulated diversions from the lower Tuolumne River include diversions to Modesto Irrigation District and Turlock Irrigation District at LaGrange Dam and individual riparian and appropriative diverters on the left and right banks. District simulated diversions are limited by CalSim 3 annual allocations, which are based on forecasted water supply availability. Minor riparian and appropriative diversions are based on a review of the State Water Board's eWRIMS database and Statements of Water Use.

Lower Stanislaus River

CalSim 3 simulated diversions from the lower Stanislaus River below Tulloch Reservoir include CVP deliveries to Stockton East Water District and Central San Joaquin Water Conservation District that are conveyed through the Upper Farmington Canal and deliveries to senior water right holders at the Goodwin Dam: OID and SSJID. Annual allocations to these districts are based on the *New Melones Step Release Plan* described by Reclamation (2019.

4.4.4 Water Management and Control Facilities

The following sections briefly describe water management facilities simulated in CalSim 3 as part of Existing Conditions.

Surface Water Reservoirs

In general, CalSim 3 dynamically simulates reservoirs with an active storage greater than 50,000 acre-feet. Reservoir storage is divided into zones, including dead storage or inactive storage and flood control

space, where applicable. Storage zones are assigned different weights and are used to allocate water for different purposes.

CalSim 3 dynamically simulates operation of SWP reservoirs, including Lake Oroville, Thermalito Forebay and Afterbay, and SWP share of San Luis Reservoir. The model also simulates operation of reservoirs on the West and East Branch of the California Aqueduct: Castaic Lake, Pyramid Lake, Silverwood Lake, and Lake Perris and simulates Del Valle Reservoir located off the South Bay Aqueduct.

CalSim 3 dynamically simulates operation of CVP reservoirs, including Trinity Lake, Whiskeytown Reservoir, Shasta Lake, Keswick Reservoir, Folsom Lake, Lake Natoma, New Melones Reservoir, CVP share of San Luis Reservoir, and Millerton Lake.

Flood Control Structures

CalSim 3 simulates operations of the Sacramento River Flood Control Project constructed by the U.S. Army Corps of Engineers.

- Between Bend Bridge and Butte City, the model represents M&T and 3Bs flood relief structures that are located upstream from the Ord Ferry gauge, and the Goose Lake flood relief structure downstream from this gage.
- Between Butte City and Wilkins Slough, the model represents Moulton, Colusa, and Tisdale weirs that allow flood flows in excess of the downstream channel capacity to escape into the Butte and Sutter basins
- Between Wilkins Slough and Verona, the model represent the Fremont Weir located at the Sacramento-Feather River confluence that spills excess flow to the Yolo Bypass
- Between Verona and Freeport, the model represents the Sacramento Weir that spills excess flow to the Yolo Bypass.

Simulated flows over the Fremont Weir and Sacramento Weir are based on a disaggregation of the upstream monthly flow volume into daily flows. Simulation of flows over other weirs is based on the monthly flow.

Stream Gauges

The CalSim 3 schematic includes nodes representing major stream gauges located downstream of the foothill reservoirs and on the valley floor. Gauge locations are used as compliance locations for instream flow requirements, provide locations for model bias corrections (discussed above), were used to develop historical unimpaired inflows, or used in model validation. As described in the modeling approach CalSim 3 simulated flows do not provide information on historical conditions and simulated flows at stream gauges will differ from observed flows.

Additional historical data are available from public agencies for reservoir releases, computed reservoir inflows, weir flows, and stream diversions. The availability of such data is not indicated in the CalSim 3 schematic.

4.4.5 Delta Facilities

Delta Cross Channel

Constructed in 1951 by Reclamation, the Delta Cross Channel is a gated structure that allows passage of Sacramento River water to Snodgrass Slough and thence to the Lower Mokleumne River and San Joaquin River.

CalSim 3 uses an integer variable to close the gates when upstream Sacramento River flows averaged over the month exceed 25,000 cfs. For compliance with D-1641, CalSim 3 assumes the Delta Cross Channel to be closed February 1 – June 4, and closed for 10 days in November, 15 days in December, and 20 days in January.

CalSim 3 simulates additional gate closures for compliance with the 2019 NMFS BO. Between October 1 – December 14, the model assumes the gates will be closed if the Sacramento River daily flow at Wilkins Slough exceeds 7,500 cfs. A relationship between the number of days flow exceeds 7,500 cfs and the average monthly flow is based on observed data (USGS gauge 11390500, Sacramento River below Wilkins Slough near Grimes). The model implements the target closures unless this action would cause water quality concerns at Rock Slough to be above D-1641 standard.

Using the ANN flow-salinity model for Rock Slough, current month's chloride level at Rock Slough is estimated assuming the target closures. The resulting chloride concentration is compared to the Rock Slough chloride standard (monthly average). If the estimated chloride level exceeds the standard, the gate closure is modeled as for the D-1641 schedule for the entire month. It is assumed that from December 15 through January 31 that the Delta Cross Channel gates are closed under all water quality conditions.

Delta Export Facilities

Banks Pumping Plant

SWP export facilities in the South Delta include the Clifton Court Forebay (CCF), the Skinner Fish Facility, and the Harvey O. Banks Pumping Plant (Banks Pumping Plant). Clifton Court Forebay operations are not simulated in CalSim 3. The Forebay is simply represented as a conveyance node at the start of the California Aqueduct. The Skinner Fish Facility is not represented in the model. Banks Pumping Plant is represented as a node on the California Aqueduct with an associated capacity of 10,300 cfs.

Barker Slough Pumping Plant

SWP facilities in the North Delta include the Barker Slough Pumping Plant (BSPP) and the North Bay Aqueduct. The Barker Slough Pumping Plant diverts water from Barker Slough into the North Bay Aqueduct (NBA) for delivery to Napa and Solano counties. The NBA intake is located approximately 10 miles from the mainstem Sacramento River at the end of Barker Slough. Diverted water consists of a mix of SWP water, Vallejo Permit Water, and Fairfield, Vacaville, and Benicia Settlement Water.

The nominal design capacity of the BSPP is 175 cfs with the installation of ten pumps. Only nine pumps have been installed. However, pump tests performed by DWR before 2010 determined that the current operational capacity of the intake and pipeline was about 140 cfs with the nine existing pumping units in

operation. More recent assessments by DWR indicate that effective capacity of the pipeline in 2011 is approximately 130 cfs. Currently, CalSim 3 has no defined pumping capacity for the facility; pumping is driven by a combination of water supply and water demand. Simulated pumping exceeds flow rates of 130 cfs in about 20 months and exceeds 175 cfs in two months.

The City of Vallejo holds a water right (Permit 8993) issued in 1948 to divert up to 31.52 cfs year-round from Cache Slough, equivalent to a maximum of 22.78 TAF per year. The place of use includes the cities of Vallejo and Benicia, and parts of Solano County and the American Canyon area in Napa County. Before the NBA construction, the Cache Slough pipeline conveyed water from Cache Slough to Vallejo. The City of Vallejo subsequently paid DWR for the right to use the NBA to convey this Vallejo permit water. Permit water is senior to the SWP water rights and is not subject to Term 91 curtailments. Under existing agreements, DWR has limited the annual conveyance amount of permit water through the NBA to 17.287 TAF/year. CalSim 3 assumes a fixed monthly delivery of this annual volume based on 2008-2015 historical diversions reported to the State Water Board.

A settlement agreement was executed among DWR, Solano County WA, and the cities of Fairfield, Vacaville, and Benicia to allow those cities to receive a total of 31.62 TAF/year2 through the NBA. This Settlement Water is not available when Term 91 is in effect. CalSim 3 simulates the diversion of Settlement Water using unstored water for export under the COA accounting rules as a surrogate for Term 91.

Jones Pumping Plant

CVP export facilities in the South Delta include the Tracy Fish Collection Facility and the Jones Pumping Plant. The Tracy Fish Collection Facility is not represented in the model. Jones Pumping Plant is represented as a node on the Delta-Mendota Canal with an associated capacity of 4,600 cfs.

Delta Diversion Facilities

Contra Costa Water District

CalSim 3 represents Contra Costa WD's municipal intakes located in the south and western Delta. These include intakes at Rock Slough, Old River near Highway 4, Victoria Canal (also known as the Middle River intake), and Mallard Slough intake. The model also simulates operation of the 160 TAF Los Vaqueros Reservoir that stores higher quality Delta water for blending with the Delta supply during dry periods when sodium and chloride levels typically increase.

The Rock Slough Intake Facility pumps water using four pumping plants located along the initial reaches of the Contra Costa Canal. CalSim 3 assumes a maximum intake capacity of 350 cfs. The model prioritizes diversions at the Rock Slough intake for the months December-March and June.

The Old River and Victoria Canal intakes are conveyed through the Old River Pipeline to the Transfer Station where flows are either pumped into Los Vaqueros or conveyed by gravity to the Contra Costa Canal. CalSim 3 assumes intake capacities of 250 cfs at each location with a combined capacity of 320 cfs.

[2] The Settlement Water is available to up to 11.8 TAF/year (93 cfs) for the City of Fairfield, 10.5 TAF/year (50 cfs) for the City of Benicia, and 9.32 TAF/year (46 cfs) for the City of Vacaville.

The Mallard Slough Pump Station, located at the western-most end of the Delta in Suisun Bay near Bay Point, has a capacity of 39 cfs and pumps water directly into Contra Costa Canal. Diversions from Mallard Slough are unreliable due to frequently poor water quality, specifically high chlorides, in the San Joaquin River at this point of diversion. CCWD only diverts at Mallard Slough when chlorides are 65 milligram per liter (mg/L) or less. Water quality conditions have limited diversions from Mallard Slough to approximately 3,500 acre-feet per year, on average (CalFED 2005). In CalSim 3, diversions at Mallard Slough are set to zero.

CalSim 3 fills Los Vaqueros Reservoir with water from the Delta of up to 65 mg/L chloride concentration under the district's Los Vaqueros water right permit or under its CVP water supply contract. Existing biological opinions (BiOp) and permits for the Los Vaqueros Project impose certain restrictions on operations of the Los Vaqueros Project and Contra Costa WD's Delta diversions. These include an annual 75-day no-fill period and a concurrent 30-day no-diversion period, and an additional 0 to 14 days of no-fill in February depending on February 1st Los Vaqueros Reservoir storage. CalSim 3 assumes a no-fill period of 14-28 days in February, March, and June with a concurrent no-diversion period in March. These restrictions are waived if storage in Los Vaqueros Reservoir is at or below emergency levels of 70 TAF in wet, above normal, or below normal water years, and 44 TAF in dry or critically dry water years. Additionally, simulated diversions from the Old River Intake and Middle River Intake at Victoria Canal do not occur when Old and Middle River (OMR) flow restrictions are controlling CVP and SWP south Delta export operations under the 2019 USFWS and NMFS Operational Criteria and Plan (OCAP) BiOps. The model operates Los Vaqueros Reservoir to meet a delivered water quality of 65 mg/L chloride.

City of Stockton

CalSim 3 represents the City of Stockton's municipal intake located in the eastern Delta north of the City on Empire Tract. The intake was constructed in 2012 as part of the City's Delta Water Supply Project. San Joaquin River water diverted at the intake Pump Station is treated at the City's Delta Water Treatment Plant, along with supplemental surface water from the Mokelumne River diverted and conveyed by Woodbridge Irrigation District when the City's supplies from the San Joaquin River are curtailed. The water treatment plant has a 30 MGD capacity. Delta diversions are curtailed annually from February 15th to June 15th under BiOps issued by USFWS and CDFW for the protection of Delta smelt.

CalSim 3 limits diversions at the City's Delta intake to 46 cfs (equivalent to 30 MGD). Additionally, the model limits Delta diversions to be less than return flows from the Stockton Wastewater Treatment Plant to represent the City's water right under Section 1485 of the California Water Code.[3] For protection of Delta smelt, the model assumes no diversions are allowed April 15 – May 20 and pumping is curtailed to 50% of capacity March 15 – April 15 and May 21 – June 20.

[3] California Water Code Section 1485 states "Any municipality, government agency, or political subdivision operating waste disposal plants producing disposal water meeting the requirements of the appropriate regional board, and disposing of said water in the San Joaquin River may file an application for a permit to appropriate an equal amount of water, less diminution by seepage, evaporation, transpiration or other natural causes between the point of discharge and the point of recovery, downstream from disposal plant and out of the San Joaquin River or the Sacramento-San Joaquin Delta."

Delta Barriers

To maintain water levels in several South Delta waterways, historically DWR has implemented the seasonal South Delta Temporary Barrier Project (TBP), which consists of three temporary rock agricultural barriers and a temporary rock barrier at the Head of Old River (HOR).

CalSim 3 indirectly simulates the installation and removal of the Grant Line Canal Barrier; installation of the barrier affects flows from the San Joaquin River into the Head of the Old River. DSM2 simulation includes all three agricultural barriers located on the Old River near Tracy, Middle River, and Grant Line Canal.

Installation of the HOR Barrier is not simulated in CalSim 3. In both the Federal Proposed Action for the long-term operation of the CVP and SWP and the State Proposed Project for SWP operations, the HOR Barrier was explicitly excluded. Both federal and state permitting through the BiOps from NMFS and USFWS, and the ITP from CDFW do not require its installation.

Suisun Marsh Salinity Control Gates

The Suisun Marsh Salinity Control Gates (SMSCG) are located on Montezuma Slough about 2 miles downstream from the confluence of the Sacramento and San Joaquin rivers, near Collinsville. The objective of Suisun Marsh Salinity Control Gate operation is to decrease the salinity of the water in Montezuma Slough. The gates control salinity by restricting the flow of higher salinity water from Grizzly Bay into Montezuma Slough during incoming tides and retaining lower salinity Sacramento River water from the previous ebb tide. Operation of the gates in this fashion lowers salinity in Suisun Marsh channels and results in a net movement of water from east to west through Suisun Marsh. Under the Suisun Marsh Preservation Agreement, DWR and Reclamation are required to meet salinity standards in accordance with D-1641.

Operation of SMSCG is modeled indirectly in CalSim 3. The model uses the ANN to determine the Sacramento River inflow – Export relationship and corresponding NDOI to comply with Delta salinity standards. Gate operations increase Delta salinity intrusion and outflow to meet water quality standards. CalSim 3 simulates ITP actions to operate SMSCG for up to 60 days in June – October of below normal, above normal years, and wet years.

4.4.6 Regulatory Requirements

Existing conditions include continuation of current operations of the SWP and CVP by DWR and Reclamation, respectively. Assumptions for regulatory requirements in existing conditions related to operations of the SWP and CVP are from the 2019 NMFS and FWS BiOps (under the ROC LTO), and 2020 CDFW ITP. The regulatory assumptions also include continued operations under the Coordinated Operations Agreement; State Water Resources Control Board (State Water Board) Decision 1641 (D-1641); and the State Water Board Water Quality Control Plan adopted in 2006.

4.4.7 SWP and CVP Operational Assumptions and Modeling Criteria

Operational Assumptions

Existing conditions for this EIR include current operational rules for the SWP and CVP used by DWR and Reclamation, respectively. Assumptions for operational rules include continued delivery of water to SWP and CVP contractors up to the adopted water contract amounts based upon water availability, shortage policies, and operational constraints; operations under the Coordinated Operation Agreement; use of joint points of diversion to allow Reclamation to use SWP diversion capacity capabilities in accordance with D-1641; Cross Valley Canal wheeling through Banks; and implementation of Central Valley Project Improvement Act, including environmental water actions in accordance with Section 3406(b)(2).

Modeling Criteria

During development of the model simulations, SWP and CVP operations were reviewed and compared to specific operational criteria. These criteria were developed in conjunction with DWR and Reclamation, in order to provide standard criteria for ensuring that project operations in model simulations are realistic and generally represent how the system is and would be operated. Project operations in the baseline and alternative models were refined to meet these criteria. However, because the SWP and CVP in CalSim 3 operate according to fixed operational rules, which do not include the day-to-day decisions and discretionary actions that occur in real operations, it was not possible to meet all of the criteria in all simulations. In some cases, improving one criterion could actually make other criteria worse. These issues were magnified in scenarios which used climate change hydrology. Hence the goal in refining project operations was to meet the criteria to the greatest extent possible, while preventing severe violations of any criteria.

CVP Criteria

North-of-Delta

- Shasta, Trinity, and Folsom storage: Ensure that dead pool situations are very infrequent (<5 months in the entire simulation for each reservoir).
- Shasta end-of-September storage: To the greatest extent possible, ensure that the exceedance plot is similar to one generated from a recently released publicly available model (in this case the 2019 CalSim II model from the 2019 Delivery Capability Report). Any differences should make sense in terms of differences between the models independent of project operations.
- North-of-Delta agricultural service contractor allocation versus Shasta carryover in the following September: A scatter plot of these two variables should show an approximately linear relationship (though usually with a fair amount of spread).
- North-of-Delta delivery shortages: preferred to be very low on average (<3 TAF per year), and only happen in a few years when Shasta is at dead pool.

South-of-Delta

- South-of-Delta agricultural service contractor allocation versus CVP San Luis low point later in year. Minimize to the greatest extent possible the number of years when the CVP San Luis low point storage is greater than 150 TAF in low allocation years (<50%).
- CVP south-of-Delta delivery shortages: Multiple criteria are listed below.
  - Should only have shortages when CVP San Luis is at dead pool.
  - Average annual shortages should be 5 to 10 TAF.
  - Maximum annual shortage should be 100 to 150 TAF.
  - Eighty to eighty-five percent of years should have zero shortages.
  - Shortages should not occur before August.

SWP Criteria

Dry Year Deliveries

- Deliveries in the driest years in the simulation (1977 and 2014) should be close to 8 to 10% of Table A (300 to 400 TAF).

North-of-Delta

- Oroville storage: Ensure that dead pool situations are very infrequent (<5 months in the entire simulation for each reservoir).
- NOD delivery shortages: preferred to be very low on average (<3 TAF per year), and only happen in a few years when Oroville is at dead pool.

South-of-Delta

- Table A allocation versus SWP San Luis low point later in year. Minimize to the greatest extent possible the number of years when the SWP San Luis low point storage is greater than 150 TAF in low allocation years (<50%). These criteria were not always achieved.
- SWP south-of-Delta delivery shortages:
  - Should only have shortages when SWP San Luis is at dead pool.
  - Average annual shortages should be approximately 20 TAF.
  - Maximum annual shortage should be less than 60 to 70 TAF.
  - Eighty to eighty-five percent of years should have zero shortages.
  - Shortages should not occur before August.

4.4.8 Water Transfers

Simulation of long-term water transfers is limited to the Lower Yuba River Accord (LYRA). No Short-term or temporary transfers such as Sacramento Valley acquisitions conveyed through Banks Pumping Plant are included in the modeling. However, a post-processing water transfer analysis was conducted based on the available capacity to move water through the Banks and Jones Pumping Plants during the July-November transfer window.

Lower Yuba River Accord

Acquisitions of Component 1 water under the Lower Yuba River Accord and use of 500 cfs dedicated capacity at Banks Pumping Plant from July to September are assumed to be used to reduce as much of the impact of the April to May Delta export actions on SWP contractors as possible.

4.4.9 Wheeling

The Cross Valley Canal is a CVP facility that conveys water from the California Aqueduct near Tupman east to the Kern River. The canal is used to convey irrigation water to seven contractors that are located along the east side of the San Joaquin Valley. The CVC Contractors have an annual CVP water supply totaling 128,300 acre-feet. However, because of water supply and conveyance constraints, typical CVP delivery to the CVC Contractors is substantially less than the contract amount. In CalSim 3, CVC water is wheeled through Banks Pumping Plant and the California Aqueduct when there is available capacity after simulation of SWP operations and is limited to the months of July – December. CVC simulated deliveries are subject to CVP south-of-Delta agricultural allocation.

Under State Water Board D-1641 (December 1999, revised March 2000), Reclamation and DWR are authorized to divert project water at the other agency's facilities. The sharing of available capacity at the SWP and CVP export facilities is referred to as Joint Point of Diversion (JPOD). CalSim 3 simulates wheeling of CVP water through Banks Pumping Plant. However, wheeling of SWP water through Jones Pumping Plant is not represented. Wheeling of CVP water through Banks can only occur using the South Delta intakes in months when there are no ITP export cuts/restrictions and when the water being wheeled is Delta excess.

4.4.10 Initial Conditions

Groundwater elevations at the start of the period of simulation are based on output from the California Central Valley Groundwater-Surface Water Fine Grid Simulation Model (C2VSimFG).

The model is a valley-wide regional scale groundwater model designed to simulate surface water and groundwater flow through the Central Valley. Developed by DWR (2020), the model represents the valley floor rivers and streams downstream from the foothill reservoirs and the underlying groundwater aquifer. The model simulates historical conditions WY 1974 – 2015 using a monthly timestep and data inputs of historical reservoir releases, historical stream diversions, and historical Delta exports.

C2VSimFG simulated groundwater elevations for September 2015 are initially input to CalSim 3 to initialize the latter's groundwater DLL. CalSim 3 is subsequently run for 5 years and the resulting CalSim 3 groundwater elevations for September 1927 are used as initial conditions (September 1922) for Existing Conditions.

4.5 Future Conditions Baseline

The CalSim 3 model for the future conditions baseline represents projected year 2040 conditions in the absence of the project alternatives. In general, the future conditions baseline (2040) model includes facilities and programs that that are represented in the existing conditions model. However, water supplies

and water demands differ from existing conditions in order to represent projected changes in land use and urban growth, climate change, and sea level rise.

The sections below describe differences between the CalSim 3 No Project Alternative (2040) model and the existing conditions model. CalSim 3 simulation for future no project conditions does not consider any adaptation measures that would result in managing SWP and CVP facilities in a manner to those under existing conditions to reduce impacts of climate change and sea level rise.

4.5.1 Hydrology

Climate Data

The 2040 climate was developed with 20 global climate projections using the Coupled Model Intercomparison Project 5 (CMIP5), selected by the DWR Climate Change Technical Advisory Group (CCTAG). Historical observed meteorological daily data were perturbed with the differences observed in the ensemble of the selected global climate projections.

Rim Watershed Unimpaired Inflows

Under future (2040) conditions, historical unimpaired inflows to the rivers and streams of the Central Valley rim watersheds have been adjusted for the projected effect of climate change. The modification of these inflows is described in Section B, Attachment 4, *Climate Change Development for the Delta Conveyance Project*. Historical and perturbed meteorological data were input into a gridded watershed model (VIC) model to estimate climate variables (runoff, surface water evaporation, and potential ET). The differences between historical and projected meteorology and climate were applied to the historical CalSim 3 boundary conditions to represent 2040 conditions.

Valley Floor Hydrology

Under future (2040) conditions, hydrology inputs to CalSimHydro were modified to reflect the 2040 land use, urban growth, and climate scenario. Modified inputs include land use, precipitation, and potential crop ET. Potential reference crop ET output from the VIC model simulation were used to perturb historical rates.

Year 2040 land use data are based on future scenarios developed by DWR for the California Water Plan, *Update 2013* (CWP. DWR considered three socioeconomic scenarios.

- Current Trends, which assumed that recent trends would continue into the future.
- Slow Growth, which assumed that future development is less resource intensive than under recent conditions.
- Expansive Growth, which assumed that future development is more resource intensive than under recent conditions.

For each scenario, DWR quantified population projected in 10-year increments from 2010 through 2050. After the population projections were developed for each CWP scenario, DWR developed assumptions about the relationships between population growth, and urban and agricultural land use.

CalSim 3/CalSimHydro land use for the No Project Alternative (2040) model corresponds to the CWP Current Trends scenario. These data have previously been used in several planning studies, including the *Central Valley Project Integrated Resource Plan* (Reclamation 2014), *Sacramento and San Joaquin River Basin Study* (Reclamation 2016), and *American River Basin Study (*Reclamation 2020*)*.

Flow Forecasts

As for existing conditions, statistical forecasting procedures are used to forecast unimpaired flows and water year types. Flow forecasts are typically made in February and updated through May. The May forecast is used to determine the final water year type through to the following year. However, under future conditions, the flow forecasting for inflows to Trinity Reservoir, Shasta Lake, and the unimpaired flow for the Sacramento River at Bend Bridge were found to perform poorly. Therefore, model code was modified so that the May forecast for these 3 flows uses perfect foresight of future flows through September of the current water year.

Reservoir Evaporation

For future conditions, historically based reservoir evaporation rates were adjusted for the projected effects of climate change. Open water evaporation output from the Variable Infiltration Capacity (VIC)[4] model simulation was used to perturb historical rates.

Reservoir Flood Control Space

Future changes in reservoir flood control reservation to better accommodate a seasonally changing hydrograph may be considered under future programs but are not considered under the EIR. However, flood control space for Shasta Lake is dynamically calculated in the modeling based on antecedent flow conditions. Similarly, flood control space for Black Butte Reservoir, East Park Reservoir, Eastman Lake, Hensley Lake, New Hogan Reservoir, and Stony Gorge Reservoir are dynamically calculated in CalSim 3 based on antecedent precipitation in the upstream watersheds. Therefore, for these reservoirs the model dynamically responds to shifting patterns in precipitation and runoff.

Bias Correction

As for existing conditions, bias correction terms are included in the No Project Alternative (2040) model. These bias corrections were not modified for the effects of climate change because of uncertainty in the underlying nature of the correction.

4.5.2 Sea Level Rise

Sea level rise assumptions for the Delta Conveyance Project are based on the California Ocean Protection Council's (OPC) guidance updated in 2018, the *State of California Sea-Level Rise Guidance* (Guidance). The Guidance includes science-based methodology for state and local governments to analyze and assess the risks associated with sea level rise and to incorporate sea level rise into their planning, permitting, and investment decisions. The Guidance incorporates probabilistic sea-level rise projections, which associate a likelihood of occurrence (or probability) with sea level rise heights and rates and are directly tied to a

[4] VIC is a hydrologic watershed model developed by the University of Washington that is used to determine changes in watershed runoff from projected changes in temperature and precipitation for a given climate change scenario.

range of emissions scenarios. The Guidance also includes an extreme scenario called the H++ scenario (resulting from loss of the West Antarctic ice sheet). The probability of this scenario is currently unknown, but its consideration is important, particularly for high stakes, long-term decisions. Under the extreme H++ scenario rapid ice sheet loss on Antarctica could drive rates of sea-level rise in California above 50 mm/year (2 inches/year) by the end of the century, leading to potential sea-level rise exceeding 10 feet. This rate of sea level rise would be about 30 to 40 times faster than the sea-level rise experienced over the last century. The range of sea level rise projections at San Francisco are summarized in **Table 4-2**.

TABLE 4-2. SEA LEVEL RISE PROJECTIONS AT SAN FRANCISCO

Year 2040		Year 2050		Year 2070		Year 2100	
0.5% Probability	H++	0.5% Probability	H++	0.5% Probability	H++	0.5% Probability	H++
1.3 feet	1.8 feet	1.9 feet	2.7 feet	3.5 feet	5.2 feet	6.9 feet	10.2 feet

NOTE:
0.5% probability corresponds to the Medium-High Risk Aversion. H++ corresponds to an extreme scenario resulting from loss of West Antarctic ice sheet.

Following is the summary of assumptions.

- Sea level rise projections at San Francisco tide gage were used for analysis.
- Guidance recommends consideration of extreme H++ scenario for projects with a lifespan beyond 2050 that have a low tolerance for risk or are critical assets. Therefore, H++ sea level rise projections were used for the project climate change analysis.
- The Delta Conveyance Project is expected to become operational around 2040. Therefore, for the EIR, an integrated operational analysis of the project was conducted for the year 2040 (climate period 2026–2055). The H++ sea level rise projection in 2040 is 1.8 feet.
- For the design of project facilities, the H++ sea level rise projection of 10.2 feet in the year 2100 was assumed.

4.5.3 Water Demands

Agricultural Water Demands

Managed wetland water demands were recalculated by CalSimHydro using revised climate data input consistent with the climate change scenario for 2040.

Managed Wetlands Water Demands

Managed wetland water demands were recalculated by CalSimHydro using revised climate data input consistent with the climate change scenario for 2040.

Urban Water Demands

For major water purveyors, urban water demands for future (2040) conditions are based of the projected 2040 water demand listed in the agency's 2015 Urban Water Management Plan. For small unincorporated communities, water demands are based on per capita water use rates and population projections.

TABLE 4-3. AMERICAN RIVER WATERSHED ASSUMED 2020 AND 2040 WATER SUPPLIES

Water Purveyor	CalSim 3 Water Budget Area	Point of Diversion		Existing Condition			No Project Alterative (2040)		
		Description	CalSim 3 Node	CVP Water	Water Rights	Diversion Limit	CVP Water	Water Rights	Diversion Limit
				Max Annual Amount[1] (acre-feet/year)			Max Annual Amount[1] (acre-feet/year)		
Placer County WA	N/A	Auburn Dam Site	NFA016		35,500	35,500		65,500	65,500
Sacramento Suburban WD - NSA[2]	26N_NU1	Folsom Lake	FOLSM		0 - 14,000	0 - 14,000		0 - 29,000	0 - 29,000
City of Folsom	26S_PU1			7,000	27,000[4]	34,000	7,000	27,000[4]	34,000
Folsom Prison	26S_PU1				4,000	4,000		4,000	4,000
Aerojet	26S_NU4					3,000			3,000
San Juan WD	26N_PU2			24,200	54,000[3]	54,200-82,200	24,200	54,000[3]	54,200-82,200
El Dorado ID/ El Dorado County[7]	ELDID_NU3			15,050	13,060	7,550	15,050	21,560	24,550
City of Roseville	26N_PU1			32,000	24,000[2]	39,800-58,900	32,000	34,000[2]	39,800-58,900
Placer County WA	N/A			35,000		0	35,000		35,000
California Parks and Recreation	26S_PU3				5,000	5,000		5,000	5,000
Golden State WC	26S_PU2	Folsom South Canal	FSC003		5,000[5]	5,000		5,000[5]	5,000
Sacramento Municipal Utility District	60N_PU		FSC025	30,000	14,480	44,480	30,000	14,480	44,480
Carmichael WD	26N_NU2	Lower American River	AMR017		32,627[6]	12,000		32,627[6]	12,000
City of Sacramento	26N_NU3, 26S_PU1		AMR007		189,000	189,000[7]		245,0003	245,000[7]
City of Sacramento	26N_NU3, 26S_PU1	Sacramento River Pump Station	SAC062		81,800	81,800		81,800	81,800
Sacramento County WA	26S_PU4			15,000		12,433[8]	15,000		15,000
Sacramento County WA		Freeport Regional Water Project	SAC050	45,000	varies[9]	varies	45,000	varies[9]	varies
East Bay Municipal Utility District	EBMUD			133,000		varies[10]	133,000		varies[10]

Notes:

[1] The diversion limit is the minimum of: (a) the sum of the full CVP contract amount and water right entitlement and (b) annual limits based on the Water Forum Agreement, Update 2015.

[2] The City of Roseville has signed a contract with PCWA providing for the delivery of 10,000 acre-feet per year of Middle Fork Project, with options for an additional 20,000 acre-feet per year. The City of Roseville also signed a wholesale contract with SJWD for 4,000 acre-feet per year. This water is derived from part of SJWD's contract with PCWA for 25,000 acre-feet of Middle Fork Project water.

[3] San Juan Water District (SJWD) holds a pre-1914 water right for a year-round diversion of 60 cfs and Water Right License 6324 for up to 15 cfs to be diverted June 1 to November 1. Pursuant to a water rights settlement agreement with Reclamation, SJWD water right diversions are limited to a maximum of 75 cfs and an annual total of 33,000 acre-feet. SJWD's contract with PCWA is for 25,000 acre-feet per year of Middle Fork Project water.

[4] The City of Folsom holds pre-1914 appropriative water rights for 22,000 acre-feet per year. An additional 5,000 acre-feet of water are available under a cotenancy agreement between the City and Golden State Water Company.

[5] Golden State Water Company (GSWC) has a pre-1914 appropriative water right to divert up to 10,000 acre-feet per year. In 1994, Golden State WC entered into an Agreement for Reallocation of Water under Co-Tenancy Agreement with the City of Folsom to lease 5,000 acre-feet per year of water rights in perpetuity.

[6] Carmichael Water District (CWD) holds three water rights: Water License 1387 for year-round diversion of 15 cfs; Water Right Permit 8731 for a 10 cfs diversion from May 1 to November 1; and Permit 7356 for year-round diversion of up to 25 cfs. In addition, CWD has rights to GET water supplies derived from GET LA and GET LB under a contract with Aerojet. These supplies are not represented in CalSim 3.

[7] When the Hodge single dry year criteria are triggered, or the March-through-November Folsom Unimpaired Inflow falls below 400,000 acre-feet, diversion on the American River is limited and diversion on the Sacramento River is increased.

[8] Sacramento County Water Agency (SCWA) currently uses Fazio water to supply the South Service Area (SSA) of Zone 40. Water is treated at the City of Sacramento's water treatment plant, wheeled through the City's distribution system, and delivered through the Franklin Intertie. The current capacity of the Franklin Intertie is 11.1 MGD, equivalent to 12,433 acre-feet per year. The remaining portion of the Fazio water and the SMUD1 and SMUD2 assignments are available for diversion at the Freeport Regional Water Authority intake to be treated at the Vineyard Water Treatment Plant.

[9] SCWA holds Water Right Permit 21209 (Application 30454) for year-round diversion of up to 132 cfs with an annual limit of 71,000 acre-feet. The permit is subject to Term 91.

[10] EBMUD CVP diversions are limited to 133 TAF/year, 165 TAF over any 3-year period, and 155 cfs maximum diversion rate. EBMUD Board adopted a policy to take CVP water when EBMUD projected total system storage falls below 450 TAF.

Key: CVP = Central Valley Project, ID = Irrigation District, M&I = municipal and industrial, NSA = North Service Area, SSA = South Service Area, SMUD = Sacramento Municipal Utilities District, TAF = thousand acre-feet, WA = Water Agency, WC = Water Company, WD = Water District

Lower American River Watershed

Water demands for agencies that divert water from the North Fork American River, Folsom Lake, Lake Natoma, and the lower American River were modified from the procedure described above so as to equal full entitlements under existing contracts and water rights. This assumption is consistent with assumptions made by Reclamation for the long-term operation of the CVP (Reclamation, 2019). Assumed water supplies for modeling purposes are presented in Table 4-3.

4.5.4 Water Management and Control Facilities

Modeling assumptions for water management and control facilities for the No Project Alternative (2040) are the same as for Existing Conditions, except as described in the following paragraphs.

Hetch Hetchy Water and Power Project

The CCSF facilities in the upper Tuolumne River watershed are not dynamically simulated in CalSim 3 but are preprocessed based on climate transformed unimpaired inflows and an annual CCSF demand of 265 mgd. Facilities in the upper watershed include Hetch Hetchy Reservoir, Lake Eleanor, and Lake Lloyd and CCSF exports from the watershed through the San Joaquin pipeline. The preprocessed inflows to New Don Pedro Reservoir are broadly indicative of how inflows may be affected by climate change but may not represent how CCSF would operate its facilities under this particular climate scenario.

Upper San Joaquin River Facilities

PG&E and Southern Edison of California facilities in the upper San Joaquin River watershed above Millerton Reservoir are not dynamically simulated in CalSim 3 but are preprocessed based on climate

transformed unimpaired inflows and current storage regulation patterns. The preprocessed inflows to Millerton Reservoir are broadly indicative of how inflows may be affected by climate change.

Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project

DWR has obtained final State and Federal approvals to construct a 100-foot-wide gateway or notch within the Fremont Weir to allow increased flow from the Sacramento River to enter the Yolo Bypass. The invert of the notch will be 18 feet below the crest of Fremont Weir with a capacity of up to 6,000 cfs, allowing juvenile salmon to move from the Sacramento River onto the floodplain and then back into the Sacramento River at Cache Slough. The project will also construct an intake channel from the Sacramento River, a headworks structure, a transport channel to the existing Tule Pond, and modifications to the existing Tule Channel and Agricultural Crossing. Construction is expected to begin in 2021.

Simulation of the Fremont Weir Gateway is modeled for in Alternative 4 in the Bay Delta Conservation Plan (BDCP) Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (DWR, Reclamation, USFWS, and NMFS 2013).

Placer County Water Agency Point of Diversion for CVP Water

Placer County Water Agency (PCWA) holds an interim contract with Reclamation for diversion of up to 35,000 acre-feet per year of CVP water at Folsom Reservoir for use within the agency's service area. However, no diversions have been made to date. Under the No Project Alternative (2040), it is assumed that PCWA will take delivery of this CVP water. The construction of any new facilities or the modification of existing facilities would have to undergo environmental review.

4.5.5 Regulatory Requirements

All regulatory requirements for the No Project Alternative (2040) are the same as for Existing Conditions, except for hydropower projects located in the upper watersheds of the Sierra Nevada Mountain Range that are currently undergoing FERC relicensing of their facilities. For these projects, non-discretionary instream flow requirements are based on requirements contained in Water Quality Certifications issued by the State Water Board. These projects include the following:

- Nevada Irrigation District Bear River Project (FERC No. 2266)
- PG&E DeSabla-Centerville Hydroelectric Project (FERC No. 803)
- PG&E North Fork Feather Bucks Creek (FERC No. 619)
- PG&E Upper North Fork Feather Project (FERC No. 2105)
- South Feather Water and Power Agency South Fork Feather Project (FERC No. 2088)
- Yuba Water Agency Yuba River Development Project (FERC No. 2246)

The Water Quality Certification for PG&E's Drum-Spaulding Project was issued by the State Water Board on February 3, 2021. The flow requirements listed in this document have not been included in the No Project Alternative (2040) model.

4.5.6 Water Transfers

As for Existing Conditions, simulated water transfers are limited to the Lower Yuba River Accord.

4.5.7 Initial Conditions

Initial conditions (the state of the system at the beginning of the simulation) are as for Existing Conditions. These include surface water storage and groundwater elevations.

4.6 Proposed Project

Model simulations for the project alternatives include all three water use scenarios (hybrid, ag focused and ag with distributive storage) with and without Project Water (40 TAF) in both existing and future hydrological conditions, as shown in Chapter 1.3.2. For sensitivity test, water demand for projected UWMP 2040 and WFA are used in scenarios.

4.6.1 UWMP projected 2040

The UWMP projected 2040 water demands are all based on 2015 UWMP data, with considering population projection and different Per Capita water use. 163 demand units are included. It considers the annual total production as the sum of public supplies and self-supplies. The annual total production is distributed to each month using monthly pattern ratio. Water demands are the same each year regardless of water year type.

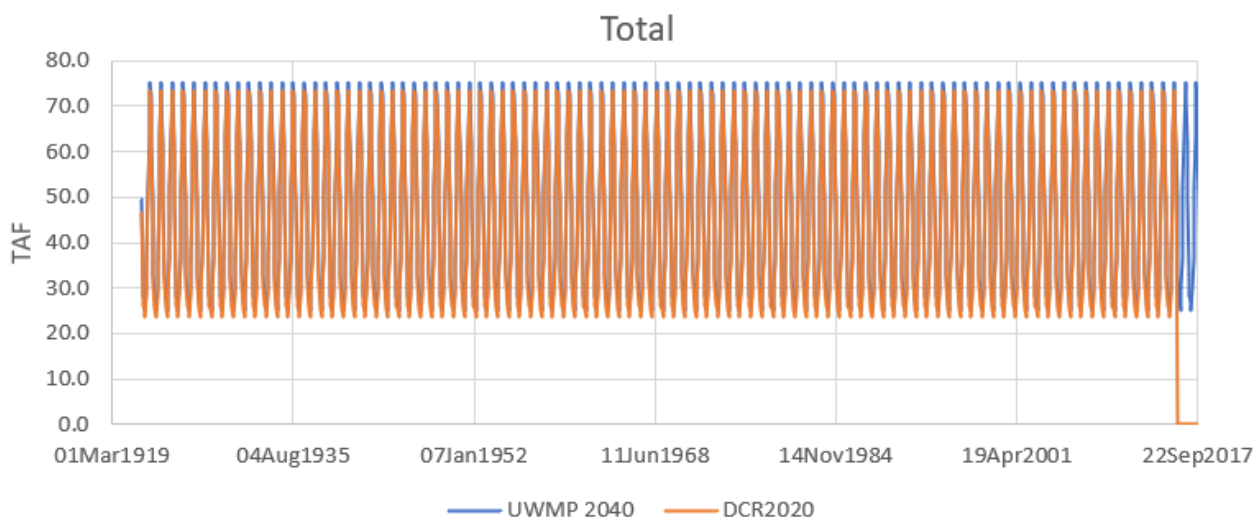

Figure 4-1. Water demands comparison between UWMP 2040 and DCR 2020 baseline

The monthly average UWMP 2040 demand in the simulation period is slightly larger than DCR 2020, with 46 TAF and 42 TAF respectively. UWMP 2040 has slightly larger maximum monthly demand (75.1 TAF) compared to DCR 2020 (73.3 TAF), as shown in the figure above. With the change of hydrology due to climate change from 2020 and 2040, this slight change in water demand helps control the project impacts within a reasonable range.

WFA water demand

Compared to UWMP data, WFA water demand implementation in CalSim constructs a scenario where surface water diversions are not constrained by the UD demand timeseries to be less than the Water Forum amounts. The water demand in UWMP (projected 2040) and WFA are compared in UAR region, as shown in table below. For the unit that UWMP 2040 has less demand than WFA, it should be increased to WFA values using the same monthly ratios. For the unit that UWMP 2040 has more demand than WFA, keep the UWMP 2040 demand. Each water organization has its own way to define water year types. For details, refer to WFA 2015.

TABLE 4-4. COMPARISON OF 2040 UWMP AND WFA WATER DEMANDS

CalSim Demand Node	Water Org.	WFA Water demand (TAF)			2040 UWMP demand(TAF)
		wet/average	Drier	Driest	
26S_PU1	City of Folsom	34	20 to 34	20	26
26N_NU1	Sac Suburban WD/Northridge	29	0	0	13.6
26N_NU1	Sac Suburban WD/Arcade	11.2	11.2	3.5	3.7
24_NU2	PCWA (MI)	35.5	27 to 35.5	27	35.1
26N_PU1	City of Roseville	54.9	39.8 to 54.9	20-39.8	58
26N_NU5/26S_PU2	Golden State Water Company	5	5	5	7.5
26N_PU3	San Juan WD Consortium in Sa	57.2	44.2 to 57.2	44.2	29
26N_PU2(retail)	San Juan WD (Placer County)	25	10 to 25	10	11
60N_PU	SMUD	30	15	15	17
26N_NU2	Carmichael	12	12	12	7.83
26N_NU3	City of Sac	17.8	17.8	17.8	26.4
26S_PU4	County of Sac	78	78	78	25

4.7 Model Implementation

All CalSim 3 simulations for the proposed project are conducted using a single set of files for operational logic. Simulation of the baselines (existing conditions, No Project Alternative) and project alternatives were implemented as follows.

- Separate HEC-DSS input files of timeseries data were accessed to represent existing (2020) or future (2040) conditions.
- A single HEC-DSS file was accessed to define initial conditions for the first month of simulation (e.g., surface water storage, previous months Delta flows, groundwater elevations).
- A single set of input WRESL files were accessed for simulating existing conditions and No Project Alternative; a level of development flag, set to a value of zero or one, is used to select either existing or future regulatory, contract, and water use assumptions within these files.
- One of two ANNs was selected to represent Delta flow-salinity relationships under either current (0 centimeter) or future sea level (55 centimeter) assumptions.
- Distinct input tables were selected to define operations of the north Delta diversion in the alternatives. These tables contain settings to turn on the north Delta diversion operation, define diversion sources for the north Delta diversion (Delta excess, shifting from the South Delta, and storage releases), and adjust the physical capacity of the north Delta diversion for the SWP and the CVP.

- Distinct input tables were selected to define allocations under each alternative: WSI-DI curves were recomputed for the future condition (2040) baseline for both the SWP and CVP. For the alternatives, WSI-DI curves were recomputed only for the SWP. CVP WSI-DI curves were kept the same as the baseline to prevent unintended impacts of slight shifts in the curves. Finally, a table containing SWP export estimates was adjusted for the alternatives.
- For the Bethany Alternative (Alternative 5), code was adjusted so that north Delta diversions were not constrained by capacity limits at Banks Pumping Plant, which no longer apply because this alternative includes a new pumping plant located near Mountain House to convey water to Bethany Reservoir.
- Under future (2040) conditions, further adjustments were made to the model logic and tables defining CVP allocations and reservoir operating rules to compensate for the effects of climate change.

4.8 Linkage to Other Models

The reservoir and river water temperature models require inputs for meteorological conditions, reservoir storage, reservoir releases, tributary inflows, and channel morphology. The output from the reservoir and river water temperature models are used to evaluate compliance performance for water temperature requirements and potential refinement of simulated project operation in CalSim 3.

4.9 Model Limitations

CalSim 3 is a monthly model developed for planning level analyses. For existing conditions, the model is run using historical observed or reconstructed unimpaired runoff,[5] but with 2020 level water demands, facilities, regulations, and operations criteria. Output from the 94-year simulation does not provide information about historical conditions, but does provide information about storage, flow, and water deliveries that would occur under the historical weather sequence. Similarly, the No Project Alternative (2040) model provides information about storage, flow, and water deliveries that would occur under a repeat of the historical weather sequence transformed for climate change layered on to sea level rise, changes in land use and population, and associated water demands and water use.

4.9.1 Climate Change Under Existing Conditions

The inflow hydrology for the existing conditions model is based on assumptions of stationarity. However, while there has been no significant trend in total water year runoff into the Sacramento and San Joaquin Rivers, there have been changes in the timing of that runoff. The fraction of snowmelt runoff between April and July relative to total year-round water runoff has declined over the past century (California Department of Water Resources 2016).

4.9.2 Calibration and Validation

Because CalSim 3 is partly a physically based model and partly a management model, the model cannot be fully calibrated and cannot be used in a predictive manner.

[5] On the valley floor, rainfall runoff is determined based on historical climate but 2020 land use.

4.9.3 Relaxation of Regulatory Requirements

CalSim 3 makes storage release decisions and routes water through the stream network, based on a set of pre-defined rules that represent existing or future assumed regulations and operations criteria. These pre-defined rules do not include temporary relaxation of non-discretionary requirements such as occurred in 2014 and 2015 because of Temporary Urgent Change Petitions submitted to the State Water Board.

4.9.4 Monthly Timestep

Simulated operational decisions in CalSim 3 are made on a monthly timestep. While there are certain components of the model that are downscaled to a daily timestep, such as an air-temperature based trigger for a fisheries action, the results of those daily conditions are always averaged to a monthly timestep. For example, a certain number of days with and without the action is calculated and the monthly result is calculated using a day-weighted average based on the total number of days in that month. Operational decisions based on those components are again made monthly. Any reporting or use of sub-monthly results from CalSim 3 should include disaggregation methods that are appropriate for the given application, report, or subsequent model.

4.9.5 Extreme Conditions

Despite detailed model inputs and assumptions, CalSim 3 results differ from real-time operations under stressed water supply conditions caused by drought. The model cannot represent the unique real-time policy decisions that SWP operators make under extreme circumstances and that deviate from standard operating policies. Model results that indicate severely low reservoir storage, or inability to meet flow requirements or senior water rights, should be considered an indicator of stressed water supply conditions under that alternative and should not necessarily be understood to reflect literally what would occur under that alternative. These simulated conditions (e.g., low storage), in real-time operations would be avoided by making policy decisions on other requirements in prior months. In actual operations, as has always been the case in the past, the project operators would work in real-time to satisfy legal and contractual obligations given the extreme conditions.

The frequency of extreme conditions is expected to increase in the future under the combined effects of climate change and sea level rise.

4.9.6 Regulatory Uncertainty

Continuing evolution of the regulatory environment makes the long-term planning of CVP and SWP operations challenging. CalSim 3 assumes the full implementation of the operational actions of the 2019 USFWS and NMFS BiOps for the long-term operation of the CVP and SWP and 2020 CDFW ITP for long-term operations of the SWP in the Delta. These regulations are likely to change in the face of climate change.

4.9.7 Delta Salinity Compliance

CalSim 3 simulates Delta flows for a set of regulatory and operational criteria, including salinity standards, using a monthly timestep. CalSim 3 relies on the ANN, described above, for monthly averaged

flow verses salinity relationships in the Delta. ANN emulates flow-salinity relationships derived from DSM2 for a given Delta channel configuration and sea level rise condition.

DSM2 application for analyzing existing conditions and project alternatives uses the monthly CalSim 3 Delta inflows and diversions and exports results and simulates Delta hydrodynamics and salinity from the water year 1922 to water year 2015, on a 15-minute timestep. Boundary conditions assumed in DSM2 modeling are based on monthly CalSim 3 outputs. The DSM2 inflows do not represent any sub-monthly operational adjustments that could occur to address any potential issues with salinity control in the Delta.

Monthly CalSim 3 salinity outputs and daily averaged salinity outputs from DSM2 simulations were used to evaluate compliance with D-1641 salinity requirements. CalSim 3 and DSM2 model results presented in this Modeling Technical Appendix may indicate several exceedances of D-1641 salinity standards. These exceedances result from limitations in the modeling process. In actual operations, DWR and Reclamation staff constantly monitor Delta water quality conditions and adjust operations of the SWP and CVP in real time, as necessary, to meet water quality objectives. These decisions are based on real-time conditions and many factors that the best available management models cannot represent or simulate. Under extreme conditions, negotiations with the State Water Board would occur to balance needs of protected resources, beneficial uses, and water rights. Negotiated decisions under extreme conditions cannot be modeled.

Model limitations relating to Delta salinity include using a monthly timestep to model partial month salinity standards and operations under extreme conditions whereby project reservoirs may drop below dead storage.

Partial Month Salinity Standards

In CalSim 3, the reservoirs and facilities of the SWP and CVP are operated to comply with regulatory flow and water quality requirements. Meeting regulatory requirements, including Delta water quality objectives, is the highest operational priority in the model.

Because CalSim 3 is a monthly timestep model and a few daily D-1641 salinity standards are active during only portions of a month (e.g., April 1–June 20 and June 20–August 15), D-1641 standards are represented as a monthly weighted average in the model. The model attempts to meet these objectives on a monthly average basis, even though the objectives themselves are often transitioning within a month from one value to the other and may start or end in the middle of a month. When the monthly weighted average standards calculated for CalSim 3 are less stringent than the daily D-1641 EC standards, CalSim 3 adjusts SWP and CVP operations to release less flow to meet monthly weighted average EC standards instead of the flow needed to meet higher daily D-1641 EC standards. Therefore, within the months where the salinity standard is transitioning, there may be days where DSM2 inflows are less than the required flow to comply with the salinity standard, and more flow on other days. This results in a few days within such months where the modeled salinity exceeds the compliance standard. Importantly, however, in reality the SWP and CVP operations will be adjusted on day-to-day basis to meet the Delta standards.

Low Reservoir Storage

Under extremely dry conditions, existing obligations and non-discretionary requirements on the SWP, CVP, and other local projects may result in periods when reservoirs levels fall below the top of the

inactive zone, or dead pool; reservoir storage at or below the elevation of the lowest outlet is at dead pool. Under such extreme conditions, simulated flows may fall short of minimum flow criteria, salinities may exceed standards, diversions may fall short of allocated amounts, storage may drop below target values, and operating agreements may not be met in CalSim 3 simulations.

4.10 Presentation of Results

CalSim 3 dynamically computes water year types based on simulated runoff to date and forecasts of future inflows. Water year types may vary from the initial forecast made in February through to May when the final forecast of water year type is made. Water year types also may vary between Existing Conditions and future 2040 conditions. For the presentation of results, water year type refers to the Sacramento Valley 40-30-30 hydrologic classification (wet, above normal, below normal, dry, critically dry) as defined in D-1641 (SWRCB 2000) is used.

In general, annual values for flows and deliveries are computed from October 1 through September 30. However, SWP deliveries to its long-term water contractors are presented by SWP contract year, unless otherwise noted (January – December); CVP deliveries to its contractors are presented by CVP contract year (March – February), unless otherwise noted. The full list of CalSim result locations and parameters are in **Table 4-5**.

TABLE 4-5. LOCATIONS AND PARAMETERS OF CALSIM MODEL RESULTS

	Location	Parameter	Unit	Indicator
1	Folsom Reservoir	Reservoir Storage	TAF	End of Month
2	Shasta Lake	Reservoir Storage	TAF	End of Month
3	Trinity Lake	Reservoir Storage	TAF	End of Month
4	Lake Oroville	Reservoir Storage	TAF	End of Month
5	American River at Nimbus	Flow	CFS	Monthly Average
6	Sacramento River at Wilkins Slough	Flow	CFS	Monthly Average
7	Feather River flows at Mouth	Flow	CFS	Monthly Average
8	Delta outflow	Flow	CFS	Monthly Average
9	Jones Pumping Plant	Delta Export	TAF	Monthly Total
10	Banks Pumping Plant	Delta Export	TAF	Monthly Total
11	Delta Cross Channel (DCC)	Days gate open	days	Monthly Average
12	X2 Position	Salinity	N/A	Monthly Average

4.11 References

CH2M Hill. 2008. Upper Stanislaus Hydrology and Operations Study Model Documentation. Prepared for U.S. Department of the Interior Bureau of Reclamation Mid-Pacific Region. Sacramento, CA. July.

Draper, A. J., A. Munévar, S. K. Arora, E. Reyes, N. Parker, F. I. Chung, and L. E. Peterson. 2004. CalSim: Generalized Model for Reservoir System Analysis. American Society of Civil Engineers, Journal of Water Resources Planning and Management, Vol. 130, No. 6.

California Department of Water Resources (DWR). 1965. Sacramento-San Joaquin Delta Area Land Use Survey Data, Office Report. Central District, Sacramento, California. June.

California Department of Water Resources (DWR). 1981. Joint DWR and WPRS Delta Channel Depletion Analysis. Office Report. Sacramento, California. April.

California Department of Water Resources (DWR). 2003. Monthly Hydrologic Forecasts for use in CalSim II Allocation Model. Draft. Bay-Delta Office, Sacramento, CA. November.

California Department of Water Resources (DWR). 2010. Development of CAM-CalSim Hydrologic Forecast DLL for OCO Planned Position Analysis. Office Memo. Bay-Delta Office, Sacramento, CA. March.

California Department of Water Resources (DWR). 2012. Development of San Joaquin River Hydrologic Forecast and Fortran Callable Library for CAM. Office Memo. Bay-Delta Office, Sacramento, CA. August.

California Department of Water Resources (DWR). 2016. Chronological Reconstructed Sacramento and San Joaquin Valley Water Year Hydrologic Classification Indices. http://cdec. water. ca. gov/cgi-progs/iodir/WSIHIST.

California Department of Water Resources (DWR). 2017. A Water Resources Planning Model for State Water Project and Central Valley Project. CalSim 3 Draft Report. Bay-Delta Office Sacramento, CA. December.

California Department of Water Resources (DWR). 2019. Draft Environmental Impact Report for Long-Term Operation of the California State Water Project. Volume 2: Appendices. Sacramento, CA. November.

California Department of Water Resources (DWR). 2020a. California Central Valley Groundwater Surface Water Simulation Model – Fine Grid. Development and Calibration. Sacramento, CA. December.

California Department of Water Resources (DWR). 2020b. The State Water Project Final Delivery Capability Report 2019. Sacramento, CA. August.

CalFED. 2005. Delta Region Drinking Water Quality Management Plan. Draft Final. CalFed Bay Delta Program. June.

Kadir, T. 2006. Chapter 7 – Estimates for Consumptive Water Demands using DETAW. Methodology for Flow and Salinity Estimates in the Sacramento-San Joaquin Delta and Suisun Marsh. 27th Annual Progress Report to the State Water Resources Control Board. California Department of Water Resources, Sacramento, California. October.

Madeheim, H. 2000. Upper San Joaquin River Basin Model. November.

Munévar, A. and F. I. Chung. 1999. Modeling California's Water Resource Systems with CALSIM. American Society of Civil Engineers Water Resources Planning and Management Conference Proceedings.

Sandhu, N., D. Wilson, and R. Finch. 1999. Modeling flow-salinity relationships in the Sacramento- San Joaquin Delta using artificial neural networks. Technical Information Record OSP-99-1. California Department of Water Resources. Sacramento, CA.

Senevirante, S., S. Wu, and Y. Liang. 2008. Chapter 3: Impacts of Sea Level Rise and Amplitude Change on Delta Operations. Methodology for flow and salinity estimates in the Sacramento – San Joaquin Delta and Suisun Marsh. 29th Annual Progress Report. June.

Steiner, D. 2020. Private Consultant. Personal communication. E-mail dated September 24, 2020.

SWRCB. 2000. Revised Water Right Decision 1641. State Water Resources Control Board, Sacramento, CA. March.

U.S. Bureau of Reclamation (Reclamation). 2014. Central Valley Project Integrated Resource Plan. Final Report. Mid-Pacific Region, Sacramento, CA. November.

U.S. Bureau of Reclamation (Reclamation). 2015. Coordinated Long Term Operation of the CVP and SWP EIS, Appendix 5A CalSim II and DSM2 Modeling. Mid-Pacific Region, Sacramento, CA.

U.S. Bureau of Reclamation (Reclamation). 2016. Sacramento and San Joaquin Rivers Basin Study. Basin Study Technical Report. Mid-Pacific Region, Sacramento, CA. March.

U.S. Bureau of Reclamation (Reclamation). 2019. *Reinitiation of Consultation on the Coordinated Long-Term Operation of the Central Valley Project and State Water Project*. Final Biological Assessment. Mid-Pacific Region, Sacramento, CA.

U.S. Bureau of Reclamation (Reclamation). 2020. American River Basin Study: CalSim 3 Upper American River Module Documentation. Unpublished. Mid-Pacific Region, Sacramento, CA.

Wilbur, R. and A. Munevar. 2001. Chapter 7: Integration of CALSIM and Artificial Neural Networks Models for Sacramento–San Joaquin Delta Flow-Salinity Relationships. Methodology for flow and salinity estimates in the Sacramento– San Joaquin Delta and Suisun Marsh. 22nd Annual Progress Report.

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5. WATER TEMPERATURE MODELING

5.1 Introduction

This section provides a summary of modeling performed to simulate water temperatures on the Trinity, Sacramento, and American Rivers for this EIR. It includes a description of the American River HEC-5Q models. The presentation of the modeling methodology includes a general description of the models, model inputs, selective withdrawal descriptions, if applicable, and limitations of each of the models.

5.2 Reservoir and River Temperature Modeling Using HEC-5Q

5.2.1 Overview of HEC-5Q

HEC-5Q is a modeling tool that simulates reservoir and river water temperatures based on input storage, flow, and meteorological data. The HEC-5Q modeling tool consists of two model components, HEC-5 and HEC-5Q. HEC-5 is the daily flow simulation component of the model, where daily storages and flows are simulated at specific nodes (U.S. Army Corps of Engineers Hydrologic Engineering Center 1998). HEC-5Q is the temperature simulation component of the model, where 6-hour input meteorological data (equilibrium temperatures, exchange rates, shortwave radiation, and wind speed) are applied to the simulated storages and flows from the HE-C5 model to simulate water temperatures as specified locations (Resource Modeling Associates 1998). The HEC-5Q component is a cross-sectional based model and has a higher spatial resolution in comparison to the HEC-5 component. The HEC-5Q modeling tool is often used for long-term planning analyses. It has been applied to numerous rivers across the United States.

The HEC-5Q models used in the Delta Conveyance Project EIR were previously used in Reclamation's Biological Assessment under the 2019 Re-Initiation of Consultation on the Coordinated Long-Term Operation of the CVP and SWP (ROC on LTO) (Bureau of Reclamation 2019) but have been updated to use CalSim 3 outputs and simulate the same 94-year period as CalSim 3. For this EIR, HEC-5Q was applied to the Trinity, Sacramento, and American Rivers. Monthly CalSim 3 outputs, with a period of record from October 1921 to September 2015, were downscaled to daily timeseries and then used to prescribe HEC-5's storage and flow data for use in/by the HEC-5Q model. The 6-hour meteorological data used in the models were derived from observed data from the Gerber and Nicolaus California Irrigation Management Information System (CIMIS) stations.

5.2.2 American River HEC-5Q Model

The American River HEC-5Q model simulates water temperatures for the Lower American River (below Folsom Dam to the confluence of Sacramento River). Figure 5-1 shows a schematic of the American River HEC-5Q model and shows all of the reservoir and river control points where temperatures are simulated. The model uses inputs from CalSim 3 that have been temporally downscaled to daily timeseries and 6-hour meteorological data. The American River model was last fully calibrated in 2013, using a calibration period of 2003 to 2011 (RMA and WCI 2013). A validation procedure was performed

in 2015 to incorporate additional logic in the model for the Folsom Water Supply Treatment Control Device (WSTCD), which is described in Appendix 6B, Section C of the 2015 LTO EIS (Reclamation 2015). For the 2015 validation equilibrium temperature scaling factors in the HEC-5Q inputs were adjusted to match the simulated temperatures with 2013 calibration results. The 2015 validation process used hydrology and meteorological boundary condition data from the 2013 calibration.

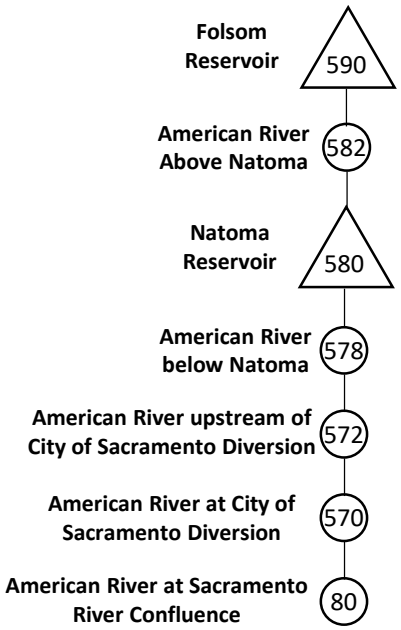

Figure 5-1 Schematic of American River HEC-5Q Model

5.2.3 Model Inputs

Model inputs to the American River HEC-5Q model include initial storage levels, reservoir and tributary inflows, reservoir outflows, diversions, and reservoir evaporation derived from CalSim 3 outputs. **Table 5-1** lists the CalSim 3 outputs used in the derivation of inputs to the American River HEC-5Q model. The daily downscaled CalSim 3 timeseries all assume a constant (uniform) daily flow over each month of the 94-year CalSim 3 simulation period. 6-hour meteorological inputs to the model were derived from observed Nicolaus CIMIS data.

5.2.4 Model Outputs

The American River HEC-5Q model generates daily reservoir and river temperatures throughout the CalSim 3 94-year period of record. It can also provide the temperature profiles for Folsom Reservoir.

TABLE 5-1. CALSIM 3 INPUTS TO THE AMERICAN RIVER HEC-5Q MODEL

HEC-5Q Control Point Number	HEC-5Q Control Point Name	Input Types	CalSim 3 Node
590	Folsom Reservoir	Storage	S_FOLSM
		Inflow	C_NFA011+C_SFA011+I_FOLSM+CT_FAIROAKS
		Outflow	C_FOLSM+SG374_FOLSM_66
		Diversion	E_FOLSM+D_FOLSM_WTPRSV+D_FOLSM_WTPSJP+D_FOLSM_26S_PU3+D_FOLSM_26S_NU4+D_FOLSM_WTPFOL+D_FOLSM_WTPEDH
580	Natoma Reservoir	Storage	S_NTOMA
		Diversion	D_NTOMA_FSC003+E_NTOMA-SR_26N_NTOMA-SR_26S_NTOMA-SG375_NTOMA_66
572	American River above City of Sacramento Diversion	Diversion	D_AMR017_WTPBJM-SG376_AMR020_66-R_RFS26S_AMR020-SG377_AMR015_66-SG378_AMR009_66-SR_26S_AMR007
570	American River at City of Sacramento Diversion	Diversion	D_AMR007_WTPFBN

5.2.5 Simulation of Selective Withdrawal

Folsom Dam has multiple TCDs. There is a main temperature control shutter device, which allows water to come from different elevations of the reservoir pool to go through the power outlets. There is a low-level outlet that allows access to the reservoir pool below the power outlets. These are operated in combination to meet a specified tailwater temperature target, particularly during the summer and fall months. The model also includes a WSTCD mentioned previously, which pulls water from specified levels and temperature ranges of the reservoir pool for the local water supply diversion from Folsom Lake.

Annual schedules of monthly tailwater temperature targets for Folsom Dam are specified based on a combination of end-of-May Folsom Lake storage and June to September inflow volume to Folsom Lake, an indicator of the available coldwater pool, for each year of the CalSim 3 simulation period. The annual schedules were developed for different tiers of volume of coldwater pool (Folsom end-of-May storage plus June to September inflow), with each tier corresponding to a specific temperature target schedule for the year. A representative subset of the Automated Temperature Selection Procedure (ATSP) temperature target schedules specified in the 2009 NMFS BiOp were used in the selection procedure for use in the HEC-5Q model. **Table 5-2** shows the annual temperature target schedules for the different Folsom end-of-May storage plus June to September inflow volume tiers. As can be seen from the table, the schedules only vary for the May through November period. A description of the annual temperature target schedules development is provided in Appendix 6B, Section C of the 2015 ROC on LTO EIS (Bureau of Reclamation 2015). Based on the tailwater target temperature schedule timeseries, the model determines which configuration of the shutters and low-level outlet will produce a release temperature that best meets the monthly temperature target. The low-level outlet with a maximum release capacity of 700 cfs, is allowed to operate from September 15 to November 30. The Water Supply TCD included in the American River HEC-5Q model is operated to withdraw stored water within the temperature range of 63°F to 65°F, and an elevation range of 320 feet to 460 feet. Appendix 6B, Section C of the 2015 ROC on

LTO EIS (Bureau of Reclamation 2015) provides a complete description of the Folsom Dam TCD operating logic in the American River HEC-5Q model.

TABLE 5-2 FINAL TEMPERATURE TARGETING SCHEDULES FOR FOLSOM DAM

Schedule Number	Folsom End-of-May Storage plus Jun-Sep Inflow (TAF)	Folsom Dam Release Temperature Target (Deg-F)											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
22	<=600	52.0	52.0	52.0	59.0	66.8	66.0	66.0	63.0	67.5	68.0	60.5	56.0
21	700	52.0	52.0	52.0	59.0	66.8	66.0	66.0	63.0	67.5	68.0	60.5	56.0
20	750	52.0	52.0	52.0	59.0	65.9	65.2	66.2	63.3	66.7	68.1	60.6	56.0
19	850	52.0	52.0	52.0	59.0	66.3	65.6	65.6	62.9	67.0	67.3	59.7	56.0
18	900	52.0	52.0	52.0	59.0	65.6	65.0	66.0	63.5	66.3	67.5	59.8	56.0
17	950	52.0	52.0	52.0	59.0	65.8	65.2	65.2	62.8	66.4	66.6	58.8	56.0
16	1050	52.0	52.0	52.0	59.0	65.0	64.4	65.4	63.1	65.6	66.7	58.9	56.0
15	1100	52.0	52.0	52.0	59.0	65.2	64.6	64.6	62.4	65.7	65.8	57.9	56.0
14	1200	52.0	52.0	52.0	59.0	64.3	63.8	64.8	62.7	64.9	65.9	58.0	56.0
13	1250	52.0	52.0	52.0	59.0	64.5	64.0	64.0	62.0	65.0	63.0	58.0	56.0
12	1350	52.0	52.0	52.0	59.0	63.7	63.2	64.2	62.3	64.2	63.1	58.1	56.0
11	1400	52.0	52.0	52.0	59.0	63.7	63.2	63.2	61.3	64.2	63.1	58.1	56.0
10	1500	52.0	52.0	52.0	59.0	62.9	62.4	63.4	61.6	63.3	63.2	58.1	56.0
9	1550	52.0	52.0	52.0	59.0	62.9	62.4	62.4	60.6	63.3	63.2	58.1	56.0
8	1650	52.0	52.0	52.0	59.0	61.9	61.4	62.4	60.6	62.3	63.2	58.1	56.0
7	1700	52.0	52.0	52.0	59.0	62.0	61.6	61.6	59.9	62.5	58.3	57.2	56.0
6	1800	52.0	52.0	52.0	59.0	61.0	60.6	61.6	59.9	61.5	58.3	57.2	56.0
5	1850	52.0	52.0	52.0	59.0	61.0	60.6	60.6	58.9	61.5	58.3	57.2	56.0
4	1950	52.0	52.0	52.0	59.0	60.0	59.6	60.6	58.9	60.5	58.3	57.2	56.0
3	2000	52.0	52.0	52.0	59.0	60.0	59.6	59.6	57.9	60.5	58.3	56.2	56.0
2	2100	52.0	52.0	52.0	59.0	59.0	58.6	59.6	57.9	59.5	57.3	56.2	56.0
1	2150	52.0	52.0	52.0	59.0	59.0	58.6	58.6	56.9	59.5	56.3	55.2	56.0

5.2.6 Model Limitations

There are several limitations to the HEC-5Q models and the simulated water temperatures, both in their capability to simulate observed water temperatures and as applied in this DEIR. Calibration of the HEC-5Q model was focused on simulating daily average observed temperatures, primarily in the warmer periods, and the model adequately represents the thermal responses to the hydrologic and meteorological changes. Even though the HEC-5Q models simulate water temperatures on a sub-monthly timescale, given that they are driven by the monthly CalSim 3 results as inputs, the use of modeled temperatures should generally be limited to monthly average values, even though short-term fluctuations that may be real and important to biological resources. If sub-monthly results are to be used, it is important to understand that the HEC-5Q models adhere to the CalSim 3 monthly volumes of reservoir storages,

releases, and diversions. HEC-5Q models do not alter operations (other than temperature control device gate settings) to meet a temperature objective downstream in the river, and there is no feedback to CalSim 3 to alter the storage or release volumes.

For Folsom Dam, a simplified procedure is used to specify the annual temperature target schedules based on end-of-May storage and June-September inflow, and the targets are not altered dynamically each year. If the cold-water pool estimate is even slightly above or below the threshold used for a tier, a different temperature schedule will be selected that can greatly affect the temperature results. For Shasta Dam, a more sophisticated iterative method based on salmonid egg mortality modeling is used to select temperature targets, but the accuracy of these targets is still affected by limitations of the egg mortality models used. Lastly, given that the inputs to the HEC-5Q models are from the CalSim 3 model, all the limitations of the CalSim 3 model should be considered when using the temperature results.

5.3 Appropriate Use of Model Results

The physical models developed and applied here are generalized and simplified representations of a complex water resources system. A brief description of appropriate use of the model results to compare two scenarios or to compare against threshold values or standards is presented in the following subsections.

5.3.1 Absolute vs. Relative Use of the Model Results

The models are not predictive models of actual operations and resulting temperatures (in the way they are applied in this study), and therefore the results cannot be considered as absolute with and within a quantifiable confidence interval unless the hypothetical storages and assumed uniform release rates were to occur.

5.3.2 Appropriate Reporting Timestep

Because the temperature models are driven by the long-term hypothetical operations simulated in CalSim 3 on a monthly timestep, typically the temperature results are presented on a monthly timestep from HEC-5Q model. Monthly flow and temperature results are unlikely to address the daily variability in the river temperatures but reflect changes in the monthly means. The daily variability, around a changed mean, could be added to the monthly temperature results by scaling the historical daily temperature patterns to reflect the monthly means. However, this approach of incorporating daily variability does not account for the uncertainty associated with the daily flow conditions which are not included in the boundary flows used by the temperature models. Thus, while the models generate daily results, they need to be interpreted with the understanding that the monthly changes are the most appropriate use of the modeling results.

5.3.3 Statistical Comparisons are Preferred

Absolute differences computed at a point in time between model results from an alternative and a baseline to evaluate impacts is a tenuous use of model results (e.g., computing differences between the results from a baseline and an alternative for a particular day or month and year within the period of record of simulation). Likewise computing absolute differences between an alternative (or a baseline) and a specific threshold value (or a standard) is a tenuous use of model results. Statistics computed based on the

absolute differences at a point in time (e.g., average of monthly differences) is a tenuous use of model results. Computing the absolute differences in this way disregards the real possibility that operators would react differently than the model to the conditions in individual scenarios and may distort the evaluation of impacts.

Reporting seasonal patterns from long-term averages and water year type averages will avoid the short-term predictive unrealities alluded to above. Statistics computed based on long-term and water year type averages are an appropriate use of model results for the same reason. Similarly, computing differences between long-term or water year type averages of model results from two scenarios is appropriate. Care should be taken to use the appropriate water year type for presenting water year type average statistics of model results (e.g., State Water Resources Control Board Water Right Decision 1641 Sacramento Valley Hydrologic Classification or San Joaquin Valley Hydrologic Classification based on CalSim 3 inflow forecasts).

The most appropriate presentation of monthly and annual model results is in the form of probability distributions and comparisons of probability distributions (e.g., cumulative probabilities) for the reasons discussed above. If necessary, comparisons of model results against threshold or standard values should be limited to comparisons based on cumulative probability distributions.

5.4 Presentation of Results

The detailed water temperature results for each month and each water year type are included in Attachments. Absolute water temperatures and flow discharge at American River below Folsom Dam, below Nimbus Dam (Hazel Avenue), Watt Avenue, and above Confluence are presented, as listed in **Table 5-3**. For each set of comparisons, the results are also presented as long-term averages, over the entire simulation period of 1922-2015, and for each comparison, D-1641 Sacramento River 40-30-30 (wet, above normal, below normal, dry, and critical dry) is used.

TABLE 5-3. LOCATIONS AND PARAMETERS OF HEC-5Q MODEL RESULTS

Location		Parameter	Unit	Indicator
1	American River below Folsom Dam	Flow	CFS	Monthly Average
2	American River below Nimbus (Hazel Ave) Dam	Flow	CFS	Monthly Average
3	American River at Watt Ave	Flow	CFS	Monthly Average
4	American River above Confluence	Flow	CFS	Monthly Average
5	American River below Folsom Dam	Water Temperature	F	Monthly Average
6	American River below Nimbus (Hazel Ave) Dam	Water Temperature	F	Monthly Average
7	American River at Watt Ave	Water Temperature	F	Monthly Average

5.5 References

National Marine Fisheries Service, 2019. Biological Opinion on Long-term Operation of the Central Valley Project and the State Water Project.

Resource Management Associates, Inc. (RMA), 1998. HEC-5 User's Manual: Simulation of Flood Control and Conservation Systems, Appendix on Water Quality Analysis.

Resource Management Associates, Inc. (RMA), 2003. Draft Upper Sacramento River Water Quality Modeling with HEC-5Q: Model Calibration and Validation. December 2003.Resource Management Associates (RMA) and Watercourse Engineering, Inc. (WCI) 2013. Extension of the Sacramento River Water Quality Model (SRWQM) to Include American and Feather River Representations.

U.S. Bureau of Reclamation (Reclamation). 2008 OCAP BA Technical Appendix H Reclamation Temperature Model and SRWQM Temperature Model.

U.S. Bureau of Reclamation (Reclamation). 2015. Final Environmental Impact Statement for the Coordinated Long-Term Operation of the Central Valley Project and State Water Project: Appendix 6B Surface Water Temperature Modeling.

U.S. Bureau of Reclamation (Reclamation). 2019. Appendix D Modeling. Reclamation ROC on LTO Modeling to Support the January 2019 BA Qualitative Analysis. Available at: https://www.usbr.gov/mp/bdo/docs/ba-appendix-d-modeling.pdf.

US Army Corps of Engineers Hydrologic Engineering Center (HEC). 1998. HEC-5 Simulation of Flood Control and Conservation Systems.

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Modeling Technical Appendix – Attachment A-1. Model Results for Existing Condition Baseline

This attachment summarizes the modeling results for Existing Conditions Baseline (1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-1-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-1-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	186,842	179,690	173,899	185,401	185,064	195,434	222,659	255,807	256,113	246,563	226,913	196,307	209,224
Wet	187,458	190,928	196,275	215,364	209,958	211,108	241,741	265,550	265,124	262,244	245,711	211,920	225,282
Above Normal	186,541	178,669	174,120	196,673	194,817	196,445	221,274	263,680	264,829	258,932	238,260	204,374	214,885
Below Normal	182,304	172,513	163,972	171,667	171,269	187,091	213,730	260,122	262,631	252,122	231,152	198,470	205,587
Dry	191,747	178,848	165,962	168,646	172,106	191,854	221,261	249,579	251,106	235,484	214,205	185,633	202,203
Critical Dry	184,235	173,368	161,959	162,173	168,633	183,163	202,040	216,362	207,105	190,626	173,152	158,957	181,814

Table A-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,583	26,327	26,167	23,520	23,400	24,744	29,491	38,577	41,255	39,354	36,480	32,114	31,001
Wet	30,927	25,362	28,433	21,957	21,931	22,729	25,782	37,393	43,095	41,653	38,571	33,387	30,935
Above Normal	30,720	26,334	25,500	22,160	21,981	23,291	28,305	40,911	43,004	41,100	37,798	33,047	31,179
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table A-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,786	38,532	34,455	37,920	40,781	36,536	33,142	58,856	67,208	63,331	55,916	46,149	46,384
Wet	43,574	36,710	33,098	40,428	43,213	37,589	26,304	56,778	68,583	67,115	59,753	48,774	46,827
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,644	68,837	65,342	57,197	46,861	46,023
Below Normal	43,204	38,991	34,446	36,673	39,652	34,707	31,621	57,757	67,256	62,901	55,238	45,746	45,682
Dry	44,084	40,178	36,364	36,732	38,909	37,741	42,030	60,925	65,999	60,405	53,381	44,405	46,763
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table A-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	26,851	26,619	27,855	30,346	33,250	35,805	37,355	37,818	36,927	34,213	31,433	29,263	32,311
Wet	28,048	28,857	32,969	37,664	39,996	40,472	40,649	40,770	40,341	37,823	34,964	32,716	36,273
Above Normal	27,166	26,751	27,999	32,383	37,674	39,492	40,479	40,717	40,069	37,116	34,206	31,963	34,668
Below Normal	26,090	25,553	25,727	27,009	30,386	35,658	38,598	39,419	38,455	35,426	32,507	30,217	32,087
Dry	26,962	26,379	26,409	27,184	28,906	31,953	34,343	35,147	33,831	31,253	28,472	26,342	29,765
Critical Dry	24,580	23,774	23,463	23,647	24,553	25,687	26,112	26,091	24,780	22,562	20,695	19,135	23,757

Table A-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,340	16,763	17,667	18,527	19,286	20,181	20,642	20,629	20,129	19,058	17,796	16,718	18,645
Wet	16,444	17,325	19,215	20,647	21,007	21,206	21,206	21,206	21,071	20,537	19,583	18,662	19,842
Above Normal	16,693	17,122	18,013	19,775	20,570	20,932	21,206	21,206	21,102	20,346	19,127	18,052	19,512
Below Normal	15,855	16,109	16,699	17,250	18,568	20,360	21,158	21,172	20,712	19,539	18,187	17,015	18,552
Dry	16,852	17,158	17,584	17,740	18,402	19,558	20,268	20,357	19,424	17,834	16,347	15,183	18,059
Critical Dry	15,075	15,025	15,484	15,503	16,023	16,875	17,409	16,959	15,651	14,128	12,813	11,802	15,229

Table A-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,578	14,962	14,035	13,430	13,547	13,772	15,699	20,297	21,765	21,020	18,355	16,972	16,703
Wet	16,651	15,768	16,039	16,243	16,521	16,764	18,218	21,325	22,332	22,261	20,273	18,915	18,442
Above Normal	16,771	15,098	13,988	13,690	14,113	14,170	15,512	20,564	22,133	22,106	19,161	17,902	17,101
Below Normal	16,209	14,283	12,953	11,980	12,082	12,329	14,551	20,271	22,119	21,293	18,119	16,763	16,079
Dry	16,833	14,940	13,550	12,379	12,178	12,481	15,107	20,025	21,710	19,880	17,064	15,463	15,968
Critical Dry	16,198	14,354	13,009	12,093	11,988	12,283	14,079	17,683	18,512	17,560	15,530	14,333	14,802

Table A-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,617	2,022	1,540	1,023	1,132	1,656	4,907	8,335	8,259	7,445	6,487	4,130	4,213
Wet	3,604	2,469	2,557	2,594	2,585	2,648	5,099	8,352	8,555	8,204	7,241	4,658	4,881
Above Normal	3,622	1,928	1,535	1,242	1,392	1,492	3,643	8,440	8,447	7,675	6,635	4,125	4,181
Below Normal	3,594	1,835	1,092	273	431	1,441	4,974	8,361	8,381	7,392	6,395	3,975	4,012
Dry	3,635	1,902	1,178	345	383	1,281	5,911	8,629	8,202	7,093	6,158	3,894	4,051
Critical Dry	3,654	1,870	1,030	194	594	981	4,304	7,128	6,828	5,975	5,258	3,792	3,467

Table A-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	84	44	86	79	45	230	1,237	3,378	4,620	3,386	1,586	383	1,263
Wet	171	183	350	235	139	65	898	3,163	4,935	4,626	3,045	1,185	1,583
Above Normal	73	0	21	120	61	35	861	3,440	4,995	3,934	2,084	365	1,333
Below Normal	55	-	-	-	-	295	1,462	3,750	4,917	3,236	1,161	68	1,245
Dry	46	5	-	-	-	428	1,622	3,466	4,340	2,578	600	45	1,094
Critical Dry	60	-	-	-	-	395	1,340	2,546	2,853	1,411	392	61	755

Table A-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	20	19	41	47	68	154	1,032	1,469	1,385	1,265	198	490
Wet	191	24	24	69	68	69	73	634	1,487	1,497	1,392	261	482
Above Normal	220	27	26	54	58	74	82	814	1,336	1,263	1,143	162	438
Below Normal	154	13	12	30	44	66	75	1,154	1,589	1,475	1,348	187	512
Dry	175	19	18	22	30	63	296	1,475	1,589	1,453	1,326	232	558
Critical Dry	176	14	13	15	21	75	357	1,035	1,055	919	804	39	377

Table A-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,840	4,837	4,835	4,836	4,838	4,840	4,848	4,861	4,867	4,865	4,859	4,849	4,848
Wet	4,840	4,840	4,842	4,847	4,850	4,848	4,855	4,867	4,870	4,869	4,866	4,856	4,854
Above Normal	4,840	4,837	4,834	4,838	4,843	4,841	4,847	4,862	4,870	4,869	4,864	4,853	4,850
Below Normal	4,839	4,835	4,831	4,831	4,833	4,835	4,844	4,861	4,869	4,867	4,861	4,850	4,846
Dry	4,843	4,839	4,834	4,830	4,831	4,836	4,848	4,859	4,865	4,862	4,855	4,844	4,845
Critical Dry	4,839	4,835	4,831	4,828	4,829	4,834	4,841	4,849	4,850	4,844	4,836	4,829	4,837

Table A-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,448	3,445	3,446	3,450	3,455	3,460	3,463	3,465	3,465	3,462	3,457	3,452	3,456
Wet	3,450	3,448	3,452	3,461	3,468	3,470	3,470	3,470	3,470	3,468	3,463	3,459	3,463
Above Normal	3,449	3,446	3,447	3,452	3,461	3,467	3,469	3,470	3,470	3,467	3,462	3,458	3,460
Below Normal	3,447	3,444	3,443	3,445	3,449	3,458	3,465	3,468	3,468	3,464	3,459	3,455	3,455
Dry	3,448	3,445	3,445	3,446	3,448	3,452	3,458	3,460	3,460	3,456	3,452	3,447	3,451
Critical Dry	3,444	3,440	3,439	3,439	3,440	3,442	3,444	3,444	3,443	3,440	3,435	3,431	3,440

Table A-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,247	4,247	4,249	4,252	4,255	4,258	4,260	4,260	4,260	4,257	4,253	4,250	4,254
Wet	4,247	4,248	4,252	4,258	4,261	4,262	4,262	4,262	4,262	4,261	4,259	4,256	4,257
Above Normal	4,248	4,248	4,251	4,255	4,259	4,261	4,262	4,262	4,262	4,261	4,258	4,254	4,257
Below Normal	4,246	4,245	4,247	4,249	4,252	4,257	4,261	4,262	4,261	4,259	4,255	4,251	4,254
Dry	4,249	4,249	4,250	4,251	4,252	4,255	4,258	4,260	4,258	4,254	4,249	4,245	4,253
Critical Dry	4,243	4,242	4,243	4,244	4,245	4,247	4,249	4,250	4,246	4,241	4,236	4,232	4,243

Table A-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,944	7,942	7,942	7,942	7,944	7,950	7,956	7,956	7,953	7,949	7,948
Wet	7,948	7,947	7,946	7,947	7,947	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,944	7,942	7,943	7,943	7,944	7,950	7,956	7,957	7,955	7,951	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,957	7,953	7,949	7,946
Dry	7,948	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,951	7,946	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table A-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,193	7,190	7,188	7,188	7,189	7,194	7,203	7,207	7,206	7,204	7,201	7,196
Wet	7,196	7,193	7,192	7,192	7,193	7,192	7,195	7,203	7,207	7,207	7,205	7,202	7,198
Above Normal	7,196	7,193	7,190	7,188	7,189	7,189	7,191	7,202	7,207	7,206	7,204	7,201	7,196
Below Normal	7,196	7,193	7,189	7,186	7,186	7,187	7,194	7,204	7,207	7,206	7,203	7,200	7,196
Dry	7,196	7,193	7,190	7,186	7,186	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,196
Critical Dry	7,196	7,193	7,189	7,185	7,186	7,187	7,192	7,202	7,204	7,202	7,201	7,199	7,195

Table A-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,196	8,195	8,196	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,196	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,210	8,208	8,204	8,201
Above Normal	8,196	8,196	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,196	8,196	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,196	8,195	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table A-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table A-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	431	792	1,181	1,145	1,494	1,765	2,330	2,599	2,103	873	671	915	1,358
Wet	451	1,243	2,522	2,729	2,576	2,871	3,386	4,263	3,732	1,509	773	1,094	2,262
Above Normal	470	707	1,025	1,310	2,093	2,168	2,928	3,609	2,800	871	716	1,005	1,642
Below Normal	392	594	651	507	1,115	1,714	2,379	2,368	1,909	728	667	920	1,162
Dry	428	707	733	393	677	900	1,392	1,115	737	552	609	804	754
Critical Dry	401	545	603	316	482	397	569	526	433	445	474	514	475

Table A-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	30	71	79	63	63	50	141	140	44	20	18	61
Wet	14	71	244	219	174	151	85	329	314	88	28	28	145
Above Normal	16	19	19	85	61	50	46	149	155	39	20	20	57
Below Normal	14	16	16	18	24	51	44	80	105	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table A-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	208	342	450	517	657	1,022	1,536	1,087	309	114	104	535
Wet	95	406	908	1,059	930	1,029	1,438	2,293	1,980	673	178	153	929
Above Normal	86	165	266	545	717	728	1,187	2,133	1,417	326	121	117	651
Below Normal	56	138	131	209	358	660	1,028	1,489	1,002	232	103	92	458
Dry	68	152	148	140	226	400	722	781	372	110	80	78	273
Critical Dry	77	115	109	104	181	193	338	339	131	55	45	49	145

Table A-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	28	9	148	26	48	60	53	49	16	15	12	11	39
Wet	38	15	562	58	102	103	150	101	17	17	13	11	99
Above Normal	24	7	61	43	80	94	48	62	17	17	13	11	40
Below Normal	24	6	6	7	14	41	15	24	17	15	13	11	16
Dry	25	7	7	7	16	27	14	24	14	12	11	10	14
Critical Dry	24	6	7	7	7	10	12	12	12	10	8	8	10

Table A-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	931	3,194	8,223	6,118	6,536	8,181	6,556	4,696	1,702	1,557	1,795	902	4,199
Wet	1,120	4,749	25,219	11,447	10,537	12,651	11,565	8,064	2,791	1,844	1,894	1,062	7,745
Above Normal	1,031	3,360	5,334	11,205	10,160	11,360	8,056	6,365	1,831	1,650	1,931	968	5,271
Below Normal	812	1,952	3,169	2,582	5,155	7,028	5,514	3,973	1,589	1,632	1,967	908	3,023
Dry	798	3,243	1,699	1,942	2,735	4,684	3,305	2,077	994	1,336	1,654	765	2,103
Critical Dry	886	1,806	999	1,108	1,659	1,566	1,425	987	752	973	1,132	683	1,165

Table A-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	47	96	135	109	149	197	153	157	90	74	96	130	119
Wet	53	135	220	247	254	292	236	246	149	76	100	140	179
Above Normal	46	96	148	148	225	266	219	216	92	79	102	138	148
Below Normal	43	76	99	48	132	202	158	173	80	75	101	140	110
Dry	47	86	97	33	48	98	58	54	55	72	91	122	72
Critical Dry	41	69	74	23	24	37	23	25	47	65	73	73	48

Table A-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	7	8	11	11	13	13	12	5	1	2	3	7
Wet	-	9	13	14	13	14	13	13	9	1	2	4	9
Above Normal	-	7	9	13	13	13	13	13	7	1	0	1	7
Below Normal	-	6	8	10	11	13	13	12	5	1	1	1	7
Dry	-	6	6	8	8	12	13	10	3	1	3	4	6
Critical Dry	-	4	5	6	7	11	10	7	2	0	2	2	5

Table A-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	455	1,319	2,371	1,955	2,142	3,030	2,733	2,442	880	690	900	419	1,611
Wet	561	1,842	7,415	3,670	3,531	4,289	4,707	4,040	1,480	768	910	481	2,808
Above Normal	501	1,410	1,609	3,634	3,252	3,876	3,401	3,363	903	701	934	453	2,003
Below Normal	389	942	678	846	1,681	2,891	2,292	2,098	758	726	1,001	444	1,229
Dry	382	1,276	527	522	910	2,067	1,449	1,136	567	625	869	358	891
Critical Dry	449	821	271	416	498	715	627	554	407	543	603	270	515

Table A-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	495	445	457	483	509	652	785	841	790	656	565	533	601
Wet	526	482	525	567	567	752	899	967	943	832	719	680	705
Above Normal	525	463	482	542	565	743	900	965	921	768	667	624	681
Below Normal	526	463	459	482	521	680	853	910	838	630	534	499	616
Dry	470	417	397	386	446	551	675	743	644	514	437	413	508
Critical Dry	381	352	359	362	387	429	458	472	441	384	342	329	391

Table A-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,721	2,710	2,850	3,119	3,353	3,690	4,012	4,025	3,752	3,232	2,901	2,755	3,260
Wet	2,843	2,911	3,110	3,475	3,580	3,850	4,306	4,497	4,381	3,901	3,526	3,284	3,639
Above Normal	2,872	2,831	2,992	3,298	3,624	4,021	4,432	4,474	4,263	3,733	3,376	3,152	3,589
Below Normal	2,882	2,868	2,981	3,251	3,504	3,903	4,286	4,221	3,878	3,285	2,937	2,847	3,404
Dry	2,781	2,718	2,839	3,016	3,435	3,854	4,018	3,904	3,472	2,900	2,591	2,525	3,171
Critical Dry	2,004	1,916	1,974	2,111	2,302	2,542	2,586	2,461	2,089	1,669	1,453	1,396	2,042

Table A-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,382	1,392	1,439	1,497	1,602	1,722	1,870	1,864	1,836	1,712	1,559	1,422	1,608
Wet	1,496	1,525	1,620	1,734	1,892	2,031	2,218	2,249	2,234	2,118	1,989	1,834	1,912
Above Normal	1,500	1,504	1,544	1,643	1,755	1,895	2,066	2,093	2,094	1,977	1,830	1,677	1,798
Below Normal	1,438	1,449	1,474	1,533	1,610	1,720	1,880	1,855	1,816	1,686	1,513	1,370	1,612
Dry	1,406	1,408	1,427	1,422	1,505	1,629	1,746	1,706	1,657	1,504	1,318	1,192	1,493
Critical Dry	918	902	923	898	951	1,024	1,082	1,041	1,002	890	754	667	921

Table A-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,876	1,893	2,016	2,167	2,353	2,567	2,884	2,988	2,838	2,356	2,035	1,935	2,326
Wet	2,009	2,095	2,393	2,654	2,836	2,936	3,312	3,511	3,472	3,079	2,796	2,637	2,811
Above Normal	2,008	1,997	2,056	2,353	2,624	2,919	3,318	3,505	3,436	2,873	2,409	2,178	2,640
Below Normal	1,969	1,972	2,038	2,133	2,303	2,574	2,980	3,077	2,905	2,283	1,834	1,760	2,319
Dry	1,711	1,694	1,718	1,752	1,974	2,277	2,509	2,523	2,220	1,686	1,472	1,467	1,917
Critical Dry	1,521	1,472	1,478	1,492	1,601	1,795	1,873	1,815	1,565	1,244	1,039	1,035	1,494

Table A-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,298	2,457	3,131	3,771	4,749	3,332	3,727	4,605	4,264	3,345	2,244	1,804	3,227
Wet	1,326	3,367	5,970	7,830	8,976	5,921	6,359	7,753	6,297	3,755	2,786	2,140	5,207
Above Normal	1,480	2,276	1,880	4,172	5,242	3,958	3,941	5,963	5,221	3,848	2,513	2,098	3,549
Below Normal	1,305	2,381	2,324	1,593	2,930	1,956	2,755	3,520	3,764	4,191	2,259	1,841	2,568
Dry	1,253	1,960	1,582	1,328	1,812	1,594	1,835	1,928	2,710	2,668	1,845	1,510	1,835
Critical Dry	1,121	1,349	1,158	944	1,483	1,398	1,592	1,460	1,649	1,477	1,284	1,111	1,336

Table A-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,764	6,338	10,202	12,590	15,016	13,699	9,857	6,591	5,882	7,126	5,829	5,997	8,741
Wet	6,649	8,127	15,391	18,780	20,776	18,724	14,742	9,343	6,230	7,663	6,838	8,384	11,804
Above Normal	5,854	6,063	10,830	16,150	17,360	16,022	10,587	8,080	5,879	7,032	6,227	7,207	9,774
Below Normal	5,872	6,211	7,982	10,211	12,522	11,868	8,006	5,378	5,375	7,439	5,898	5,259	7,668
Dry	5,222	5,464	5,963	6,741	12,162	10,247	6,558	4,547	6,312	7,337	5,225	3,970	6,646
Critical Dry	4,238	3,941	6,875	6,695	7,848	7,766	5,440	3,658	5,443	5,320	3,911	3,317	5,371

Table A-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,220	3,407	6,700	10,110	12,220	11,716	7,472	7,256	6,555	8,115	6,588	4,212	7,298
Wet	3,986	5,135	13,232	20,668	24,135	22,922	14,783	12,791	9,755	8,654	7,158	5,891	12,426
Above Normal	2,973	2,943	4,475	11,333	12,466	13,022	7,141	9,267	7,456	9,933	9,374	6,714	8,091
Below Normal	3,195	2,811	4,210	4,902	7,044	6,788	4,226	4,525	4,690	9,373	8,281	3,754	5,317
Dry	3,047	2,468	3,118	3,163	4,848	4,190	3,058	3,542	4,845	7,631	4,129	1,964	3,834
Critical Dry	2,027	2,115	2,618	2,561	3,036	2,930	2,237	2,208	3,811	3,980	3,130	1,759	2,701

Table A-1-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,211	8,531	22,365	38,866	50,104	42,372	27,772	20,873	12,089	6,891	4,190	6,167	20,536
Wet	7,868	14,069	46,093	79,598	97,623	81,247	53,354	37,069	21,533	9,691	5,605	10,309	38,672
Above Normal	6,245	6,013	15,532	45,373	55,222	47,323	26,846	25,952	14,021	7,972	5,273	9,699	22,123
Below Normal	6,015	6,850	13,234	18,316	26,444	23,822	17,325	13,642	6,702	6,458	3,443	3,374	12,136
Dry	5,238	5,673	6,744	11,063	22,699	18,158	11,938	9,334	6,146	4,305	3,144	2,665	8,926
Critical Dry	4,052	4,727	9,579	10,076	12,392	11,650	8,261	6,364	5,453	3,599	2,595	2,655	6,784

Table A-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	213	215	217	212	184	157	193	196	236	232	241	209
Wet	225	238	239	236	197	187	199	248	241	268	274	258	234
Above Normal	226	234	247	231	230	192	190	216	225	243	265	238	228
Below Normal	229	216	222	203	227	194	142	180	189	258	249	267	215
Dry	213	207	196	227	220	183	121	157	191	262	230	238	204
Critical Dry	166	141	147	178	195	159	102	115	91	95	90	168	137

Table A-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	29	10	1	1	-	-	0	1	9	6	10	6
Wet	-	22	5	3	3	-	-	1	2	5	-	-	3
Above Normal	3	39	19	-	0	-	-	-	-	1	-	-	5
Below Normal	-	39	10	-	-	-	-	-	-	3	18	42	9
Dry	7	40	11	-	-	-	-	-	-	34	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table A-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	14	7	-	-	-	-	-	22	30	31	30	13
Wet	17	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	6	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	21	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	13	9	-	-	-	-	-	26	31	31	30	12

Table A-1-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	85	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	86	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	71	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	81	78	76	79	83	86	89	91	85

Table A-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,296	2,456	3,122	3,740	4,723	3,323	3,732	4,631	4,294	3,385	2,270	1,823	3,233
Wet	1,550	3,687	3,509	7,768	8,933	5,895	6,352	7,778	6,323	3,790	2,810	2,156	5,046
Above Normal	1,521	3,143	3,536	4,133	5,196	3,955	3,953	5,994	5,251	3,888	2,540	2,118	3,769
Below Normal	1,323	2,399	3,861	1,576	2,918	1,950	2,765	3,548	3,797	4,235	2,287	1,859	2,710
Dry	983	1,047	3,009	1,317	1,799	1,594	1,843	1,954	2,742	2,713	1,876	1,532	1,867
Critical Dry	840	816	734	943	1,475	1,404	1,609	1,483	1,679	1,522	1,308	1,135	1,246

Table A-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,284	2,462	3,143	3,772	4,751	3,333	3,727	4,605	4,264	3,344	2,243	1,804	3,228
Wet	1,539	3,693	3,530	7,831	8,976	5,921	6,359	7,753	6,297	3,755	2,786	2,141	5,048
Above Normal	1,508	3,145	3,560	4,171	5,242	3,958	3,941	5,963	5,221	3,848	2,513	2,098	3,764
Below Normal	1,319	2,411	3,878	1,594	2,933	1,956	2,755	3,520	3,764	4,190	2,258	1,840	2,701
Dry	966	1,053	3,026	1,329	1,819	1,594	1,835	1,928	2,710	2,668	1,845	1,508	1,857
Critical Dry	823	810	768	946	1,483	1,401	1,592	1,458	1,649	1,478	1,277	1,111	1,233

Table A-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,295	2,502	3,213	3,851	4,831	3,366	3,750	4,624	4,281	3,355	2,248	1,809	3,260
Wet	1,534	3,732	3,585	7,974	9,086	5,962	6,385	7,767	6,298	3,744	2,774	2,129	5,081
Above Normal	1,515	3,185	3,635	4,270	5,351	3,987	3,953	5,987	5,240	3,856	2,513	2,099	3,799
Below Normal	1,346	2,465	3,955	1,637	2,992	1,987	2,781	3,544	3,794	4,217	2,269	1,853	2,737
Dry	980	1,088	3,096	1,365	1,875	1,619	1,857	1,941	2,732	2,688	1,860	1,523	1,885
Critical Dry	844	839	851	975	1,537	1,436	1,618	1,481	1,671	1,502	1,302	1,134	1,266

Table A-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,184	2,403	3,136	3,775	4,757	3,275	3,638	4,482	4,099	3,151	2,057	1,655	3,134
Wet	1,420	3,631	3,505	7,910	9,017	5,873	6,273	7,616	6,109	3,531	2,573	1,954	4,951
Above Normal	1,404	3,085	3,558	4,197	5,281	3,895	3,839	5,839	5,054	3,644	2,319	1,931	3,670
Below Normal	1,237	2,367	3,879	1,556	2,913	1,896	2,669	3,404	3,614	4,009	2,077	1,707	2,611
Dry	870	986	3,019	1,282	1,796	1,527	1,744	1,807	2,554	2,486	1,677	1,387	1,761
Critical Dry	734	740	778	892	1,459	1,345	1,505	1,352	1,503	1,327	1,131	1,000	1,147

Table A-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.37	57.43	53.72	48.12	47.61	50.40	54.17	57.74	60.82	62.57	60.56	62.79	56.44
Wet	58.62	57.22	54.67	46.77	46.56	49.39	52.44	55.77	59.13	60.83	59.00	60.83	55.10
Above Normal	59.81	57.00	54.02	48.57	47.52	50.26	53.35	56.31	59.60	61.18	59.07	61.21	55.66
Below Normal	61.92	57.35	53.08	48.92	48.01	50.52	54.43	57.80	60.85	62.93	60.73	63.04	56.63
Dry	64.97	58.38	53.70	48.73	48.22	51.05	55.55	59.26	62.76	64.07	62.46	65.15	57.86
Critical Dry	63.77	57.26	52.34	48.68	48.62	51.78	56.60	61.34	63.23	65.19	62.74	65.27	58.07

Table A-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.26	57.10	52.99	47.75	47.77	51.07	55.29	58.90	62.09	63.84	62.34	63.40	56.98
Wet	59.08	56.94	54.05	46.73	46.66	49.78	53.06	56.49	60.01	62.25	60.69	61.65	55.62
Above Normal	59.93	56.68	53.46	48.35	47.67	50.75	54.25	57.29	60.50	62.49	60.71	61.93	56.17
Below Normal	61.69	57.14	52.50	48.39	48.11	51.22	55.71	58.95	62.04	63.73	62.32	63.56	57.11
Dry	63.95	57.87	52.65	48.13	48.39	51.93	57.22	61.05	64.23	65.07	64.08	65.36	58.33
Critical Dry	63.49	56.88	51.35	48.01	49.01	52.86	58.10	62.92	65.55	67.16	65.29	65.89	58.88

Table A-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.82	57.30	52.60	48.08	48.96	53.30	58.25	62.21	65.62	67.45	66.18	66.01	59.07
Wet	60.84	57.05	53.61	47.04	47.40	51.35	55.03	58.88	62.80	65.82	64.34	64.25	57.37
Above Normal	61.41	56.74	53.08	48.60	48.65	52.60	56.71	60.14	63.36	65.97	64.33	64.50	58.01
Below Normal	63.03	57.42	52.16	48.63	49.26	53.60	58.97	62.24	65.48	66.56	65.91	65.97	59.10
Dry	65.14	57.96	52.18	48.36	49.89	54.74	61.10	65.41	68.22	68.53	67.85	67.80	60.60
Critical Dry	65.46	57.40	51.13	48.69	51.01	56.00	62.07	67.44	70.82	72.36	70.23	69.11	61.81

Modeling Technical Appendix – Attachment A-2. Model Results for Existing Conditions Full UAR Capacity

This attachment summarizes the modeling results for Full UAR Capacity (1.1) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-2-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-2-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	187,334	179,848	174,005	185,744	185,347	195,647	222,711	255,826	256,368	247,054	227,716	196,824	209,535
Wet	187,748	190,949	196,331	215,390	209,956	211,019	241,585	265,548	265,126	262,257	246,099	212,152	225,347
Above Normal	187,046	178,842	174,222	196,808	194,878	196,505	221,305	263,658	264,838	259,087	238,890	204,744	215,068
Below Normal	183,063	172,849	164,237	172,212	171,666	187,388	213,938	260,237	262,806	252,511	231,787	198,859	205,963
Dry	192,129	178,969	166,007	169,185	172,622	192,312	221,486	249,737	251,843	236,555	215,358	186,320	202,710
Critical Dry	184,832	173,482	161,946	162,764	169,251	183,642	201,799	215,860	207,479	191,845	174,957	160,464	182,360

Table A-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,583	26,327	26,167	23,520	23,400	24,744	29,491	38,573	41,255	39,354	36,480	32,114	31,001
Wet	30,927	25,362	28,433	21,957	21,931	22,729	25,779	37,380	43,095	41,653	38,571	33,387	30,934
Above Normal	30,720	26,334	25,500	22,160	21,981	23,291	28,305	40,911	43,004	41,100	37,798	33,047	31,179
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table A-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,784	38,531	34,459	37,920	40,781	36,536	33,142	58,854	67,207	63,330	55,915	46,147	46,384
Wet	43,574	36,710	33,113	40,429	43,213	37,590	26,306	56,767	68,579	67,109	59,747	48,768	46,825
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,641	68,838	65,343	57,198	46,857	46,022
Below Normal	43,204	38,991	34,442	36,669	39,648	34,704	31,617	57,762	67,256	62,901	55,237	45,746	45,681
Dry	44,076	40,173	36,366	36,735	38,911	37,743	42,032	60,927	65,999	60,406	53,381	44,406	46,763
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table A-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,982	2,508	3,359	6,548	10,278	15,199	19,522	22,491	19,609	13,294	7,878	4,462	10,678
Wet	2,859	2,825	5,736	13,858	19,537	25,722	30,681	34,484	29,777	21,242	12,785	6,103	17,134
Above Normal	4,607	3,215	3,705	8,210	14,399	20,559	25,594	29,395	24,702	16,227	9,015	3,999	13,636
Below Normal	2,661	2,192	2,403	3,405	6,398	12,111	17,746	21,589	20,855	15,422	9,954	6,716	10,121
Dry	2,437	2,102	2,176	2,705	4,251	7,450	10,557	12,104	10,218	5,190	2,366	2,059	5,301
Critical Dry	1,915	1,990	2,031	2,195	3,026	4,297	5,069	5,454	3,126	1,914	1,825	1,763	2,884

Table A-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	11,394	11,717	12,937	14,165	15,576	17,189	18,405	18,749	17,827	15,883	13,825	12,154	14,985
Wet	11,933	12,966	16,279	18,951	20,450	20,986	21,206	21,205	20,762	19,381	17,496	15,844	18,122
Above Normal	12,319	12,591	13,748	16,167	18,439	20,214	20,950	21,138	20,757	18,973	16,803	15,028	17,261
Below Normal	10,367	10,457	10,923	11,491	13,119	15,718	18,196	19,597	18,767	16,583	14,355	12,518	14,341
Dry	11,761	11,875	12,191	12,171	12,928	14,779	16,397	16,519	14,918	12,501	10,353	8,699	12,924
Critical Dry	9,486	9,221	9,499	9,333	9,744	10,536	11,010	10,399	8,576	6,727	5,183	4,108	8,652

Table A-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,658	14,925	13,882	13,334	13,465	13,687	15,614	20,292	21,811	21,069	18,457	17,039	16,686
Wet	16,645	15,607	15,544	15,910	16,237	16,491	17,947	21,294	22,332	22,261	20,349	19,025	18,304
Above Normal	16,866	15,049	13,875	13,611	14,034	14,092	15,434	20,572	22,135	22,107	19,333	17,948	17,088
Below Normal	16,297	14,348	12,948	12,013	12,123	12,349	14,572	20,285	22,152	21,338	18,201	16,812	16,120
Dry	16,972	14,919	13,482	12,335	12,136	12,436	15,062	20,013	21,829	19,989	17,162	15,543	15,990
Critical Dry	16,287	14,355	13,043	12,103	11,996	12,288	14,084	17,688	18,625	17,693	15,602	14,347	14,843

Table A-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,629	3,398	3,389	1,818	1,588	2,009	5,238	8,385	8,266	7,451	6,491	4,204	4,655
Wet	3,626	3,566	3,663	3,290	3,188	3,056	5,428	8,441	8,555	8,204	7,241	4,708	5,247
Above Normal	3,637	3,246	3,347	2,306	2,094	2,089	4,241	8,540	8,447	7,675	6,635	4,241	4,708
Below Normal	3,586	3,420	3,368	1,383	1,010	1,928	5,442	8,361	8,381	7,392	6,395	4,016	4,557
Dry	3,657	3,359	3,231	778	493	1,333	5,957	8,629	8,202	7,093	6,158	3,965	4,405
Critical Dry	3,651	3,353	3,246	796	727	1,106	4,447	7,228	6,907	6,036	5,305	3,935	3,895

Table A-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	90	142	85	79	45	230	1,237	3,378	4,620	3,421	1,591	386	1,275
Wet	171	281	343	235	139	65	898	3,163	4,935	4,587	3,020	1,175	1,584
Above Normal	73	80	21	120	61	35	861	3,440	4,995	4,011	2,107	378	1,349
Below Normal	78	144	-	-	-	295	1,462	3,750	4,917	3,314	1,179	70	1,268
Dry	47	70	-	-	-	428	1,622	3,466	4,340	2,617	604	47	1,103
Critical Dry	60	110	-	-	-	395	1,340	2,546	2,853	1,416	406	76	767

Table A-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	59	56	62	62	73	156	1,033	1,470	1,386	1,266	198	500
Wet	191	56	55	70	69	69	73	634	1,487	1,497	1,392	261	488
Above Normal	220	61	58	68	69	81	84	817	1,338	1,265	1,145	164	447
Below Normal	154	62	58	59	63	71	75	1,154	1,589	1,475	1,348	187	525
Dry	175	57	54	53	52	67	296	1,475	1,589	1,453	1,326	232	569
Critical Dry	177	65	61	59	56	91	366	1,044	1,064	927	811	39	397

Table A-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,841	4,837	4,835	4,836	4,838	4,840	4,848	4,861	4,867	4,865	4,859	4,849	4,848
Wet	4,840	4,840	4,842	4,847	4,850	4,848	4,855	4,867	4,870	4,869	4,866	4,856	4,854
Above Normal	4,841	4,837	4,835	4,838	4,843	4,841	4,847	4,862	4,870	4,869	4,864	4,853	4,850
Below Normal	4,839	4,835	4,831	4,831	4,833	4,835	4,844	4,861	4,869	4,867	4,861	4,850	4,846
Dry	4,843	4,839	4,834	4,830	4,832	4,837	4,848	4,860	4,865	4,862	4,855	4,844	4,846
Critical Dry	4,839	4,836	4,831	4,828	4,830	4,834	4,841	4,849	4,850	4,844	4,837	4,830	4,837

Table A-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,374	3,370	3,371	3,380	3,394	3,409	3,422	3,431	3,432	3,419	3,401	3,386	3,399
Wet	3,374	3,370	3,376	3,400	3,423	3,438	3,449	3,457	3,456	3,443	3,423	3,400	3,418
Above Normal	3,381	3,374	3,373	3,385	3,407	3,425	3,439	3,448	3,447	3,432	3,411	3,389	3,409
Below Normal	3,373	3,369	3,368	3,373	3,383	3,401	3,419	3,432	3,435	3,427	3,411	3,395	3,399
Dry	3,372	3,368	3,368	3,370	3,375	3,387	3,401	3,409	3,409	3,394	3,375	3,368	3,383
Critical Dry	3,366	3,366	3,367	3,368	3,371	3,377	3,382	3,385	3,382	3,368	3,366	3,365	3,372

Table A-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,228	4,227	4,230	4,235	4,240	4,245	4,251	4,253	4,252	4,247	4,240	4,233	4,240
Wet	4,230	4,230	4,238	4,250	4,257	4,261	4,262	4,262	4,262	4,259	4,254	4,248	4,251
Above Normal	4,232	4,231	4,234	4,240	4,249	4,255	4,260	4,262	4,262	4,258	4,252	4,245	4,248
Below Normal	4,223	4,221	4,222	4,225	4,230	4,239	4,248	4,256	4,256	4,251	4,243	4,236	4,238
Dry	4,231	4,229	4,230	4,230	4,231	4,236	4,243	4,247	4,244	4,236	4,227	4,219	4,234
Critical Dry	4,218	4,215	4,217	4,218	4,219	4,221	4,224	4,224	4,218	4,208	4,199	4,191	4,214

Table A-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,943	7,942	7,942	7,942	7,943	7,950	7,956	7,956	7,953	7,949	7,947
Wet	7,948	7,947	7,945	7,946	7,946	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,943	7,942	7,942	7,943	7,944	7,950	7,956	7,957	7,955	7,951	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,957	7,953	7,949	7,946
Dry	7,949	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,951	7,947	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table A-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,195	7,195	7,192	7,190	7,190	7,195	7,204	7,207	7,206	7,204	7,201	7,198
Wet	7,196	7,196	7,196	7,195	7,195	7,194	7,196	7,204	7,207	7,207	7,205	7,202	7,199
Above Normal	7,196	7,195	7,195	7,193	7,191	7,191	7,193	7,203	7,207	7,206	7,204	7,201	7,198
Below Normal	7,196	7,195	7,195	7,192	7,188	7,189	7,195	7,204	7,207	7,206	7,203	7,200	7,198
Dry	7,196	7,195	7,195	7,191	7,186	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,197
Critical Dry	7,196	7,195	7,195	7,191	7,187	7,187	7,192	7,202	7,204	7,202	7,201	7,199	7,196

Table A-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,197	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,209	8,208	8,204	8,201
Above Normal	8,196	8,196	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table A-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table A-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	432	782	1,185	1,145	1,490	1,728	2,297	2,582	2,112	883	682	922	1,353
Wet	452	1,238	2,537	2,721	2,564	2,844	3,361	4,243	3,729	1,516	779	1,101	2,257
Above Normal	471	697	1,027	1,311	2,090	2,129	2,890	3,592	2,810	878	724	1,016	1,636
Below Normal	392	581	653	510	1,118	1,673	2,344	2,356	1,922	740	679	924	1,158
Dry	429	696	734	396	675	859	1,354	1,097	751	568	624	811	750
Critical Dry	402	534	605	316	482	362	545	506	437	450	489	524	471

Table A-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	30	71	79	63	64	50	141	140	44	20	18	61
Wet	14	71	245	220	174	151	85	328	313	88	28	28	145
Above Normal	16	19	19	86	62	50	46	148	155	39	20	20	57
Below Normal	14	16	16	18	24	51	44	80	105	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table A-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	192	346	454	512	619	986	1,519	1,099	323	130	107	530
Wet	96	396	925	1,050	918	1,001	1,412	2,274	1,978	680	190	157	923
Above Normal	87	150	267	546	713	688	1,148	2,115	1,428	335	137	123	645
Below Normal	56	117	131	217	358	617	991	1,477	1,016	247	120	92	453
Dry	69	136	147	152	222	358	680	763	395	132	96	77	269
Critical Dry	76	96	109	114	181	156	302	315	150	74	70	53	141

Table A-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	28	9	148	26	48	60	53	49	16	15	12	11	39
Wet	38	15	562	58	102	103	150	101	17	17	13	11	99
Above Normal	24	7	61	43	80	94	48	62	17	17	13	11	40
Below Normal	24	6	6	7	14	41	15	24	17	15	13	11	16
Dry	25	7	7	7	16	27	14	24	14	12	11	10	14
Critical Dry	24	6	7	7	7	10	12	12	12	10	8	8	10

Table A-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	932	3,189	8,199	6,092	6,514	8,149	6,523	4,678	1,700	1,556	1,799	902	4,186
Wet	1,122	4,742	25,100	11,423	10,526	12,619	11,518	8,045	2,794	1,842	1,899	1,059	7,724
Above Normal	1,031	3,361	5,354	11,110	10,113	11,321	8,020	6,344	1,826	1,651	1,937	972	5,253
Below Normal	812	1,940	3,172	2,578	5,124	6,977	5,482	3,950	1,581	1,632	1,966	907	3,010
Dry	798	3,236	1,696	1,942	2,720	4,650	3,279	2,061	992	1,332	1,666	765	2,095
Critical Dry	894	1,804	1,001	1,109	1,658	1,607	1,419	984	752	973	1,125	683	1,167

Table A-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	47	96	135	109	149	196	152	157	89	74	96	130	119
Wet	53	135	221	247	253	292	235	245	148	76	100	141	179
Above Normal	46	96	148	148	225	265	219	215	91	79	102	138	148
Below Normal	43	76	99	48	132	202	157	172	80	75	101	140	110
Dry	47	86	97	32	47	98	58	54	56	72	90	122	72
Critical Dry	41	70	73	22	24	37	23	26	48	65	72	72	48

Table A-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	5	7	10	10	12	11	10	4	1	2	2	6
Wet	-	7	11	13	12	12	11	11	8	1	2	3	8
Above Normal	-	5	7	12	12	12	11	11	5	0	1	1	6
Below Normal	-	4	6	10	11	12	12	11	3	0	1	1	6
Dry	-	4	5	8	8	11	12	9	2	1	4	4	6
Critical Dry	-	3	4	7	6	10	10	5	1	0	3	2	4

Table A-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	457	1,317	2,379	1,957	2,138	3,016	2,712	2,430	880	690	904	419	1,608
Wet	563	1,846	7,420	3,659	3,527	4,265	4,666	4,029	1,487	768	914	478	2,802
Above Normal	501	1,414	1,632	3,651	3,246	3,857	3,375	3,351	902	702	939	457	2,002
Below Normal	389	931	684	849	1,677	2,864	2,282	2,084	754	726	999	445	1,224
Dry	382	1,274	528	526	904	2,056	1,434	1,124	565	621	881	358	888
Critical Dry	457	820	274	417	498	758	623	551	407	544	596	271	518

Table A-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	494	444	457	482	508	650	782	839	789	655	564	532	600
Wet	526	482	524	567	567	751	899	967	943	832	719	680	705
Above Normal	525	463	482	542	565	742	900	965	921	768	667	624	680
Below Normal	525	461	458	481	520	677	849	907	837	629	534	499	615
Dry	470	416	396	386	446	548	670	737	642	511	435	411	506
Critical Dry	381	351	358	362	387	426	454	467	437	381	339	327	389

Table A-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,720	2,709	2,849	3,118	3,352	3,690	4,012	4,025	3,751	3,231	2,900	2,753	3,259
Wet	2,843	2,910	3,109	3,475	3,580	3,850	4,306	4,497	4,381	3,901	3,526	3,284	3,638
Above Normal	2,871	2,830	2,991	3,297	3,623	4,021	4,432	4,474	4,263	3,732	3,376	3,152	3,589
Below Normal	2,881	2,867	2,980	3,249	3,504	3,902	4,285	4,221	3,876	3,283	2,936	2,846	3,402
Dry	2,783	2,720	2,838	3,015	3,434	3,854	4,017	3,903	3,468	2,896	2,587	2,522	3,170
Critical Dry	2,003	1,914	1,973	2,110	2,301	2,541	2,585	2,461	2,088	1,665	1,451	1,394	2,041

Table A-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,381	1,391	1,439	1,497	1,602	1,722	1,870	1,864	1,836	1,711	1,559	1,422	1,608
Wet	1,495	1,523	1,618	1,733	1,891	2,031	2,218	2,249	2,233	2,117	1,989	1,834	1,911
Above Normal	1,500	1,504	1,544	1,642	1,755	1,895	2,066	2,093	2,094	1,977	1,829	1,677	1,798
Below Normal	1,437	1,448	1,473	1,532	1,609	1,720	1,880	1,854	1,815	1,686	1,512	1,368	1,611
Dry	1,406	1,408	1,426	1,421	1,505	1,629	1,746	1,706	1,656	1,504	1,318	1,192	1,493
Critical Dry	918	902	922	898	951	1,024	1,082	1,041	1,001	891	754	667	921

Table A-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,876	1,893	2,016	2,167	2,353	2,567	2,884	2,988	2,837	2,355	2,034	1,935	2,325
Wet	2,009	2,095	2,393	2,654	2,836	2,936	3,312	3,511	3,472	3,079	2,796	2,637	2,811
Above Normal	2,009	1,997	2,057	2,353	2,624	2,919	3,318	3,504	3,436	2,873	2,409	2,178	2,640
Below Normal	1,968	1,972	2,037	2,132	2,302	2,574	2,980	3,076	2,903	2,282	1,833	1,759	2,318
Dry	1,711	1,694	1,719	1,752	1,974	2,277	2,509	2,522	2,219	1,685	1,472	1,466	1,917
Critical Dry	1,522	1,472	1,479	1,492	1,602	1,795	1,872	1,815	1,564	1,244	1,039	1,036	1,494

Table A-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,297	2,450	3,127	3,758	4,729	3,306	3,687	4,572	4,244	3,343	2,244	1,805	3,213
Wet	1,326	3,358	5,962	7,797	8,938	5,883	6,317	7,722	6,291	3,753	2,785	2,144	5,190
Above Normal	1,480	2,271	1,878	4,161	5,231	3,887	3,881	5,937	5,211	3,847	2,513	2,101	3,533
Below Normal	1,305	2,372	2,320	1,592	2,914	1,931	2,704	3,469	3,729	4,190	2,260	1,841	2,552
Dry	1,253	1,956	1,580	1,323	1,803	1,594	1,799	1,905	2,669	2,669	1,844	1,508	1,825
Critical Dry	1,118	1,345	1,158	942	1,477	1,401	1,584	1,435	1,641	1,469	1,286	1,107	1,330

Table A-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,753	6,341	10,209	12,592	15,016	13,698	9,856	6,594	5,897	7,128	5,831	5,996	8,742
Wet	6,650	8,128	15,390	18,778	20,775	18,723	14,742	9,343	6,231	7,660	6,838	8,386	11,804
Above Normal	5,850	6,065	10,830	16,150	17,359	16,020	10,587	8,081	5,880	7,033	6,229	7,206	9,774
Below Normal	5,872	6,214	7,979	10,210	12,520	11,867	8,002	5,386	5,404	7,440	5,901	5,255	7,671
Dry	5,158	5,466	6,009	6,741	12,162	10,246	6,563	4,551	6,353	7,341	5,230	3,972	6,650
Critical Dry	4,238	3,944	6,875	6,713	7,848	7,764	5,438	3,664	5,452	5,334	3,908	3,315	5,374

Table A-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,217	3,408	6,700	10,109	12,219	11,717	7,476	7,261	6,556	8,115	6,587	4,207	7,298
Wet	3,984	5,135	13,229	20,666	24,133	22,923	14,783	12,791	9,758	8,659	7,159	5,885	12,425
Above Normal	2,968	2,943	4,475	11,334	12,468	13,026	7,142	9,268	7,456	9,935	9,372	6,711	8,091
Below Normal	3,195	2,812	4,213	4,902	7,042	6,787	4,227	4,533	4,691	9,371	8,280	3,744	5,316
Dry	3,038	2,468	3,119	3,162	4,848	4,192	3,069	3,554	4,845	7,626	4,125	1,963	3,834
Critical Dry	2,027	2,117	2,617	2,562	3,036	2,932	2,245	2,211	3,813	3,973	3,125	1,759	2,701

Table A-2-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,210	8,527	22,364	38,851	50,080	42,345	27,734	20,849	12,085	6,892	4,189	6,167	20,524
Wet	7,868	14,063	46,080	79,558	97,577	81,209	53,312	37,038	21,527	9,692	5,606	10,312	38,654
Above Normal	6,233	6,009	15,532	45,362	55,210	47,248	26,786	25,930	14,012	7,976	5,274	9,699	22,106
Below Normal	6,015	6,847	13,230	18,315	26,420	23,791	17,269	13,607	6,696	6,461	3,444	3,369	12,122
Dry	5,238	5,670	6,769	11,059	22,693	18,158	11,917	9,330	6,146	4,305	3,143	2,665	8,924
Critical Dry	4,052	4,724	9,577	10,075	12,387	11,661	8,259	6,348	5,453	3,600	2,590	2,655	6,782

Table A-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	213	216	218	212	184	157	193	196	236	232	241	209
Wet	225	238	239	236	196	187	199	248	241	268	274	258	234
Above Normal	226	234	247	231	230	192	190	216	225	243	265	238	228
Below Normal	229	216	222	203	227	194	142	180	188	258	249	267	215
Dry	211	208	201	227	221	183	121	157	191	262	230	238	204
Critical Dry	166	141	147	179	195	159	102	116	91	95	90	168	137

Table A-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	29	10	1	1	-	-	0	1	9	6	10	6
Wet	-	22	5	3	3	-	-	1	2	5	-	-	3
Above Normal	3	39	19	-	0	-	-	-	-	1	-	-	5
Below Normal	-	39	9	-	-	-	-	-	-	3	18	42	9
Dry	5	40	11	-	-	-	-	-	-	35	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table A-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	14	7	-	-	-	-	-	22	30	31	30	13
Wet	17	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	6	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	19	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	13	10	-	-	-	-	-	26	31	31	30	12

Table A-2-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	85	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	86	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	71	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	81	78	76	79	83	86	89	91	85

Table A-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,295	2,449	3,118	3,727	4,703	3,297	3,692	4,599	4,274	3,384	2,271	1,824	3,219
Wet	1,550	3,674	3,503	7,735	8,894	5,858	6,310	7,748	6,317	3,788	2,809	2,160	5,029
Above Normal	1,522	3,139	3,533	4,122	5,184	3,884	3,893	5,968	5,241	3,888	2,540	2,121	3,753
Below Normal	1,321	2,390	3,862	1,577	2,902	1,925	2,714	3,497	3,761	4,235	2,288	1,859	2,694
Dry	983	1,046	2,997	1,313	1,790	1,594	1,806	1,930	2,701	2,713	1,875	1,530	1,856
Critical Dry	840	812	735	941	1,468	1,407	1,602	1,459	1,671	1,513	1,310	1,130	1,241

Table A-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,284	2,455	3,139	3,759	4,731	3,306	3,687	4,572	4,244	3,342	2,243	1,804	3,214
Wet	1,538	3,681	3,524	7,798	8,938	5,883	6,318	7,722	6,291	3,753	2,785	2,144	5,031
Above Normal	1,508	3,142	3,557	4,159	5,231	3,888	3,881	5,937	5,211	3,847	2,513	2,101	3,748
Below Normal	1,317	2,402	3,880	1,594	2,917	1,931	2,704	3,470	3,729	4,189	2,259	1,840	2,686
Dry	966	1,052	3,013	1,324	1,810	1,594	1,799	1,905	2,670	2,669	1,844	1,507	1,846
Critical Dry	823	806	769	944	1,477	1,404	1,584	1,433	1,641	1,469	1,279	1,107	1,228

Table A-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,295	2,495	3,209	3,838	4,811	3,340	3,710	4,591	4,261	3,354	2,248	1,810	3,247
Wet	1,534	3,719	3,579	7,941	9,047	5,924	6,343	7,737	6,292	3,742	2,773	2,132	5,064
Above Normal	1,515	3,182	3,632	4,259	5,339	3,916	3,893	5,961	5,231	3,855	2,514	2,102	3,783
Below Normal	1,344	2,457	3,957	1,637	2,976	1,962	2,731	3,493	3,759	4,217	2,270	1,853	2,721
Dry	980	1,087	3,084	1,360	1,866	1,619	1,821	1,917	2,691	2,689	1,859	1,521	1,874
Critical Dry	844	836	851	973	1,531	1,439	1,610	1,456	1,664	1,493	1,304	1,131	1,261

Table A-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,184	2,395	3,132	3,762	4,737	3,249	3,597	4,449	4,080	3,149	2,057	1,655	3,121
Wet	1,420	3,618	3,499	7,877	8,978	5,835	6,231	7,585	6,103	3,530	2,573	1,957	4,934
Above Normal	1,404	3,082	3,555	4,186	5,269	3,824	3,778	5,813	5,044	3,644	2,319	1,934	3,654
Below Normal	1,235	2,359	3,881	1,556	2,897	1,870	2,618	3,353	3,579	4,009	2,077	1,708	2,595
Dry	870	986	3,006	1,277	1,787	1,527	1,708	1,783	2,513	2,487	1,676	1,386	1,750
Critical Dry	734	737	779	890	1,452	1,348	1,498	1,328	1,496	1,318	1,133	996	1,142

Table A-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.33	57.45	53.75	48.16	47.65	50.46	54.24	57.81	60.86	62.57	60.57	62.81	56.47
Wet	58.62	57.22	54.68	46.78	46.56	49.41	52.45	55.77	59.13	60.83	59.00	60.83	55.11
Above Normal	59.82	57.21	54.34	48.59	47.53	50.28	53.38	56.32	59.61	61.18	59.07	61.21	55.71
Below Normal	61.91	57.38	53.07	48.92	48.01	50.54	54.49	57.91	60.97	62.90	60.73	63.12	56.66
Dry	64.97	58.39	53.65	48.94	48.43	51.29	55.82	59.41	62.89	64.14	62.47	65.16	57.96
Critical Dry	63.57	57.17	52.36	48.68	48.63	51.80	56.58	61.44	63.16	65.17	62.80	65.26	58.05

Table A-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.24	57.12	53.02	47.79	47.80	51.12	55.36	58.97	62.14	63.85	62.35	63.41	57.01
Wet	59.08	56.94	54.06	46.74	46.66	49.79	53.08	56.49	60.01	62.25	60.69	61.65	55.62
Above Normal	59.93	56.86	53.75	48.36	47.68	50.77	54.30	57.31	60.50	62.49	60.71	61.92	56.22
Below Normal	61.68	57.16	52.49	48.40	48.11	51.25	55.77	59.06	62.17	63.71	62.32	63.63	57.14
Dry	63.96	57.87	52.60	48.31	48.56	52.13	57.45	61.20	64.36	65.15	64.09	65.35	58.42
Critical Dry	63.36	56.81	51.36	48.01	49.01	52.88	58.10	62.99	65.53	67.16	65.34	65.91	58.87

Table A-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.81	57.32	52.63	48.11	48.99	53.35	58.32	62.28	65.68	67.46	66.19	66.02	59.10
Wet	60.84	57.05	53.62	47.04	47.41	51.37	55.05	58.90	62.80	65.82	64.34	64.24	57.37
Above Normal	61.41	56.89	53.34	48.61	48.66	52.64	56.80	60.16	63.37	65.97	64.33	64.49	58.06
Below Normal	63.02	57.43	52.16	48.64	49.27	53.64	59.04	62.35	65.62	66.55	65.91	66.02	59.14
Dry	65.15	57.96	52.13	48.53	50.04	54.90	61.30	65.55	68.36	68.60	67.86	67.79	60.68
Critical Dry	65.38	57.35	51.14	48.69	51.02	56.01	62.08	67.50	70.82	72.39	70.30	69.13	61.82

Modeling Technical Appendix – Attachment A-3. Model Results for Existing Conditions Baseline Ful UAR Capacity and Project

This attachment summarizes the modeling results for Ful UAR Capacity and Project (1.2) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-3-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-3-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	178,808	174,273	171,528	180,145	179,860	191,247	219,191	253,748	252,768	240,621	218,254	190,140	204,215
Wet	179,234	185,777	193,577	211,560	205,294	206,642	237,534	264,952	265,025	260,050	239,168	207,760	221,381
Above Normal	178,747	173,731	172,636	191,954	190,598	193,657	218,774	263,406	264,769	256,207	231,347	199,921	211,312
Below Normal	172,848	165,625	160,427	165,318	166,074	183,871	211,349	259,552	261,313	248,419	225,659	194,499	201,246
Dry	185,430	174,954	164,959	163,444	166,661	187,377	218,557	246,341	244,539	226,198	203,653	178,425	196,712
Critical Dry	175,133	165,746	157,675	154,503	160,267	174,592	193,124	205,331	190,720	170,197	151,257	140,150	169,891

Table A-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,582	26,313	26,163	23,520	23,401	24,744	29,489	38,562	41,252	39,352	36,478	32,113	30,997
Wet	30,927	25,304	28,417	21,959	21,934	22,730	25,775	37,334	43,093	41,653	38,571	33,387	30,924
Above Normal	30,715	26,332	25,499	22,160	21,980	23,290	28,305	40,905	42,990	41,091	37,791	33,041	31,175
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table A-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,784	38,530	34,454	37,918	40,780	36,535	33,145	58,791	67,200	63,324	55,915	46,147	46,377
Wet	43,574	36,710	33,093	40,423	43,207	37,584	26,320	56,680	68,578	67,116	59,754	48,771	46,818
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,500	68,805	65,311	57,192	46,855	46,005
Below Normal	43,202	38,989	34,444	36,671	39,650	34,706	31,619	57,701	67,256	62,901	55,237	45,745	45,677
Dry	44,078	40,172	36,364	36,733	38,909	37,742	42,030	60,926	65,998	60,404	53,380	44,405	46,762
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table A-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	22,721	19,762	19,109	21,897	25,512	29,050	31,518	32,731	32,279	29,509	26,973	25,369	26,369
Wet	24,802	22,374	24,539	31,316	35,907	38,606	39,826	40,266	39,882	37,622	35,221	33,339	33,642
Above Normal	23,522	21,031	20,402	24,631	30,732	34,540	36,952	38,482	38,323	35,265	32,147	30,413	30,537
Below Normal	19,725	15,722	13,983	14,972	18,360	23,936	28,300	30,751	30,932	28,198	25,267	23,737	22,824
Dry	23,930	20,966	19,092	19,598	21,366	24,366	26,947	27,861	26,732	23,376	21,167	19,757	22,930
Critical Dry	19,856	17,215	15,243	15,160	16,121	17,262	17,751	17,792	16,674	14,767	13,387	12,098	16,110

Table A-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	13,006	13,303	14,445	15,574	16,853	18,299	19,393	19,633	18,962	17,253	15,313	13,767	16,317
Wet	12,972	13,917	17,023	19,490	20,717	21,150	21,206	21,205	20,800	19,612	17,977	16,424	18,541
Above Normal	13,957	14,222	15,270	17,424	19,402	20,670	21,203	21,206	20,779	19,236	17,133	15,481	17,998
Below Normal	12,238	12,315	12,770	13,306	14,929	17,458	19,792	20,617	19,922	18,045	15,912	14,228	15,961
Dry	13,438	13,540	13,839	13,850	14,573	16,336	17,902	18,142	17,117	14,901	12,825	11,317	14,815
Critical Dry	11,713	11,467	11,742	11,609	12,015	12,789	13,296	13,155	12,255	10,639	9,174	8,169	11,502

Table A-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,556	14,829	13,811	13,291	13,427	13,648	15,576	20,279	21,750	21,002	18,395	16,963	16,627
Wet	16,562	15,490	15,418	15,809	16,148	16,409	17,865	21,258	22,332	22,261	20,312	18,915	18,232
Above Normal	16,803	14,971	13,758	13,549	13,973	14,030	15,373	20,572	22,133	22,105	19,307	17,926	17,042
Below Normal	16,169	14,266	12,946	12,016	12,126	12,350	14,572	20,287	22,109	21,306	18,207	16,774	16,094
Dry	16,838	14,810	13,413	12,303	12,117	12,406	15,032	19,996	21,666	19,804	16,999	15,407	15,899
Critical Dry	16,210	14,281	13,039	12,102	11,996	12,287	14,084	17,688	18,492	17,530	15,489	14,300	14,792

Table A-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,626	3,310	3,306	1,708	1,477	1,876	5,108	8,374	8,260	7,446	6,488	4,170	4,596
Wet	3,623	3,416	3,517	3,149	3,028	2,900	5,282	8,427	8,555	8,204	7,241	4,662	5,167
Above Normal	3,622	3,230	3,331	2,238	1,984	1,975	4,116	8,535	8,447	7,675	6,635	4,190	4,665
Below Normal	3,598	3,372	3,327	1,247	841	1,705	5,227	8,361	8,381	7,392	6,395	3,995	4,487
Dry	3,648	3,202	3,084	675	478	1,289	5,919	8,629	8,202	7,093	6,158	3,967	4,362
Critical Dry	3,657	3,351	3,245	717	635	985	4,330	7,144	6,841	5,984	5,266	3,839	3,833

Table A-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	93	142	85	79	45	230	1,237	3,378	4,620	3,332	1,562	379	1,265
Wet	173	286	343	235	139	65	898	3,163	4,935	4,572	3,006	1,169	1,582
Above Normal	86	91	21	120	61	35	861	3,440	4,995	3,850	2,017	340	1,327
Below Normal	79	144	-	-	-	295	1,462	3,750	4,917	3,176	1,151	74	1,254
Dry	46	68	-	-	-	428	1,622	3,466	4,340	2,537	601	52	1,097
Critical Dry	60	75	-	-	-	395	1,340	2,546	2,853	1,402	406	76	763

Table A-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	59	56	61	62	73	156	1,033	1,470	1,386	1,266	198	500
Wet	191	56	55	70	69	69	73	634	1,487	1,497	1,392	261	488
Above Normal	220	61	58	68	69	81	84	817	1,338	1,265	1,145	164	447
Below Normal	154	62	58	59	63	71	75	1,154	1,589	1,475	1,348	187	525
Dry	175	54	51	51	50	67	296	1,475	1,589	1,453	1,326	232	568
Critical Dry	177	65	61	59	56	91	366	1,044	1,064	927	811	39	397

Table A-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,837	4,834	4,833	4,834	4,836	4,837	4,846	4,860	4,866	4,863	4,856	4,845	4,846
Wet	4,836	4,836	4,839	4,845	4,848	4,846	4,853	4,866	4,870	4,869	4,864	4,854	4,852
Above Normal	4,837	4,834	4,833	4,837	4,841	4,840	4,846	4,862	4,870	4,869	4,862	4,851	4,848
Below Normal	4,835	4,831	4,828	4,828	4,830	4,833	4,843	4,860	4,869	4,866	4,859	4,848	4,844
Dry	4,841	4,836	4,832	4,829	4,829	4,834	4,846	4,858	4,863	4,859	4,851	4,840	4,843
Critical Dry	4,836	4,831	4,828	4,824	4,825	4,830	4,837	4,845	4,844	4,835	4,826	4,819	4,832

Table A-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,439	3,432	3,426	3,429	3,436	3,445	3,451	3,455	3,455	3,452	3,447	3,443	3,443
Wet	3,444	3,437	3,436	3,446	3,458	3,465	3,468	3,469	3,470	3,467	3,464	3,460	3,457
Above Normal	3,441	3,435	3,430	3,434	3,446	3,456	3,462	3,466	3,467	3,464	3,459	3,454	3,451
Below Normal	3,433	3,422	3,414	3,413	3,420	3,432	3,444	3,451	3,453	3,451	3,445	3,440	3,435
Dry	3,442	3,435	3,429	3,427	3,430	3,436	3,442	3,446	3,446	3,441	3,436	3,432	3,437
Critical Dry	3,432	3,425	3,419	3,417	3,418	3,421	3,423	3,424	3,423	3,419	3,415	3,412	3,421

Table A-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,236	4,234	4,237	4,241	4,245	4,250	4,255	4,257	4,256	4,252	4,246	4,240	4,246
Wet	4,235	4,235	4,242	4,252	4,259	4,261	4,262	4,262	4,262	4,259	4,255	4,249	4,253
Above Normal	4,239	4,238	4,241	4,246	4,253	4,258	4,261	4,262	4,262	4,259	4,253	4,247	4,252
Below Normal	4,233	4,231	4,232	4,234	4,238	4,246	4,254	4,260	4,259	4,255	4,249	4,242	4,245
Dry	4,238	4,236	4,237	4,237	4,239	4,243	4,249	4,252	4,251	4,245	4,238	4,231	4,241
Critical Dry	4,230	4,228	4,229	4,229	4,230	4,232	4,234	4,235	4,233	4,228	4,222	4,216	4,229

Table A-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,943	7,942	7,941	7,942	7,943	7,950	7,956	7,956	7,953	7,949	7,947
Wet	7,948	7,946	7,945	7,946	7,946	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,943	7,942	7,942	7,943	7,944	7,950	7,956	7,957	7,955	7,951	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,956	7,953	7,949	7,946
Dry	7,948	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,951	7,946	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table A-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,195	7,195	7,192	7,189	7,189	7,194	7,204	7,207	7,206	7,204	7,201	7,198
Wet	7,196	7,195	7,195	7,195	7,194	7,193	7,196	7,204	7,207	7,207	7,205	7,202	7,199
Above Normal	7,196	7,195	7,195	7,193	7,191	7,191	7,193	7,203	7,207	7,206	7,204	7,201	7,198
Below Normal	7,196	7,195	7,195	7,192	7,188	7,188	7,194	7,204	7,207	7,206	7,203	7,200	7,197
Dry	7,196	7,195	7,194	7,190	7,186	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,197
Critical Dry	7,196	7,195	7,195	7,190	7,186	7,187	7,192	7,202	7,204	7,202	7,201	7,199	7,196

Table A-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,197	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,209	8,208	8,204	8,201
Above Normal	8,197	8,196	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table A-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table A-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	403	718	1,134	1,128	1,470	1,729	2,294	2,541	2,025	808	615	780	1,304
Wet	420	1,172	2,500	2,681	2,573	2,859	3,367	4,195	3,635	1,432	732	951	2,210
Above Normal	439	626	969	1,291	2,063	2,125	2,901	3,551	2,693	803	673	861	1,583
Below Normal	368	516	595	502	1,075	1,659	2,336	2,301	1,815	659	602	801	1,102
Dry	401	637	683	391	650	859	1,332	1,064	690	493	533	660	699
Critical Dry	371	473	547	314	476	377	548	502	429	415	433	403	441

Table A-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	28	71	78	62	59	50	137	139	44	20	18	60
Wet	14	62	244	214	174	139	85	315	312	88	28	28	142
Above Normal	16	19	19	86	55	44	46	145	155	39	20	20	55
Below Normal	14	16	16	18	24	48	44	80	105	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table A-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	192	346	459	521	651	1,012	1,531	1,073	299	106	101	530
Wet	96	398	924	1,054	928	1,025	1,429	2,285	1,963	660	166	150	923
Above Normal	87	149	267	550	721	721	1,175	2,129	1,402	315	111	114	645
Below Normal	56	118	130	223	366	654	1,015	1,485	984	221	100	89	453
Dry	69	137	146	159	229	394	711	775	363	102	70	75	269
Critical Dry	77	97	107	124	190	186	330	334	125	48	46	47	142

Table A-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	28	9	65	27	47	54	52	52	16	15	12	11	32
Wet	38	15	208	58	102	106	149	115	17	17	13	11	71
Above Normal	24	7	61	49	77	61	48	62	17	17	13	11	37
Below Normal	24	6	6	7	14	41	15	24	17	15	13	11	16
Dry	25	7	7	7	16	27	14	24	14	12	11	10	14
Critical Dry	24	6	7	7	7	10	12	12	12	10	8	8	10

Table A-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	922	3,011	8,102	6,080	6,479	8,111	6,524	4,659	1,661	1,500	1,656	888	4,133
Wet	1,101	4,632	24,771	11,346	10,526	12,619	11,553	8,042	2,725	1,834	1,769	1,049	7,664
Above Normal	1,023	3,163	5,259	11,199	10,093	11,288	8,022	6,316	1,784	1,626	1,805	945	5,210
Below Normal	807	1,733	3,172	2,545	5,072	6,924	5,470	3,923	1,537	1,562	1,807	897	2,954
Dry	795	3,033	1,694	1,927	2,644	4,621	3,264	2,036	976	1,211	1,522	752	2,040
Critical Dry	869	1,643	1,000	1,105	1,658	1,463	1,410	984	752	945	958	679	1,122

Table A-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	52	83	121	111	147	193	151	155	96	84	102	115	117
Wet	57	125	211	241	253	292	235	245	151	89	111	124	178
Above Normal	51	82	135	146	222	264	218	213	95	92	112	121	146
Below Normal	47	63	85	54	125	195	155	167	84	82	104	129	108
Dry	53	70	83	41	47	91	56	53	66	77	92	106	70
Critical Dry	44	61	50	32	26	33	23	30	60	74	78	62	48

Table A-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	5	6	9	8	10	11	12	9	5	5	5	7
Wet	-	7	9	13	12	11	12	12	11	9	6	7	9
Above Normal	-	5	6	11	10	11	11	12	11	6	3	5	8
Below Normal	-	5	4	8	7	9	10	12	10	5	4	4	7
Dry	-	5	4	7	4	9	11	11	8	4	6	5	6
Critical Dry	-	4	3	6	3	7	9	9	3	2	4	3	4

Table A-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	446	1,140	2,358	1,923	2,101	2,980	2,712	2,407	841	634	760	405	1,559
Wet	542	1,737	7,414	3,582	3,523	4,262	4,701	4,012	1,419	760	784	467	2,767
Above Normal	494	1,217	1,537	3,632	3,226	3,851	3,377	3,321	860	677	808	430	1,952
Below Normal	384	723	684	816	1,624	2,809	2,264	2,053	710	656	841	435	1,167
Dry	379	1,073	526	509	825	2,019	1,418	1,100	549	499	737	345	832
Critical Dry	432	659	274	414	499	613	613	551	407	515	429	266	473

Table A-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	484	433	446	473	502	644	778	835	785	651	560	523	593
Wet	518	474	522	567	567	751	899	967	942	830	717	676	703
Above Normal	517	452	470	533	564	742	900	965	921	765	663	617	676
Below Normal	512	449	444	468	513	673	848	906	835	630	533	491	609
Dry	453	400	376	368	428	528	655	725	632	503	426	393	491
Critical Dry	375	340	346	350	376	416	445	458	430	375	332	315	380

Table A-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,712	2,701	2,841	3,111	3,345	3,685	4,006	4,018	3,742	3,220	2,890	2,744	3,251
Wet	2,841	2,908	3,104	3,473	3,580	3,850	4,306	4,497	4,380	3,899	3,523	3,282	3,637
Above Normal	2,861	2,820	2,985	3,290	3,616	4,022	4,432	4,474	4,262	3,729	3,374	3,150	3,585
Below Normal	2,875	2,860	2,973	3,242	3,501	3,899	4,281	4,215	3,869	3,271	2,922	2,832	3,395
Dry	2,774	2,713	2,837	3,014	3,421	3,850	4,010	3,893	3,457	2,883	2,573	2,511	3,161
Critical Dry	1,981	1,892	1,951	2,082	2,279	2,517	2,560	2,435	2,058	1,637	1,428	1,371	2,016

Table A-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,378	1,389	1,436	1,495	1,600	1,720	1,868	1,862	1,834	1,709	1,556	1,419	1,606
Wet	1,492	1,521	1,617	1,732	1,891	2,029	2,217	2,247	2,232	2,116	1,988	1,832	1,909
Above Normal	1,499	1,504	1,543	1,642	1,756	1,895	2,066	2,093	2,094	1,977	1,829	1,675	1,798
Below Normal	1,435	1,447	1,472	1,531	1,608	1,718	1,878	1,853	1,814	1,684	1,509	1,364	1,610
Dry	1,403	1,405	1,424	1,419	1,502	1,627	1,744	1,704	1,652	1,500	1,313	1,187	1,490
Critical Dry	914	896	916	894	946	1,019	1,076	1,037	997	884	749	662	916

Table A-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,869	1,885	2,009	2,160	2,349	2,563	2,880	2,983	2,832	2,350	2,028	1,927	2,320
Wet	2,001	2,086	2,387	2,649	2,834	2,935	3,312	3,511	3,472	3,076	2,791	2,625	2,807
Above Normal	2,004	1,992	2,052	2,348	2,622	2,918	3,318	3,504	3,436	2,870	2,403	2,169	2,636
Below Normal	1,962	1,965	2,028	2,124	2,297	2,569	2,975	3,071	2,896	2,275	1,826	1,756	2,312
Dry	1,700	1,683	1,708	1,742	1,963	2,266	2,497	2,510	2,206	1,679	1,467	1,461	1,907
Critical Dry	1,516	1,467	1,474	1,484	1,595	1,789	1,866	1,809	1,555	1,236	1,030	1,026	1,487

Table A-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,297	2,397	3,070	3,712	4,668	3,303	3,655	4,520	4,152	3,269	2,185	1,745	3,164
Wet	1,322	3,291	5,831	7,727	8,936	5,891	6,330	7,669	6,193	3,692	2,728	2,030	5,137
Above Normal	1,479	2,249	1,838	4,085	5,059	3,894	3,877	5,912	5,118	3,812	2,475	1,997	3,483
Below Normal	1,300	2,289	2,283	1,574	2,791	1,889	2,648	3,410	3,658	4,078	2,195	1,813	2,494
Dry	1,253	1,889	1,577	1,288	1,780	1,611	1,687	1,822	2,557	2,588	1,772	1,505	1,777
Critical Dry	1,132	1,358	1,155	921	1,438	1,403	1,565	1,408	1,548	1,403	1,230	1,083	1,304

Table A-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,732	6,334	10,208	12,590	15,036	13,699	9,876	6,603	5,931	7,167	5,842	6,003	8,752
Wet	6,608	8,113	15,447	18,768	20,774	18,729	14,741	9,342	6,242	7,670	6,850	8,393	11,807
Above Normal	5,835	6,060	10,786	16,150	17,359	16,009	10,597	8,082	5,897	7,058	6,219	7,235	9,774
Below Normal	5,873	6,215	7,975	10,208	12,482	11,864	8,029	5,398	5,430	7,521	5,941	5,298	7,686
Dry	5,134	5,456	5,948	6,736	12,354	10,248	6,625	4,589	6,430	7,386	5,276	3,924	6,675
Critical Dry	4,228	3,951	6,865	6,732	7,826	7,765	5,452	3,661	5,507	5,376	3,853	3,308	5,377

Table A-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,217	3,408	6,694	10,102	12,187	11,709	7,471	7,264	6,574	8,113	6,604	4,237	7,298
Wet	3,976	5,129	13,188	20,648	24,080	22,916	14,765	12,789	9,764	8,693	7,192	6,004	12,429
Above Normal	2,976	2,946	4,475	11,334	12,415	12,999	7,139	9,265	7,462	9,968	9,412	6,768	8,097
Below Normal	3,201	2,811	4,252	4,881	7,003	6,773	4,225	4,543	4,723	9,383	8,287	3,677	5,313
Dry	3,041	2,478	3,106	3,161	4,850	4,194	3,079	3,567	4,861	7,513	4,110	1,962	3,827
Critical Dry	2,023	2,118	2,616	2,587	3,038	2,932	2,246	2,212	3,841	3,974	3,140	1,760	2,707

Table A-3-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,207	8,483	22,344	38,777	49,997	42,293	27,717	20,811	12,044	6,890	4,182	6,152	20,491
Wet	7,848	14,007	45,977	79,396	97,493	81,200	53,307	36,985	21,448	9,671	5,597	10,275	38,600
Above Normal	6,261	5,984	15,792	45,284	54,663	47,115	26,787	25,902	13,943	8,003	5,273	9,699	22,059
Below Normal	6,012	6,779	13,203	18,269	26,249	23,745	17,237	13,568	6,681	6,463	3,437	3,357	12,083
Dry	5,248	5,641	6,718	11,015	23,072	18,021	11,873	9,301	6,130	4,310	3,144	2,664	8,928
Critical Dry	4,048	4,715	9,541	10,114	12,308	11,672	8,257	6,323	5,453	3,596	2,574	2,655	6,771

Table A-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	213	216	218	210	185	156	193	196	236	231	242	209
Wet	224	237	239	236	197	188	198	248	241	268	274	262	234
Above Normal	226	235	246	231	231	192	190	216	225	243	264	237	228
Below Normal	229	217	223	203	223	194	141	180	188	258	248	268	214
Dry	211	205	199	226	213	183	121	157	191	262	230	237	203
Critical Dry	167	144	149	179	193	159	102	115	90	94	85	170	137

Table A-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	29	10	1	1	-	-	0	1	9	6	10	6
Wet	-	22	5	3	3	-	-	1	2	5	-	-	3
Above Normal	3	40	19	-	-	-	-	-	-	1	-	-	5
Below Normal	-	40	9	-	0	-	-	-	-	3	17	43	9
Dry	5	40	11	-	-	-	-	-	-	34	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table A-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16	14	7	-	-	-	-	-	22	30	31	30	13
Wet	16	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	6	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	20	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	13	11	-	-	-	-	-	26	31	31	30	12

Table A-3-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	87	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	70	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	81	78	76	79	83	86	89	91	85

Table A-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,296	2,395	3,060	3,683	4,642	3,294	3,660	4,547	4,181	3,310	2,212	1,763	3,170
Wet	1,546	3,577	3,473	7,665	8,892	5,865	6,323	7,695	6,218	3,726	2,752	2,046	4,982
Above Normal	1,511	3,081	3,516	4,051	5,012	3,891	3,889	5,943	5,148	3,854	2,503	2,017	3,701
Below Normal	1,334	2,360	3,787	1,559	2,779	1,884	2,658	3,437	3,691	4,124	2,222	1,832	2,639
Dry	986	1,029	2,836	1,275	1,767	1,614	1,694	1,848	2,588	2,632	1,803	1,524	1,800
Critical Dry	837	774	731	921	1,429	1,408	1,581	1,435	1,578	1,447	1,254	1,104	1,208

Table A-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,284	2,400	3,082	3,714	4,670	3,303	3,655	4,520	4,152	3,269	2,184	1,743	3,165
Wet	1,535	3,584	3,494	7,728	8,935	5,891	6,330	7,669	6,193	3,692	2,728	2,030	4,984
Above Normal	1,497	3,084	3,540	4,089	5,059	3,894	3,877	5,912	5,118	3,812	2,475	1,997	3,696
Below Normal	1,328	2,372	3,805	1,577	2,794	1,889	2,648	3,410	3,658	4,078	2,193	1,812	2,630
Dry	969	1,035	2,852	1,287	1,787	1,614	1,687	1,822	2,557	2,588	1,772	1,501	1,789
Critical Dry	820	768	765	924	1,438	1,405	1,563	1,409	1,548	1,403	1,223	1,081	1,196

Table A-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,295	2,441	3,151	3,793	4,750	3,337	3,678	4,539	4,168	3,279	2,189	1,749	3,197
Wet	1,531	3,622	3,550	7,871	9,046	5,933	6,356	7,683	6,194	3,680	2,716	2,018	5,017
Above Normal	1,505	3,124	3,615	4,187	5,166	3,923	3,889	5,936	5,137	3,821	2,476	1,998	3,731
Below Normal	1,356	2,426	3,882	1,620	2,852	1,920	2,674	3,433	3,688	4,105	2,204	1,826	2,666
Dry	983	1,070	2,923	1,322	1,843	1,640	1,708	1,835	2,577	2,608	1,787	1,515	1,818
Critical Dry	841	796	848	954	1,492	1,440	1,589	1,432	1,570	1,426	1,247	1,105	1,228

Table A-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,184	2,341	3,074	3,718	4,675	3,246	3,566	4,397	3,987	3,076	1,999	1,597	3,072
Wet	1,417	3,521	3,470	7,807	8,977	5,843	6,244	7,532	6,004	3,468	2,515	1,851	4,887
Above Normal	1,394	3,024	3,538	4,115	5,096	3,831	3,775	5,788	4,951	3,610	2,281	1,833	3,603
Below Normal	1,247	2,328	3,805	1,539	2,774	1,829	2,562	3,293	3,508	3,897	2,012	1,680	2,540
Dry	873	969	2,845	1,239	1,764	1,548	1,595	1,700	2,402	2,405	1,606	1,380	1,694
Critical Dry	731	699	776	870	1,413	1,349	1,476	1,305	1,402	1,254	1,076	970	1,110

Table A-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.62	57.61	53.98	48.38	47.86	50.59	54.32	57.99	61.05	62.75	60.73	63.06	56.66
Wet	58.78	57.12	54.72	46.92	46.60	49.43	52.46	55.80	59.20	60.97	59.16	60.93	55.17
Above Normal	59.49	56.73	54.29	48.76	47.68	50.34	53.48	56.27	59.65	61.34	59.16	61.24	55.70
Below Normal	61.79	57.44	52.90	48.95	48.02	50.58	54.55	57.98	61.10	63.03	60.90	63.32	56.71
Dry	65.11	58.50	53.61	48.82	48.44	50.98	55.53	59.70	62.83	64.19	62.57	65.24	57.96
Critical Dry	65.58	58.75	54.29	49.76	49.81	52.85	57.28	62.25	64.10	65.68	63.05	66.26	59.14

Table A-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.41	57.23	53.17	47.96	47.98	51.23	55.40	59.12	62.33	64.03	62.52	63.60	57.16
Wet	59.22	56.84	54.07	46.88	46.70	49.81	53.09	56.52	60.10	62.41	60.85	61.79	55.69
Above Normal	59.67	56.41	53.69	48.50	47.83	50.83	54.40	57.27	60.56	62.65	60.83	61.99	56.22
Below Normal	61.59	57.19	52.37	48.41	48.13	51.29	55.84	59.14	62.33	63.84	62.52	63.81	57.20
Dry	64.02	57.98	52.50	48.17	48.56	51.95	57.16	61.41	64.49	65.21	64.22	65.45	58.43
Critical Dry	64.53	58.03	52.77	48.85	49.94	53.66	58.56	63.59	66.13	67.65	65.64	66.41	59.65

Table A-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.91	57.38	52.72	48.25	49.14	53.44	58.36	62.42	65.90	67.67	66.41	66.22	59.24
Wet	60.96	56.97	53.62	47.18	47.45	51.37	55.05	58.93	62.91	66.01	64.52	64.46	57.45
Above Normal	61.21	56.50	53.27	48.73	48.83	52.69	56.88	60.14	63.45	66.13	64.46	64.63	58.08
Below Normal	62.95	57.44	52.05	48.65	49.33	53.70	59.12	62.46	65.81	66.70	66.13	66.20	59.21
Dry	65.18	58.05	52.02	48.40	50.03	54.77	61.10	65.80	68.66	68.72	68.06	67.89	60.72
Critical Dry	66.14	58.23	52.16	49.34	51.74	56.55	62.38	67.91	71.36	72.88	70.66	69.48	62.40

Modeling Technical Appendix – Attachment A-4. Model Results for Existing Conditions With Project

This attachment summarizes the modeling results for With Project (1.3) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-4-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-4-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	178,316	174,115	171,422	179,802	179,576	191,033	219,138	253,729	252,513	240,130	217,451	189,624	203,904
Wet	178,945	185,756	193,521	211,534	205,296	206,731	237,690	264,954	265,024	260,037	238,779	207,528	221,316
Above Normal	178,242	173,558	172,535	191,818	190,537	193,597	218,744	263,428	264,760	256,052	230,717	199,551	211,128
Below Normal	172,090	165,288	160,161	164,773	165,677	183,575	211,141	259,437	261,138	248,030	225,024	194,110	200,870
Dry	185,048	174,833	164,913	162,905	166,146	186,919	218,332	246,182	243,802	225,127	202,501	177,738	196,204
Critical Dry	174,536	165,632	157,687	153,912	159,649	174,114	193,366	205,833	190,346	168,978	149,451	138,642	169,346

Table A-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,582	26,313	26,163	23,520	23,401	24,744	29,490	38,565	41,252	39,352	36,478	32,113	30,998
Wet	30,927	25,304	28,417	21,959	21,934	22,730	25,778	37,348	43,093	41,653	38,571	33,387	30,925
Above Normal	30,715	26,332	25,499	22,160	21,980	23,290	28,305	40,905	42,990	41,091	37,791	33,041	31,175
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table A-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,786	38,531	34,451	37,919	40,780	36,535	33,145	58,793	67,201	63,326	55,916	46,149	46,378
Wet	43,574	36,710	33,078	40,422	43,207	37,583	26,318	56,691	68,583	67,122	59,760	48,777	46,819
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,504	68,804	65,310	57,191	46,859	46,005
Below Normal	43,202	38,989	34,448	36,674	39,654	34,709	31,623	57,697	67,256	62,901	55,237	45,746	45,678
Dry	44,086	40,177	36,362	36,731	38,907	37,740	42,028	60,923	65,997	60,404	53,380	44,404	46,761
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table A-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	46,589	43,874	43,605	45,695	48,484	49,656	49,351	48,058	49,597	50,428	50,527	50,171	48,003
Wet	49,990	48,406	51,772	55,123	56,366	53,357	49,794	46,551	50,446	54,203	57,401	59,952	52,780
Above Normal	46,081	44,567	44,697	48,804	54,007	53,474	51,837	49,804	53,690	56,153	57,338	58,378	51,569
Below Normal	43,154	39,083	37,307	38,576	42,348	47,483	49,152	48,581	48,531	48,203	47,819	47,238	44,789
Dry	48,455	45,243	43,325	44,077	46,021	48,869	50,734	50,905	50,344	49,439	47,273	44,039	47,394
Critical Dry	42,522	38,998	36,675	36,613	37,648	38,652	38,794	38,429	38,328	35,415	32,257	29,470	36,983

Table A-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17,952	18,349	19,175	19,936	20,563	21,291	21,629	21,512	21,264	20,428	19,285	18,332	19,976
Wet	17,483	18,277	19,959	21,185	21,274	21,370	21,206	21,206	21,110	20,768	20,064	19,242	20,262
Above Normal	18,331	18,753	19,535	21,032	21,533	21,388	21,458	21,273	21,124	20,610	19,456	18,504	20,250
Below Normal	17,727	17,968	18,545	19,066	20,379	22,100	22,754	22,191	21,867	21,001	19,745	18,725	20,172
Dry	18,529	18,823	19,233	19,418	20,047	21,115	21,773	21,979	21,623	20,233	18,820	17,801	19,950
Critical Dry	17,301	17,270	17,726	17,778	18,294	19,128	19,694	19,714	19,330	18,040	16,804	15,863	18,079

Table A-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,476	14,867	13,965	13,387	13,510	13,733	15,660	20,284	21,703	20,953	18,293	16,896	16,644
Wet	16,567	15,651	15,913	16,142	16,432	16,682	18,137	21,288	22,332	22,261	20,236	18,805	18,370
Above Normal	16,708	15,020	13,872	13,628	14,052	14,108	15,450	20,563	22,132	22,104	19,135	17,879	17,054
Below Normal	16,081	14,201	12,950	11,983	12,085	12,329	14,551	20,273	22,076	21,260	18,125	16,726	16,053
Dry	16,700	14,831	13,482	12,346	12,159	12,451	15,076	20,009	21,548	19,695	16,901	15,327	15,877
Critical Dry	16,121	14,280	13,005	12,092	11,988	12,282	14,079	17,683	18,379	17,397	15,417	14,286	14,751

Table A-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,614	1,934	1,457	913	1,021	1,523	4,777	8,324	8,253	7,441	6,484	4,096	4,153
Wet	3,601	2,319	2,411	2,453	2,425	2,492	4,953	8,338	8,555	8,204	7,241	4,613	4,800
Above Normal	3,607	1,912	1,519	1,175	1,282	1,378	3,518	8,435	8,447	7,675	6,635	4,073	4,138
Below Normal	3,606	1,788	1,051	136	261	1,218	4,759	8,361	8,381	7,392	6,395	3,955	3,942
Dry	3,626	1,745	1,031	243	368	1,237	5,873	8,629	8,202	7,093	6,158	3,896	4,008
Critical Dry	3,660	1,868	1,028	115	503	859	4,186	7,044	6,761	5,923	5,218	3,696	3,405

Table A-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	87	44	86	79	45	230	1,237	3,378	4,620	3,297	1,557	376	1,253
Wet	173	188	350	235	139	65	898	3,163	4,935	4,611	3,031	1,179	1,580
Above Normal	86	11	21	120	61	35	861	3,440	4,995	3,773	1,994	327	1,310
Below Normal	56	0	-	-	-	295	1,462	3,750	4,917	3,098	1,132	72	1,232
Dry	45	3	-	-	-	428	1,622	3,466	4,340	2,498	597	50	1,087
Critical Dry	60	(36)	-	-	-	395	1,340	2,546	2,853	1,397	393	61	751

Table A-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	19	18	40	46	68	154	1,032	1,469	1,385	1,265	198	490
Wet	191	24	23	69	68	69	73	634	1,487	1,497	1,392	261	482
Above Normal	220	27	26	54	58	74	82	814	1,336	1,263	1,143	162	438
Below Normal	154	13	12	30	44	66	75	1,154	1,589	1,475	1,348	187	512
Dry	175	16	15	20	28	63	296	1,475	1,589	1,453	1,326	232	557
Critical Dry	176	14	13	15	21	75	357	1,035	1,055	919	804	39	377

Table A-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,837	4,834	4,833	4,834	4,836	4,837	4,846	4,860	4,866	4,863	4,856	4,845	4,845
Wet	4,836	4,836	4,839	4,845	4,848	4,846	4,853	4,866	4,870	4,869	4,864	4,854	4,852
Above Normal	4,837	4,834	4,833	4,837	4,841	4,840	4,846	4,862	4,870	4,868	4,862	4,850	4,848
Below Normal	4,834	4,830	4,828	4,828	4,829	4,833	4,843	4,860	4,869	4,866	4,859	4,848	4,844
Dry	4,841	4,836	4,832	4,828	4,829	4,834	4,846	4,858	4,863	4,858	4,850	4,840	4,843
Critical Dry	4,835	4,831	4,828	4,824	4,825	4,830	4,837	4,845	4,844	4,835	4,825	4,818	4,831

Table A-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,514	3,507	3,501	3,498	3,497	3,495	3,492	3,488	3,489	3,495	3,503	3,510	3,499
Wet	3,521	3,515	3,512	3,508	3,503	3,497	3,489	3,482	3,483	3,492	3,504	3,519	3,502
Above Normal	3,508	3,507	3,503	3,501	3,500	3,498	3,493	3,488	3,490	3,499	3,510	3,524	3,502
Below Normal	3,507	3,498	3,489	3,486	3,486	3,489	3,489	3,487	3,486	3,488	3,493	3,500	3,491
Dry	3,519	3,513	3,506	3,503	3,502	3,501	3,499	3,498	3,497	3,504	3,512	3,511	3,505
Critical Dry	3,509	3,499	3,491	3,488	3,487	3,487	3,485	3,484	3,485	3,491	3,485	3,478	3,489

Table A-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,255	4,255	4,257	4,259	4,261	4,262	4,264	4,264	4,263	4,262	4,260	4,257	4,260
Wet	4,252	4,253	4,256	4,261	4,262	4,263	4,262	4,262	4,262	4,261	4,260	4,257	4,259
Above Normal	4,255	4,256	4,257	4,261	4,263	4,264	4,263	4,262	4,262	4,261	4,259	4,255	4,260
Below Normal	4,255	4,255	4,256	4,258	4,260	4,264	4,267	4,266	4,265	4,263	4,260	4,257	4,261
Dry	4,256	4,256	4,258	4,258	4,260	4,262	4,264	4,265	4,265	4,263	4,260	4,257	4,260
Critical Dry	4,255	4,255	4,255	4,255	4,256	4,258	4,260	4,261	4,262	4,261	4,259	4,257	4,258

Table A-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,943	7,942	7,942	7,942	7,943	7,950	7,956	7,956	7,953	7,949	7,947
Wet	7,948	7,946	7,946	7,946	7,947	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,943	7,942	7,943	7,943	7,944	7,950	7,956	7,957	7,955	7,950	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,956	7,953	7,949	7,946
Dry	7,948	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,950	7,946	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table A-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,193	7,190	7,188	7,188	7,188	7,193	7,203	7,207	7,206	7,204	7,201	7,196
Wet	7,196	7,193	7,192	7,192	7,192	7,192	7,195	7,203	7,207	7,207	7,205	7,202	7,198
Above Normal	7,196	7,192	7,190	7,188	7,188	7,189	7,191	7,202	7,207	7,206	7,204	7,201	7,196
Below Normal	7,196	7,193	7,189	7,186	7,185	7,186	7,193	7,204	7,207	7,206	7,203	7,200	7,196
Dry	7,196	7,192	7,189	7,185	7,185	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,196
Critical Dry	7,196	7,193	7,189	7,185	7,185	7,186	7,192	7,201	7,204	7,202	7,200	7,198	7,194

Table A-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,196	8,195	8,196	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,196	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,210	8,208	8,204	8,201
Above Normal	8,197	8,196	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,196	8,196	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,196	8,195	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,196	8,195	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table A-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table A-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	402	728	1,129	1,128	1,474	1,766	2,327	2,558	2,017	798	605	773	1,309
Wet	419	1,177	2,484	2,690	2,584	2,886	3,392	4,215	3,637	1,426	726	945	2,215
Above Normal	437	636	966	1,290	2,066	2,165	2,939	3,568	2,683	796	665	851	1,588
Below Normal	368	529	593	499	1,072	1,700	2,372	2,313	1,801	648	589	797	1,107
Dry	400	649	683	387	653	900	1,370	1,081	676	477	518	653	704
Critical Dry	370	484	545	315	476	413	573	522	424	410	418	394	445

Table A-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	28	71	78	62	59	50	137	140	44	20	18	60
Wet	14	61	244	213	174	139	85	316	312	88	28	28	142
Above Normal	16	19	19	86	55	44	46	145	155	39	20	20	55
Below Normal	14	16	16	18	24	48	44	80	105	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table A-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	208	342	456	525	689	1,048	1,548	1,060	285	90	99	535
Wet	95	408	908	1,063	940	1,053	1,455	2,304	1,966	654	154	146	929
Above Normal	86	165	266	548	725	761	1,213	2,147	1,391	305	95	107	651
Below Normal	56	138	129	216	367	697	1,052	1,498	970	206	83	89	458
Dry	68	153	147	147	232	437	753	793	340	80	54	75	273
Critical Dry	77	116	108	115	190	223	366	358	106	29	21	43	146

Table A-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	28	9	65	27	47	54	52	52	16	15	12	11	32
Wet	38	15	208	58	102	106	149	115	17	17	13	11	71
Above Normal	24	7	61	49	77	61	48	62	17	17	13	11	37
Below Normal	24	6	6	7	14	41	15	24	17	15	13	11	16
Dry	25	7	7	7	16	27	14	24	14	12	11	10	14
Critical Dry	24	6	7	7	7	10	12	12	12	10	8	8	10

Table A-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	921	3,017	8,126	6,106	6,501	8,143	6,557	4,677	1,663	1,501	1,652	888	4,146
Wet	1,099	4,640	24,890	11,370	10,537	12,651	11,600	8,061	2,722	1,836	1,764	1,052	7,685
Above Normal	1,023	3,161	5,238	11,295	10,140	11,328	8,058	6,336	1,788	1,625	1,800	942	5,228
Below Normal	807	1,744	3,169	2,549	5,102	6,975	5,502	3,946	1,545	1,562	1,808	898	2,967
Dry	796	3,039	1,696	1,927	2,659	4,655	3,291	2,052	978	1,214	1,510	751	2,047
Critical Dry	861	1,644	998	1,104	1,660	1,422	1,416	987	752	945	965	679	1,119

Table A-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	52	83	121	112	147	193	152	155	96	84	102	115	118
Wet	57	125	211	241	254	293	236	246	151	89	111	124	178
Above Normal	51	83	135	146	222	265	219	214	96	92	112	121	146
Below Normal	48	63	85	54	125	195	155	167	85	81	104	129	108
Dry	53	70	83	42	47	91	57	53	66	77	92	106	70
Critical Dry	44	60	51	33	26	33	23	29	59	74	79	63	48

Table A-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	7	7	10	8	11	12	13	10	6	4	6	8
Wet	-	9	11	14	12	13	14	14	12	8	6	8	10
Above Normal	-	7	8	12	10	13	14	15	13	6	3	5	9
Below Normal	-	7	6	8	7	10	11	13	12	5	4	4	7
Dry	-	6	5	6	4	10	11	12	8	4	5	6	7
Critical Dry	-	6	4	5	4	8	9	11	4	2	3	3	5

Table A-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	445	1,141	2,350	1,921	2,105	2,995	2,733	2,419	841	635	756	405	1,562
Wet	540	1,732	7,409	3,593	3,527	4,286	4,743	4,024	1,412	760	780	471	2,773
Above Normal	493	1,212	1,514	3,615	3,231	3,871	3,403	3,334	861	676	802	426	1,953
Below Normal	384	734	677	813	1,628	2,836	2,273	2,068	714	656	842	434	1,172
Dry	380	1,075	525	506	831	2,030	1,433	1,112	551	503	725	345	835
Critical Dry	424	660	271	412	499	571	618	554	407	515	436	266	469

Table A-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	485	434	447	474	502	645	780	838	787	652	561	524	594
Wet	518	474	522	567	567	752	899	967	942	830	718	676	703
Above Normal	517	452	470	533	564	742	900	965	921	765	663	617	676
Below Normal	513	451	445	469	513	675	851	909	836	630	534	491	610
Dry	454	401	377	369	428	531	660	730	634	505	428	395	493
Critical Dry	375	341	346	351	377	419	449	462	434	377	335	317	382

Table A-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,712	2,702	2,842	3,111	3,346	3,685	4,006	4,019	3,744	3,222	2,891	2,745	3,252
Wet	2,842	2,909	3,104	3,474	3,580	3,850	4,306	4,497	4,380	3,899	3,523	3,282	3,637
Above Normal	2,862	2,821	2,986	3,291	3,617	4,022	4,432	4,474	4,262	3,729	3,374	3,150	3,585
Below Normal	2,876	2,861	2,974	3,243	3,502	3,900	4,281	4,216	3,871	3,273	2,923	2,833	3,396
Dry	2,772	2,711	2,838	3,015	3,421	3,851	4,011	3,895	3,460	2,886	2,577	2,514	3,163
Critical Dry	1,982	1,893	1,952	2,083	2,280	2,518	2,561	2,435	2,060	1,641	1,430	1,373	2,017

Table A-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,379	1,389	1,437	1,496	1,601	1,721	1,868	1,863	1,834	1,709	1,557	1,419	1,606
Wet	1,493	1,522	1,618	1,733	1,891	2,030	2,217	2,248	2,233	2,117	1,988	1,832	1,910
Above Normal	1,499	1,504	1,544	1,642	1,756	1,895	2,066	2,093	2,094	1,977	1,829	1,675	1,798
Below Normal	1,436	1,447	1,473	1,532	1,609	1,719	1,879	1,853	1,815	1,685	1,511	1,366	1,610
Dry	1,403	1,405	1,424	1,419	1,502	1,627	1,744	1,704	1,653	1,500	1,313	1,188	1,490
Critical Dry	914	896	916	894	946	1,020	1,077	1,037	997	884	749	661	916

Table A-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,869	1,885	2,009	2,160	2,349	2,563	2,880	2,984	2,832	2,351	2,028	1,927	2,320
Wet	2,001	2,087	2,387	2,649	2,834	2,935	3,312	3,511	3,472	3,077	2,792	2,625	2,807
Above Normal	2,003	1,992	2,051	2,348	2,622	2,918	3,318	3,504	3,436	2,870	2,403	2,169	2,636
Below Normal	1,962	1,966	2,029	2,125	2,297	2,569	2,975	3,072	2,897	2,276	1,827	1,756	2,313
Dry	1,700	1,683	1,708	1,741	1,963	2,266	2,498	2,511	2,208	1,680	1,468	1,462	1,907
Critical Dry	1,516	1,467	1,473	1,484	1,594	1,788	1,866	1,809	1,556	1,236	1,029	1,026	1,487

Table A-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,297	2,404	3,074	3,726	4,688	3,329	3,695	4,553	4,171	3,271	2,185	1,744	3,178
Wet	1,322	3,300	5,839	7,759	8,974	5,928	6,372	7,700	6,199	3,693	2,729	2,027	5,153
Above Normal	1,479	2,254	1,840	4,097	5,070	3,964	3,937	5,938	5,127	3,813	2,475	1,994	3,499
Below Normal	1,300	2,298	2,287	1,575	2,807	1,915	2,698	3,460	3,693	4,079	2,195	1,813	2,510
Dry	1,253	1,893	1,579	1,293	1,790	1,611	1,723	1,845	2,598	2,587	1,773	1,507	1,788
Critical Dry	1,134	1,362	1,155	923	1,444	1,401	1,572	1,432	1,556	1,411	1,228	1,087	1,309

Table A-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,743	6,332	10,201	12,588	15,036	13,700	9,877	6,600	5,915	7,165	5,841	6,003	8,750
Wet	6,608	8,112	15,448	18,770	20,774	18,730	14,741	9,342	6,241	7,672	6,850	8,392	11,807
Above Normal	5,839	6,058	10,786	16,150	17,360	16,010	10,598	8,082	5,897	7,056	6,216	7,236	9,774
Below Normal	5,873	6,212	7,978	10,209	12,484	11,865	8,033	5,390	5,401	7,521	5,939	5,302	7,684
Dry	5,198	5,454	5,902	6,735	12,354	10,249	6,619	4,585	6,388	7,382	5,271	3,922	6,672
Critical Dry	4,228	3,948	6,865	6,714	7,826	7,767	5,454	3,655	5,498	5,363	3,857	3,310	5,374

Table A-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,219	3,408	6,694	10,103	12,188	11,708	7,468	7,260	6,572	8,114	6,605	4,241	7,298
Wet	3,978	5,129	13,191	20,649	24,082	22,915	14,765	12,789	9,761	8,687	7,191	6,010	12,429
Above Normal	2,982	2,946	4,475	11,334	12,413	12,995	7,139	9,263	7,462	9,966	9,414	6,771	8,097
Below Normal	3,200	2,811	4,248	4,881	7,006	6,775	4,224	4,535	4,722	9,384	8,289	3,686	5,313
Dry	3,049	2,478	3,105	3,161	4,850	4,192	3,069	3,555	4,861	7,518	4,113	1,963	3,826
Critical Dry	2,023	2,116	2,617	2,587	3,038	2,929	2,238	2,208	3,840	3,981	3,145	1,761	2,707

Table A-4-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,209	8,487	22,345	38,792	50,021	42,320	27,755	20,835	12,049	6,889	4,183	6,152	20,503
Wet	7,848	14,013	45,990	79,436	97,540	81,238	53,348	37,015	21,454	9,671	5,596	10,272	38,618
Above Normal	6,273	5,988	15,793	45,295	54,676	47,190	26,847	25,925	13,951	7,998	5,273	9,699	22,076
Below Normal	6,012	6,782	13,207	18,270	26,273	23,775	17,293	13,603	6,687	6,460	3,436	3,362	12,097
Dry	5,248	5,644	6,694	11,019	23,079	18,020	11,893	9,305	6,130	4,310	3,144	2,663	8,929
Critical Dry	4,048	4,718	9,543	10,115	12,313	11,661	8,259	6,340	5,454	3,596	2,579	2,655	6,773

Table A-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	213	215	218	210	185	156	193	196	236	231	242	209
Wet	224	237	239	236	197	188	198	248	241	268	274	262	234
Above Normal	226	234	246	231	231	192	190	216	225	243	264	237	228
Below Normal	229	217	223	203	223	194	141	180	188	258	249	268	214
Dry	213	205	194	226	213	183	121	157	191	262	230	238	203
Critical Dry	167	143	148	179	193	159	102	115	90	94	85	171	137

Table A-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	29	10	1	1	-	-	0	1	9	6	10	6
Wet	-	22	5	3	3	-	-	1	2	5	-	-	3
Above Normal	3	40	19	-	(0)	-	-	-	-	1	-	-	5
Below Normal	-	40	9	-	0	-	-	-	-	3	17	43	9
Dry	7	40	11	-	-	-	-	-	-	34	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table A-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	14	7	-	-	-	-	-	22	30	31	30	13
Wet	16	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	6	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	22	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	13	10	-	-	-	-	-	26	31	31	30	12

Table A-4-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	86	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	70	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	81	78	76	79	83	86	89	91	85

Table A-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,296	2,402	3,064	3,695	4,662	3,320	3,700	4,580	4,201	3,312	2,211	1,762	3,184
Wet	1,547	3,590	3,480	7,698	8,931	5,903	6,365	7,725	6,225	3,728	2,753	2,043	4,999
Above Normal	1,511	3,085	3,519	4,062	5,024	3,961	3,949	5,969	5,157	3,854	2,503	2,014	3,717
Below Normal	1,336	2,368	3,786	1,559	2,795	1,909	2,708	3,488	3,726	4,124	2,221	1,831	2,654
Dry	986	1,030	2,848	1,280	1,776	1,614	1,730	1,871	2,629	2,631	1,804	1,526	1,811
Critical Dry	837	777	731	923	1,436	1,405	1,588	1,459	1,586	1,456	1,252	1,108	1,213

Table A-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,284	2,408	3,086	3,727	4,690	3,330	3,695	4,553	4,171	3,271	2,183	1,743	3,178
Wet	1,535	3,597	3,500	7,761	8,974	5,928	6,372	7,700	6,199	3,694	2,729	2,027	5,001
Above Normal	1,497	3,087	3,543	4,100	5,070	3,964	3,937	5,938	5,128	3,813	2,475	1,994	3,712
Below Normal	1,330	2,380	3,803	1,577	2,810	1,915	2,698	3,460	3,693	4,078	2,192	1,812	2,646
Dry	969	1,036	2,865	1,292	1,797	1,614	1,723	1,846	2,598	2,587	1,773	1,502	1,800
Critical Dry	820	771	765	926	1,444	1,402	1,571	1,433	1,556	1,411	1,221	1,085	1,200

Table A-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,296	2,448	3,155	3,806	4,770	3,364	3,718	4,572	4,188	3,281	2,189	1,748	3,211
Wet	1,531	3,635	3,556	7,904	9,084	5,970	6,398	7,714	6,200	3,682	2,717	2,015	5,034
Above Normal	1,505	3,127	3,618	4,199	5,178	3,993	3,949	5,962	5,147	3,822	2,476	1,994	3,747
Below Normal	1,358	2,435	3,880	1,620	2,868	1,946	2,725	3,484	3,723	4,106	2,203	1,826	2,681
Dry	983	1,071	2,935	1,327	1,852	1,640	1,744	1,858	2,619	2,607	1,788	1,517	1,828
Critical Dry	841	800	848	956	1,498	1,437	1,597	1,456	1,577	1,435	1,245	1,108	1,233

Table A-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,185	2,348	3,078	3,731	4,695	3,273	3,606	4,430	4,006	3,078	1,999	1,597	3,085
Wet	1,417	3,534	3,476	7,840	9,015	5,881	6,286	7,563	6,010	3,470	2,516	1,848	4,905
Above Normal	1,394	3,027	3,541	4,126	5,108	3,902	3,835	5,814	4,960	3,610	2,281	1,830	3,619
Below Normal	1,249	2,337	3,804	1,539	2,790	1,854	2,613	3,344	3,543	3,897	2,013	1,680	2,555
Dry	873	970	2,858	1,244	1,774	1,548	1,631	1,724	2,443	2,404	1,607	1,381	1,705
Critical Dry	731	702	775	872	1,420	1,346	1,484	1,329	1,409	1,262	1,075	974	1,115

Table A-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.66	57.58	53.94	48.34	47.82	50.53	54.25	57.93	61.01	62.75	60.72	63.04	56.63
Wet	58.78	57.11	54.70	46.92	46.60	49.42	52.44	55.80	59.20	60.98	59.16	60.93	55.17
Above Normal	59.49	56.51	53.97	48.74	47.67	50.32	53.45	56.25	59.64	61.34	59.16	61.24	55.65
Below Normal	61.81	57.41	52.91	48.94	48.01	50.56	54.49	57.86	60.98	63.05	60.90	63.25	56.68
Dry	65.12	58.49	53.66	48.62	48.23	50.74	55.26	59.55	62.70	64.12	62.56	65.23	57.86
Critical Dry	65.79	58.84	54.27	49.76	49.81	52.82	57.30	62.15	64.17	65.70	62.99	66.26	59.16

Table A-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.43	57.21	53.13	47.92	47.95	51.18	55.34	59.05	62.28	64.02	62.52	63.58	57.13
Wet	59.22	56.84	54.06	46.88	46.70	49.80	53.06	56.52	60.10	62.41	60.85	61.79	55.69
Above Normal	59.67	56.23	53.39	48.48	47.82	50.80	54.34	57.25	60.55	62.65	60.83	61.99	56.17
Below Normal	61.61	57.17	52.37	48.40	48.12	51.27	55.78	59.03	62.20	63.86	62.52	63.74	57.17
Dry	64.02	57.98	52.55	47.98	48.39	51.75	56.92	61.27	64.36	65.13	64.22	65.46	58.33
Critical Dry	64.66	58.09	52.76	48.85	49.94	53.64	58.56	63.52	66.15	67.65	65.59	66.39	59.65

Table A-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.93	57.37	52.70	48.22	49.11	53.39	58.29	62.35	65.84	67.66	66.40	66.21	59.20
Wet	60.96	56.97	53.61	47.18	47.44	51.35	55.03	58.91	62.91	66.01	64.52	64.46	57.45
Above Normal	61.21	56.35	53.01	48.71	48.82	52.65	56.80	60.11	63.44	66.13	64.46	64.64	58.03
Below Normal	62.96	57.43	52.05	48.64	49.32	53.66	59.05	62.35	65.67	66.71	66.14	66.15	59.18
Dry	65.17	58.05	52.07	48.24	49.88	54.61	60.90	65.65	68.53	68.65	68.05	67.90	60.64
Critical Dry	66.22	58.28	52.16	49.34	51.74	56.54	62.38	67.84	71.36	72.86	70.59	69.46	62.40

Modeling Technical Appendix – Attachment A-5. Absolute Change of Full UAR Capacity to baseline

This attachment summarizes the absolute change of full UAR capacity to baseline (1.1-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-5-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-5-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	492	158	106	343	284	214	53	18	255	491	802	516	311
Wet	290	21	56	26	(2)	(89)	(156)	(2)	2	13	389	232	65
Above Normal	505	172	101	136	61	60	30	(22)	8	155	629	370	184
Below Normal	759	337	266	544	397	297	207	115	174	390	635	389	376
Dry	382	121	46	539	515	458	225	158	737	1,071	1,152	687	508
Critical Dry	597	115	(13)	592	618	478	(241)	(502)	374	1,219	1,805	1,507	546

Table A-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	(0)	-	-	-	(1)	(3)	-	-	-	-	(0)
Wet	-	-	(0)	-	-	-	(3)	(14)	-	-	-	-	(1)
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(1)	3	(0)	(0)	(0)	0	(2)	(1)	(1)	(1)	(2)	(1)
Wet	-	-	15	1	1	1	2	(11)	(4)	(6)	(6)	(6)	(1)
Above Normal	-	-	-	-	-	-	-	(3)	1	1	1	(4)	(0)
Below Normal	0	0	(4)	(4)	(3)	(3)	(3)	5	(0)	(0)	(0)	(0)	(1)
Dry	(9)	(5)	2	2	2	2	2	2	1	1	1	1	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(23,868)	(24,112)	(24,496)	(23,797)	(22,972)	(20,606)	(17,833)	(15,327)	(17,318)	(20,919)	(23,554)	(24,801)	(21,634)
Wet	(25,188)	(26,032)	(27,233)	(23,806)	(20,460)	(14,750)	(9,968)	(6,286)	(10,564)	(16,581)	(22,179)	(26,612)	(19,138)
Above Normal	(22,559)	(23,536)	(24,295)	(24,173)	(23,275)	(18,933)	(14,885)	(11,322)	(15,367)	(20,888)	(25,191)	(27,965)	(21,032)
Below Normal	(23,429)	(23,361)	(23,323)	(23,604)	(23,988)	(23,547)	(20,852)	(17,830)	(17,600)	(20,004)	(22,552)	(23,501)	(21,966)
Dry	(24,525)	(24,277)	(24,232)	(24,479)	(24,655)	(24,503)	(23,786)	(23,043)	(23,613)	(26,063)	(26,105)	(24,283)	(24,464)
Critical Dry	(22,666)	(21,784)	(21,432)	(21,452)	(21,527)	(21,390)	(21,043)	(20,637)	(21,654)	(20,648)	(18,870)	(17,372)	(20,873)

Table A-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4,946)	(5,046)	(4,730)	(4,362)	(3,710)	(2,992)	(2,237)	(1,880)	(2,302)	(3,175)	(3,971)	(4,564)	(3,660)
Wet	(4,511)	(4,359)	(2,936)	(1,696)	(557)	(220)	-	(1)	(310)	(1,156)	(2,088)	(2,818)	(1,721)
Above Normal	(4,374)	(4,531)	(4,265)	(3,608)	(2,131)	(718)	(256)	(68)	(345)	(1,374)	(2,324)	(3,023)	(2,251)
Below Normal	(5,488)	(5,653)	(5,776)	(5,759)	(5,449)	(4,642)	(2,962)	(1,574)	(1,945)	(2,956)	(3,833)	(4,497)	(4,211)
Dry	(5,091)	(5,283)	(5,393)	(5,569)	(5,474)	(4,779)	(3,871)	(3,838)	(4,506)	(5,333)	(5,994)	(6,484)	(5,135)
Critical Dry	(5,589)	(5,804)	(5,985)	(6,169)	(6,279)	(6,339)	(6,399)	(6,559)	(7,075)	(7,401)	(7,630)	(7,694)	(6,577)

Table A-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	80	(37)	(154)	(96)	(82)	(85)	(85)	(5)	47	49	102	67	(17)
Wet	(5)	(161)	(495)	(333)	(284)	(272)	(271)	(30)	-	-	76	111	(139)
Above Normal	95	(49)	(113)	(79)	(79)	(78)	(78)	8	1	1	172	46	(13)
Below Normal	88	65	(5)	33	41	21	20	14	32	45	82	48	40
Dry	138	(21)	(69)	(44)	(42)	(45)	(45)	(13)	119	109	98	80	22
Critical Dry	89	1	34	10	8	5	5	5	114	133	72	14	41

Table A-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	12	1,377	1,849	795	457	354	331	50	7	5	4	74	443
Wet	22	1,097	1,105	696	603	409	329	90	-	-	-	49	367
Above Normal	15	1,318	1,812	1,064	702	597	598	100	-	-	-	116	527
Below Normal	(7)	1,584	2,276	1,111	580	487	468	0	-	-	-	40	545
Dry	22	1,457	2,053	433	110	52	46	-	-	-	-	71	354
Critical Dry	(3)	1,483	2,217	602	133	126	143	100	79	62	48	143	428

Table A-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6	98	(2)	-	-	-	-	-	-	35	5	3	12
Wet	-	98	(8)	-	-	-	-	-	-	(39)	(25)	(9)	1
Above Normal	(0)	80	-	-	-	-	-	-	-	78	23	14	16
Below Normal	23	144	-	-	-	-	-	-	-	78	18	2	22
Dry	1	65	-	-	-	-	-	-	-	39	4	2	9
Critical Dry	-	110	-	-	-	-	-	-	-	5	13	15	12

Table A-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	39	37	21	15	5	1	1	1	1	1	0	10
Wet	0	32	31	1	1	0	-	-	-	-	-	-	6
Above Normal	-	34	32	14	10	7	2	2	2	2	2	1	9
Below Normal	0	48	45	29	20	5	-	-	-	-	-	-	12
Dry	-	38	36	31	22	4	-	-	-	-	-	-	11
Critical Dry	1	51	48	44	35	17	9	9	9	8	7	1	20

Table A-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	0	0	0	0	0	(0)	(0)	(0)	(0)	(0)	0	0	0
Above Normal	0	0	0	0	0	0	0	0	(0)	0	0	0	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	0	0	0	0	0	0	0	0	0	0	0
Critical Dry	0	0	0	0	0	0	0	(0)	(0)	0	1	1	0

Table A-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(74)	(76)	(75)	(69)	(61)	(51)	(41)	(34)	(33)	(43)	(56)	(67)	(57)
Wet	(76)	(78)	(76)	(61)	(45)	(32)	(21)	(13)	(14)	(25)	(40)	(59)	(45)
Above Normal	(67)	(72)	(73)	(67)	(54)	(42)	(31)	(22)	(23)	(35)	(51)	(69)	(51)
Below Normal	(74)	(75)	(75)	(72)	(67)	(57)	(46)	(36)	(32)	(37)	(48)	(59)	(57)
Dry	(76)	(78)	(77)	(76)	(73)	(65)	(57)	(52)	(51)	(62)	(76)	(79)	(69)
Critical Dry	(78)	(74)	(72)	(72)	(69)	(65)	(62)	(59)	(62)	(72)	(69)	(66)	(68)

Table A-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(19)	(20)	(20)	(18)	(15)	(12)	(9)	(7)	(7)	(10)	(14)	(17)	(14)
Wet	(17)	(18)	(15)	(8)	(4)	(1)	(0)	-	(0)	(2)	(5)	(8)	(7)
Above Normal	(16)	(17)	(17)	(14)	(10)	(5)	(2)	(0)	(0)	(3)	(6)	(9)	(8)
Below Normal	(23)	(24)	(24)	(23)	(22)	(18)	(13)	(6)	(5)	(8)	(12)	(15)	(16)
Dry	(18)	(20)	(20)	(21)	(21)	(19)	(15)	(13)	(14)	(18)	(22)	(26)	(19)
Critical Dry	(25)	(27)	(26)	(26)	(26)	(26)	(25)	(26)	(29)	(33)	(37)	(41)	(29)

Table A-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	(0)	(0)	(0)	(0)	(0)	(0)	0	0	0	0	(0)
Wet	0	(0)	(1)	(1)	(1)	(0)	(0)	(0)	0	-	0	0	(0)
Above Normal	0	0	(0)	(0)	(0)	(0)	(0)	(0)	0	0	0	0	(0)
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	0	(0)	(0)	(0)	(0)	(0)	(0)	0	0	0	0	0
Critical Dry	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	2	5	5	2	1	1	0	0	0	0	0	1
Wet	0	2	3	3	2	2	1	1	0	-	-	0	1
Above Normal	0	2	5	5	3	2	2	1	0	-	-	0	2
Below Normal	0	3	6	6	2	2	1	0	0	-	-	0	2
Dry	0	3	5	5	1	0	0	0	-	-	-	0	1
Critical Dry	0	3	6	5	1	0	0	0	0	0	0	0	1

Table A-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	0	(0)	-	-	-	-	-	0	0	0	0
Wet	(0)	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Above Normal	(0)	1	0	-	-	-	-	-	-	0	0	0	0
Below Normal	0	1	0	-	-	-	-	-	-	0	0	0	0
Dry	0	1	0	-	-	-	-	-	-	0	0	0	0
Critical Dry	(0)	1	0	-	-	-	-	-	-	0	0	0	0

Table A-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	-	0	0	0	0	0	0	-	-	-	-	-	0
Above Normal	-	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal	0	0	0	0	0	0	0	-	-	-	-	-	0
Dry	-	0	0	0	0	0	0	-	-	-	-	-	0
Critical Dry	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(10)	5	(0)	(3)	(37)	(33)	(17)	8	10	11	7	(5)
Wet	1	(5)	16	(9)	(11)	(26)	(25)	(20)	(2)	6	6	7	(5)
Above Normal	1	(9)	2	1	(3)	(40)	(38)	(17)	11	7	8	11	(6)
Below Normal	0	(13)	2	3	2	(41)	(36)	(11)	13	11	13	4	(4)
Dry	1	(11)	0	4	(3)	(41)	(38)	(17)	14	16	15	7	(4)
Critical Dry	1	(11)	2	(1)	(0)	(35)	(24)	(20)	4	5	15	9	(5)

Table A-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	0	0	0	0	0	(0)	(0)	(0)	0	-	-	0
Wet	-	1	0	0	-	-	(0)	(1)	(0)	0	-	-	(0)
Above Normal	-	-	-	0	1	0	-	(0)	(0)	-	-	-	0
Below Normal	-	-	-	-	-	0	-	(0)	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(16)	4	4	(4)	(38)	(36)	(18)	12	14	16	2	(5)
Wet	1	(10)	16	(10)	(12)	(28)	(26)	(19)	(2)	7	12	4	(6)
Above Normal	1	(15)	1	2	(4)	(40)	(39)	(18)	11	10	16	6	(6)
Below Normal	(0)	(20)	0	8	(0)	(43)	(37)	(13)	14	15	17	(0)	(5)
Dry	1	(16)	(1)	12	(3)	(42)	(42)	(18)	23	22	16	(1)	(4)
Critical Dry	(0)	(19)	(0)	9	0	(37)	(36)	(24)	19	19	25	4	(3)

Table A-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	-	-	-	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(6)	(24)	(26)	(23)	(32)	(33)	(18)	(2)	(1)	4	(0)	(13)
Wet	2	(8)	(119)	(24)	(11)	(32)	(47)	(19)	3	(2)	4	(3)	(21)
Above Normal	0	1	20	(96)	(47)	(39)	(36)	(21)	(4)	0	6	4	(18)
Below Normal	(0)	(11)	3	(4)	(30)	(51)	(32)	(23)	(8)	(0)	(1)	(1)	(13)
Dry	(0)	(6)	(2)	(0)	(15)	(34)	(26)	(16)	(2)	(3)	12	0	(8)
Critical Dry	8	(1)	3	1	(1)	41	(6)	(3)	-	0	(7)	(0)	3

Table A-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	(0)	(0)	(0)	(1)	(0)	(0)	0	(0)	0	(0)
Wet	(0)	0	0	(0)	(0)	(1)	(1)	(1)	(0)	(0)	(0)	0	(0)
Above Normal	(0)	(0)	0	(0)	(0)	(1)	(1)	(1)	(1)	0	(0)	0	(0)
Below Normal	(0)	0	(0)	(0)	(0)	(0)	(0)	(0)	(1)	0	(0)	(0)	(0)
Dry	0	0	(0)	(1)	(0)	(0)	(0)	(0)	0	0	(0)	(0)	(0)
Critical Dry	(0)	1	(1)	(1)	(0)	(0)	0	1	1	(0)	(1)	(1)	(0)

Table A-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(1)	(0)	(0)	(1)	(1)	(2)	(1)	(0)	1	(0)	(1)
Wet	-	(2)	(2)	(1)	(1)	(2)	(3)	(2)	(0)	0	1	(0)	(1)
Above Normal	-	(2)	(1)	(1)	(1)	(2)	(2)	(2)	(1)	(0)	0	(0)	(1)
Below Normal	-	(2)	(2)	(0)	(0)	(1)	(1)	(1)	(2)	(0)	0	(0)	(1)
Dry	-	(2)	(1)	0	(0)	(1)	(1)	(1)	(1)	(0)	1	(0)	(0)
Critical Dry	-	(2)	(0)	1	(1)	(0)	(0)	(2)	(1)	0	1	0	(0)

Table A-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(1)	8	2	(4)	(15)	(21)	(12)	0	(1)	4	0	(3)
Wet	2	4	4	(11)	(4)	(23)	(41)	(12)	7	(0)	4	(3)	(6)
Above Normal	0	5	23	16	(5)	(20)	(26)	(12)	(1)	0	6	4	(1)
Below Normal	(0)	(11)	7	3	(4)	(27)	(10)	(14)	(4)	(0)	(1)	0	(5)
Dry	(0)	(2)	1	4	(6)	(11)	(15)	(12)	(2)	(3)	12	0	(3)
Critical Dry	8	(1)	3	1	0	43	(5)	(3)	-	0	(7)	1	3

Table A-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(0)	(0)	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)
Wet	(0)	(0)	(0)	-	-	(0)	(0)	-	(0)	(0)	(0)	(0)	(0)
Above Normal	0	(0)	(0)	0	0	(1)	-	(0)	(0)	(0)	(0)	0	(0)
Below Normal	(1)	(1)	(1)	(1)	(0)	(2)	(3)	(3)	(1)	(0)	(0)	0	(1)
Dry	(1)	(1)	(1)	(1)	(0)	(3)	(5)	(5)	(3)	(2)	(2)	(2)	(2)
Critical Dry	(1)	(1)	(1)	(0)	(0)	(3)	(4)	(4)	(4)	(3)	(3)	(2)	(2)

Table A-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(1)	(2)	(1)	(1)	(1)
Wet	(1)	(1)	(1)	(0)	(0)	0	(0)	(0)	0	0	0	(0)	(0)
Above Normal	(1)	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Below Normal	(1)	(1)	(1)	(1)	(1)	(1)	(0)	(1)	(2)	(2)	(1)	(1)	(1)
Dry	2	2	(1)	(1)	(1)	(1)	(1)	(1)	(4)	(4)	(4)	(4)	(1)
Critical Dry	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(4)	(2)	(2)	(1)

Table A-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(0)
Wet	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
Above Normal	(1)	(0)	(0)	(0)	0	0	0	0	0	0	(0)	(0)	(0)
Below Normal	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(2)	(2)	(1)
Dry	0	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(1)	0	(0)	0	(0)

Table A-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	0	0	(0)	(0)	(1)	(1)	(1)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(1)	(1)	(0)	(0)
Above Normal	0	0	0	0	0	0	0	(0)	(0)	(0)	(0)	0	0
Below Normal	(0)	(0)	(1)	(1)	(1)	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(1)
Dry	0	0	0	0	0	0	(1)	(1)	(1)	(1)	(1)	(1)	(0)
Critical Dry	0	0	1	1	1	0	(0)	(0)	(0)	0	0	0	0

Table A-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(7)	(4)	(13)	(20)	(27)	(40)	(32)	(20)	(2)	0	1	(14)
Wet	(0)	(9)	(8)	(33)	(38)	(38)	(42)	(31)	(6)	(2)	(0)	3	(17)
Above Normal	(0)	(5)	(2)	(11)	(11)	(70)	(60)	(26)	(10)	(1)	0	3	(16)
Below Normal	(0)	(9)	(4)	(1)	(16)	(25)	(51)	(51)	(35)	(0)	1	0	(16)
Dry	0	(4)	(2)	(5)	(9)	0	(36)	(23)	(41)	1	(1)	(2)	(10)
Critical Dry	(3)	(5)	(0)	(2)	(6)	3	(8)	(24)	(7)	(9)	2	(4)	(5)

Table A-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(11)	2	7	2	(0)	(1)	(0)	4	16	2	1	(0)	2
Wet	0	1	(0)	(2)	(0)	(1)	(0)	(0)	1	(2)	(0)	2	(0)
Above Normal	(4)	2	0	(0)	(0)	(1)	(1)	0	0	2	3	(1)	0
Below Normal	0	3	(3)	(1)	(1)	(1)	(4)	8	29	0	3	(4)	2
Dry	(64)	2	46	0	0	(1)	5	4	42	4	5	2	4
Critical Dry	(0)	3	0	18	0	(2)	(2)	6	9	14	(3)	(2)	3

Table A-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	0	0	(0)	(1)	1	3	5	1	(0)	(2)	(5)	0
Wet	(2)	(0)	(3)	(1)	(2)	1	0	0	3	5	1	(6)	(0)
Above Normal	(5)	(0)	(0)	1	3	4	0	2	0	2	(2)	(3)	0
Below Normal	0	1	4	0	(2)	(2)	1	8	1	(2)	(2)	(9)	(0)
Dry	(8)	(0)	1	(0)	(0)	1	11	12	(0)	(5)	(3)	(0)	1
Critical Dry	0	2	(1)	0	(0)	2	8	4	1	(7)	(5)	(0)	0

Table A-5-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(4)	(1)	(15)	(24)	(27)	(38)	(24)	(4)	2	(0)	(0)	(12)
Wet	1	(6)	(13)	(40)	(47)	(37)	(41)	(31)	(6)	1	0	3	(18)
Above Normal	(12)	(4)	(1)	(11)	(13)	(76)	(60)	(22)	(9)	5	0	(0)	(17)
Below Normal	(0)	(3)	(4)	(2)	(24)	(30)	(56)	(35)	(6)	3	1	(5)	(13)
Dry	(0)	(3)	25	(4)	(6)	1	(20)	(4)	(0)	0	(0)	0	(1)
Critical Dry	(0)	(3)	(2)	(1)	(5)	11	(2)	(16)	(0)	0	(5)	(0)	(2)

Table A-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	1	0	(0)	0	(0)	(0)	0	(0)	0	(0)	0
Wet	(0)	0	0	0	(0)	(0)	(0)	0	0	0	(0)	(0)	(0)
Above Normal	0	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	0	(0)
Below Normal	0	0	(0)	0	(0)	0	(0)	0	(0)	(0)	(0)	0	(0)
Dry	(2)	0	5	0	0	0	0	(0)	0	(0)	0	(0)	0
Critical Dry	(0)	0	0	0	(0)	0	0	0	0	0	0	(1)	0

Table A-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	(0)	(0)	-	-	0	(0)	0	0	(0)	(0)
Wet	-	0	(0)	(0)	(0)	-	-	0	(0)	0	-	-	0
Above Normal	(0)	0	(0)	-	0	-	-	-	-	(0)	-	-	0
Below Normal	-	0	(0)	-	-	-	-	-	-	0	0	(0)	(0)
Dry	(2)	0	(0)	-	-	-	-	-	-	0	0	-	(0)
Critical Dry	-	0	0	-	-	-	-	-	-	0	-	-	0

Table A-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	-	(0)	-	-	-	-	-	-	-	-	-	(0)
Wet	-	-	-	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	(2)	-	(0)	-	-	-	-	-	-	-	-	-	(0)
Critical Dry	-	-	0	-	-	-	-	-	-	-	-	-	0

Table A-5-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	(0)	0	0	0	0	0	0	0	0	0
Wet	0	0	0	0	0	0	0	0	0	0	(0)	(0)	0
Above Normal	(0)	0	0	0	0	0	0	0	0	0	(0)	(0)	0
Below Normal	(0)	(0)	0	0	0	0	0	0	0	0	0	(0)	0
Dry	(0)	(0)	0	(0)	(0)	0	0	0	0	0	0	0	(0)
Critical Dry	0	0	0	0	0	0	(0)	(0)	0	0	0	0	0

Table A-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(7)	(4)	(13)	(20)	(27)	(40)	(33)	(20)	(2)	0	1	(14)
Wet	(0)	(13)	(6)	(33)	(38)	(38)	(42)	(31)	(6)	(2)	(0)	3	(17)
Above Normal	0	(3)	(3)	(11)	(11)	(70)	(60)	(26)	(10)	(1)	0	3	(16)
Below Normal	(2)	(9)	2	0	(16)	(25)	(51)	(51)	(35)	(0)	1	0	(15)
Dry	-	(1)	(13)	(5)	(9)	-	(36)	(23)	(41)	1	(1)	(2)	(11)
Critical Dry	0	(3)	1	(2)	(6)	3	(8)	(24)	(7)	(9)	2	(4)	(5)

Table A-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(7)	(4)	(13)	(20)	(27)	(40)	(33)	(20)	(2)	0	1	(14)
Wet	(0)	(13)	(6)	(33)	(38)	(38)	(42)	(31)	(6)	(2)	(0)	3	(17)
Above Normal	0	(3)	(3)	(11)	(11)	(70)	(60)	(26)	(10)	(1)	0	3	(16)
Below Normal	(2)	(9)	2	0	(16)	(25)	(50)	(51)	(35)	(0)	1	0	(15)
Dry	(0)	(1)	(13)	(5)	(9)	(0)	(36)	(23)	(41)	1	(1)	(2)	(11)
Critical Dry	0	(4)	0	(2)	(6)	3	(8)	(24)	(7)	(9)	2	(4)	(5)

Table A-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(7)	(4)	(13)	(20)	(27)	(40)	(33)	(20)	(2)	0	1	(14)
Wet	(0)	(13)	(6)	(33)	(38)	(38)	(42)	(31)	(6)	(2)	(0)	3	(17)
Above Normal	0	(3)	(3)	(11)	(11)	(71)	(60)	(26)	(10)	(1)	0	3	(16)
Below Normal	(2)	(9)	2	0	(16)	(26)	(51)	(51)	(35)	(0)	1	0	(16)
Dry	0	(1)	(13)	(5)	(9)	0	(36)	(23)	(41)	1	(1)	(2)	(11)
Critical Dry	0	(3)	1	(2)	(6)	3	(8)	(24)	(7)	(9)	2	(4)	(5)

Table A-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(7)	(4)	(13)	(20)	(27)	(40)	(33)	(20)	(2)	(0)	1	(14)
Wet	(0)	(13)	(6)	(33)	(39)	(38)	(42)	(31)	(6)	(2)	(0)	3	(17)
Above Normal	0	(3)	(3)	(11)	(11)	(71)	(60)	(26)	(10)	(1)	0	3	(16)
Below Normal	(2)	(9)	2	0	(16)	(26)	(51)	(51)	(35)	(0)	(1)	0	(16)
Dry	0	(1)	(13)	(5)	(9)	0	(36)	(23)	(41)	1	(1)	(2)	(11)
Critical Dry	0	(3)	1	(2)	(6)	3	(8)	(24)	(7)	(9)	2	(4)	(5)

Table A-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.03)	0.03	0.04	0.04	0.04	0.06	0.06	0.07	0.04	0.00	0.01	0.02	0.03
Wet	0.00	0.01	0.02	0.01	0.01	0.01	0.02	0.00	0.00	(0.00)	0.00	0.00	0.01
Above Normal	0.00	0.22	0.32	0.01	0.01	0.02	0.03	0.02	0.01	(0.00)	(0.00)	(0.00)	0.05
Below Normal	(0.02)	0.02	(0.01)	0.01	0.00	0.02	0.05	0.11	0.12	(0.02)	0.00	0.08	0.03
Dry	(0.00)	0.01	(0.05)	0.20	0.20	0.25	0.27	0.15	0.14	0.07	0.01	0.01	0.11
Critical Dry	(0.20)	(0.08)	0.02	0.00	0.00	0.03	(0.02)	0.09	(0.07)	(0.02)	0.06	(0.01)	(0.02)

Table A-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.02)	0.02	0.03	0.04	0.03	0.05	0.07	0.06	0.05	0.01	0.01	0.02	0.03
Wet	(0.00)	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.00	(0.00)	(0.00)	(0.00)	0.01
Above Normal	0.00	0.18	0.29	0.01	0.01	0.03	0.05	0.02	0.01	(0.00)	(0.00)	(0.01)	0.05
Below Normal	(0.02)	0.01	(0.01)	0.01	0.00	0.02	0.06	0.10	0.13	(0.02)	(0.00)	0.07	0.03
Dry	0.01	(0.00)	(0.05)	0.19	0.18	0.20	0.23	0.15	0.13	0.08	0.01	(0.01)	0.09
Critical Dry	(0.13)	(0.07)	0.01	(0.00)	0.00	0.02	(0.00)	0.07	(0.02)	(0.00)	0.05	0.02	(0.00)

Table A-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.01)	0.02	0.03	0.03	0.03	0.05	0.07	0.07	0.06	0.01	0.01	0.01	0.03
Wet	(0.00)	0.00	0.01	0.01	0.01	0.02	0.03	0.02	0.00	0.00	(0.00)	(0.00)	0.01
Above Normal	0.00	0.15	0.26	0.01	0.01	0.04	0.08	0.03	0.01	0.00	(0.00)	(0.01)	0.05
Below Normal	(0.01)	0.01	(0.00)	0.01	0.01	0.04	0.07	0.11	0.14	(0.01)	(0.00)	0.05	0.03
Dry	0.01	(0.00)	(0.05)	0.16	0.15	0.16	0.20	0.15	0.14	0.07	0.01	(0.01)	0.08
Critical Dry	(0.08)	(0.05)	0.00	0.00	0.00	0.01	0.01	0.06	0.01	0.02	0.07	0.02	0.01

Modeling Technical Appendix – Attachment A-6. Absolute Change of Ful UAR Capacity and Project to Existing Conditions Baseline

This attachment summarizes the absolute change of Ful UAR Capacity and Project to baseline (1.2-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-6-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-6-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8,033)	(5,417)	(2,371)	(5,256)	(5,204)	(4,187)	(3,468)	(2,060)	(3,345)	(5,941)	(8,660)	(6,167)	(5,009)
Wet	(8,224)	(5,151)	(2,699)	(3,805)	(4,664)	(4,466)	(4,208)	(598)	(99)	(2,194)	(6,543)	(4,161)	(3,901)
Above Normal	(7,794)	(4,939)	(1,484)	(4,719)	(4,218)	(2,788)	(2,501)	(274)	(61)	(2,725)	(6,913)	(4,453)	(3,572)
Below Normal	(9,456)	(6,888)	(3,545)	(6,350)	(5,194)	(3,220)	(2,382)	(570)	(1,318)	(3,702)	(5,493)	(3,970)	(4,341)
Dry	(6,316)	(3,894)	(1,003)	(5,202)	(5,445)	(4,477)	(2,704)	(3,238)	(6,567)	(9,286)	(10,552)	(7,208)	(5,491)
Critical Dry	(9,102)	(7,622)	(4,284)	(7,669)	(8,366)	(8,571)	(8,915)	(11,031)	(16,385)	(20,429)	(21,896)	(18,807)	(11,923)

Table A-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(14)	(4)	1	0	0	(2)	(15)	(3)	(2)	(1)	(1)	(4)
Wet	-	(58)	(16)	2	2	1	(7)	(59)	(2)	-	-	-	(11)
Above Normal	(5)	(1)	(1)	0	(2)	(0)	(0)	(6)	(14)	(9)	(7)	(5)	(4)
Below Normal	-	-	-	-	-	(0)	(0)	-	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(2)	(1)	(1)	(1)	(1)	4	(65)	(8)	(6)	(1)	(2)	(7)
Wet	-	-	(5)	(5)	(5)	(5)	16	(97)	(5)	1	1	(3)	(9)
Above Normal	-	-	-	-	-	-	-	(143)	(32)	(32)	(5)	(5)	(18)
Below Normal	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(55)	(0)	(0)	(0)	(0)	(6)
Dry	(7)	(7)	1	1	1	1	1	1	(1)	(1)	(1)	(1)	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4,130)	(6,857)	(8,747)	(8,448)	(7,738)	(6,755)	(5,837)	(5,087)	(4,648)	(4,704)	(4,460)	(3,894)	(5,942)
Wet	(3,246)	(6,483)	(8,430)	(6,348)	(4,090)	(1,866)	(823)	(504)	(459)	(202)	257	623	(2,631)
Above Normal	(3,644)	(5,720)	(7,597)	(7,752)	(6,943)	(4,952)	(3,527)	(2,234)	(1,746)	(1,851)	(2,060)	(1,550)	(4,131)
Below Normal	(6,365)	(9,831)	(11,743)	(12,037)	(12,026)	(11,723)	(10,298)	(8,668)	(7,523)	(7,228)	(7,240)	(6,480)	(9,263)
Dry	(3,032)	(5,414)	(7,316)	(7,586)	(7,540)	(7,587)	(7,396)	(7,286)	(7,099)	(7,878)	(7,304)	(6,585)	(6,835)
Critical Dry	(4,724)	(6,559)	(8,220)	(8,487)	(8,432)	(8,425)	(8,362)	(8,299)	(8,106)	(7,796)	(7,308)	(7,037)	(7,646)

Table A-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3,333)	(3,460)	(3,222)	(2,952)	(2,434)	(1,881)	(1,250)	(996)	(1,167)	(1,805)	(2,483)	(2,951)	(2,328)
Wet	(3,472)	(3,408)	(2,192)	(1,157)	(290)	(56)	-	(1)	(271)	(925)	(1,607)	(2,238)	(1,301)
Above Normal	(2,736)	(2,900)	(2,744)	(2,351)	(1,168)	(263)	(3)	-	(323)	(1,110)	(1,994)	(2,571)	(1,514)
Below Normal	(3,617)	(3,795)	(3,929)	(3,944)	(3,639)	(2,902)	(1,367)	(555)	(790)	(1,494)	(2,275)	(2,787)	(2,591)
Dry	(3,414)	(3,617)	(3,745)	(3,890)	(3,830)	(3,221)	(2,367)	(2,215)	(2,307)	(2,933)	(3,522)	(3,866)	(3,244)
Critical Dry	(3,362)	(3,558)	(3,742)	(3,894)	(4,008)	(4,085)	(4,114)	(3,804)	(3,396)	(3,489)	(3,639)	(3,633)	(3,727)

Table A-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(22)	(133)	(224)	(139)	(120)	(124)	(124)	(17)	(15)	(18)	40	(9)	(75)
Wet	(89)	(278)	(621)	(434)	(373)	(354)	(353)	(67)	-	-	40	1	(211)
Above Normal	31	(126)	(229)	(140)	(140)	(139)	(139)	8	(1)	(1)	146	23	(59)
Below Normal	(40)	(17)	(8)	36	45	21	21	16	(11)	13	88	11	15
Dry	5	(130)	(137)	(76)	(62)	(75)	(75)	(29)	(44)	(77)	(65)	(56)	(68)
Critical Dry	12	(73)	30	10	8	5	5	5	(20)	(30)	(41)	(33)	(10)

Table A-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	9	1,289	1,766	685	346	221	201	38	1	1	1	41	383
Wet	18	947	960	555	442	253	182	76	-	-	-	4	286
Above Normal	0	1,302	1,796	997	592	483	473	95	-	-	-	65	484
Below Normal	5	1,537	2,235	975	410	264	252	0	-	-	-	20	475
Dry	12	1,300	1,906	330	95	8	7	-	-	-	-	73	311
Critical Dry	3	1,481	2,216	523	42	4	26	16	13	10	8	48	366

Table A-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	9	98	(2)	-	-	-	-	-	-	(54)	(24)	(4)	2
Wet	1	103	(8)	-	-	-	-	-	-	(54)	(38)	(15)	(1)
Above Normal	13	91	-	-	-	-	-	-	-	(84)	(68)	(24)	(6)
Below Normal	24	144	-	-	-	-	-	-	-	(60)	(10)	6	9
Dry	(0)	63	-	-	-	-	-	-	-	(40)	1	7	2
Critical Dry	-	75	-	-	-	-	-	-	-	(9)	14	15	8

Table A-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	39	36	21	15	5	1	1	1	1	1	0	10
Wet	0	32	31	1	1	0	-	-	-	-	-	-	5
Above Normal	-	34	32	14	10	7	2	2	2	2	2	1	9
Below Normal	0	48	45	29	20	5	-	-	-	-	-	-	12
Dry	-	35	33	28	20	4	-	-	-	-	-	-	10
Critical Dry	1	51	48	44	35	17	9	9	9	8	7	1	20

Table A-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(3)	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(3)	(3)	(2)
Wet	(4)	(4)	(2)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(2)	(2)	(2)
Above Normal	(3)	(3)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(0)	(2)	(2)	(2)
Below Normal	(4)	(4)	(3)	(3)	(3)	(2)	(1)	(1)	(0)	(1)	(2)	(2)	(2)
Dry	(2)	(2)	(1)	(2)	(3)	(2)	(1)	(1)	(2)	(3)	(4)	(4)	(2)
Critical Dry	(4)	(4)	(3)	(3)	(4)	(4)	(4)	(4)	(6)	(9)	(10)	(10)	(6)

Table A-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(14)	(20)	(21)	(19)	(15)	(12)	(10)	(9)	(9)	(10)	(9)	(13)
Wet	(6)	(11)	(17)	(15)	(10)	(5)	(2)	(1)	(1)	(1)	0	1	(6)
Above Normal	(8)	(11)	(16)	(17)	(15)	(11)	(7)	(5)	(3)	(3)	(3)	(3)	(9)
Below Normal	(14)	(21)	(30)	(32)	(30)	(26)	(21)	(17)	(15)	(14)	(14)	(14)	(21)
Dry	(6)	(10)	(16)	(19)	(18)	(17)	(15)	(14)	(14)	(15)	(16)	(15)	(15)
Critical Dry	(12)	(15)	(20)	(23)	(22)	(21)	(21)	(20)	(20)	(20)	(20)	(20)	(19)

Table A-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(12)	(13)	(12)	(11)	(9)	(7)	(5)	(4)	(3)	(5)	(7)	(10)	(8)
Wet	(12)	(13)	(11)	(6)	(2)	(1)	(0)	-	(0)	(2)	(4)	(6)	(5)
Above Normal	(9)	(10)	(10)	(9)	(6)	(2)	(0)	-	(0)	(2)	(5)	(7)	(5)
Below Normal	(13)	(14)	(15)	(14)	(13)	(11)	(7)	(2)	(2)	(4)	(6)	(9)	(9)
Dry	(11)	(13)	(13)	(14)	(14)	(12)	(9)	(7)	(7)	(9)	(11)	(14)	(11)
Critical Dry	(13)	(14)	(14)	(15)	(15)	(15)	(15)	(14)	(13)	(13)	(15)	(16)	(14)

Table A-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	0	(0)
Wet	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(0)	-	0	0	(0)
Above Normal	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	0	(0)
Below Normal	(0)	(0)	(0)	0	0	0	0	0	0	(0)	0	0	0
Dry	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Critical Dry	0	(0)	(0)	0	0	0	0	0	(0)	(0)	(0)	(0)	(0)

Table A-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	2	5	4	1	1	1	0	0	0	0	0	1
Wet	0	2	3	2	1	1	1	0	0	-	-	(0)	1
Above Normal	0	2	5	5	2	2	1	1	0	-	-	0	1
Below Normal	0	3	6	6	2	1	1	0	0	-	-	(0)	1
Dry	0	2	5	4	0	0	0	0	-	-	-	0	1
Critical Dry	0	3	6	5	1	0	0	0	0	0	0	0	1

Table A-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Wet	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Above Normal	0	1	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Below Normal	0	1	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Dry	(0)	1	0	-	-	-	-	-	-	(0)	(0)	0	0
Critical Dry	(0)	1	0	-	-	-	-	-	-	(0)	0	0	0

Table A-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	-	0	0	0	-	-	0	-	-	-	-	-	0
Above Normal	-	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal	0	0	0	0	0	0	0	-	-	-	-	-	0
Dry	-	0	0	0	0	0	0	-	-	-	-	-	0
Critical Dry	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(28)	(75)	(47)	(17)	(23)	(36)	(37)	(58)	(78)	(65)	(56)	(135)	(55)
Wet	(31)	(72)	(22)	(49)	(3)	(11)	(18)	(68)	(97)	(77)	(41)	(143)	(53)
Above Normal	(31)	(80)	(56)	(19)	(30)	(44)	(27)	(59)	(106)	(68)	(43)	(144)	(59)
Below Normal	(24)	(78)	(57)	(5)	(41)	(55)	(44)	(67)	(94)	(69)	(65)	(119)	(60)
Dry	(27)	(70)	(50)	(2)	(27)	(41)	(60)	(51)	(47)	(59)	(76)	(144)	(55)
Critical Dry	(30)	(72)	(56)	(2)	(6)	(19)	(21)	(24)	(4)	(31)	(41)	(112)	(35)

Table A-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(0)	(1)	(1)	(5)	(0)	(4)	(1)	(0)	-	-	(1)
Wet	-	(9)	(1)	(6)	1	(12)	(0)	(14)	(2)	(0)	-	-	(4)
Above Normal	-	-	-	1	(6)	(6)	-	(4)	(0)	-	-	-	(1)
Below Normal	-	-	-	-	0	(3)	-	(0)	(0)	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(15)	3	9	4	(6)	(11)	(6)	(14)	(11)	(8)	(3)	(5)
Wet	1	(8)	16	(5)	(1)	(5)	(9)	(8)	(17)	(13)	(12)	(3)	(5)
Above Normal	1	(15)	1	5	4	(7)	(12)	(4)	(15)	(11)	(11)	(3)	(6)
Below Normal	(0)	(20)	(1)	14	9	(5)	(13)	(4)	(18)	(11)	(3)	(4)	(5)
Dry	1	(15)	(2)	19	3	(6)	(11)	(6)	(9)	(8)	(10)	(3)	(4)
Critical Dry	(0)	(18)	(2)	20	9	(7)	(9)	(5)	(6)	(7)	1	(2)	(2)

Table A-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	(83)	1	(1)	(6)	(0)	3	-	-	-	-	(7)
Wet	-	-	(354)	-	-	3	(1)	14	-	-	-	-	(28)
Above Normal	-	-	-	6	(3)	(33)	-	(0)	-	-	-	-	(3)
Below Normal	-	-	-	-	-	0	-	-	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(184)	(121)	(37)	(58)	(71)	(31)	(37)	(41)	(57)	(139)	(14)	(67)
Wet	(19)	(117)	(449)	(101)	(11)	(32)	(12)	(22)	(66)	(10)	(126)	(13)	(81)
Above Normal	(8)	(197)	(75)	(6)	(67)	(72)	(34)	(49)	(47)	(25)	(126)	(23)	(61)
Below Normal	(5)	(219)	2	(37)	(83)	(104)	(44)	(49)	(52)	(70)	(159)	(11)	(69)
Dry	(3)	(209)	(5)	(15)	(91)	(62)	(41)	(41)	(18)	(125)	(132)	(13)	(63)
Critical Dry	(17)	(163)	2	(3)	(1)	(104)	(16)	(3)	1	(28)	(174)	(4)	(42)

Table A-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5	(13)	(14)	2	(2)	(4)	(2)	(2)	6	9	6	(15)	(2)
Wet	4	(10)	(9)	(6)	(0)	0	(1)	(1)	3	13	10	(16)	(1)
Above Normal	5	(14)	(13)	(2)	(3)	(2)	(1)	(3)	4	14	9	(16)	(2)
Below Normal	5	(12)	(15)	6	(6)	(7)	(3)	(6)	4	7	4	(11)	(3)
Dry	6	(15)	(14)	8	(1)	(7)	(2)	(1)	11	5	1	(16)	(2)
Critical Dry	3	(8)	(23)	8	2	(4)	1	6	13	9	5	(11)	(0)

Table A-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(1)	(3)	(1)	(3)	(3)	(2)	0	4	5	3	3	0
Wet	-	(1)	(4)	(1)	(1)	(2)	(2)	(0)	3	8	5	4	1
Above Normal	-	(1)	(3)	(2)	(3)	(2)	(2)	(1)	5	5	2	4	0
Below Normal	-	(1)	(4)	(2)	(4)	(4)	(2)	(1)	5	4	3	3	(0)
Dry	-	(1)	(2)	(1)	(4)	(3)	(2)	1	5	3	2	1	(0)
Critical Dry	-	(1)	(1)	(0)	(4)	(4)	(2)	2	1	1	2	1	(0)

Table A-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(178)	(14)	(31)	(41)	(51)	(21)	(35)	(39)	(56)	(139)	(14)	(52)
Wet	(19)	(105)	(2)	(87)	(8)	(26)	(6)	(29)	(62)	(8)	(126)	(13)	(41)
Above Normal	(8)	(193)	(72)	(3)	(25)	(25)	(24)	(42)	(43)	(25)	(126)	(23)	(51)
Below Normal	(5)	(218)	6	(30)	(56)	(82)	(28)	(45)	(48)	(70)	(159)	(10)	(62)
Dry	(3)	(203)	(2)	(13)	(85)	(47)	(30)	(37)	(18)	(125)	(132)	(13)	(59)
Critical Dry	(17)	(162)	2	(3)	1	(102)	(14)	(3)	1	(28)	(174)	(4)	(42)

Table A-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(11)	(12)	(11)	(9)	(7)	(8)	(7)	(6)	(4)	(4)	(4)	(9)	(8)
Wet	(8)	(8)	(3)	-	-	(0)	(0)	-	(0)	(2)	(1)	(4)	(2)
Above Normal	(8)	(11)	(12)	(9)	(1)	(1)	-	(0)	(0)	(3)	(5)	(7)	(5)
Below Normal	(14)	(13)	(15)	(14)	(8)	(7)	(5)	(3)	(2)	0	(0)	(7)	(7)
Dry	(17)	(18)	(21)	(18)	(18)	(24)	(20)	(18)	(12)	(11)	(11)	(19)	(17)
Critical Dry	(7)	(11)	(13)	(12)	(10)	(13)	(13)	(14)	(11)	(10)	(10)	(14)	(11)

Table A-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(9)	(9)	(8)	(8)	(5)	(6)	(7)	(10)	(12)	(11)	(11)	(9)
Wet	(3)	(2)	(7)	(2)	(0)	0	(0)	(0)	(1)	(2)	(3)	(2)	(2)
Above Normal	(11)	(11)	(7)	(7)	(7)	1	0	(0)	(2)	(3)	(2)	(3)	(4)
Below Normal	(7)	(8)	(8)	(8)	(3)	(4)	(4)	(6)	(9)	(14)	(15)	(15)	(9)
Dry	(7)	(5)	(2)	(2)	(15)	(4)	(9)	(11)	(15)	(17)	(18)	(15)	(10)
Critical Dry	(24)	(24)	(23)	(29)	(23)	(25)	(26)	(26)	(31)	(32)	(25)	(25)	(26)

Table A-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(3)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(4)	(3)
Wet	(5)	(4)	(3)	(2)	(1)	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(2)
Above Normal	(2)	(1)	(1)	(1)	1	0	0	0	0	0	(0)	(2)	(0)
Below Normal	(3)	(2)	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(4)	(5)	(2)
Dry	(3)	(2)	(3)	(3)	(3)	(2)	(2)	(2)	(4)	(4)	(5)	(5)	(3)
Critical Dry	(4)	(5)	(7)	(4)	(5)	(5)	(6)	(5)	(5)	(6)	(5)	(5)	(5)

Table A-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(8)	(7)	(7)	(5)	(4)	(4)	(5)	(6)	(6)	(6)	(8)	(6)
Wet	(8)	(9)	(6)	(5)	(1)	(1)	(0)	(0)	(1)	(3)	(5)	(12)	(4)
Above Normal	(4)	(5)	(5)	(5)	(2)	(0)	(0)	(0)	(1)	(3)	(5)	(8)	(3)
Below Normal	(7)	(7)	(10)	(8)	(6)	(5)	(5)	(6)	(9)	(8)	(8)	(4)	(7)
Dry	(11)	(11)	(10)	(10)	(10)	(11)	(12)	(13)	(14)	(7)	(5)	(5)	(10)
Critical Dry	(5)	(5)	(5)	(7)	(6)	(6)	(7)	(7)	(9)	(8)	(9)	(9)	(7)

Table A-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(60)	(60)	(59)	(81)	(30)	(72)	(85)	(112)	(76)	(59)	(59)	(63)
Wet	(4)	(76)	(139)	(103)	(41)	(30)	(29)	(84)	(105)	(63)	(57)	(110)	(70)
Above Normal	(1)	(27)	(42)	(87)	(183)	(64)	(64)	(51)	(103)	(35)	(38)	(101)	(66)
Below Normal	(5)	(92)	(41)	(19)	(139)	(67)	(107)	(111)	(106)	(113)	(64)	(28)	(74)
Dry	0	(71)	(5)	(39)	(32)	18	(148)	(106)	(153)	(81)	(73)	(5)	(58)
Critical Dry	10	8	(3)	(23)	(45)	5	(27)	(52)	(100)	(75)	(55)	(28)	(32)

Table A-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(32)	(4)	7	0	20	(1)	20	12	49	42	13	6	11
Wet	(41)	(15)	57	(12)	(2)	5	(0)	(0)	12	7	12	9	3
Above Normal	(19)	(2)	(43)	(0)	(0)	(13)	9	2	18	26	(8)	28	(0)
Below Normal	1	4	(7)	(3)	(39)	(4)	22	20	55	82	43	38	18
Dry	(88)	(8)	(15)	(5)	193	0	67	42	118	49	51	(46)	30
Critical Dry	(11)	10	(10)	38	(22)	(0)	12	2	65	56	(58)	(9)	6

Table A-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	1	(6)	(7)	(33)	(8)	(1)	8	18	(2)	15	25	1
Wet	(11)	(5)	(43)	(20)	(55)	(6)	(18)	(2)	9	38	34	113	3
Above Normal	3	3	(0)	2	(50)	(23)	(2)	(2)	6	35	38	54	5
Below Normal	6	(0)	42	(20)	(41)	(15)	(0)	17	33	10	6	(77)	(3)
Dry	(6)	10	(12)	(2)	1	3	21	25	16	(117)	(19)	(2)	(7)
Critical Dry	(4)	3	(1)	26	2	2	9	5	29	(6)	10	1	6

Table A-6-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(47)	(21)	(90)	(108)	(79)	(54)	(62)	(45)	(1)	(7)	(15)	(44)
Wet	(20)	(62)	(117)	(202)	(130)	(46)	(47)	(84)	(85)	(20)	(9)	(34)	(71)
Above Normal	17	(29)	260	(89)	(559)	(208)	(59)	(50)	(78)	31	(0)	(0)	(64)
Below Normal	(3)	(71)	(31)	(48)	(195)	(77)	(88)	(74)	(21)	5	(6)	(17)	(52)
Dry	10	(33)	(26)	(48)	373	(137)	(65)	(33)	(16)	5	0	(1)	3
Critical Dry	(4)	(11)	(38)	37	(85)	22	(4)	(41)	(0)	(3)	(22)	(0)	(12)

Table A-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	0	1	0	(2)	0	(0)	(0)	(0)	(0)	(1)	1	(0)
Wet	(1)	(1)	0	0	0	1	(0)	0	0	(0)	0	3	0
Above Normal	(1)	1	(1)	0	1	0	(0)	0	(0)	(0)	(0)	(1)	(0)
Below Normal	(0)	1	1	0	(4)	(0)	(0)	(0)	(0)	0	(0)	1	(0)
Dry	(2)	(3)	3	(1)	(7)	0	0	(0)	(0)	(0)	(0)	(0)	(1)
Critical Dry	1	3	2	0	(2)	0	(0)	(0)	(1)	(0)	(4)	2	0

Table A-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	1	(0)	0	(0)	-	-	0	-	(0)	(0)	0	(0)
Wet	-	1	(0)	0	(0)	-	-	0	-	(0)	-	-	0
Above Normal	(0)	1	(0)	-	(0)	-	-	-	-	(0)	-	-	0
Below Normal	-	1	(1)	-	0	-	-	-	-	(0)	(0)	1	0
Dry	(3)	1	(0)	-	-	-	-	-	-	(0)	(0)	-	(0)
Critical Dry	-	(0)	0	-	-	-	-	-	-	0	-	-	0

Table A-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	0	0	-	-	-	-	-	-	-	-	-	(0)
Wet	(1)	-	-	-	-	-	-	-	-	-	-	-	(0)
Above Normal	(0)	-	0	-	-	-	-	-	-	-	-	-	0
Below Normal	-	0	-	-	-	-	-	-	-	-	-	-	0
Dry	(2)	-	(0)	-	-	-	-	-	-	-	-	-	(0)
Critical Dry	-	-	1	-	-	-	-	-	-	-	-	-	0

Table A-6-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	(0)	(0)	0	0	0	0	0	0
Wet	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal	0	0	0	(0)	(0)	0	0	0	0	0	0	(0)	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)	0	(0)
Critical Dry	(0)	0	0	0	(0)	(0)	(0)	0	(0)	0	0	0	(0)

Table A-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(61)	(62)	(58)	(81)	(29)	(72)	(84)	(112)	(76)	(59)	(60)	(63)
Wet	(3)	(110)	(36)	(103)	(41)	(30)	(29)	(84)	(105)	(63)	(57)	(111)	(64)
Above Normal	(10)	(61)	(20)	(82)	(183)	(64)	(64)	(51)	(103)	(35)	(38)	(101)	(68)
Below Normal	10	(39)	(73)	(17)	(139)	(67)	(107)	(111)	(106)	(112)	(65)	(27)	(71)
Dry	3	(18)	(173)	(42)	(32)	21	(149)	(106)	(153)	(81)	(73)	(8)	(68)
Critical Dry	(3)	(42)	(3)	(21)	(45)	4	(29)	(49)	(101)	(75)	(55)	(31)	(37)

Table A-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(62)	(62)	(58)	(81)	(29)	(72)	(84)	(112)	(76)	(59)	(60)	(63)
Wet	(3)	(109)	(36)	(103)	(41)	(30)	(29)	(84)	(105)	(63)	(57)	(110)	(64)
Above Normal	(11)	(61)	(20)	(82)	(183)	(64)	(64)	(51)	(103)	(35)	(38)	(101)	(68)
Below Normal	10	(40)	(73)	(17)	(139)	(67)	(107)	(111)	(106)	(112)	(65)	(27)	(71)
Dry	3	(18)	(173)	(42)	(32)	21	(148)	(106)	(153)	(81)	(73)	(8)	(68)
Critical Dry	(3)	(42)	(3)	(21)	(45)	4	(29)	(49)	(100)	(75)	(54)	(30)	(37)

Table A-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(62)	(62)	(58)	(81)	(29)	(72)	(85)	(113)	(76)	(59)	(60)	(63)
Wet	(3)	(110)	(36)	(103)	(40)	(30)	(29)	(84)	(105)	(63)	(57)	(111)	(64)
Above Normal	(10)	(61)	(20)	(82)	(184)	(64)	(64)	(51)	(103)	(35)	(37)	(101)	(68)
Below Normal	10	(39)	(73)	(17)	(139)	(67)	(107)	(111)	(106)	(112)	(65)	(27)	(71)
Dry	3	(17)	(174)	(43)	(32)	21	(149)	(106)	(154)	(81)	(73)	(7)	(68)
Critical Dry	(3)	(43)	(3)	(22)	(46)	4	(29)	(49)	(102)	(76)	(55)	(30)	(38)

Table A-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(62)	(62)	(58)	(81)	(29)	(72)	(84)	(113)	(76)	(59)	(57)	(63)
Wet	(3)	(110)	(36)	(103)	(40)	(30)	(29)	(84)	(105)	(63)	(57)	(103)	(64)
Above Normal	(10)	(61)	(20)	(83)	(184)	(64)	(64)	(51)	(103)	(35)	(37)	(97)	(67)
Below Normal	10	(39)	(73)	(17)	(140)	(67)	(107)	(111)	(106)	(112)	(65)	(27)	(71)
Dry	3	(17)	(174)	(43)	(32)	21	(149)	(106)	(153)	(81)	(71)	(7)	(67)
Critical Dry	(3)	(42)	(2)	(22)	(46)	4	(29)	(47)	(102)	(73)	(55)	(30)	(37)

Table A-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.26	0.18	0.27	0.26	0.25	0.18	0.15	0.26	0.23	0.18	0.17	0.27	0.22
Wet	0.16	(0.10)	0.05	0.15	0.05	0.04	0.02	0.03	0.07	0.14	0.16	0.11	0.07
Above Normal	(0.32)	(0.27)	0.28	0.18	0.16	0.08	0.13	(0.03)	0.05	0.15	0.09	0.03	0.04
Below Normal	(0.13)	0.08	(0.18)	0.03	0.01	0.06	0.12	0.18	0.25	0.10	0.17	0.28	0.08
Dry	0.14	0.12	(0.10)	0.09	0.22	(0.07)	(0.02)	0.45	0.08	0.13	0.11	0.09	0.10
Critical Dry	1.81	1.50	1.95	1.08	1.19	1.07	0.68	0.90	0.86	0.50	0.31	0.99	1.07

Table A-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.15	0.13	0.18	0.20	0.21	0.16	0.11	0.21	0.23	0.19	0.19	0.20	0.18
Wet	0.14	(0.09)	0.03	0.15	0.05	0.03	0.02	0.04	0.09	0.16	0.15	0.14	0.08
Above Normal	(0.26)	(0.27)	0.23	0.15	0.16	0.08	0.15	(0.02)	0.06	0.15	0.11	0.06	0.05
Below Normal	(0.10)	0.04	(0.13)	0.03	0.02	0.07	0.13	0.18	0.29	0.11	0.20	0.25	0.09
Dry	0.07	0.11	(0.14)	0.04	0.18	0.02	(0.06)	0.36	0.26	0.14	0.14	0.09	0.10
Critical Dry	1.04	1.15	1.42	0.84	0.94	0.80	0.45	0.67	0.58	0.49	0.35	0.52	0.77

Table A-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.10	0.08	0.12	0.17	0.19	0.13	0.11	0.21	0.28	0.22	0.23	0.21	0.17
Wet	0.12	(0.08)	0.01	0.15	0.04	0.03	0.03	0.05	0.11	0.19	0.18	0.21	0.09
Above Normal	(0.19)	(0.25)	0.19	0.12	0.18	0.10	0.17	(0.00)	0.09	0.17	0.13	0.13	0.07
Below Normal	(0.08)	0.02	(0.11)	0.02	0.06	0.10	0.15	0.23	0.34	0.14	0.23	0.23	0.11
Dry	0.04	0.09	(0.15)	0.04	0.15	0.03	0.00	0.40	0.44	0.18	0.21	0.09	0.13
Critical Dry	0.69	0.83	1.03	0.65	0.72	0.56	0.31	0.47	0.55	0.51	0.44	0.37	0.59

Modeling Technical Appendix – Attachment A-7. Absolute Change of With Project to Existing Conditions Baseline

This attachment summarizes the absolute change of With Project to baseline (13-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-7-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-7-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8,525)	(5,575)	(2,477)	(5,599)	(5,488)	(4,401)	(3,521)	(2,078)	(3,600)	(6,433)	(9,462)	(6,684)	(5,320)
Wet	(8,514)	(5,172)	(2,754)	(3,830)	(4,662)	(4,377)	(4,052)	(596)	(100)	(2,207)	(6,931)	(4,393)	(3,966)
Above Normal	(8,299)	(5,111)	(1,586)	(4,855)	(4,280)	(2,848)	(2,531)	(252)	(69)	(2,880)	(7,543)	(4,823)	(3,756)
Below Normal	(10,214)	(7,225)	(3,811)	(6,894)	(5,591)	(3,517)	(2,589)	(685)	(1,493)	(4,092)	(6,128)	(4,360)	(4,717)
Dry	(6,699)	(4,015)	(1,048)	(5,741)	(5,960)	(4,935)	(2,929)	(3,396)	(7,304)	(10,357)	(11,705)	(7,895)	(5,999)
Critical Dry	(9,699)	(7,736)	(4,271)	(8,261)	(8,984)	(9,049)	(8,674)	(10,529)	(16,759)	(21,648)	(23,701)	(20,315)	(12,469)

Table A-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(14)	(4)	1	0	0	(1)	(12)	(3)	(2)	(1)	(1)	(3)
Wet	-	(58)	(16)	2	2	1	(3)	(46)	(2)	-	-	-	(10)
Above Normal	(5)	(1)	(1)	0	(2)	(0)	(0)	(6)	(14)	(9)	(7)	(5)	(4)
Below Normal	-	-	-	-	-	(0)	(0)	-	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(1)	(5)	(1)	(1)	(1)	3	(63)	(7)	(5)	0	0	(7)
Wet	-	-	(20)	(6)	(6)	(6)	14	(86)	(1)	7	7	3	(8)
Above Normal	-	-	-	-	-	-	-	(140)	(32)	(32)	(6)	(2)	(18)
Below Normal	(2)	(2)	2	2	2	2	2	(60)	(0)	(0)	(0)	(0)	(5)
Dry	2	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	19,738	17,254	15,750	15,349	15,234	13,851	11,996	10,240	12,670	16,215	19,095	20,907	15,692
Wet	21,942	19,549	18,803	17,458	16,370	12,885	9,145	5,782	10,105	16,379	22,437	27,236	16,508
Above Normal	18,915	17,816	16,698	16,421	16,332	13,981	11,358	9,087	13,621	19,037	23,131	26,415	16,901
Below Normal	17,064	13,530	11,580	11,567	11,961	11,825	10,554	9,162	10,077	12,776	15,312	17,021	12,702
Dry	21,494	18,864	16,916	16,893	17,115	16,916	16,390	15,757	16,513	18,185	18,801	17,698	17,629
Critical Dry	17,941	15,225	13,212	12,966	13,095	12,965	12,682	12,338	13,548	12,852	11,562	10,335	13,227

Table A-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,612	1,586	1,508	1,409	1,276	1,110	987	884	1,135	1,370	1,488	1,613	1,332
Wet	1,039	952	744	539	267	164	-	-	39	231	481	580	420
Above Normal	1,638	1,632	1,521	1,257	963	456	252	68	22	263	329	452	738
Below Normal	1,872	1,858	1,847	1,815	1,810	1,740	1,596	1,019	1,155	1,463	1,557	1,709	1,620
Dry	1,677	1,665	1,648	1,679	1,644	1,557	1,505	1,623	2,199	2,400	2,472	2,618	1,891
Critical Dry	2,227	2,246	2,243	2,275	2,271	2,254	2,285	2,755	3,679	3,912	3,991	4,061	2,850

Table A-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(101)	(95)	(71)	(43)	(37)	(39)	(39)	(12)	(61)	(67)	(62)	(76)	(59)
Wet	(83)	(117)	(126)	(101)	(89)	(82)	(81)	(36)	-	-	(37)	(110)	(72)
Above Normal	(63)	(77)	(116)	(61)	(61)	(62)	(61)	(1)	(2)	(2)	(26)	(23)	(46)
Below Normal	(128)	(82)	(3)	3	3	0	0	2	(43)	(32)	6	(37)	(26)
Dry	(133)	(109)	(69)	(32)	(19)	(30)	(30)	(17)	(162)	(186)	(163)	(136)	(91)
Critical Dry	(77)	(74)	(4)	(1)	(1)	(1)	(1)	(1)	(133)	(163)	(113)	(46)	(51)

Table A-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(88)	(83)	(110)	(111)	(133)	(130)	(11)	(6)	(4)	(3)	(33)	(60)
Wet	(4)	(150)	(146)	(141)	(160)	(156)	(146)	(14)	-	-	-	(46)	(80)
Above Normal	(15)	(16)	(16)	(67)	(110)	(114)	(125)	(5)	-	-	-	(51)	(43)
Below Normal	12	(47)	(42)	(136)	(170)	(223)	(216)	(0)	-	-	-	(21)	(70)
Dry	(10)	(157)	(147)	(103)	(15)	(44)	(39)	-	-	-	-	3	(43)
Critical Dry	6	(2)	(1)	(79)	(91)	(121)	(118)	(84)	(66)	(52)	(40)	(96)	(62)

Table A-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	0	-	-	-	-	-	-	-	(89)	(29)	(7)	(10)
Wet	1	5	-	-	-	-	-	-	-	(15)	(14)	(6)	(2)
Above Normal	13	11	-	-	-	-	-	-	-	(161)	(91)	(38)	(22)
Below Normal	1	0	-	-	-	-	-	-	-	(138)	(28)	4	(13)
Dry	(1)	(2)	-	-	-	-	-	-	-	(79)	(3)	5	(7)
Critical Dry	-	(36)	-	-	-	-	-	-	-	(14)	0	-	(4)

Table A-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(1)	(1)	(1)	(1)	-	-	-	-	-	-	-	(0)
Wet	-	(0)	(0)	(0)	(0)	-	-	-	-	-	-	-	(0)
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	(3)	(3)	(2)	(2)	-	-	-	-	-	-	-	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(4)	(2)	(2)	(3)	(2)	(2)	(1)	(1)	(2)	(3)	(3)	(2)
Wet	(4)	(4)	(2)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(2)	(2)	(2)
Above Normal	(3)	(3)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(1)	(2)	(2)	(2)
Below Normal	(5)	(5)	(3)	(3)	(3)	(2)	(1)	(1)	(0)	(1)	(2)	(2)	(2)
Dry	(3)	(2)	(1)	(2)	(3)	(2)	(2)	(1)	(2)	(4)	(4)	(4)	(3)
Critical Dry	(4)	(4)	(3)	(3)	(4)	(5)	(4)	(4)	(6)	(9)	(11)	(11)	(6)

Table A-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	65	62	55	49	42	36	29	23	24	34	46	57	43
Wet	70	67	59	47	35	27	19	12	13	24	40	60	39
Above Normal	59	61	57	49	40	31	24	18	20	32	48	66	42
Below Normal	60	54	45	41	37	31	25	19	18	24	34	45	36
Dry	70	67	61	57	54	49	42	37	37	47	61	64	54
Critical Dry	66	59	52	49	47	44	41	39	42	51	50	47	49

Table A-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8	8	7	7	6	5	4	3	4	5	6	7	6
Wet	5	5	4	3	1	1	0	-	0	0	1	2	2
Above Normal	7	7	7	6	4	3	1	0	0	0	1	1	3
Below Normal	10	10	9	9	8	7	6	4	3	4	5	6	7
Dry	7	7	7	7	7	7	6	6	7	9	11	12	8
Critical Dry	12	13	12	11	11	11	10	11	15	20	22	25	15

Table A-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	(0)	(0)	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Below Normal	(0)	(0)	(0)	(0)	0	0	0	0	(0)	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Table A-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	-	-	(0)	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	(0)	(0)
Below Normal	0	(0)	(0)	(0)	(1)	(1)	(1)	(0)	(0)	-	-	(0)	(0)
Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	0	(0)
Critical Dry	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Table A-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Wet	0	0	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Above Normal	0	0	0	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Below Normal	0	(0)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	0	(0)
Critical Dry	-	(0)	(0)	-	-	-	-	-	-	(0)	(0)	0	(0)

Table A-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	-	(0)
Wet	-	0	-	(0)	(0)	(0)	-	-	-	-	-	-	(0)
Above Normal	-	(0)	-	-	-	-	-	-	-	-	-	-	(0)
Below Normal	-	(0)	-	-	-	-	-	-	-	-	-	-	(0)
Dry	-	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	-	(0)
Critical Dry	-	(0)	-	-	-	-	-	-	-	-	-	-	(0)

Table A-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(29)	(65)	(52)	(17)	(20)	1	(3)	(41)	(87)	(75)	(67)	(142)	(50)
Wet	(32)	(67)	(38)	(40)	9	15	6	(48)	(94)	(84)	(47)	(150)	(47)
Above Normal	(32)	(71)	(59)	(20)	(27)	(4)	11	(42)	(117)	(75)	(51)	(155)	(53)
Below Normal	(24)	(65)	(58)	(8)	(43)	(14)	(8)	(55)	(108)	(80)	(78)	(123)	(55)
Dry	(28)	(58)	(51)	(6)	(25)	0	(22)	(33)	(61)	(75)	(91)	(151)	(50)
Critical Dry	(31)	(61)	(58)	(2)	(6)	16	3	(4)	(8)	(36)	(56)	(121)	(30)

Table A-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(0)	(1)	(1)	(5)	-	(4)	(1)	(0)	-	-	(1)
Wet	-	(10)	(1)	(6)	1	(12)	-	(13)	(2)	(0)	-	-	(4)
Above Normal	-	-	-	0	(7)	(7)	-	(4)	(0)	-	-	-	(1)
Below Normal	-	-	-	-	0	(3)	-	(0)	(0)	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	1	(1)	6	8	32	25	12	(26)	(24)	(24)	(6)	0
Wet	(0)	2	(1)	4	11	23	17	11	(14)	(19)	(24)	(7)	0
Above Normal	0	(0)	(1)	4	8	33	26	14	(26)	(21)	(27)	(9)	0
Below Normal	0	0	(1)	6	9	37	24	9	(32)	(26)	(20)	(4)	0
Dry	(0)	1	(1)	7	6	36	31	12	(32)	(30)	(27)	(3)	0
Critical Dry	0	1	(2)	11	9	30	28	19	(25)	(26)	(24)	(6)	1

Table A-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	(83)	1	(1)	(6)	(0)	3	-	-	-	-	(7)
Wet	-	-	(354)	-	-	3	(1)	14	-	-	-	-	(28)
Above Normal	-	-	-	6	(3)	(33)	-	(0)	-	-	-	-	(3)
Below Normal	-	-	-	-	-	0	-	-	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(178)	(97)	(12)	(35)	(38)	1	(19)	(39)	(55)	(143)	(14)	(53)
Wet	(21)	(109)	(329)	(77)	(0)	(0)	35	(3)	(69)	(8)	(130)	(10)	(60)
Above Normal	(8)	(198)	(95)	90	(20)	(33)	2	(28)	(42)	(25)	(131)	(27)	(43)
Below Normal	(5)	(208)	(1)	(33)	(53)	(53)	(12)	(26)	(44)	(70)	(158)	(10)	(56)
Dry	(3)	(203)	(3)	(15)	(76)	(28)	(14)	(25)	(16)	(122)	(143)	(13)	(55)
Critical Dry	(25)	(161)	(1)	(4)	0	(144)	(9)	(0)	1	(28)	(167)	(4)	(45)

Table A-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5	(13)	(14)	3	(2)	(4)	(1)	(2)	6	9	6	(15)	(2)
Wet	4	(10)	(9)	(6)	0	1	(0)	(0)	3	13	11	(17)	(1)
Above Normal	5	(14)	(13)	(2)	(3)	(1)	(1)	(2)	4	14	10	(16)	(2)
Below Normal	5	(12)	(15)	6	(6)	(7)	(2)	(6)	5	7	4	(11)	(3)
Dry	6	(15)	(14)	9	(1)	(7)	(2)	(1)	11	5	2	(16)	(2)
Critical Dry	3	(9)	(23)	10	3	(4)	0	4	12	9	6	(10)	0

Table A-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	1	(1)	(1)	(3)	(2)	(0)	2	5	5	2	3	1
Wet	-	0	(2)	(0)	(1)	(1)	1	2	3	8	4	4	2
Above Normal	-	0	(1)	(1)	(2)	(0)	1	2	6	5	2	4	1
Below Normal	-	1	(2)	(2)	(4)	(3)	(1)	1	7	5	3	3	1
Dry	-	1	(1)	(1)	(4)	(2)	(1)	2	6	3	1	1	0
Critical Dry	-	1	(1)	(1)	(3)	(3)	(1)	4	2	1	1	1	0

Table A-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(177)	(21)	(34)	(37)	(36)	(0)	(23)	(39)	(56)	(143)	(14)	(49)
Wet	(21)	(109)	(6)	(77)	(4)	(3)	36	(17)	(69)	(8)	(130)	(10)	(35)
Above Normal	(8)	(197)	(95)	(19)	(20)	(5)	2	(29)	(42)	(25)	(131)	(27)	(50)
Below Normal	(5)	(208)	(0)	(33)	(52)	(55)	(19)	(31)	(45)	(70)	(158)	(10)	(57)
Dry	(3)	(201)	(2)	(16)	(79)	(37)	(16)	(24)	(16)	(122)	(144)	(13)	(56)
Critical Dry	(25)	(161)	(1)	(4)	1	(144)	(9)	(0)	1	(28)	(167)	(4)	(45)

Table A-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(11)	(11)	(9)	(6)	(6)	(4)	(4)	(3)	(3)	(4)	(8)	(7)
Wet	(8)	(8)	(2)	-	-	0	0	-	(0)	(2)	(1)	(3)	(2)
Above Normal	(8)	(11)	(12)	(9)	(1)	(1)	-	(0)	(0)	(3)	(5)	(7)	(5)
Below Normal	(12)	(12)	(14)	(13)	(7)	(5)	(2)	(0)	(2)	0	(0)	(8)	(6)
Dry	(17)	(17)	(20)	(18)	(18)	(20)	(15)	(13)	(10)	(8)	(9)	(17)	(15)
Critical Dry	(6)	(10)	(13)	(12)	(10)	(10)	(9)	(9)	(7)	(7)	(7)	(12)	(9)

Table A-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(8)	(8)	(7)	(7)	(5)	(6)	(7)	(9)	(10)	(10)	(10)	(8)
Wet	(2)	(2)	(6)	(1)	(0)	0	(0)	(0)	(1)	(2)	(3)	(2)	(2)
Above Normal	(10)	(11)	(6)	(6)	(7)	1	0	(0)	(1)	(3)	(2)	(2)	(4)
Below Normal	(6)	(7)	(7)	(7)	(2)	(3)	(4)	(5)	(7)	(12)	(13)	(15)	(7)
Dry	(9)	(7)	(1)	(1)	(14)	(3)	(7)	(9)	(12)	(14)	(15)	(11)	(9)
Critical Dry	(23)	(23)	(22)	(27)	(22)	(24)	(25)	(26)	(30)	(28)	(23)	(23)	(25)

Table A-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(2)
Wet	(3)	(3)	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(2)
Above Normal	(1)	(0)	(0)	(0)	1	0	0	0	0	0	(0)	(2)	(0)
Below Normal	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(4)	(2)
Dry	(3)	(2)	(3)	(3)	(3)	(2)	(2)	(2)	(4)	(4)	(5)	(4)	(3)
Critical Dry	(4)	(5)	(6)	(4)	(5)	(5)	(6)	(4)	(4)	(7)	(5)	(5)	(5)

Table A-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(8)	(7)	(7)	(5)	(4)	(4)	(4)	(5)	(5)	(6)	(8)	(6)
Wet	(8)	(8)	(6)	(5)	(1)	(1)	(0)	(0)	(0)	(3)	(5)	(11)	(4)
Above Normal	(5)	(5)	(5)	(5)	(2)	(0)	(0)	(0)	(1)	(3)	(5)	(8)	(3)
Below Normal	(7)	(7)	(9)	(8)	(5)	(5)	(5)	(5)	(7)	(7)	(7)	(3)	(6)
Dry	(11)	(11)	(10)	(11)	(11)	(11)	(11)	(12)	(13)	(6)	(5)	(5)	(10)
Critical Dry	(6)	(5)	(5)	(8)	(7)	(6)	(7)	(6)	(9)	(9)	(10)	(9)	(7)

Table A-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(53)	(56)	(45)	(61)	(3)	(32)	(52)	(93)	(74)	(59)	(60)	(49)
Wet	(4)	(67)	(131)	(71)	(3)	8	13	(53)	(98)	(62)	(57)	(114)	(53)
Above Normal	(1)	(22)	(40)	(75)	(172)	6	(4)	(25)	(93)	(34)	(38)	(104)	(50)
Below Normal	(5)	(83)	(37)	(18)	(123)	(41)	(57)	(60)	(71)	(112)	(65)	(28)	(58)
Dry	0	(67)	(3)	(34)	(23)	18	(112)	(82)	(112)	(82)	(72)	(3)	(48)
Critical Dry	13	13	(3)	(21)	(39)	3	(20)	(28)	(93)	(66)	(56)	(24)	(27)

Table A-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(21)	(6)	(0)	(2)	20	0	20	9	33	39	12	7	9
Wet	(41)	(15)	57	(10)	(2)	6	(0)	(0)	11	10	12	8	3
Above Normal	(15)	(4)	(44)	(0)	0	(12)	10	2	18	24	(10)	29	(0)
Below Normal	1	1	(4)	(2)	(38)	(3)	27	12	26	82	41	42	15
Dry	(24)	(10)	(61)	(6)	193	2	62	38	76	45	46	(48)	26
Critical Dry	(10)	7	(10)	19	(22)	1	14	(4)	56	43	(55)	(8)	3

Table A-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	0	(6)	(7)	(32)	(9)	(5)	4	17	(2)	17	30	1
Wet	(9)	(5)	(41)	(19)	(53)	(7)	(18)	(2)	6	33	33	119	3
Above Normal	8	3	(0)	1	(53)	(27)	(2)	(3)	6	33	40	58	5
Below Normal	6	(1)	38	(21)	(38)	(13)	(1)	10	32	12	8	(67)	(3)
Dry	3	10	(13)	(1)	1	2	10	13	16	(113)	(15)	(1)	(7)
Critical Dry	(4)	1	(1)	26	2	(1)	1	1	28	1	15	1	6

Table A-7-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(43)	(20)	(74)	(84)	(52)	(17)	(38)	(40)	(2)	(7)	(15)	(33)
Wet	(20)	(56)	(104)	(162)	(84)	(9)	(5)	(54)	(79)	(20)	(9)	(37)	(53)
Above Normal	28	(25)	260	(78)	(547)	(133)	1	(27)	(69)	27	(1)	(0)	(47)
Below Normal	(3)	(68)	(27)	(46)	(171)	(47)	(32)	(39)	(16)	2	(7)	(12)	(39)
Dry	10	(29)	(50)	(44)	379	(137)	(44)	(29)	(16)	5	1	(2)	4
Critical Dry	(4)	(9)	(35)	39	(80)	11	(2)	(24)	0	(3)	(17)	(0)	(10)

Table A-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(0)	0	0	(2)	0	(0)	(0)	(0)	(0)	(1)	1	(0)
Wet	(1)	(1)	0	0	0	1	(0)	(0)	0	(0)	0	3	0
Above Normal	(1)	1	(1)	0	1	0	0	0	(0)	(0)	(1)	(1)	(0)
Below Normal	(0)	1	1	0	(4)	(0)	(0)	(0)	(0)	0	(0)	1	(0)
Dry	(1)	(3)	(2)	(1)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
Critical Dry	1	3	2	0	(2)	(0)	(0)	(0)	(1)	(0)	(5)	3	(0)

Table A-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	1	(0)	0	0	-	-	0	0	(0)	(0)	0	0
Wet	-	0	(0)	0	0	-	-	0	0	(0)	-	-	0
Above Normal	(0)	1	(0)	-	(0)	-	-	-	-	(0)	-	-	0
Below Normal	-	1	(1)	-	0	-	-	-	-	(0)	(0)	1	0
Dry	(1)	1	(0)	-	-	-	-	-	-	(1)	(0)	-	(0)
Critical Dry	-	(0)	0	-	-	-	-	-	-	0	-	-	0

Table A-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	-	-	-	-	-	-	-	-	-	(0)
Wet	(1)	-	-	-	-	-	-	-	-	-	-	-	(0)
Above Normal	(0)	-	0	-	-	-	-	-	-	-	-	-	0
Below Normal	-	0	-	-	-	-	-	-	-	-	-	-	0
Dry	0	-	0	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	1	-	-	-	-	-	-	-	-	-	0

Table A-7-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	(0)	(0)	0	0	0	0	0	0
Wet	0	0	0	0	0	0	(0)	0	0	0	0	0	0
Above Normal	0	0	0	(0)	(0)	0	0	0	0	0	0	(0)	(0)
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)	0	(0)
Critical Dry	(0)	(0)	0	0	(0)	(0)	(0)	0	(0)	0	0	0	(0)

Table A-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(54)	(58)	(45)	(61)	(3)	(32)	(52)	(93)	(74)	(59)	(61)	(49)
Wet	(3)	(97)	(30)	(70)	(2)	8	13	(53)	(98)	(62)	(57)	(114)	(47)
Above Normal	(10)	(58)	(17)	(71)	(172)	7	(4)	(25)	(93)	(34)	(38)	(104)	(52)
Below Normal	12	(31)	(75)	(17)	(123)	(41)	(57)	(60)	(71)	(111)	(66)	(28)	(56)
Dry	3	(17)	(161)	(38)	(23)	21	(112)	(82)	(113)	(82)	(72)	(6)	(57)
Critical Dry	(3)	(39)	(3)	(19)	(39)	1	(21)	(24)	(93)	(66)	(56)	(26)	(32)

Table A-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(54)	(58)	(45)	(61)	(3)	(32)	(52)	(93)	(74)	(59)	(61)	(49)
Wet	(3)	(97)	(30)	(70)	(2)	8	13	(53)	(98)	(62)	(57)	(114)	(47)
Above Normal	(11)	(58)	(17)	(71)	(172)	6	(4)	(25)	(93)	(34)	(38)	(104)	(52)
Below Normal	12	(31)	(75)	(17)	(123)	(41)	(57)	(60)	(71)	(111)	(66)	(28)	(56)
Dry	3	(17)	(161)	(38)	(23)	21	(112)	(82)	(112)	(82)	(72)	(6)	(57)
Critical Dry	(3)	(38)	(4)	(19)	(39)	1	(21)	(24)	(93)	(66)	(56)	(26)	(32)

Table A-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(54)	(58)	(45)	(61)	(2)	(32)	(52)	(93)	(74)	(59)	(61)	(49)
Wet	(3)	(97)	(30)	(70)	(2)	8	13	(53)	(98)	(62)	(57)	(114)	(47)
Above Normal	(10)	(58)	(17)	(71)	(173)	7	(4)	(25)	(94)	(34)	(38)	(104)	(52)
Below Normal	12	(31)	(75)	(17)	(123)	(41)	(57)	(60)	(71)	(112)	(66)	(27)	(56)
Dry	3	(17)	(161)	(38)	(23)	21	(113)	(83)	(113)	(82)	(72)	(6)	(57)
Critical Dry	(3)	(39)	(3)	(20)	(39)	1	(21)	(25)	(94)	(67)	(57)	(26)	(33)

Table A-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(54)	(58)	(45)	(61)	(2)	(32)	(52)	(93)	(74)	(58)	(58)	(49)
Wet	(3)	(97)	(30)	(70)	(2)	8	13	(53)	(99)	(62)	(57)	(106)	(46)
Above Normal	(10)	(58)	(17)	(71)	(173)	7	(4)	(25)	(94)	(34)	(38)	(100)	(51)
Below Normal	12	(31)	(75)	(17)	(124)	(41)	(57)	(60)	(71)	(112)	(64)	(27)	(56)
Dry	3	(16)	(161)	(38)	(23)	21	(113)	(83)	(111)	(82)	(70)	(6)	(57)
Critical Dry	(3)	(38)	(3)	(20)	(39)	1	(21)	(23)	(94)	(64)	(56)	(26)	(32)

Table A-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.29	0.16	0.23	0.22	0.21	0.13	0.08	0.19	0.19	0.18	0.16	0.25	0.19
Wet	0.16	(0.10)	0.04	0.15	0.04	0.02	0.00	0.03	0.07	0.14	0.15	0.11	0.07
Above Normal	(0.32)	(0.49)	(0.05)	0.17	0.15	0.06	0.10	(0.05)	0.04	0.16	0.09	0.03	(0.01)
Below Normal	(0.11)	0.06	(0.17)	0.03	0.01	0.04	0.06	0.07	0.13	0.13	0.17	0.20	0.05
Dry	0.15	0.11	(0.05)	(0.12)	0.01	(0.31)	(0.29)	0.29	(0.06)	0.05	0.10	0.08	(0.00)
Critical Dry	2.02	1.58	1.93	1.08	1.19	1.04	0.70	0.81	0.94	0.52	0.25	0.99	1.09

Table A-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.17	0.11	0.15	0.17	0.18	0.11	0.05	0.15	0.18	0.18	0.18	0.19	0.15
Wet	0.14	(0.10)	0.01	0.15	0.04	0.02	0.00	0.03	0.09	0.17	0.16	0.14	0.07
Above Normal	(0.26)	(0.45)	(0.07)	0.13	0.16	0.06	0.10	(0.04)	0.05	0.16	0.12	0.06	0.00
Below Normal	(0.08)	0.03	(0.13)	0.02	0.02	0.05	0.07	0.08	0.16	0.12	0.20	0.18	0.06
Dry	0.06	0.11	(0.09)	(0.15)	(0.00)	(0.18)	(0.29)	0.21	0.13	0.06	0.14	0.10	0.01
Critical Dry	1.17	1.22	1.41	0.84	0.94	0.78	0.46	0.60	0.60	0.49	0.30	0.50	0.77

Table A-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.11	0.06	0.09	0.14	0.15	0.08	0.04	0.14	0.22	0.21	0.21	0.20	0.14
Wet	0.12	(0.08)	0.00	0.14	0.04	0.01	(0.00)	0.03	0.11	0.19	0.18	0.22	0.08
Above Normal	(0.20)	(0.40)	(0.07)	0.11	0.17	0.05	0.09	(0.03)	0.08	0.17	0.13	0.14	0.02
Below Normal	(0.07)	0.01	(0.11)	0.01	0.06	0.06	0.08	0.11	0.19	0.15	0.23	0.18	0.08
Dry	0.03	0.09	(0.11)	(0.12)	(0.00)	(0.13)	(0.19)	0.25	0.30	0.11	0.20	0.10	0.04
Critical Dry	0.76	0.88	1.03	0.65	0.72	0.54	0.31	0.41	0.54	0.49	0.37	0.35	0.59

Modeling Technical Appendix – Attachment A-8. Percentage Change of Full UAR Capacity to Existing Conditions Baseline

This attachment summarizes the percentage change of full UAR capacity to baseline (1.1-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-VIII-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-VIII-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-VIII-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-VIII-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-VIII-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-VIII-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table A-VIII-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-VIII-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-VIII-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table A-VIII-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-VIII-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type..... - 3 -
Table A-VIII-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-VIII-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-VIII-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-VIII-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-VIII-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-VIII-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-VIII-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-VIII-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-VIII-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-VIII-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-VIII-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-VIII-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-VIII-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-VIII-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-VIII-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-VIII-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-VIII-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -

Table A-VIII-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -
Table A-VIII-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-VIII-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-VIII-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-VIII-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-VIII-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-VIII-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-VIII-36. Monthly Average of X2 Position in Each Water Year Type - 9 -
Table A-VIII-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-VIII-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-VIII-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-VIII-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-VIII-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-VIII-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-VIII-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-VIII-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	0.1%	0.1%	0.2%	0.2%	0.1%	0.0%	0.0%	0.1%	0.2%	0.4%	0.3%	0.2%
Wet	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%
Above Normal	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.1%
Below Normal	0.4%	0.2%	0.2%	0.3%	0.2%	0.2%	0.1%	0.0%	0.1%	0.2%	0.3%	0.2%	0.2%
Dry	0.2%	0.1%	0.0%	0.3%	0.3%	0.2%	0.1%	0.1%	0.3%	0.5%	0.5%	0.4%	0.2%
Critical Dry	0.3%	0.1%	0.0%	0.4%	0.4%	0.3%	-0.1%	-0.2%	0.2%	0.6%	1.0%	0.9%	0.3%

Table A-VIII-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-88.9%	-90.6%	-87.9%	-78.4%	-69.1%	-57.6%	-47.7%	-40.5%	-46.9%	-61.1%	-74.9%	-84.8%	-69.0%
Wet	-89.8%	-90.2%	-82.6%	-63.2%	-51.2%	-36.4%	-24.5%	-15.4%	-26.2%	-43.8%	-63.4%	-81.3%	-55.7%
Above Normal	-83.0%	-88.0%	-86.8%	-74.6%	-61.8%	-47.9%	-36.8%	-27.8%	-38.4%	-56.3%	-73.6%	-87.5%	-63.5%
Below Normal	-89.8%	-91.4%	-90.7%	-87.4%	-78.9%	-66.0%	-54.0%	-45.2%	-45.8%	-56.5%	-69.4%	-77.8%	-71.1%
Dry	-91.0%	-92.0%	-91.8%	-90.0%	-85.3%	-76.7%	-69.3%	-65.6%	-69.8%	-83.4%	-91.7%	-92.2%	-83.2%
Critical Dry	-92.2%	-91.6%	-91.3%	-90.7%	-87.7%	-83.3%	-80.6%	-79.1%	-87.4%	-91.5%	-91.2%	-90.8%	-88.1%

Table A-VIII-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-30.3%	-30.1%	-26.8%	-23.5%	-19.2%	-14.8%	-10.8%	-9.1%	-11.4%	-16.7%	-22.3%	-27.3%	-20.2%
Wet	-27.4%	-25.2%	-15.3%	-8.2%	-2.7%	-1.0%	0.0%	0.0%	-1.5%	-5.6%	-10.7%	-15.1%	-9.4%
Above Normal	-26.2%	-26.5%	-23.7%	-18.2%	-10.4%	-3.4%	-1.2%	-0.3%	-1.6%	-6.8%	-12.1%	-16.7%	-12.3%
Below Normal	-34.6%	-35.1%	-34.6%	-33.4%	-29.3%	-22.8%	-14.0%	-7.4%	-9.4%	-15.1%	-21.1%	-26.4%	-23.6%
Dry	-30.2%	-30.8%	-30.7%	-31.4%	-29.7%	-24.4%	-19.1%	-18.9%	-23.2%	-29.9%	-36.7%	-42.7%	-29.0%
Critical Dry	-37.1%	-38.6%	-38.7%	-39.8%	-39.2%	-37.6%	-36.8%	-38.7%	-45.2%	-52.4%	-59.5%	-65.2%	-44.1%

Table A-VIII-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.4%	-0.2%	-0.8%	-0.5%	-0.4%	-0.4%	-0.4%	0.0%	0.2%	0.2%	0.5%	0.3%	-0.1%
Wet	0.0%	-0.8%	-2.4%	-1.6%	-1.4%	-1.3%	-1.3%	-0.1%	0.0%	0.0%	0.4%	0.5%	-0.7%
Above Normal	0.5%	-0.2%	-0.6%	-0.4%	-0.4%	-0.4%	-0.4%	0.0%	0.0%	0.0%	0.8%	0.2%	-0.1%
Below Normal	0.4%	0.3%	0.0%	0.2%	0.2%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.2%	0.2%
Dry	0.7%	-0.1%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	0.6%	0.5%	0.5%	0.4%	0.1%
Critical Dry	0.4%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.6%	0.7%	0.4%	0.1%	0.2%

Table A-VIII-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	15.9%	21.4%	9.2%	5.3%	4.1%	3.8%	0.6%	0.1%	0.1%	0.0%	0.9%	5.1%
Wet	0.3%	12.7%	12.8%	8.1%	7.0%	4.7%	3.8%	1.0%	0.0%	0.0%	0.0%	0.6%	4.2%
Above Normal	0.2%	15.3%	21.0%	12.3%	8.1%	6.9%	6.9%	1.2%	0.0%	0.0%	0.0%	1.3%	6.1%
Below Normal	-0.1%	18.3%	26.3%	12.9%	6.7%	5.6%	5.4%	0.0%	0.0%	0.0%	0.0%	0.5%	6.3%
Dry	0.3%	16.9%	23.8%	5.0%	1.3%	0.6%	0.5%	0.0%	0.0%	0.0%	0.0%	0.8%	4.1%
Critical Dry	0.0%	17.2%	25.7%	7.0%	1.5%	1.5%	1.7%	1.2%	0.9%	0.7%	0.6%	1.7%	5.0%

Table A-VIII-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.1%	0.1%	0.2%
Wet	0.0%	1.9%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	-0.5%	-0.2%	0.0%
Above Normal	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.5%	0.3%	0.3%
Below Normal	0.5%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.4%	0.0%	0.4%
Dry	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.1%	0.0%	0.2%
Critical Dry	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	0.2%

Table A-VIII-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	2.0%	1.9%	1.1%	0.8%	0.3%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%
Wet	0.0%	1.6%	1.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Above Normal	0.0%	1.7%	1.6%	0.7%	0.5%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.5%
Below Normal	0.0%	2.4%	2.3%	1.4%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
Dry	0.0%	1.9%	1.8%	1.5%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Critical Dry	0.0%	2.5%	2.4%	2.2%	1.7%	0.8%	0.5%	0.4%	0.4%	0.4%	0.3%	0.0%	1.0%

Table A-VIII-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.1%	-2.2%	-2.2%	-2.0%	-1.8%	-1.5%	-1.2%	-1.0%	-1.0%	-1.2%	-1.6%	-1.9%	-1.6%
Wet	-2.2%	-2.3%	-2.2%	-1.8%	-1.3%	-0.9%	-0.6%	-0.4%	-0.4%	-0.7%	-1.2%	-1.7%	-1.3%
Above Normal	-2.0%	-2.1%	-2.1%	-1.9%	-1.6%	-1.2%	-0.9%	-0.6%	-0.7%	-1.0%	-1.5%	-2.0%	-1.5%
Below Normal	-2.2%	-2.2%	-2.2%	-2.1%	-1.9%	-1.6%	-1.3%	-1.0%	-0.9%	-1.1%	-1.4%	-1.7%	-1.6%
Dry	-2.2%	-2.3%	-2.2%	-2.2%	-2.1%	-1.9%	-1.6%	-1.5%	-1.5%	-1.8%	-2.2%	-2.3%	-2.0%
Critical Dry	-2.3%	-2.1%	-2.1%	-2.1%	-2.0%	-1.9%	-1.8%	-1.7%	-1.8%	-2.1%	-2.0%	-1.9%	-2.0%

Table A-VIII-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.5%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Above Normal	-0.4%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Below Normal	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%	-0.4%	-0.3%	-0.1%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%
Dry	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.4%
Critical Dry	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%	-1.0%	-0.7%

Table A-VIII-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-1.3%	0.4%	0.0%	-0.2%	-2.1%	-1.4%	-0.6%	0.4%	1.1%	1.6%	0.8%	-0.1%
Wet	0.2%	-0.4%	0.6%	-0.3%	-0.4%	-0.9%	-0.7%	-0.5%	-0.1%	0.4%	0.7%	0.6%	-0.1%
Above Normal	0.3%	-1.3%	0.2%	0.1%	-0.1%	-1.8%	-1.3%	-0.5%	0.4%	0.8%	1.1%	1.1%	-0.1%
Below Normal	0.0%	-2.2%	0.3%	0.6%	0.2%	-2.4%	-1.5%	-0.5%	0.7%	1.5%	1.9%	0.4%	-0.1%
Dry	0.3%	-1.6%	0.0%	1.0%	-0.4%	-4.6%	-2.7%	-1.5%	1.9%	2.9%	2.4%	0.9%	-0.1%
Critical Dry	0.3%	-2.0%	0.3%	-0.2%	-0.1%	-8.8%	-4.3%	-3.8%	1.0%	1.2%	3.2%	1.8%	-1.0%

Table A-VIII-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.4%	0.0%	0.1%	0.2%	0.1%	0.0%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.7%	0.0%	0.1%	0.0%	0.0%	0.0%	-0.3%	-0.1%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.1%	1.1%	0.2%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.8%	-7.5%	1.2%	0.8%	-0.9%	-5.8%	-3.5%	-1.1%	1.1%	4.5%	14.0%	2.3%	0.5%
Wet	1.0%	-2.5%	1.8%	-0.9%	-1.3%	-2.7%	-1.8%	-0.8%	-0.1%	1.0%	6.6%	2.6%	0.2%
Above Normal	1.2%	-9.2%	0.5%	0.3%	-0.6%	-5.5%	-3.3%	-0.8%	0.8%	3.0%	13.1%	5.4%	0.4%
Below Normal	-0.4%	-14.7%	0.3%	3.7%	-0.1%	-6.5%	-3.6%	-0.9%	1.4%	6.3%	16.4%	0.0%	0.2%
Dry	1.5%	-10.4%	-0.6%	8.6%	-1.4%	-10.6%	-5.8%	-2.3%	6.3%	19.7%	20.1%	-1.1%	2.0%
Critical Dry	-0.4%	-16.6%	-0.2%	8.9%	0.1%	-19.3%	-10.8%	-7.1%	14.6%	34.7%	54.3%	8.7%	5.6%

Table A-VIII-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-0.2%	-0.3%	-0.4%	-0.3%	-0.4%	-0.5%	-0.4%	-0.1%	-0.1%	0.2%	0.0%	-0.2%
Wet	0.2%	-0.2%	-0.5%	-0.2%	-0.1%	-0.3%	-0.4%	-0.2%	0.1%	-0.1%	0.2%	-0.3%	-0.1%
Above Normal	0.0%	0.0%	0.4%	-0.9%	-0.5%	-0.3%	-0.5%	-0.3%	-0.2%	0.0%	0.3%	0.4%	-0.1%
Below Normal	0.0%	-0.6%	0.1%	-0.2%	-0.6%	-0.7%	-0.6%	-0.6%	-0.5%	0.0%	-0.1%	-0.1%	-0.3%
Dry	0.0%	-0.2%	-0.1%	0.0%	-0.5%	-0.7%	-0.8%	-0.8%	-0.2%	-0.3%	0.7%	0.0%	-0.2%
Critical Dry	0.9%	-0.1%	0.3%	0.1%	-0.1%	2.6%	-0.4%	-0.3%	0.0%	0.0%	-0.7%	0.0%	0.2%

Table A-VIII-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-0.1%	-0.4%	-0.1%	-0.2%	-0.3%	-0.2%	-0.3%	0.1%	-0.3%	0.0%	-0.1%
Wet	-0.2%	0.1%	0.1%	-0.1%	-0.1%	-0.2%	-0.4%	-0.3%	-0.1%	-0.1%	-0.4%	0.3%	-0.1%
Above Normal	0.0%	-0.5%	0.1%	0.0%	-0.1%	-0.3%	-0.3%	-0.5%	-0.8%	0.1%	-0.2%	0.1%	-0.2%
Below Normal	-0.1%	0.0%	-0.1%	-0.4%	0.0%	-0.1%	-0.3%	-0.2%	-0.9%	0.1%	-0.1%	0.0%	-0.2%
Dry	0.2%	0.0%	-0.2%	-2.6%	-0.2%	-0.1%	-0.4%	-0.3%	0.4%	0.3%	-0.3%	-0.1%	-0.3%
Critical Dry	-0.1%	1.2%	-1.0%	-6.2%	-0.6%	-0.6%	0.5%	5.3%	2.1%	-0.1%	-1.2%	-1.0%	-0.1%

Table A-VIII-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	N/A	-27.8%	-15.6%	-2.4%	-3.6%	-9.1%	-11.6%	-15.1%	-18.0%	-8.3%	32.9%	-8.4%	N/A
Wet	N/A	-21.8%	-13.4%	-7.2%	-3.9%	-14.0%	-19.4%	-16.6%	-3.2%	30.1%	29.9%	-6.7%	N/A
Above Normal	N/A	-26.3%	-16.3%	-4.7%	-4.1%	-13.1%	-18.1%	-18.7%	-18.8%	-2.3%	87.4%	-15.0%	N/A
Below Normal	N/A	-31.4%	-21.4%	-0.8%	-2.3%	-5.4%	-6.7%	-10.3%	-33.1%	-36.8%	31.5%	-23.5%	N/A
Dry	N/A	-31.7%	-13.3%	3.5%	-2.5%	-5.4%	-5.0%	-13.5%	-30.3%	-23.7%	27.7%	-9.2%	N/A
Critical Dry	N/A	-37.6%	-10.8%	9.9%	-8.9%	-3.4%	-4.6%	-22.7%	-39.8%	12.0%	40.9%	24.7%	N/A

Table A-VIII-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	-0.1%	0.3%	0.1%	-0.2%	-0.5%	-0.8%	-0.5%	0.0%	-0.1%	0.5%	0.0%	-0.1%
Wet	0.4%	0.2%	0.1%	-0.3%	-0.1%	-0.5%	-0.9%	-0.3%	0.5%	0.0%	0.5%	-0.7%	-0.1%
Above Normal	0.0%	0.3%	1.4%	0.5%	-0.2%	-0.5%	-0.8%	-0.4%	-0.1%	0.1%	0.6%	0.8%	0.1%
Below Normal	0.0%	-1.1%	1.0%	0.3%	-0.2%	-0.9%	-0.4%	-0.7%	-0.5%	0.0%	-0.1%	0.1%	-0.2%
Dry	0.0%	-0.2%	0.2%	0.7%	-0.7%	-0.5%	-1.0%	-1.1%	-0.3%	-0.6%	1.4%	0.0%	-0.2%
Critical Dry	1.8%	-0.1%	1.1%	0.3%	0.1%	6.0%	-0.7%	-0.6%	0.0%	0.1%	-1.2%	0.2%	0.6%

Table A-VIII-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.2%	-0.2%	-0.1%	0.0%	-0.3%	-0.3%	-0.3%	-0.1%	-0.2%	-0.1%	-0.1%	-0.2%
Wet	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	-0.2%	-0.3%	-0.2%	-0.2%	-0.1%	-0.4%	-0.4%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	-0.2%
Dry	-0.2%	-0.3%	-0.3%	-0.2%	-0.1%	-0.6%	-0.7%	-0.7%	-0.4%	-0.5%	-0.4%	-0.4%	-0.4%
Critical Dry	-0.2%	-0.3%	-0.2%	-0.1%	0.0%	-0.6%	-0.9%	-0.9%	-0.8%	-0.8%	-0.8%	-0.6%	-0.5%

Table A-VIII-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Dry	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.1%	0.0%
Critical Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%

Table A-VIII-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.1%	0.0%	0.0%	0.0%

Table A-VIII-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.1%	-0.3%	-0.4%	-0.8%	-1.1%	-0.7%	-0.5%	-0.1%	0.0%	0.0%	-0.4%
Wet	0.0%	-0.3%	-0.1%	-0.4%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	0.0%	0.0%	0.1%	-0.2%
Above Normal	0.0%	-0.2%	-0.1%	-0.3%	-0.2%	-1.8%	-1.5%	-0.4%	-0.2%	0.0%	0.0%	0.2%	-0.4%
Below Normal	0.0%	-0.4%	-0.2%	-0.1%	-0.5%	-1.3%	-1.8%	-1.4%	-0.9%	0.0%	0.0%	0.0%	-0.6%
Dry	0.0%	-0.2%	-0.1%	-0.4%	-0.5%	0.0%	-2.0%	-1.2%	-1.5%	0.0%	-0.1%	-0.1%	-0.5%
Critical Dry	-0.3%	-0.4%	0.0%	-0.2%	-0.4%	0.2%	-0.5%	-1.7%	-0.4%	-0.6%	0.1%	-0.3%	-0.4%

Table A-VIII-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.1%	0.5%	0.0%	0.0%	-0.1%	0.0%
Dry	-1.2%	0.0%	0.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.7%	0.1%	0.1%	0.1%	0.1%
Critical Dry	0.0%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	-0.1%	-0.1%	0.1%

Table A-VIII-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	-0.1%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	-0.1%	0.0%
Above Normal	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	-0.2%	0.0%
Dry	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.3%	0.0%	-0.1%	-0.1%	0.0%	0.0%
Critical Dry	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.4%	0.2%	0.0%	-0.2%	-0.2%	0.0%	0.0%

Table A-VIII-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.2%	-0.1%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.1%	-0.1%	0.1%	0.0%	0.0%	-0.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.3%	-0.3%	-0.1%	0.0%	0.0%	-0.2%	-0.1%
Dry	0.0%	-0.1%	0.4%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	-0.3%	0.0%	0.0%	-0.2%	0.0%	0.0%

Table A-VIII-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	-0.8%	0.1%	2.6%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.2%
Critical Dry	-0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	-0.3%	0.0%

Table A-VIII-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-17.0%	0.4%	-0.6%	0.0%	0.0%	N/A	N/A	0.0%	0.0%	0.6%	0.3%	-0.4%	N/A
Wet	N/A	0.7%	-0.4%	0.0%	0.0%	N/A	N/A	0.0%	0.0%	0.0%	N/A	N/A	N/A
Above Normal	-1.1%	0.3%	-0.2%	N/A	33.3%	N/A	N/A	N/A	N/A	-1.9%	N/A	N/A	N/A
Below Normal	N/A	0.6%	-2.2%	N/A	N/A	N/A	N/A	N/A	N/A	0.1%	0.4%	-0.4%	N/A
Dry	-27.0%	0.1%	-0.2%	N/A	N/A	N/A	N/A	N/A	N/A	1.0%	0.1%	N/A	N/A
Critical Dry	0.0%	0.3%	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.2%	N/A	N/A	N/A

Table A-VIII-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.9%	0.0%	-0.1%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Wet	0.0%	0.0%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Above Normal	0.0%	0.0%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Below Normal	0.0%	0.0%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Dry	-9.1%	0.0%	-1.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Critical Dry	0.0%	0.0%	0.8%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A

Table A-VIII-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-VIII-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.1%	-0.3%	-0.4%	-0.8%	-1.1%	-0.7%	-0.5%	-0.1%	0.0%	0.0%	-0.4%
Wet	0.0%	-0.3%	-0.2%	-0.4%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	0.0%	0.0%	0.1%	-0.3%
Above Normal	0.0%	-0.1%	-0.1%	-0.3%	-0.2%	-1.8%	-1.5%	-0.4%	-0.2%	0.0%	0.0%	0.1%	-0.4%
Below Normal	-0.2%	-0.4%	0.0%	0.0%	-0.5%	-1.3%	-1.8%	-1.4%	-0.9%	0.0%	0.0%	0.0%	-0.5%
Dry	0.0%	-0.1%	-0.4%	-0.4%	-0.5%	0.0%	-2.0%	-1.2%	-1.5%	0.0%	-0.1%	-0.1%	-0.5%
Critical Dry	0.0%	-0.4%	0.1%	-0.2%	-0.4%	0.2%	-0.5%	-1.6%	-0.4%	-0.6%	0.1%	-0.4%	-0.3%

Table A-VIII-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.1%	-0.3%	-0.4%	-0.8%	-1.1%	-0.7%	-0.5%	-0.1%	0.0%	0.0%	-0.4%
Wet	0.0%	-0.3%	-0.2%	-0.4%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	0.0%	0.0%	0.1%	-0.3%
Above Normal	0.0%	-0.1%	-0.1%	-0.3%	-0.2%	-1.8%	-1.5%	-0.4%	-0.2%	0.0%	0.0%	0.1%	-0.4%
Below Normal	-0.2%	-0.4%	0.0%	0.0%	-0.5%	-1.3%	-1.8%	-1.4%	-0.9%	0.0%	0.0%	0.0%	-0.5%
Dry	0.0%	-0.1%	-0.4%	-0.4%	-0.5%	0.0%	-2.0%	-1.2%	-1.5%	0.0%	-0.1%	-0.1%	-0.5%
Critical Dry	0.0%	-0.4%	0.1%	-0.2%	-0.4%	0.2%	-0.5%	-1.7%	-0.5%	-0.6%	0.1%	-0.3%	-0.4%

Table A-VIII-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.1%	-0.3%	-0.4%	-0.8%	-1.1%	-0.7%	-0.5%	-0.1%	0.0%	0.0%	-0.4%
Wet	0.0%	-0.3%	-0.2%	-0.4%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	0.0%	0.0%	0.1%	-0.3%
Above Normal	0.0%	-0.1%	-0.1%	-0.3%	-0.2%	-1.8%	-1.5%	-0.4%	-0.2%	0.0%	0.0%	0.2%	-0.4%
Below Normal	-0.1%	-0.4%	0.0%	0.0%	-0.5%	-1.3%	-1.8%	-1.4%	-0.9%	0.0%	0.0%	0.0%	-0.5%
Dry	0.0%	-0.1%	-0.4%	-0.4%	-0.5%	0.0%	-2.0%	-1.2%	-1.5%	0.0%	-0.1%	-0.1%	-0.5%
Critical Dry	0.0%	-0.4%	0.1%	-0.2%	-0.4%	0.2%	-0.5%	-1.7%	-0.4%	-0.6%	0.1%	-0.3%	-0.3%

Table A-VIII-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.1%	-0.3%	-0.4%	-0.8%	-1.1%	-0.7%	-0.5%	-0.1%	0.0%	0.0%	-0.4%
Wet	0.0%	-0.4%	-0.2%	-0.4%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	0.0%	0.0%	0.2%	-0.3%
Above Normal	0.0%	-0.1%	-0.1%	-0.3%	-0.2%	-1.8%	-1.6%	-0.4%	-0.2%	0.0%	0.0%	0.2%	-0.4%
Below Normal	-0.2%	-0.4%	0.0%	0.0%	-0.5%	-1.3%	-1.9%	-1.5%	-1.0%	0.0%	0.0%	0.0%	-0.6%
Dry	0.0%	-0.1%	-0.4%	-0.4%	-0.5%	0.0%	-2.1%	-1.3%	-1.6%	0.0%	-0.1%	-0.1%	-0.5%
Critical Dry	0.0%	-0.5%	0.1%	-0.2%	-0.4%	0.2%	-0.5%	-1.8%	-0.5%	-0.7%	0.1%	-0.4%	-0.4%

Table A-VIII-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.4%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.0%	0.0%	0.1%	0.1%
Dry	0.0%	0.0%	-0.1%	0.4%	0.4%	0.5%	0.5%	0.3%	0.2%	0.1%	0.0%	0.0%	0.2%
Critical Dry	-0.3%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	-0.1%	0.0%	0.1%	0.0%	0.0%

Table A-VIII-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.3%	0.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.0%	0.0%	0.1%	0.1%
Dry	0.0%	0.0%	-0.1%	0.4%	0.4%	0.4%	0.4%	0.2%	0.2%	0.1%	0.0%	0.0%	0.2%
Critical Dry	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%

Table A-VIII-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.3%	0.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	0.0%	0.1%	0.1%
Dry	0.0%	0.0%	-0.1%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.1%	0.0%	0.0%	0.1%
Critical Dry	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%

Modeling Technical Appendix – Attachment A-9. Percentage Change of Full UAR Capacity and Project to Existing Conditions Baseline

This attachment summarizes the percentage change of full UAR capacity and project to baseline (1.2-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-9-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table A-9-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table A-9-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table A-9-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table A-9-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table A-9-6. Monthly Average of Caples Lake Storage in Each Water Year Type. ..... - 2 -
Table A-9-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table A-9-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table A-9-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table A-9-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-9-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table A-9-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table A-9-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table A-9-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-9-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-9-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table A-9-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table A-9-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table A-9-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table A-9-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table A-9-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-9-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table A-9-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table A-9-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table A-9-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table A-9-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table A-9-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table A-9-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table A-9-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. ..... - 8 -

Table A-9-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-9-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-9-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-9-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-9-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-9-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-9-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-9-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-9-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-9-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-9-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-9-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-9-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-9-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-9-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-4.3%	-3.0%	-1.4%	-2.8%	-2.8%	-2.1%	-1.6%	-0.8%	-1.3%	-2.4%	-3.8%	-3.1%	-2.5%
Wet	-4.4%	-2.7%	-1.4%	-1.8%	-2.2%	-2.1%	-1.7%	-0.2%	0.0%	-0.8%	-2.7%	-2.0%	-1.8%
Above Normal	-4.2%	-2.8%	-0.9%	-2.4%	-2.2%	-1.4%	-1.1%	-0.1%	0.0%	-1.1%	-2.9%	-2.2%	-1.8%
Below Normal	-5.2%	-4.0%	-2.2%	-3.7%	-3.0%	-1.7%	-1.1%	-0.2%	-0.5%	-1.5%	-2.4%	-2.0%	-2.3%
Dry	-3.3%	-2.2%	-0.6%	-3.1%	-3.2%	-2.3%	-1.2%	-1.3%	-2.6%	-3.9%	-4.9%	-3.9%	-2.7%
Critical Dry	-4.9%	-4.4%	-2.6%	-4.7%	-5.0%	-4.7%	-4.4%	-5.1%	-7.9%	-10.7%	-12.6%	-11.8%	-6.6%

Table A-9-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-15.4%	-25.8%	-31.4%	-27.8%	-23.3%	-18.9%	-15.6%	-13.5%	-12.6%	-13.7%	-14.2%	-13.3%	-18.8%
Wet	-11.6%	-22.5%	-25.6%	-16.9%	-10.2%	-4.6%	-2.0%	-1.2%	-1.1%	-0.5%	0.7%	1.9%	-7.8%
Above Normal	-13.4%	-21.4%	-27.1%	-23.9%	-18.4%	-12.5%	-8.7%	-5.5%	-4.4%	-5.0%	-6.0%	-4.8%	-12.6%
Below Normal	-24.4%	-38.5%	-45.6%	-44.6%	-39.6%	-32.9%	-26.7%	-22.0%	-19.6%	-20.4%	-22.3%	-21.4%	-29.8%
Dry	-11.2%	-20.5%	-27.7%	-27.9%	-26.1%	-23.7%	-21.5%	-20.7%	-21.0%	-25.2%	-25.7%	-25.0%	-23.0%
Critical Dry	-19.2%	-27.6%	-35.0%	-35.9%	-34.3%	-32.8%	-32.0%	-31.8%	-32.7%	-34.6%	-35.3%	-36.8%	-32.3%

Table A-9-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-20.4%	-20.6%	-18.2%	-15.9%	-12.6%	-9.3%	-6.1%	-4.8%	-5.8%	-9.5%	-14.0%	-17.7%	-12.9%
Wet	-21.1%	-19.7%	-11.4%	-5.6%	-1.4%	-0.3%	0.0%	0.0%	-1.3%	-4.5%	-8.2%	-12.0%	-7.1%
Above Normal	-16.4%	-16.9%	-15.2%	-11.9%	-5.7%	-1.3%	0.0%	0.0%	-1.5%	-5.5%	-10.4%	-14.2%	-8.3%
Below Normal	-22.8%	-23.6%	-23.5%	-22.9%	-19.6%	-14.3%	-6.5%	-2.6%	-3.8%	-7.6%	-12.5%	-16.4%	-14.7%
Dry	-20.3%	-21.1%	-21.3%	-21.9%	-20.8%	-16.5%	-11.7%	-10.9%	-11.9%	-16.4%	-21.5%	-25.5%	-18.3%
Critical Dry	-22.3%	-23.7%	-24.2%	-25.1%	-25.0%	-24.2%	-23.6%	-22.4%	-21.7%	-24.7%	-28.4%	-30.8%	-24.7%

Table A-9-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.9%	-1.6%	-1.0%	-0.9%	-0.9%	-0.8%	-0.1%	-0.1%	-0.1%	0.2%	-0.1%	-0.5%
Wet	-0.5%	-1.8%	-3.9%	-2.7%	-2.3%	-2.1%	-1.9%	-0.3%	0.0%	0.0%	0.2%	0.0%	-1.3%
Above Normal	0.2%	-0.8%	-1.6%	-1.0%	-1.0%	-1.0%	-0.9%	0.0%	0.0%	0.0%	0.8%	0.1%	-0.4%
Below Normal	-0.2%	-0.1%	-0.1%	0.3%	0.4%	0.2%	0.1%	0.1%	0.0%	0.1%	0.5%	0.1%	0.1%
Dry	0.0%	-0.9%	-1.0%	-0.6%	-0.5%	-0.6%	-0.5%	-0.1%	-0.2%	-0.4%	-0.4%	-0.4%	-0.5%
Critical Dry	0.1%	-0.5%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.2%	-0.1%

Table A-9-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	14.9%	20.4%	7.9%	4.0%	2.6%	2.3%	0.4%	0.0%	0.0%	0.0%	0.5%	4.4%
Wet	0.2%	11.0%	11.1%	6.4%	5.1%	2.9%	2.1%	0.9%	0.0%	0.0%	0.0%	0.0%	3.3%
Above Normal	0.0%	15.1%	20.8%	11.5%	6.8%	5.6%	5.5%	1.1%	0.0%	0.0%	0.0%	0.8%	5.6%
Below Normal	0.1%	17.8%	25.9%	11.3%	4.7%	3.1%	2.9%	0.0%	0.0%	0.0%	0.0%	0.2%	5.5%
Dry	0.1%	15.0%	22.1%	3.8%	1.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.8%	3.6%
Critical Dry	0.0%	17.1%	25.6%	6.1%	0.5%	0.1%	0.3%	0.2%	0.1%	0.1%	0.1%	0.6%	4.2%

Table A-9-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-0.5%	-0.1%	0.0%
Wet	0.0%	2.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-0.8%	-0.3%	0.0%
Above Normal	0.3%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.7%	-1.3%	-0.5%	-0.1%
Below Normal	0.5%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.2%	-0.2%	0.1%	0.2%
Dry	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	0.0%	0.1%	0.0%
Critical Dry	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.3%	0.3%	0.2%

Table A-9-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	1.9%	1.8%	1.0%	0.7%	0.3%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%
Wet	0.0%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Above Normal	0.0%	1.7%	1.6%	0.7%	0.5%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.5%
Below Normal	0.0%	2.4%	2.3%	1.4%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
Dry	0.0%	1.7%	1.6%	1.4%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Critical Dry	0.0%	2.5%	2.4%	2.2%	1.7%	0.8%	0.5%	0.4%	0.4%	0.4%	0.3%	0.0%	1.0%

Table A-9-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Wet	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%
Critical Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%

Table A-9-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.4%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Wet	-0.2%	-0.3%	-0.5%	-0.4%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%
Above Normal	-0.2%	-0.3%	-0.5%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Below Normal	-0.4%	-0.6%	-0.9%	-0.9%	-0.9%	-0.7%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.6%
Dry	-0.2%	-0.3%	-0.5%	-0.5%	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.4%	-0.4%
Critical Dry	-0.3%	-0.4%	-0.6%	-0.7%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%

Table A-9-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Wet	-0.3%	-0.3%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%
Above Normal	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.1%
Below Normal	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Dry	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Critical Dry	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.3%

Table A-9-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-6.6%	-9.4%	-4.0%	-1.5%	-1.6%	-2.0%	-1.6%	-2.2%	-3.7%	-7.4%	-8.3%	-14.8%	-5.3%
Wet	-7.0%	-5.8%	-0.9%	-1.8%	-0.1%	-0.4%	-0.5%	-1.6%	-2.6%	-5.1%	-5.3%	-13.1%	-3.7%
Above Normal	-6.6%	-11.4%	-5.5%	-1.5%	-1.4%	-2.0%	-0.9%	-1.6%	-3.8%	-7.8%	-6.0%	-14.3%	-5.2%
Below Normal	-6.1%	-13.2%	-8.7%	-0.9%	-3.6%	-3.2%	-1.8%	-2.8%	-4.9%	-9.5%	-9.7%	-12.9%	-6.5%
Dry	-6.3%	-9.9%	-6.8%	-0.5%	-4.0%	-4.6%	-4.3%	-4.5%	-6.4%	-10.7%	-12.5%	-17.9%	-7.4%
Critical Dry	-7.4%	-13.3%	-9.3%	-0.7%	-1.3%	-4.9%	-3.7%	-4.6%	-0.9%	-6.9%	-8.6%	-21.7%	-6.9%

Table A-9-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-7.0%	-0.2%	-1.6%	-1.6%	-7.4%	0.0%	-2.9%	-0.5%	0.0%	0.0%	0.0%	-1.8%
Wet	0.0%	-12.7%	-0.3%	-2.6%	0.5%	-7.9%	0.0%	-4.3%	-0.7%	-0.1%	0.0%	0.0%	-2.3%
Above Normal	0.0%	0.0%	0.0%	0.6%	-9.6%	-12.8%	0.0%	-2.7%	-0.2%	0.0%	0.0%	0.0%	-2.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.1%	-5.4%	0.0%	-0.2%	-0.5%	0.0%	0.0%	0.0%	-0.5%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.6%	-7.2%	0.9%	2.1%	0.8%	-0.9%	-1.1%	-0.4%	-1.3%	-3.4%	-7.3%	-3.1%	-1.7%
Wet	0.8%	-2.1%	1.8%	-0.5%	-0.2%	-0.4%	-0.6%	-0.3%	-0.8%	-1.9%	-6.9%	-2.2%	-1.1%
Above Normal	1.2%	-9.3%	0.3%	1.0%	0.5%	-1.0%	-1.1%	-0.2%	-1.1%	-3.4%	-8.9%	-2.7%	-2.1%
Below Normal	-0.4%	-14.6%	-0.7%	6.7%	2.4%	-0.8%	-1.2%	-0.3%	-1.8%	-4.9%	-2.9%	-3.9%	-1.9%
Dry	0.9%	-9.9%	-1.1%	13.6%	1.3%	-1.5%	-1.5%	-0.8%	-2.4%	-7.6%	-13.0%	-4.3%	-2.2%
Critical Dry	-0.3%	-15.7%	-1.8%	19.1%	4.8%	-3.7%	-2.5%	-1.6%	-4.4%	-13.1%	1.3%	-3.3%	-1.8%

Table A-9-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-56.1%	4.5%	-1.3%	-10.2%	-0.5%	6.6%	0.0%	0.0%	0.0%	0.0%	-4.7%
Wet	0.0%	0.0%	-63.0%	0.0%	0.0%	2.5%	-0.8%	13.7%	0.0%	0.0%	0.0%	0.0%	-4.0%
Above Normal	0.0%	0.0%	0.0%	13.7%	-3.8%	-35.5%	0.0%	-0.4%	0.0%	0.0%	0.0%	0.0%	-2.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-9-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.0%	-5.7%	-1.5%	-0.6%	-0.9%	-0.9%	-0.5%	-0.8%	-2.4%	-3.6%	-7.8%	-1.6%	-2.3%
Wet	-1.7%	-2.5%	-1.8%	-0.9%	-0.1%	-0.3%	-0.1%	-0.3%	-2.4%	-0.5%	-6.6%	-1.3%	-1.5%
Above Normal	-0.7%	-5.9%	-1.4%	-0.1%	-0.7%	-0.6%	-0.4%	-0.8%	-2.5%	-1.5%	-6.5%	-2.4%	-2.0%
Below Normal	-0.6%	-11.2%	0.1%	-1.4%	-1.6%	-1.5%	-0.8%	-1.2%	-3.3%	-4.3%	-8.1%	-1.3%	-2.9%
Dry	-0.3%	-6.5%	-0.3%	-0.8%	-3.3%	-1.3%	-1.2%	-2.0%	-1.8%	-9.4%	-8.0%	-1.7%	-3.1%
Critical Dry	-2.0%	-9.0%	0.2%	-0.3%	0.0%	-6.6%	-1.1%	-0.3%	0.1%	-2.9%	-15.4%	-0.6%	-3.2%

Table A-9-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	10.5%	-13.1%	-10.1%	2.0%	-1.5%	-2.1%	-1.1%	-1.2%	6.8%	12.6%	6.2%	-11.2%	-0.2%
Wet	7.4%	-7.5%	-4.1%	-2.4%	0.0%	0.1%	-0.6%	-0.4%	1.8%	16.8%	10.5%	-11.6%	0.8%
Above Normal	11.1%	-14.7%	-8.5%	-1.5%	-1.5%	-0.7%	-0.6%	-1.3%	3.8%	17.5%	9.1%	-11.8%	0.1%
Below Normal	11.5%	-16.3%	-14.8%	12.1%	-4.8%	-3.5%	-1.7%	-3.5%	4.8%	9.0%	3.6%	-7.7%	-0.9%
Dry	13.5%	-17.7%	-14.8%	25.0%	-2.0%	-7.6%	-3.4%	-1.6%	20.1%	7.4%	1.6%	-13.4%	0.6%
Critical Dry	7.8%	-12.2%	-31.8%	34.5%	10.4%	-11.8%	2.5%	22.8%	27.3%	13.7%	6.7%	-14.9%	4.6%

Table A-9-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	N/A	-18.5%	-33.3%	-13.3%	-30.3%	-22.1%	-14.3%	0.0%	76.9%	571.8%	179.5%	105.7%	N/A
Wet	N/A	-17.0%	-28.1%	-10.6%	-10.7%	-17.7%	-11.4%	-2.0%	29.2%	901.8%	277.6%	98.5%	N/A
Above Normal	N/A	-19.8%	-29.0%	-13.5%	-22.2%	-16.3%	-12.6%	-4.3%	71.9%	1067.3%	589.7%	283.6%	N/A
Below Normal	N/A	-22.3%	-48.5%	-18.2%	-39.0%	-28.3%	-17.1%	-6.1%	105.3%	813.1%	322.1%	266.3%	N/A
Dry	N/A	-17.5%	-31.1%	-13.4%	-52.2%	-22.6%	-15.4%	6.3%	199.7%	179.8%	70.2%	26.3%	N/A
Critical Dry	N/A	-11.9%	-28.9%	-6.6%	-53.3%	-33.1%	-16.4%	31.5%	40.7%	314.6%	97.1%	76.5%	N/A

Table A-9-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.0%	-13.5%	-0.6%	-1.6%	-1.9%	-1.7%	-0.8%	-1.4%	-4.4%	-8.2%	-15.5%	-3.3%	-4.6%
Wet	-3.4%	-5.7%	0.0%	-2.4%	-0.2%	-0.6%	-0.1%	-0.7%	-4.2%	-1.1%	-13.8%	-2.8%	-2.9%
Above Normal	-1.5%	-13.7%	-4.5%	-0.1%	-0.8%	-0.7%	-0.7%	-1.2%	-4.8%	-3.5%	-13.5%	-5.1%	-4.2%
Below Normal	-1.3%	-23.2%	0.9%	-3.6%	-3.4%	-2.8%	-1.2%	-2.2%	-6.4%	-9.6%	-15.9%	-2.2%	-5.9%
Dry	-0.7%	-15.9%	-0.3%	-2.4%	-9.4%	-2.3%	-2.1%	-3.2%	-3.1%	-20.1%	-15.1%	-3.7%	-6.5%
Critical Dry	-3.8%	-19.7%	0.8%	-0.7%	0.3%	-14.2%	-2.2%	-0.6%	0.2%	-5.2%	-28.9%	-1.4%	-6.3%

Table A-9-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.2%	-2.7%	-2.5%	-1.9%	-1.3%	-1.2%	-0.8%	-0.7%	-0.6%	-0.6%	-0.8%	-1.7%	-1.4%
Wet	-1.6%	-1.7%	-0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.5%	-0.4%
Above Normal	-1.6%	-2.5%	-2.5%	-1.6%	-0.2%	-0.2%	0.0%	0.0%	0.0%	-0.4%	-0.7%	-1.1%	-0.9%
Below Normal	-2.6%	-2.9%	-3.2%	-2.9%	-1.5%	-1.1%	-0.6%	-0.3%	-0.3%	0.0%	-0.1%	-1.5%	-1.4%
Dry	-3.7%	-4.2%	-5.2%	-4.8%	-4.1%	-4.3%	-3.0%	-2.4%	-1.9%	-2.1%	-2.5%	-4.6%	-3.6%
Critical Dry	-1.8%	-3.2%	-3.7%	-3.3%	-2.7%	-3.0%	-2.9%	-2.9%	-2.4%	-2.5%	-2.8%	-4.1%	-3.0%

Table A-9-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%
Wet	-0.1%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%
Above Normal	-0.4%	-0.4%	-0.2%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Below Normal	-0.3%	-0.3%	-0.3%	-0.3%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.4%	-0.5%	-0.5%	-0.3%
Dry	-0.3%	-0.2%	-0.1%	-0.1%	-0.4%	-0.1%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.6%	-0.3%
Critical Dry	-1.2%	-1.3%	-1.2%	-1.4%	-1.0%	-1.0%	-1.0%	-1.1%	-1.5%	-1.9%	-1.7%	-1.8%	-1.3%

Table A-9-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.2%
Wet	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Above Normal	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Below Normal	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	-0.4%	-0.1%
Dry	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.3%	-0.3%	-0.4%	-0.4%	-0.2%
Critical Dry	-0.5%	-0.6%	-0.7%	-0.5%	-0.6%	-0.5%	-0.6%	-0.5%	-0.5%	-0.7%	-0.7%	-0.8%	-0.6%

Table A-9-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.4%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.4%	-0.2%
Above Normal	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.4%	-0.1%
Below Normal	-0.4%	-0.4%	-0.5%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.2%	-0.3%
Dry	-0.7%	-0.7%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.4%	-0.4%	-0.4%	-0.5%
Critical Dry	-0.3%	-0.3%	-0.3%	-0.5%	-0.4%	-0.3%	-0.4%	-0.4%	-0.6%	-0.7%	-0.9%	-0.8%	-0.5%

Table A-9-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-2.4%	-1.9%	-1.6%	-1.7%	-0.9%	-1.9%	-1.8%	-2.6%	-2.3%	-2.6%	-3.3%	-1.9%
Wet	-0.3%	-2.3%	-2.3%	-1.3%	-0.5%	-0.5%	-0.5%	-1.1%	-1.7%	-1.7%	-2.1%	-5.2%	-1.6%
Above Normal	0.0%	-1.2%	-2.2%	-2.1%	-3.5%	-1.6%	-1.6%	-0.9%	-2.0%	-0.9%	-1.5%	-4.8%	-1.9%
Below Normal	-0.4%	-3.9%	-1.8%	-1.2%	-4.7%	-3.4%	-3.9%	-3.1%	-2.8%	-2.7%	-2.8%	-1.5%	-2.7%
Dry	0.0%	-3.6%	-0.3%	-3.0%	-1.8%	1.1%	-8.1%	-5.5%	-5.6%	-3.0%	-4.0%	-0.3%	-2.8%
Critical Dry	0.9%	0.6%	-0.3%	-2.4%	-3.1%	0.4%	-1.7%	-3.6%	-6.1%	-5.1%	-4.2%	-2.5%	-2.2%

Table A-9-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.6%	-0.1%	0.1%	0.0%	0.1%	0.0%	0.2%	0.2%	0.8%	0.6%	0.2%	0.1%	0.1%
Wet	-0.6%	-0.2%	0.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.1%	0.0%
Above Normal	-0.3%	0.0%	-0.4%	0.0%	0.0%	-0.1%	0.1%	0.0%	0.3%	0.4%	-0.1%	0.4%	0.0%
Below Normal	0.0%	0.1%	-0.1%	0.0%	-0.3%	0.0%	0.3%	0.4%	1.0%	1.1%	0.7%	0.7%	0.3%
Dry	-1.7%	-0.2%	-0.2%	-0.1%	1.6%	0.0%	1.0%	0.9%	1.9%	0.7%	1.0%	-1.2%	0.3%
Critical Dry	-0.2%	0.3%	-0.2%	0.6%	-0.3%	0.0%	0.2%	0.1%	1.2%	1.1%	-1.5%	-0.3%	0.1%

Table A-9-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.0%	-0.1%	-0.1%	-0.3%	-0.1%	0.0%	0.1%	0.3%	0.0%	0.2%	0.6%	0.0%
Wet	-0.3%	-0.1%	-0.3%	-0.1%	-0.2%	0.0%	-0.1%	0.0%	0.1%	0.4%	0.5%	1.9%	0.1%
Above Normal	0.1%	0.1%	0.0%	0.0%	-0.4%	-0.2%	0.0%	0.0%	0.1%	0.3%	0.4%	0.8%	0.1%
Below Normal	0.2%	0.0%	1.0%	-0.4%	-0.6%	-0.2%	0.0%	0.4%	0.7%	0.1%	0.1%	-2.0%	-0.1%
Dry	-0.2%	0.4%	-0.4%	0.0%	0.0%	0.1%	0.7%	0.7%	0.3%	-1.5%	-0.5%	-0.1%	0.0%
Critical Dry	-0.2%	0.2%	-0.1%	1.0%	0.1%	0.1%	0.4%	0.2%	0.8%	-0.1%	0.3%	0.0%	0.2%

Table A-9-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.6%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	0.0%	-0.2%	-0.2%	-0.2%
Wet	-0.3%	-0.4%	-0.3%	-0.3%	-0.1%	-0.1%	-0.1%	-0.2%	-0.4%	-0.2%	-0.2%	-0.3%	-0.2%
Above Normal	0.3%	-0.5%	1.7%	-0.2%	-1.0%	-0.4%	-0.2%	-0.2%	-0.6%	0.4%	0.0%	0.0%	-0.1%
Below Normal	0.0%	-1.0%	-0.2%	-0.3%	-0.7%	-0.3%	-0.5%	-0.5%	-0.3%	0.1%	-0.2%	-0.5%	-0.4%
Dry	0.2%	-0.6%	-0.4%	-0.4%	1.6%	-0.8%	-0.5%	-0.4%	-0.3%	0.1%	0.0%	-0.1%	-0.1%
Critical Dry	-0.1%	-0.2%	-0.4%	0.4%	-0.7%	0.2%	0.0%	-0.6%	0.0%	-0.1%	-0.8%	0.0%	-0.2%

Table A-9-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	0.0%	0.4%	0.0%	-1.1%	0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	0.6%	-0.1%
Wet	-0.6%	-0.2%	0.1%	0.2%	0.1%	0.6%	-0.1%	0.0%	0.0%	0.0%	0.0%	1.2%	0.1%
Above Normal	-0.2%	0.3%	-0.5%	0.0%	0.4%	0.2%	0.0%	0.0%	-0.2%	-0.2%	-0.2%	-0.3%	-0.1%
Below Normal	-0.2%	0.4%	0.5%	0.0%	-1.8%	-0.1%	-0.2%	-0.1%	0.0%	0.1%	0.0%	0.4%	-0.1%
Dry	-1.1%	-1.3%	1.5%	-0.4%	-3.2%	0.0%	0.0%	-0.3%	-0.2%	-0.1%	0.0%	-0.1%	-0.4%
Critical Dry	0.5%	1.9%	1.2%	0.2%	-1.0%	0.1%	-0.2%	-0.2%	-0.8%	-0.4%	-4.8%	1.3%	-0.2%

Table A-9-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-22.0%	2.4%	-3.6%	0.0%	0.0%	N/A	N/A	0.0%	0.0%	-0.2%	-2.1%	2.1%	N/A
Wet	N/A	2.8%	-0.6%	0.0%	0.0%	N/A	N/A	0.0%	0.0%	0.0%	N/A	N/A	N/A
Above Normal	-1.6%	2.3%	-2.6%	N/A	-100.0%	N/A	N/A	N/A	N/A	-17.7%	N/A	N/A	N/A
Below Normal	N/A	3.2%	-10.3%	N/A	N/A	N/A	N/A	N/A	N/A	-1.0%	-2.2%	2.1%	N/A
Dry	-34.8%	1.4%	-3.3%	N/A	N/A	N/A	N/A	N/A	N/A	-0.7%	-2.0%	N/A	N/A
Critical Dry	0.0%	-1.3%	0.1%	N/A	N/A	N/A	N/A	N/A	N/A	5.2%	N/A	N/A	N/A

Table A-9-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-3.8%	0.1%	2.2%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Wet	-5.9%	0.0%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Above Normal	-0.4%	0.0%	1.5%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Below Normal	0.0%	0.3%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Dry	-8.5%	0.0%	-0.5%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Critical Dry	0.0%	0.0%	11.4%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A

Table A-9-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.1%	0.0%	0.0%	-0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%
Dry	0.0%	0.0%	0.0%	0.1%	0.1%	-0.6%	-0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.1%	0.0%	-0.2%	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%

Table A-9-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.5%	-2.0%	-1.5%	-1.7%	-0.9%	-1.9%	-1.8%	-2.6%	-2.2%	-2.6%	-3.3%	-1.9%
Wet	-0.2%	-3.0%	-1.0%	-1.3%	-0.5%	-0.5%	-0.5%	-1.1%	-1.7%	-1.7%	-2.0%	-5.1%	-1.5%
Above Normal	-0.7%	-2.0%	-0.6%	-2.0%	-3.5%	-1.6%	-1.6%	-0.8%	-2.0%	-0.9%	-1.5%	-4.8%	-1.8%
Below Normal	0.8%	-1.6%	-1.9%	-1.1%	-4.8%	-3.4%	-3.9%	-3.1%	-2.8%	-2.6%	-2.8%	-1.5%	-2.4%
Dry	0.3%	-1.7%	-5.8%	-3.2%	-1.8%	1.3%	-8.1%	-5.4%	-5.6%	-3.0%	-3.9%	-0.5%	-3.1%
Critical Dry	-0.3%	-5.1%	-0.4%	-2.3%	-3.1%	0.3%	-1.8%	-3.3%	-6.0%	-4.9%	-4.2%	-2.7%	-2.8%

Table A-9-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.5%	-2.0%	-1.5%	-1.7%	-0.9%	-1.9%	-1.8%	-2.6%	-2.3%	-2.6%	-3.3%	-1.9%
Wet	-0.2%	-3.0%	-1.0%	-1.3%	-0.5%	-0.5%	-0.5%	-1.1%	-1.7%	-1.7%	-2.1%	-5.2%	-1.5%
Above Normal	-0.7%	-1.9%	-0.6%	-2.0%	-3.5%	-1.6%	-1.6%	-0.9%	-2.0%	-0.9%	-1.5%	-4.8%	-1.8%
Below Normal	0.7%	-1.6%	-1.9%	-1.1%	-4.7%	-3.4%	-3.9%	-3.1%	-2.8%	-2.7%	-2.9%	-1.5%	-2.4%
Dry	0.3%	-1.7%	-5.7%	-3.2%	-1.8%	1.3%	-8.1%	-5.5%	-5.7%	-3.0%	-4.0%	-0.5%	-3.1%
Critical Dry	-0.3%	-5.2%	-0.4%	-2.3%	-3.1%	0.3%	-1.8%	-3.3%	-6.1%	-5.1%	-4.3%	-2.7%	-2.9%

Table A-9-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.5%	-1.9%	-1.5%	-1.7%	-0.9%	-1.9%	-1.8%	-2.6%	-2.3%	-2.6%	-3.3%	-1.9%
Wet	-0.2%	-2.9%	-1.0%	-1.3%	-0.4%	-0.5%	-0.5%	-1.1%	-1.7%	-1.7%	-2.1%	-5.2%	-1.5%
Above Normal	-0.7%	-1.9%	-0.5%	-1.9%	-3.4%	-1.6%	-1.6%	-0.9%	-2.0%	-0.9%	-1.5%	-4.8%	-1.8%
Below Normal	0.8%	-1.6%	-1.9%	-1.0%	-4.7%	-3.4%	-3.9%	-3.1%	-2.8%	-2.7%	-2.9%	-1.5%	-2.4%
Dry	0.3%	-1.6%	-5.6%	-3.1%	-1.7%	1.3%	-8.0%	-5.5%	-5.7%	-3.0%	-3.9%	-0.5%	-3.1%
Critical Dry	-0.4%	-5.1%	-0.3%	-2.2%	-3.0%	0.3%	-1.8%	-3.3%	-6.1%	-5.0%	-4.2%	-2.6%	-2.8%

Table A-9-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.6%	-2.0%	-1.5%	-1.7%	-0.9%	-2.0%	-1.9%	-2.7%	-2.4%	-2.8%	-3.5%	-2.0%
Wet	-0.2%	-3.0%	-1.0%	-1.3%	-0.4%	-0.5%	-0.5%	-1.1%	-1.7%	-1.8%	-2.2%	-5.3%	-1.6%
Above Normal	-0.7%	-2.0%	-0.6%	-2.0%	-3.5%	-1.6%	-1.7%	-0.9%	-2.0%	-1.0%	-1.6%	-5.0%	-1.9%
Below Normal	0.8%	-1.7%	-1.9%	-1.1%	-4.8%	-3.5%	-4.0%	-3.3%	-2.9%	-2.8%	-3.1%	-1.6%	-2.5%
Dry	0.3%	-1.8%	-5.8%	-3.3%	-1.8%	1.4%	-8.6%	-5.9%	-6.0%	-3.2%	-4.2%	-0.5%	-3.3%
Critical Dry	-0.4%	-5.6%	-0.3%	-2.4%	-3.1%	0.3%	-1.9%	-3.5%	-6.8%	-5.5%	-4.8%	-3.0%	-3.1%

Table A-9-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.4%	0.3%	0.5%	0.5%	0.5%	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.4%	0.4%
Wet	0.3%	-0.2%	0.1%	0.3%	0.1%	0.1%	0.0%	0.1%	0.1%	0.2%	0.3%	0.2%	0.1%
Above Normal	-0.5%	-0.5%	0.5%	0.4%	0.3%	0.2%	0.2%	-0.1%	0.1%	0.3%	0.2%	0.0%	0.1%
Below Normal	-0.2%	0.1%	-0.3%	0.1%	0.0%	0.1%	0.2%	0.3%	0.4%	0.2%	0.3%	0.4%	0.1%
Dry	0.2%	0.2%	-0.2%	0.2%	0.4%	-0.1%	0.0%	0.8%	0.1%	0.2%	0.2%	0.1%	0.2%
Critical Dry	2.8%	2.6%	3.7%	2.2%	2.5%	2.1%	1.2%	1.5%	1.4%	0.8%	0.5%	1.5%	1.9%

Table A-9-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.2%	0.3%	0.4%	0.4%	0.3%	0.2%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%
Wet	0.2%	-0.2%	0.0%	0.3%	0.1%	0.1%	0.0%	0.1%	0.1%	0.3%	0.3%	0.2%	0.1%
Above Normal	-0.4%	-0.5%	0.4%	0.3%	0.3%	0.2%	0.3%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%
Below Normal	-0.2%	0.1%	-0.3%	0.1%	0.0%	0.1%	0.2%	0.3%	0.5%	0.2%	0.3%	0.4%	0.1%
Dry	0.1%	0.2%	-0.3%	0.1%	0.4%	0.0%	-0.1%	0.6%	0.4%	0.2%	0.2%	0.1%	0.2%
Critical Dry	1.6%	2.0%	2.8%	1.7%	1.9%	1.5%	0.8%	1.1%	0.9%	0.7%	0.5%	0.8%	1.4%

Table A-9-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.1%	0.2%	0.4%	0.4%	0.2%	0.2%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%
Wet	0.2%	-0.1%	0.0%	0.3%	0.1%	0.1%	0.0%	0.1%	0.2%	0.3%	0.3%	0.3%	0.1%
Above Normal	-0.3%	-0.4%	0.4%	0.3%	0.4%	0.2%	0.3%	0.0%	0.1%	0.3%	0.2%	0.2%	0.1%
Below Normal	-0.1%	0.0%	-0.2%	0.0%	0.1%	0.2%	0.3%	0.4%	0.5%	0.2%	0.3%	0.3%	0.2%
Dry	0.1%	0.1%	-0.3%	0.1%	0.3%	0.1%	0.0%	0.6%	0.6%	0.3%	0.3%	0.1%	0.2%
Critical Dry	1.0%	1.4%	2.0%	1.3%	1.4%	1.0%	0.5%	0.7%	0.8%	0.7%	0.6%	0.5%	1.0%

Modeling Technical Appendix – Attachment A-10. Percentage Change of With Project to Existing Conditions Baseline

This attachment summarizes the percentage change of with project to baseline (1.3-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table A-10-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table A-10-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table A-10-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table A-10-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table A-10-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table A-10-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table A-10-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table A-10-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table A-10-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table A-10-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table A-10-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table A-10-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table A-10-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table A-10-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table A-10-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table A-10-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table A-10-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table A-10-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table A-10-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table A-10-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table A-10-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table A-10-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table A-10-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table A-10-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table A-10-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table A-10-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table A-10-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table A-10-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -

Table A-10-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -
Table A-10-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table A-10-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table A-10-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table A-10-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table A-10-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table A-10-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table A-10-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table A-10-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table A-10-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table A-10-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table A-10-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table A-10-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table A-10-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table A-10-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table A-10-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-4.6%	-3.1%	-1.4%	-3.0%	-3.0%	-2.3%	-1.6%	-0.8%	-1.4%	-2.6%	-4.2%	-3.4%	-2.6%
Wet	-4.5%	-2.7%	-1.4%	-1.8%	-2.2%	-2.1%	-1.7%	-0.2%	0.0%	-0.8%	-2.8%	-2.1%	-1.9%
Above Normal	-4.4%	-2.9%	-0.9%	-2.5%	-2.2%	-1.4%	-1.1%	-0.1%	0.0%	-1.1%	-3.2%	-2.4%	-1.9%
Below Normal	-5.6%	-4.2%	-2.3%	-4.0%	-3.3%	-1.9%	-1.2%	-0.3%	-0.6%	-1.6%	-2.7%	-2.2%	-2.5%
Dry	-3.5%	-2.2%	-0.6%	-3.4%	-3.5%	-2.6%	-1.3%	-1.4%	-2.9%	-4.4%	-5.5%	-4.3%	-3.0%
Critical Dry	-5.3%	-4.5%	-2.6%	-5.1%	-5.3%	-4.9%	-4.3%	-4.9%	-8.1%	-11.4%	-13.7%	-12.8%	-6.9%

Table A-10-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	73.5%	64.8%	56.5%	50.6%	45.8%	38.7%	32.1%	27.1%	34.3%	47.4%	60.7%	71.4%	50.3%
Wet	78.2%	67.7%	57.0%	46.4%	40.9%	31.8%	22.5%	14.2%	25.0%	43.3%	64.2%	83.2%	47.9%
Above Normal	69.6%	66.6%	59.6%	50.7%	43.4%	35.4%	28.1%	22.3%	34.0%	51.3%	67.6%	82.6%	50.9%
Below Normal	65.4%	52.9%	45.0%	42.8%	39.4%	33.2%	27.3%	23.2%	26.2%	36.1%	47.1%	56.3%	41.3%
Dry	79.7%	71.5%	64.1%	62.1%	59.2%	52.9%	47.7%	44.8%	48.8%	58.2%	66.0%	67.2%	60.2%
Critical Dry	73.0%	64.0%	56.3%	54.8%	53.3%	50.5%	48.6%	47.3%	54.7%	57.0%	55.9%	54.0%	55.8%

Table A-10-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	9.9%	9.5%	8.5%	7.6%	6.6%	5.5%	4.8%	4.3%	5.6%	7.2%	8.4%	9.7%	7.3%
Wet	6.3%	5.5%	3.9%	2.6%	1.3%	0.8%	0.0%	0.0%	0.2%	1.1%	2.5%	3.1%	2.3%
Above Normal	9.8%	9.5%	8.4%	6.4%	4.7%	2.2%	1.2%	0.3%	0.1%	1.3%	1.7%	2.5%	4.0%
Below Normal	11.8%	11.5%	11.1%	10.5%	9.8%	8.5%	7.5%	4.8%	5.6%	7.5%	8.6%	10.0%	8.9%
Dry	10.0%	9.7%	9.4%	9.5%	8.9%	8.0%	7.4%	8.0%	11.3%	13.5%	15.1%	17.2%	10.7%
Critical Dry	14.8%	14.9%	14.5%	14.7%	14.2%	13.4%	13.1%	16.2%	23.5%	27.7%	31.1%	34.4%	19.4%

Table A-10-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.5%	-0.5%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.3%	-0.3%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.2%	0.0%	0.0%	-0.2%	-0.5%	-0.4%
Above Normal	-0.3%	-0.4%	-0.6%	-0.3%	-0.3%	-0.3%	-0.3%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%
Below Normal	-0.6%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	0.0%	-0.2%	-0.1%
Dry	-0.7%	-0.5%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.8%	-0.9%	-0.8%	-0.7%	-0.4%
Critical Dry	-0.4%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.7%	-0.8%	-0.6%	-0.2%	-0.3%

Table A-10-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-1.0%	-1.0%	-1.3%	-1.3%	-1.5%	-1.5%	-0.1%	-0.1%	-0.1%	0.0%	-0.4%	-0.7%
Wet	0.0%	-1.7%	-1.7%	-1.6%	-1.9%	-1.8%	-1.7%	-0.2%	0.0%	0.0%	0.0%	-0.5%	-0.9%
Above Normal	-0.2%	-0.2%	-0.2%	-0.8%	-1.3%	-1.3%	-1.5%	-0.1%	0.0%	0.0%	0.0%	-0.6%	-0.5%
Below Normal	0.1%	-0.5%	-0.5%	-1.6%	-2.0%	-2.6%	-2.5%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.8%
Dry	-0.1%	-1.8%	-1.7%	-1.2%	-0.2%	-0.5%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.5%
Critical Dry	0.1%	0.0%	0.0%	-0.9%	-1.1%	-1.4%	-1.4%	-1.0%	-0.8%	-0.6%	-0.5%	-1.1%	-0.7%

Table A-10-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.8%	-0.6%	-0.1%	-0.2%
Wet	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.3%	-0.1%	0.0%
Above Normal	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-3.2%	-1.8%	-0.7%	-0.4%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-2.7%	-0.6%	0.1%	-0.3%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.6%	-0.1%	0.1%	-0.1%
Critical Dry	0.0%	-0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.0%	0.0%	-0.1%

Table A-10-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	-0.2%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Wet	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Critical Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%

Table A-10-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1.9%	1.8%	1.6%	1.4%	1.2%	1.0%	0.8%	0.7%	0.7%	1.0%	1.3%	1.7%	1.3%
Wet	2.0%	1.9%	1.7%	1.3%	1.0%	0.8%	0.5%	0.3%	0.4%	0.7%	1.2%	1.7%	1.1%
Above Normal	1.7%	1.8%	1.6%	1.4%	1.1%	0.9%	0.7%	0.5%	0.6%	0.9%	1.4%	1.9%	1.2%
Below Normal	1.7%	1.6%	1.3%	1.2%	1.1%	0.9%	0.7%	0.6%	0.5%	0.7%	1.0%	1.3%	1.0%
Dry	2.0%	2.0%	1.8%	1.7%	1.6%	1.4%	1.2%	1.1%	1.1%	1.4%	1.8%	1.9%	1.6%
Critical Dry	1.9%	1.7%	1.5%	1.4%	1.4%	1.3%	1.2%	1.1%	1.2%	1.5%	1.4%	1.4%	1.4%

Table A-10-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
Wet	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Dry	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%	0.3%	0.2%
Critical Dry	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.4%	0.5%	0.5%	0.6%	0.3%

Table A-10-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-6.8%	-8.2%	-4.4%	-1.5%	-1.3%	0.0%	-0.1%	-1.6%	-4.1%	-8.6%	-9.9%	-15.6%	-5.2%
Wet	-7.1%	-5.4%	-1.5%	-1.5%	0.3%	0.5%	0.2%	-1.1%	-2.5%	-5.5%	-6.1%	-13.7%	-3.6%
Above Normal	-6.9%	-10.0%	-5.7%	-1.6%	-1.3%	-0.2%	0.4%	-1.2%	-4.2%	-8.6%	-7.1%	-15.4%	-5.1%
Below Normal	-6.2%	-10.9%	-8.9%	-1.5%	-3.9%	-0.8%	-0.3%	-2.3%	-5.6%	-11.0%	-11.7%	-13.4%	-6.4%
Dry	-6.6%	-8.3%	-6.9%	-1.5%	-3.6%	0.0%	-1.6%	-3.0%	-8.3%	-13.6%	-14.9%	-18.8%	-7.3%
Critical Dry	-7.6%	-11.2%	-9.6%	-0.5%	-1.3%	3.9%	0.6%	-0.8%	-1.9%	-8.0%	-11.8%	-23.5%	-6.0%

Table A-10-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-7.4%	-0.2%	-1.6%	-1.8%	-7.5%	0.0%	-2.7%	-0.4%	-0.1%	0.0%	0.0%	-1.8%
Wet	0.0%	-13.5%	-0.3%	-2.7%	0.5%	-7.9%	0.0%	-3.9%	-0.6%	-0.1%	0.0%	0.0%	-2.4%
Above Normal	0.0%	0.0%	0.0%	0.5%	-10.7%	-13.0%	0.0%	-2.6%	-0.2%	0.0%	0.0%	0.0%	-2.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.1%	-5.7%	0.0%	-0.2%	-0.5%	0.0%	0.0%	0.0%	-0.5%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.3%	-0.3%	1.3%	1.6%	4.9%	2.4%	0.8%	-2.4%	-7.9%	-21.3%	-5.4%	-2.2%
Wet	-0.1%	0.4%	-0.1%	0.4%	1.1%	2.3%	1.2%	0.5%	-0.7%	-2.9%	-13.5%	-4.8%	-1.4%
Above Normal	0.0%	-0.2%	-0.2%	0.7%	1.1%	4.5%	2.2%	0.7%	-1.9%	-6.3%	-22.0%	-8.1%	-2.5%
Below Normal	0.1%	0.1%	-1.0%	3.0%	2.4%	5.6%	2.4%	0.6%	-3.2%	-11.2%	-19.3%	-3.8%	-2.0%
Dry	-0.6%	0.5%	-0.5%	5.0%	2.7%	9.1%	4.3%	1.5%	-8.7%	-27.3%	-33.1%	-3.2%	-4.2%
Critical Dry	0.0%	0.9%	-1.6%	10.1%	4.7%	15.6%	8.2%	5.5%	-19.0%	-47.8%	-53.0%	-12.0%	-7.4%

Table A-10-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-56.1%	4.5%	-1.3%	-10.2%	-0.5%	6.6%	0.0%	0.0%	0.0%	0.0%	-4.7%
Wet	0.0%	0.0%	-63.0%	0.0%	0.0%	2.5%	-0.8%	13.7%	0.0%	0.0%	0.0%	0.0%	-4.0%
Above Normal	0.0%	0.0%	0.0%	13.7%	-3.8%	-35.5%	0.0%	-0.4%	0.0%	0.0%	0.0%	0.0%	-2.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table A-10-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.1%	-5.6%	-1.2%	-0.2%	-0.5%	-0.5%	0.0%	-0.4%	-2.3%	-3.6%	-8.0%	-1.5%	-2.1%
Wet	-1.9%	-2.3%	-1.3%	-0.7%	0.0%	0.0%	0.3%	0.0%	-2.5%	-0.4%	-6.9%	-1.0%	-1.4%
Above Normal	-0.8%	-5.9%	-1.8%	0.8%	-0.2%	-0.3%	0.0%	-0.4%	-2.3%	-1.5%	-6.8%	-2.8%	-1.8%
Below Normal	-0.6%	-10.7%	0.0%	-1.3%	-1.0%	-0.8%	-0.2%	-0.7%	-2.8%	-4.3%	-8.0%	-1.1%	-2.6%
Dry	-0.3%	-6.3%	-0.2%	-0.8%	-2.8%	-0.6%	-0.4%	-1.2%	-1.6%	-9.1%	-8.7%	-1.7%	-2.8%
Critical Dry	-2.9%	-8.9%	-0.1%	-0.3%	0.0%	-9.2%	-0.6%	0.0%	0.1%	-2.9%	-14.8%	-0.5%	-3.3%

Table A-10-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	10.6%	-13.1%	-10.0%	2.4%	-1.4%	-1.9%	-0.7%	-1.0%	7.0%	12.6%	6.5%	-11.2%	0.0%
Wet	7.6%	-7.6%	-4.2%	-2.4%	0.0%	0.3%	-0.2%	-0.1%	1.9%	17.0%	10.9%	-11.9%	0.9%
Above Normal	11.1%	-14.2%	-8.6%	-1.5%	-1.4%	-0.4%	-0.3%	-0.8%	4.7%	17.4%	9.3%	-11.8%	0.3%
Below Normal	11.6%	-16.3%	-14.7%	12.5%	-4.8%	-3.4%	-1.4%	-3.3%	5.6%	8.9%	3.7%	-7.6%	-0.8%
Dry	13.3%	-17.7%	-14.6%	27.7%	-1.8%	-7.5%	-3.1%	-1.3%	19.7%	7.1%	1.8%	-13.3%	0.9%
Critical Dry	7.9%	-13.3%	-30.9%	40.7%	11.0%	-11.3%	2.0%	17.6%	25.2%	13.7%	7.8%	-13.9%	4.7%

Table A-10-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	N/A	9.3%	-17.7%	-10.8%	-26.8%	-13.1%	-2.7%	15.1%	94.9%	580.1%	146.6%	114.0%	N/A
Wet	N/A	4.8%	-14.7%	-3.4%	-6.7%	-3.7%	8.0%	14.5%	32.5%	871.7%	247.7%	105.2%	N/A
Above Normal	N/A	6.4%	-12.7%	-8.8%	-18.1%	-3.2%	5.5%	14.4%	90.7%	1069.6%	502.3%	298.6%	N/A
Below Normal	N/A	9.1%	-27.2%	-17.4%	-36.8%	-22.9%	-10.4%	4.2%	138.3%	849.8%	290.6%	289.7%	N/A
Dry	N/A	14.2%	-17.8%	-16.9%	-49.7%	-17.2%	-10.4%	19.7%	229.9%	203.5%	42.5%	35.5%	N/A
Critical Dry	N/A	25.7%	-18.1%	-16.5%	-44.4%	-29.7%	-11.7%	54.2%	80.5%	302.6%	56.3%	51.8%	N/A

Table A-10-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.3%	-13.4%	-0.9%	-1.7%	-1.7%	-1.2%	0.0%	-0.9%	-4.4%	-8.0%	-15.9%	-3.3%	-4.5%
Wet	-3.8%	-5.9%	-0.1%	-2.1%	-0.1%	-0.1%	0.8%	-0.4%	-4.6%	-1.1%	-14.3%	-2.1%	-2.8%
Above Normal	-1.6%	-14.0%	-5.9%	-0.5%	-0.6%	-0.1%	0.1%	-0.9%	-4.7%	-3.6%	-14.1%	-5.9%	-4.3%
Below Normal	-1.2%	-22.1%	0.0%	-3.9%	-3.1%	-1.9%	-0.8%	-1.5%	-5.9%	-9.6%	-15.8%	-2.3%	-5.7%
Dry	-0.7%	-15.8%	-0.5%	-3.1%	-8.7%	-1.8%	-1.1%	-2.1%	-2.8%	-19.5%	-16.5%	-3.7%	-6.4%
Critical Dry	-5.6%	-19.6%	-0.3%	-0.9%	0.2%	-20.2%	-1.5%	0.0%	0.2%	-5.2%	-27.7%	-1.6%	-6.9%

Table A-10-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.1%	-2.5%	-2.3%	-1.8%	-1.3%	-0.9%	-0.6%	-0.4%	-0.4%	-0.5%	-0.7%	-1.6%	-1.3%
Wet	-1.6%	-1.6%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.5%	-0.4%
Above Normal	-1.6%	-2.4%	-2.5%	-1.6%	-0.2%	-0.1%	0.0%	0.0%	0.0%	-0.4%	-0.7%	-1.1%	-0.9%
Below Normal	-2.4%	-2.5%	-3.0%	-2.7%	-1.4%	-0.7%	-0.2%	-0.1%	-0.2%	0.1%	-0.1%	-1.5%	-1.2%
Dry	-3.5%	-4.0%	-5.0%	-4.6%	-4.0%	-3.7%	-2.2%	-1.7%	-1.5%	-1.6%	-2.1%	-4.2%	-3.2%
Critical Dry	-1.6%	-2.9%	-3.5%	-3.2%	-2.7%	-2.4%	-2.0%	-2.0%	-1.6%	-1.7%	-2.0%	-3.6%	-2.4%

Table A-10-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.3%
Wet	-0.1%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Above Normal	-0.4%	-0.4%	-0.2%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Below Normal	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.4%	-0.5%	-0.5%	-0.2%
Dry	-0.3%	-0.3%	0.0%	0.0%	-0.4%	-0.1%	-0.2%	-0.2%	-0.3%	-0.5%	-0.6%	-0.4%	-0.3%
Critical Dry	-1.1%	-1.2%	-1.1%	-1.3%	-1.0%	-0.9%	-1.0%	-1.0%	-1.4%	-1.7%	-1.6%	-1.7%	-1.3%

Table A-10-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%
Wet	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%
Above Normal	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Below Normal	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.1%
Dry	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.4%	-0.4%	-0.2%
Critical Dry	-0.5%	-0.6%	-0.7%	-0.4%	-0.5%	-0.5%	-0.5%	-0.4%	-0.4%	-0.8%	-0.7%	-0.8%	-0.6%

Table A-10-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.4%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.4%	-0.2%
Above Normal	-0.2%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.4%	-0.1%
Below Normal	-0.3%	-0.3%	-0.5%	-0.4%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.2%	-0.3%
Dry	-0.7%	-0.7%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.4%	-0.3%	-0.3%	-0.5%
Critical Dry	-0.4%	-0.3%	-0.4%	-0.5%	-0.4%	-0.4%	-0.4%	-0.3%	-0.6%	-0.7%	-0.9%	-0.9%	-0.5%

Table A-10-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.2%	-1.8%	-1.2%	-1.3%	-0.1%	-0.9%	-1.1%	-2.2%	-2.2%	-2.6%	-3.3%	-1.6%
Wet	-0.3%	-2.0%	-2.2%	-0.9%	0.0%	0.1%	0.2%	-0.7%	-1.6%	-1.6%	-2.0%	-5.3%	-1.4%
Above Normal	0.0%	-1.0%	-2.1%	-1.8%	-3.3%	0.2%	-0.1%	-0.4%	-1.8%	-0.9%	-1.5%	-5.0%	-1.5%
Below Normal	-0.4%	-3.5%	-1.6%	-1.1%	-4.2%	-2.1%	-2.1%	-1.7%	-1.9%	-2.7%	-2.9%	-1.5%	-2.1%
Dry	0.0%	-3.4%	-0.2%	-2.6%	-1.3%	1.1%	-6.1%	-4.3%	-4.1%	-3.1%	-3.9%	-0.2%	-2.3%
Critical Dry	1.2%	1.0%	-0.3%	-2.2%	-2.6%	0.2%	-1.2%	-1.9%	-5.6%	-4.5%	-4.4%	-2.2%	-1.9%

Table A-10-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.2%	0.1%	0.6%	0.6%	0.2%	0.1%	0.1%
Wet	-0.6%	-0.2%	0.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.1%	0.0%
Above Normal	-0.3%	-0.1%	-0.4%	0.0%	0.0%	-0.1%	0.1%	0.0%	0.3%	0.3%	-0.2%	0.4%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	-0.3%	0.0%	0.3%	0.2%	0.5%	1.1%	0.7%	0.8%	0.3%
Dry	-0.5%	-0.2%	-1.0%	-0.1%	1.6%	0.0%	0.9%	0.8%	1.2%	0.6%	0.9%	-1.2%	0.3%
Critical Dry	-0.2%	0.2%	-0.2%	0.3%	-0.3%	0.0%	0.3%	-0.1%	1.0%	0.8%	-1.4%	-0.2%	0.0%

Table A-10-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-0.1%	-0.1%	-0.3%	-0.1%	-0.1%	0.1%	0.3%	0.0%	0.3%	0.7%	0.1%
Wet	-0.2%	-0.1%	-0.3%	-0.1%	-0.2%	0.0%	-0.1%	0.0%	0.1%	0.4%	0.5%	2.0%	0.2%
Above Normal	0.3%	0.1%	0.0%	0.0%	-0.4%	-0.2%	0.0%	0.0%	0.1%	0.3%	0.4%	0.9%	0.1%
Below Normal	0.2%	0.0%	0.9%	-0.4%	-0.5%	-0.2%	0.0%	0.2%	0.7%	0.1%	0.1%	-1.8%	-0.1%
Dry	0.1%	0.4%	-0.4%	0.0%	0.0%	0.0%	0.3%	0.4%	0.3%	-1.5%	-0.4%	-0.1%	-0.1%
Critical Dry	-0.2%	0.1%	0.0%	1.0%	0.1%	0.0%	0.0%	0.0%	0.7%	0.0%	0.5%	0.1%	0.2%

Table A-10-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.5%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.2%	-0.3%	0.0%	-0.2%	-0.2%	-0.2%
Wet	-0.3%	-0.4%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	-0.1%	-0.4%	-0.2%	-0.2%	-0.4%	-0.2%
Above Normal	0.5%	-0.4%	1.7%	-0.2%	-1.0%	-0.3%	0.0%	-0.1%	-0.5%	0.3%	0.0%	0.0%	0.0%
Below Normal	0.0%	-1.0%	-0.2%	-0.3%	-0.6%	-0.2%	-0.2%	-0.3%	-0.2%	0.0%	-0.2%	-0.4%	-0.3%
Dry	0.2%	-0.5%	-0.7%	-0.4%	1.7%	-0.8%	-0.4%	-0.3%	-0.3%	0.1%	0.0%	-0.1%	-0.1%
Critical Dry	-0.1%	-0.2%	-0.4%	0.4%	-0.6%	0.1%	0.0%	-0.4%	0.0%	-0.1%	-0.6%	0.0%	-0.2%

Table A-10-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.0%	0.0%	0.0%	-1.0%	0.2%	-0.1%	-0.1%	-0.1%	0.0%	-0.3%	0.6%	-0.1%
Wet	-0.5%	-0.3%	0.1%	0.1%	0.2%	0.6%	-0.1%	0.0%	0.0%	0.0%	0.0%	1.2%	0.1%
Above Normal	-0.3%	0.2%	-0.5%	0.0%	0.5%	0.2%	0.0%	0.1%	-0.1%	-0.1%	-0.2%	-0.4%	0.0%
Below Normal	-0.2%	0.4%	0.5%	0.0%	-1.8%	-0.1%	-0.2%	-0.1%	0.0%	0.1%	0.0%	0.4%	-0.1%
Dry	-0.3%	-1.4%	-1.1%	-0.4%	-3.2%	0.0%	0.0%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.6%
Critical Dry	0.6%	1.8%	1.1%	0.2%	-1.0%	0.0%	-0.2%	-0.3%	-0.8%	-0.4%	-5.0%	1.6%	-0.2%

Table A-10-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-5.0%	2.0%	-3.0%	0.1%	0.0%	N/A	N/A	0.0%	0.0%	-0.8%	-2.4%	2.4%	N/A
Wet	N/A	2.2%	-0.2%	0.1%	0.0%	N/A	N/A	0.0%	0.0%	-0.1%	N/A	N/A	N/A
Above Normal	-0.5%	2.0%	-2.4%	N/A	-133.3%	N/A	N/A	N/A	N/A	-15.8%	N/A	N/A	N/A
Below Normal	N/A	2.6%	-8.2%	N/A	N/A	N/A	N/A	N/A	N/A	-1.1%	-2.6%	2.4%	N/A
Dry	-7.9%	1.3%	-3.1%	N/A	N/A	N/A	N/A	N/A	N/A	-1.7%	-2.1%	N/A	N/A
Critical Dry	0.0%	-1.5%	0.1%	N/A	N/A	N/A	N/A	N/A	N/A	5.0%	N/A	N/A	N/A

Table A-10-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.9%	0.1%	2.4%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Wet	-5.9%	0.0%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Above Normal	-0.4%	0.0%	1.5%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Below Normal	0.0%	0.3%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Dry	0.6%	0.0%	0.5%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Critical Dry	0.0%	0.0%	10.6%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A

Table A-10-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.1%	0.0%	0.0%	-0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.1%	0.1%	-0.6%	-0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.1%	0.0%	-0.2%	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%

Table A-10-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.2%	-1.8%	-1.2%	-1.3%	-0.1%	-0.9%	-1.1%	-2.2%	-2.2%	-2.6%	-3.3%	-1.6%
Wet	-0.2%	-2.6%	-0.9%	-0.9%	0.0%	0.1%	0.2%	-0.7%	-1.6%	-1.6%	-2.0%	-5.3%	-1.3%
Above Normal	-0.7%	-1.8%	-0.5%	-1.7%	-3.3%	0.2%	-0.1%	-0.4%	-1.8%	-0.9%	-1.5%	-4.9%	-1.5%
Below Normal	0.9%	-1.3%	-1.9%	-1.1%	-4.2%	-2.1%	-2.0%	-1.7%	-1.9%	-2.6%	-2.9%	-1.5%	-1.9%
Dry	0.3%	-1.6%	-5.3%	-2.9%	-1.3%	1.3%	-6.1%	-4.2%	-4.1%	-3.0%	-3.8%	-0.4%	-2.6%
Critical Dry	-0.3%	-4.7%	-0.5%	-2.0%	-2.6%	0.1%	-1.3%	-1.6%	-5.5%	-4.4%	-4.3%	-2.3%	-2.5%

Table A-10-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.2%	-1.8%	-1.2%	-1.3%	-0.1%	-0.9%	-1.1%	-2.2%	-2.2%	-2.6%	-3.4%	-1.6%
Wet	-0.2%	-2.6%	-0.8%	-0.9%	0.0%	0.1%	0.2%	-0.7%	-1.6%	-1.6%	-2.0%	-5.3%	-1.3%
Above Normal	-0.7%	-1.8%	-0.5%	-1.7%	-3.3%	0.2%	-0.1%	-0.4%	-1.8%	-0.9%	-1.5%	-5.0%	-1.5%
Below Normal	0.9%	-1.3%	-1.9%	-1.1%	-4.2%	-2.1%	-2.1%	-1.7%	-1.9%	-2.7%	-2.9%	-1.5%	-1.9%
Dry	0.3%	-1.6%	-5.3%	-2.8%	-1.3%	1.3%	-6.1%	-4.3%	-4.1%	-3.1%	-3.9%	-0.4%	-2.6%
Critical Dry	-0.4%	-4.8%	-0.5%	-2.0%	-2.6%	0.1%	-1.3%	-1.7%	-5.6%	-4.5%	-4.4%	-2.4%	-2.5%

Table A-10-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.2%	-1.8%	-1.2%	-1.3%	-0.1%	-0.9%	-1.1%	-2.2%	-2.2%	-2.6%	-3.4%	-1.6%
Wet	-0.2%	-2.6%	-0.8%	-0.9%	0.0%	0.1%	0.2%	-0.7%	-1.6%	-1.6%	-2.1%	-5.4%	-1.3%
Above Normal	-0.7%	-1.8%	-0.5%	-1.7%	-3.2%	0.2%	-0.1%	-0.4%	-1.8%	-0.9%	-1.5%	-5.0%	-1.4%
Below Normal	0.9%	-1.2%	-1.9%	-1.0%	-4.1%	-2.1%	-2.0%	-1.7%	-1.9%	-2.6%	-2.9%	-1.5%	-1.8%
Dry	0.3%	-1.5%	-5.2%	-2.8%	-1.2%	1.3%	-6.1%	-4.3%	-4.1%	-3.0%	-3.9%	-0.4%	-2.6%
Critical Dry	-0.4%	-4.7%	-0.4%	-2.0%	-2.6%	0.1%	-1.3%	-1.7%	-5.6%	-4.5%	-4.4%	-2.3%	-2.5%

Table A-10-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-2.3%	-1.8%	-1.2%	-1.3%	-0.1%	-0.9%	-1.2%	-2.3%	-2.3%	-2.8%	-3.5%	-1.6%
Wet	-0.2%	-2.7%	-0.8%	-0.9%	0.0%	0.1%	0.2%	-0.7%	-1.6%	-1.7%	-2.2%	-5.4%	-1.3%
Above Normal	-0.7%	-1.9%	-0.5%	-1.7%	-3.3%	0.2%	-0.1%	-0.4%	-1.9%	-0.9%	-1.6%	-5.2%	-1.5%
Below Normal	1.0%	-1.3%	-1.9%	-1.1%	-4.2%	-2.2%	-2.1%	-1.8%	-2.0%	-2.8%	-3.1%	-1.6%	-1.9%
Dry	0.3%	-1.7%	-5.3%	-3.0%	-1.3%	1.4%	-6.5%	-4.6%	-4.4%	-3.3%	-4.2%	-0.4%	-2.7%
Critical Dry	-0.4%	-5.2%	-0.4%	-2.2%	-2.7%	0.1%	-1.4%	-1.7%	-6.3%	-4.9%	-5.0%	-2.6%	-2.7%

Table A-10-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.5%	0.3%	0.4%	0.4%	0.4%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.3%
Wet	0.3%	-0.2%	0.1%	0.3%	0.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.2%	0.1%
Above Normal	-0.5%	-0.9%	-0.1%	0.4%	0.3%	0.1%	0.2%	-0.1%	0.1%	0.3%	0.2%	0.0%	0.0%
Below Normal	-0.2%	0.1%	-0.3%	0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.1%
Dry	0.2%	0.2%	-0.1%	-0.2%	0.0%	-0.6%	-0.5%	0.5%	-0.1%	0.1%	0.2%	0.1%	0.0%
Critical Dry	3.2%	2.8%	3.7%	2.2%	2.4%	2.0%	1.2%	1.3%	1.5%	0.8%	0.4%	1.5%	1.9%

Table A-10-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	0.2%	0.3%	0.3%	0.4%	0.2%	0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Wet	0.2%	-0.2%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%	0.1%	0.3%	0.3%	0.2%	0.1%
Above Normal	-0.4%	-0.8%	-0.1%	0.3%	0.3%	0.1%	0.2%	-0.1%	0.1%	0.2%	0.2%	0.1%	0.0%
Below Normal	-0.1%	0.1%	-0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.3%	0.2%	0.3%	0.3%	0.1%
Dry	0.1%	0.2%	-0.2%	-0.3%	0.0%	-0.4%	-0.5%	0.4%	0.2%	0.1%	0.2%	0.2%	0.0%
Critical Dry	1.8%	2.1%	2.7%	1.7%	1.9%	1.5%	0.8%	1.0%	0.9%	0.7%	0.5%	0.8%	1.4%

Table A-10-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.1%	0.2%	0.3%	0.3%	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.2%
Wet	0.2%	-0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.3%	0.3%	0.1%
Above Normal	-0.3%	-0.7%	-0.1%	0.2%	0.4%	0.1%	0.2%	0.0%	0.1%	0.3%	0.2%	0.2%	0.0%
Below Normal	-0.1%	0.0%	-0.2%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.2%	0.3%	0.3%	0.1%
Dry	0.0%	0.2%	-0.2%	-0.3%	0.0%	-0.2%	-0.3%	0.4%	0.4%	0.2%	0.3%	0.1%	0.0%
Critical Dry	1.2%	1.5%	2.0%	1.3%	1.4%	1.0%	0.5%	0.6%	0.8%	0.7%	0.5%	0.5%	1.0%

Modeling Technical Appendix – Attachment B-1. Model Results for Cumulative Condition Baseline

This attachment summarizes the modeling results for Cumulative Conditions Baseline (2.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table B-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type. ..... - 3 -
Table B-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. ..... - 7 -
Table B-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. ..... - 7 -
Table B-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. ..... - 7 -
Table B-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. ..... - 7 -
Table B-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-1-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-1-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	186,296	179,060	173,567	185,326	184,814	195,248	222,344	255,685	255,807	246,053	226,021	195,677	208,825
Wet	186,912	190,330	195,911	215,019	209,648	210,763	241,345	265,463	265,124	262,065	244,997	211,515	224,924
Above Normal	185,955	178,084	173,987	196,571	193,860	195,732	220,544	263,658	264,810	258,720	237,527	203,874	214,443
Below Normal	181,703	171,732	163,442	171,419	171,005	187,002	213,619	260,155	262,551	251,796	230,495	197,989	205,242
Dry	191,365	178,454	165,842	169,056	172,509	192,228	221,420	249,655	250,647	234,824	213,222	184,950	202,014
Critical Dry	183,469	172,283	161,175	161,987	168,393	182,785	201,016	214,900	205,093	188,429	170,998	157,138	180,639

Table B-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,583	26,327	26,167	23,520	23,400	24,744	29,491	38,573	41,253	39,354	36,480	32,114	31,000
Wet	30,927	25,362	28,433	21,957	21,931	22,729	25,779	37,380	43,087	41,653	38,571	33,387	30,933
Above Normal	30,720	26,334	25,500	22,160	21,981	23,291	28,305	40,907	43,004	41,100	37,798	33,047	31,179
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table B-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,784	38,530	34,456	37,920	40,781	36,536	33,142	58,834	67,203	63,326	55,915	46,148	46,381
Wet	43,574	36,710	33,098	40,428	43,213	37,589	26,303	56,766	68,583	67,112	59,750	48,770	46,825
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,554	68,815	65,321	57,192	46,856	46,011
Below Normal	43,204	38,991	34,447	36,673	39,652	34,708	31,621	57,754	67,257	62,902	55,238	45,746	45,683
Dry	44,077	40,171	36,363	36,732	38,908	37,741	42,029	60,925	65,999	60,405	53,381	44,405	46,761
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table B-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,688	3,884	5,101	8,490	12,334	16,974	20,952	23,788	22,697	17,529	13,002	9,575	13,335
Wet	5,302	4,656	8,593	16,714	22,333	28,014	32,553	36,157	33,490	24,901	18,288	13,052	20,338
Above Normal	6,306	4,165	5,153	9,897	16,321	21,720	26,302	30,339	28,082	20,222	13,997	9,363	15,989
Below Normal	5,971	3,893	4,127	5,416	8,615	14,295	19,284	22,555	22,859	19,436	15,593	12,456	12,875
Dry	6,130	3,511	3,631	4,471	6,127	9,322	12,415	13,956	13,850	11,370	8,470	6,349	8,300
Critical Dry	3,239	2,144	2,273	2,544	3,436	4,707	5,477	5,866	5,212	3,327	2,014	1,871	3,509

Table B-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	11,394	11,717	12,937	14,165	15,576	17,189	18,405	18,749	17,827	15,883	13,825	12,154	14,985
Wet	11,933	12,966	16,279	18,951	20,450	20,986	21,206	21,205	20,762	19,381	17,496	15,844	18,122
Above Normal	12,319	12,591	13,748	16,167	18,439	20,214	20,950	21,138	20,757	18,973	16,803	15,028	17,261
Below Normal	10,367	10,457	10,923	11,491	13,119	15,718	18,196	19,597	18,767	16,583	14,355	12,518	14,341
Dry	11,761	11,875	12,191	12,171	12,928	14,779	16,397	16,519	14,918	12,501	10,353	8,699	12,924
Critical Dry	9,486	9,221	9,499	9,333	9,744	10,536	11,010	10,399	8,576	6,727	5,183	4,108	8,652

Table B-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,528	14,886	13,902	13,395	13,521	13,740	15,667	20,299	21,751	20,994	18,331	16,931	16,662
Wet	16,552	15,631	15,658	16,090	16,397	16,651	18,106	21,292	22,332	22,261	20,272	18,900	18,345
Above Normal	16,742	14,999	13,853	13,654	14,078	14,132	15,475	20,595	22,132	22,104	19,180	17,901	17,070
Below Normal	16,143	14,257	12,933	12,015	12,122	12,347	14,569	20,281	22,107	21,247	18,073	16,693	16,066
Dry	16,822	14,881	13,492	12,377	12,178	12,471	15,097	20,030	21,669	19,804	16,986	15,383	15,932
Critical Dry	16,170	14,315	13,028	12,099	11,992	12,284	14,080	17,684	18,503	17,603	15,552	14,322	14,803

Table B-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,639	3,329	3,326	1,632	1,445	1,858	5,090	8,371	8,260	7,447	6,488	4,197	4,590
Wet	3,626	3,452	3,556	3,200	3,046	2,868	5,252	8,412	8,555	8,204	7,241	4,658	5,172
Above Normal	3,629	3,162	3,267	2,119	1,932	1,936	4,077	8,536	8,447	7,675	6,635	4,247	4,639
Below Normal	3,618	3,381	3,336	1,129	773	1,687	5,210	8,361	8,381	7,392	6,395	4,015	4,473
Dry	3,666	3,289	3,169	604	435	1,293	5,921	8,629	8,202	7,093	6,158	3,972	4,369
Critical Dry	3,680	3,356	3,256	507	634	994	4,338	7,151	6,846	5,988	5,268	3,961	3,832

Table B-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	119	163	85	79	45	230	1,237	3,378	4,620	3,357	1,574	415	1,275
Wet	188	298	343	235	139	65	898	3,163	4,935	4,567	3,001	1,173	1,584
Above Normal	112	109	21	120	61	35	861	3,440	4,995	3,963	2,078	367	1,347
Below Normal	114	163	-	-	-	295	1,462	3,750	4,917	3,183	1,153	118	1,263
Dry	76	90	-	-	-	428	1,622	3,466	4,340	2,548	601	118	1,107
Critical Dry	88	135	-	-	-	395	1,340	2,546	2,853	1,399	405	112	773

Table B-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	59	56	62	62	73	156	1,033	1,470	1,386	1,266	198	500
Wet	191	56	54	70	69	69	73	634	1,487	1,497	1,392	261	488
Above Normal	220	59	57	68	69	81	84	817	1,338	1,265	1,145	164	447
Below Normal	154	62	58	59	63	71	75	1,154	1,589	1,475	1,348	187	525
Dry	175	57	54	53	52	67	296	1,475	1,589	1,453	1,326	232	569
Critical Dry	177	65	61	59	56	91	366	1,044	1,064	927	811	39	397

Table B-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,840	4,837	4,835	4,836	4,838	4,839	4,848	4,861	4,867	4,865	4,859	4,848	4,848
Wet	4,839	4,839	4,841	4,847	4,850	4,848	4,855	4,867	4,870	4,869	4,866	4,856	4,854
Above Normal	4,840	4,837	4,834	4,838	4,843	4,841	4,847	4,862	4,870	4,869	4,864	4,853	4,850
Below Normal	4,839	4,834	4,831	4,830	4,832	4,835	4,844	4,861	4,869	4,867	4,861	4,850	4,846
Dry	4,843	4,838	4,833	4,830	4,832	4,837	4,848	4,860	4,865	4,862	4,854	4,843	4,845
Critical Dry	4,839	4,835	4,830	4,827	4,829	4,834	4,841	4,848	4,849	4,843	4,835	4,828	4,837

Table B-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,391	3,378	3,378	3,388	3,401	3,415	3,427	3,434	3,437	3,429	3,417	3,406	3,408
Wet	3,390	3,379	3,385	3,408	3,430	3,443	3,453	3,460	3,461	3,450	3,434	3,420	3,426
Above Normal	3,393	3,379	3,379	3,392	3,412	3,429	3,441	3,449	3,452	3,440	3,424	3,409	3,417
Below Normal	3,391	3,379	3,377	3,381	3,391	3,408	3,424	3,434	3,438	3,434	3,425	3,416	3,408
Dry	3,395	3,379	3,376	3,378	3,384	3,395	3,407	3,414	3,416	3,412	3,403	3,393	3,396
Critical Dry	3,381	3,370	3,368	3,369	3,373	3,379	3,384	3,387	3,387	3,380	3,370	3,366	3,376

Table B-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,228	4,227	4,230	4,235	4,240	4,245	4,251	4,253	4,252	4,247	4,240	4,233	4,240
Wet	4,230	4,230	4,238	4,250	4,257	4,261	4,262	4,262	4,262	4,259	4,254	4,248	4,251
Above Normal	4,232	4,231	4,234	4,240	4,249	4,255	4,260	4,262	4,262	4,258	4,252	4,245	4,248
Below Normal	4,223	4,221	4,222	4,225	4,230	4,239	4,248	4,256	4,256	4,251	4,243	4,236	4,238
Dry	4,231	4,229	4,230	4,230	4,231	4,236	4,243	4,247	4,244	4,236	4,227	4,219	4,234
Critical Dry	4,218	4,215	4,217	4,218	4,219	4,221	4,224	4,224	4,218	4,208	4,199	4,191	4,214

Table B-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,943	7,942	7,942	7,942	7,944	7,950	7,956	7,956	7,953	7,949	7,947
Wet	7,948	7,946	7,945	7,946	7,947	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,943	7,942	7,943	7,943	7,944	7,950	7,956	7,957	7,955	7,951	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,956	7,953	7,949	7,946
Dry	7,948	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,951	7,946	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table B-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,195	7,195	7,192	7,189	7,189	7,194	7,204	7,207	7,206	7,204	7,201	7,198
Wet	7,196	7,195	7,195	7,195	7,194	7,193	7,196	7,204	7,207	7,207	7,205	7,202	7,199
Above Normal	7,196	7,195	7,195	7,192	7,191	7,190	7,193	7,202	7,207	7,206	7,204	7,201	7,198
Below Normal	7,196	7,195	7,195	7,191	7,187	7,188	7,194	7,204	7,207	7,206	7,203	7,200	7,197
Dry	7,196	7,195	7,195	7,190	7,186	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,197
Critical Dry	7,196	7,195	7,195	7,190	7,186	7,187	7,192	7,202	7,204	7,202	7,201	7,199	7,196

Table B-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,197	8,197	8,196	8,195	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,197	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,209	8,207	8,204	8,201
Above Normal	8,197	8,197	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,197	8,197	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,197	8,196	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,197	8,197	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table B-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table B-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	431	753	1,157	1,137	1,484	1,731	2,306	2,574	2,075	863	658	892	1,338
Wet	451	1,207	2,510	2,707	2,557	2,848	3,363	4,237	3,694	1,498	764	1,067	2,242
Above Normal	469	666	993	1,298	2,093	2,128	2,895	3,569	2,758	861	705	984	1,618
Below Normal	392	551	622	504	1,107	1,684	2,359	2,349	1,877	719	650	899	1,143
Dry	428	668	708	393	668	855	1,369	1,094	724	544	591	777	735
Critical Dry	399	516	586	316	474	358	551	505	429	441	466	498	462

Table B-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	30	71	79	63	63	50	140	140	44	20	18	61
Wet	14	70	244	219	174	151	85	328	313	88	28	28	145
Above Normal	16	19	19	85	62	50	46	147	155	39	20	20	56
Below Normal	14	16	16	18	24	50	44	80	105	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table B-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	167	324	446	504	623	996	1,513	1,055	297	94	85	515
Wet	96	368	900	1,037	912	1,006	1,414	2,270	1,944	659	160	131	908
Above Normal	87	124	241	533	702	692	1,154	2,102	1,376	312	103	99	627
Below Normal	55	92	106	211	349	632	1,007	1,473	968	218	81	75	439
Dry	69	112	127	149	216	355	695	759	350	99	57	56	254
Critical Dry	77	81	98	113	172	152	309	311	118	47	38	38	129

Table B-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	23	6	37	11	19	23	26	50	23	14	12	10	21
Wet	30	6	137	7	51	11	66	124	50	17	13	11	44
Above Normal	21	7	7	29	16	59	11	66	17	17	13	11	23
Below Normal	20	6	6	7	7	22	16	18	17	14	13	11	13
Dry	22	6	7	7	7	11	14	13	13	11	10	10	11
Critical Dry	23	6	6	7	7	10	11	10	10	8	6	6	9

Table B-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	900	2,889	5,470	4,377	5,044	6,314	6,054	5,422	2,710	1,607	1,735	882	3,617
Wet	1,066	4,197	16,470	8,081	8,309	9,902	10,151	9,474	5,234	2,035	1,898	1,022	6,487
Above Normal	997	2,998	3,400	8,196	7,753	9,045	7,081	7,625	3,115	1,697	1,840	952	4,558
Below Normal	776	1,815	2,142	1,709	3,813	5,231	5,539	4,548	2,311	1,566	1,833	874	2,680
Dry	791	2,985	1,433	1,429	2,128	3,468	3,337	2,084	1,051	1,366	1,589	757	1,868
Critical Dry	870	1,713	895	929	1,404	1,115	1,574	1,047	672	1,014	1,194	711	1,095

Table B-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	48	98	114	62	107	156	204	170	175	95	97	142	122
Wet	50	130	184	159	181	253	294	292	292	145	102	166	187
Above Normal	48	93	114	62	160	217	275	255	254	91	103	156	152
Below Normal	46	80	80	25	84	153	216	152	161	84	99	146	111
Dry	49	96	93	21	44	65	107	53	58	73	93	127	73
Critical Dry	42	76	74	19	27	16	27	21	41	65	74	80	47

Table B-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	3	4	8	7	8	10	10	8	5	4	4	6
Wet	-	5	8	11	11	10	10	11	10	8	6	6	8
Above Normal	-	3	4	10	9	9	10	10	9	6	3	4	6
Below Normal	-	3	2	7	6	8	10	11	8	5	3	3	6
Dry	-	3	2	6	3	6	10	11	6	3	4	3	5
Critical Dry	-	3	3	4	2	4	9	9	2	0	2	2	3

Table B-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	436	1,297	1,496	1,199	1,419	2,020	2,410	2,652	1,444	716	930	421	1,370
Wet	507	1,700	4,677	2,187	2,481	3,002	4,010	4,599	2,777	894	997	480	2,359
Above Normal	478	1,343	807	2,199	2,023	2,831	2,864	3,802	1,693	698	972	464	1,681
Below Normal	387	972	507	484	1,020	1,858	2,147	2,247	1,192	699	1,000	443	1,080
Dry	379	1,317	406	398	628	1,145	1,371	964	590	640	868	362	756
Critical Dry	439	915	238	375	438	358	646	532	333	529	637	260	475

Table B-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	491	441	454	480	507	648	781	837	787	653	562	529	597
Wet	524	480	524	567	567	751	899	967	943	831	718	679	704
Above Normal	524	461	479	539	565	743	900	964	921	767	665	622	679
Below Normal	521	457	454	477	519	676	850	906	836	628	532	496	613
Dry	465	411	390	380	440	541	665	732	638	508	431	403	500
Critical Dry	378	348	355	359	383	423	450	464	435	378	337	324	386

Table B-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,720	2,708	2,850	3,118	3,353	3,690	4,011	4,025	3,750	3,230	2,899	2,753	3,259
Wet	2,844	2,912	3,111	3,475	3,580	3,850	4,306	4,497	4,381	3,901	3,526	3,284	3,639
Above Normal	2,878	2,836	2,997	3,302	3,627	4,023	4,433	4,475	4,263	3,731	3,376	3,151	3,591
Below Normal	2,880	2,866	2,978	3,248	3,506	3,902	4,281	4,218	3,872	3,279	2,932	2,843	3,401
Dry	2,778	2,717	2,838	3,014	3,433	3,853	4,016	3,902	3,466	2,893	2,585	2,520	3,168
Critical Dry	1,998	1,905	1,974	2,113	2,301	2,540	2,587	2,463	2,090	1,668	1,452	1,397	2,041

Table B-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,383	1,393	1,440	1,499	1,604	1,724	1,871	1,866	1,838	1,713	1,561	1,423	1,610
Wet	1,497	1,527	1,621	1,735	1,893	2,033	2,220	2,251	2,236	2,120	1,992	1,836	1,913
Above Normal	1,505	1,509	1,549	1,648	1,756	1,895	2,066	2,093	2,094	1,977	1,829	1,676	1,800
Below Normal	1,441	1,452	1,477	1,536	1,613	1,724	1,884	1,858	1,820	1,690	1,516	1,373	1,615
Dry	1,406	1,408	1,427	1,422	1,506	1,629	1,746	1,707	1,657	1,505	1,318	1,193	1,494
Critical Dry	915	895	916	896	950	1,025	1,080	1,040	1,000	891	753	666	919

Table B-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,875	1,891	2,015	2,167	2,354	2,566	2,884	2,988	2,837	2,355	2,034	1,935	2,325
Wet	2,007	2,092	2,391	2,653	2,836	2,936	3,312	3,511	3,472	3,078	2,794	2,633	2,810
Above Normal	2,009	1,998	2,058	2,355	2,627	2,918	3,318	3,504	3,436	2,872	2,406	2,174	2,640
Below Normal	1,965	1,968	2,032	2,128	2,299	2,571	2,977	3,073	2,899	2,278	1,830	1,758	2,315
Dry	1,708	1,690	1,715	1,749	1,971	2,274	2,506	2,519	2,216	1,682	1,471	1,465	1,914
Critical Dry	1,527	1,476	1,487	1,501	1,612	1,800	1,882	1,825	1,574	1,255	1,052	1,048	1,503

Table B-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,296	2,431	3,118	3,743	4,703	3,301	3,678	4,558	4,189	3,319	2,211	1,782	3,194
Wet	1,325	3,329	5,941	7,764	8,924	5,882	6,312	7,700	6,233	3,727	2,751	2,102	5,166
Above Normal	1,480	2,258	1,879	4,153	5,162	3,883	3,885	5,920	5,151	3,828	2,495	2,058	3,513
Below Normal	1,304	2,345	2,308	1,581	2,861	1,915	2,682	3,468	3,670	4,165	2,222	1,820	2,528
Dry	1,253	1,941	1,579	1,319	1,801	1,594	1,780	1,888	2,606	2,637	1,819	1,509	1,811
Critical Dry	1,113	1,349	1,160	940	1,473	1,399	1,590	1,423	1,608	1,460	1,245	1,113	1,323

Table B-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,761	6,359	10,188	12,575	15,012	13,703	9,877	6,597	5,924	7,139	5,844	6,008	8,749
Wet	6,656	8,136	15,397	18,782	20,780	18,727	14,749	9,355	6,248	7,674	6,859	8,407	11,814
Above Normal	5,858	6,083	10,832	16,155	17,365	16,032	10,606	8,085	5,903	7,074	6,235	7,241	9,789
Below Normal	5,880	6,218	7,980	10,212	12,467	11,873	8,073	5,374	5,441	7,450	5,910	5,262	7,678
Dry	5,159	5,444	5,989	6,745	12,164	10,248	6,575	4,553	6,402	7,364	5,251	3,964	6,655
Critical Dry	4,264	4,052	6,741	6,580	7,890	7,767	5,421	3,670	5,458	5,301	3,904	3,320	5,364

Table B-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,225	3,409	6,695	10,099	12,207	11,722	7,478	7,263	6,565	8,118	6,586	4,218	7,299
Wet	3,984	5,133	13,222	20,661	24,113	22,924	14,787	12,792	9,763	8,674	7,180	5,921	12,430
Above Normal	2,978	2,929	4,476	11,328	12,446	13,067	7,146	9,268	7,466	9,948	9,391	6,745	8,099
Below Normal	3,205	2,812	4,242	4,884	7,033	6,780	4,230	4,537	4,708	9,370	8,276	3,719	5,316
Dry	3,053	2,477	3,120	3,163	4,843	4,193	3,068	3,562	4,853	7,626	4,095	1,966	3,835
Critical Dry	2,037	2,131	2,549	2,535	3,038	2,932	2,247	2,212	3,815	3,950	3,104	1,759	2,692

Table B-1-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,204	8,500	22,367	38,788	50,021	42,356	27,743	20,846	12,060	6,886	4,175	6,158	20,509
Wet	7,859	14,026	46,045	79,529	97,528	81,213	53,313	37,024	21,483	9,684	5,590	10,302	38,633
Above Normal	6,228	5,989	15,982	45,340	54,826	47,288	26,791	25,921	13,973	7,986	5,266	9,709	22,108
Below Normal	6,013	6,797	13,249	18,278	26,380	23,800	17,318	13,593	6,684	6,451	3,419	3,347	12,111
Dry	5,232	5,616	6,747	11,053	22,688	18,166	11,900	9,323	6,139	4,301	3,136	2,654	8,913
Critical Dry	4,046	4,783	9,283	9,795	12,492	11,668	8,257	6,396	5,442	3,584	2,584	2,659	6,749

Table B-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	214	215	218	211	184	156	192	196	236	232	241	209
Wet	225	238	239	235	197	186	198	248	241	269	274	258	234
Above Normal	225	234	242	231	230	194	189	216	224	244	265	238	228
Below Normal	229	217	223	203	223	194	141	180	189	258	248	267	214
Dry	212	208	201	227	221	182	122	157	192	262	230	239	204
Critical Dry	167	145	149	182	193	159	101	110	90	95	89	168	137

Table B-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	29	10	1	1	-	-	0	1	10	7	10	6
Wet	-	22	5	3	3	-	-	1	2	5	-	-	3
Above Normal	3	39	19	-	-	-	-	-	-	1	-	-	5
Below Normal	-	40	9	-	0	-	-	-	-	3	19	41	9
Dry	5	39	11	-	-	-	-	-	-	35	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table B-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	14	7	-	-	-	-	-	22	30	31	30	13
Wet	17	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	5	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	19	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	14	11	-	-	-	-	-	26	31	31	30	13

Table B-1-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	87	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	71	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	82	78	76	79	83	86	89	91	85

Table B-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,295	2,430	3,109	3,713	4,677	3,292	3,684	4,585	4,219	3,360	2,238	1,801	3,200
Wet	1,549	3,632	3,496	7,703	8,881	5,857	6,305	7,726	6,259	3,762	2,775	2,118	5,005
Above Normal	1,519	3,108	3,533	4,115	5,116	3,880	3,898	5,952	5,181	3,870	2,522	2,078	3,731
Below Normal	1,316	2,378	3,845	1,566	2,849	1,910	2,692	3,496	3,703	4,210	2,250	1,838	2,671
Dry	985	1,045	2,984	1,308	1,790	1,594	1,788	1,914	2,638	2,682	1,850	1,530	1,842
Critical Dry	845	824	737	939	1,465	1,404	1,609	1,447	1,638	1,505	1,269	1,137	1,235

Table B-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,282	2,435	3,130	3,744	4,704	3,301	3,678	4,558	4,189	3,319	2,210	1,781	3,194
Wet	1,538	3,638	3,516	7,766	8,923	5,882	6,312	7,700	6,233	3,727	2,751	2,102	5,007
Above Normal	1,505	3,111	3,557	4,152	5,162	3,882	3,885	5,920	5,151	3,829	2,495	2,058	3,726
Below Normal	1,311	2,390	3,862	1,583	2,864	1,915	2,682	3,468	3,670	4,164	2,220	1,819	2,662
Dry	968	1,050	3,000	1,319	1,809	1,594	1,780	1,888	2,606	2,637	1,819	1,506	1,831
Critical Dry	826	817	769	942	1,473	1,401	1,592	1,421	1,608	1,460	1,238	1,113	1,222

Table B-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,299	2,481	3,206	3,828	4,791	3,340	3,707	4,582	4,211	3,335	2,221	1,792	3,233
Wet	1,539	3,681	3,577	7,915	9,040	5,929	6,343	7,720	6,240	3,721	2,744	2,095	5,045
Above Normal	1,518	3,155	3,636	4,256	5,276	3,916	3,902	5,948	5,175	3,842	2,500	2,064	3,766
Below Normal	1,343	2,449	3,945	1,632	2,928	1,951	2,713	3,497	3,705	4,197	2,237	1,837	2,703
Dry	988	1,091	3,077	1,360	1,871	1,624	1,807	1,906	2,632	2,663	1,840	1,527	1,865
Critical Dry	855	854	860	978	1,533	1,442	1,623	1,449	1,636	1,491	1,269	1,144	1,261

Table B-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,190	2,381	3,128	3,753	4,716	3,249	3,594	4,440	4,030	3,131	2,031	1,640	3,107
Wet	1,426	3,580	3,497	7,850	8,970	5,839	6,230	7,568	6,050	3,508	2,543	1,922	4,915
Above Normal	1,408	3,055	3,559	4,183	5,205	3,823	3,787	5,800	4,989	3,630	2,306	1,896	3,637
Below Normal	1,237	2,351	3,868	1,550	2,849	1,859	2,601	3,357	3,525	3,988	2,044	1,693	2,577
Dry	880	991	3,000	1,277	1,792	1,531	1,693	1,774	2,457	2,460	1,660	1,394	1,742
Critical Dry	748	757	787	894	1,454	1,351	1,511	1,323	1,470	1,318	1,100	1,012	1,144

Table B-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.51	57.52	53.86	48.23	47.70	50.50	54.21	57.86	60.89	62.62	60.64	62.94	56.54
Wet	58.57	57.08	54.68	46.93	46.61	49.43	52.46	55.79	59.17	60.89	59.07	60.82	53.13
Above Normal	59.87	56.94	54.13	48.56	47.52	50.28	53.39	56.33	59.59	61.27	59.10	61.26	55.69
Below Normal	61.90	57.38	52.94	49.02	48.07	50.59	54.54	57.93	61.04	62.92	60.78	63.20	56.69
Dry	63.05	58.37	53.64	48.92	48.47	51.18	55.68	59.47	62.76	64.13	62.53	63.20	57.95
Critical Dry	64.79	58.27	53.52	48.72	48.72	52.02	56.49	61.65	63.28	63.27	62.93	65.96	58.47

Table B-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.33	57.16	53.09	47.85	47.85	51.14	53.34	59.00	62.19	63.90	62.41	63.49	57.06
Wet	59.05	56.80	54.05	46.89	46.71	49.82	53.09	56.51	60.06	62.31	60.76	61.66	55.64
Above Normal	59.97	56.63	53.54	48.33	47.67	50.77	54.30	57.32	60.49	62.58	60.75	61.98	56.19
Below Normal	61.66	57.15	52.38	48.48	48.17	51.30	55.82	59.07	62.27	63.73	62.37	63.70	57.17
Dry	64.01	57.87	52.58	48.29	48.60	52.03	57.36	61.21	64.34	63.12	64.14	63.37	58.41
Critical Dry	64.02	57.59	52.25	48.04	49.08	53.04	58.02	63.14	65.65	67.28	65.43	66.25	59.15

Table B-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.86	57.33	52.67	48.17	49.03	53.38	58.31	62.30	65.77	67.52	66.26	66.09	59.14
Wet	60.82	56.92	53.61	47.18	47.45	51.39	53.06	58.91	62.86	65.90	64.42	64.28	57.40
Above Normal	61.44	56.70	53.15	48.58	48.67	52.64	56.79	60.17	63.38	66.05	64.37	64.57	58.04
Below Normal	63.01	57.42	52.07	48.70	49.34	53.69	59.08	62.35	65.77	66.57	65.97	66.09	59.17
Dry	63.18	57.96	52.13	48.50	50.06	54.83	61.23	65.56	68.44	68.60	67.92	67.80	60.68
Critical Dry	65.80	57.89	51.79	48.70	51.06	56.13	62.02	67.61	70.98	72.49	70.40	69.33	62.02

Modeling Technical Appendix – Attachment B-2. Model Results for Cumulative Conditions With Project

This attachment summarizes the modeling results for Commulative Conditions With Project conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR)..

CONTENTS

Tables

Table B-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table B-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table B-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table B-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. ..... - 7 -
Table B-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table B-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-2-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-2-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	177,599	173,489	171,023	179,736	179,446	190,917	218,926	253,509	252,551	240,255	217,310	189,395	203,680
Wet	177,880	184,890	193,176	211,284	205,092	206,471	237,398	264,849	265,022	260,021	238,788	207,546	221,035
Above Normal	177,734	172,984	171,952	191,952	190,438	193,549	218,653	263,335	264,768	256,102	230,642	199,447	210,963
Below Normal	171,887	164,852	159,802	164,460	165,295	183,394	211,019	259,306	261,131	248,014	224,358	193,478	200,583
Dry	184,028	174,216	164,691	163,320	166,557	187,264	218,458	246,239	244,329	225,717	202,603	177,636	196,255
Critical Dry	173,728	164,997	156,958	153,169	158,780	173,078	191,864	203,940	189,281	168,725	149,482	138,189	168,516

Table B-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,582	26,305	26,160	23,520	23,400	24,743	29,490	38,562	41,251	39,352	36,478	32,113	30,996
Wet	30,927	25,268	28,403	21,957	21,931	22,728	25,778	37,334	43,093	41,653	38,571	33,387	30,919
Above Normal	30,715	26,333	25,499	22,160	21,981	23,290	28,305	40,905	42,987	41,090	37,792	33,042	31,175
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table B-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,785	38,531	34,454	37,919	40,780	36,535	33,146	58,786	67,203	63,327	55,916	46,148	46,377
Wet	43,574	36,709	33,095	40,425	43,210	37,586	26,322	56,673	68,580	67,115	59,753	48,770	46,818
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,494	68,819	65,325	57,196	46,860	46,007
Below Normal	43,202	38,989	34,444	36,671	39,651	34,706	31,620	57,692	67,256	62,901	55,237	45,745	45,676
Dry	44,080	40,174	36,363	36,732	38,908	37,741	42,029	60,925	65,998	60,405	53,380	44,405	46,762
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table B-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	25,785	24,485	25,157	27,240	30,175	32,855	34,556	35,219	34,424	31,517	29,437	28,065	29,910
Wet	28,853	28,656	32,278	36,526	39,380	40,260	40,564	40,645	40,163	37,927	35,949	34,553	36,313
Above Normal	25,997	24,866	25,691	29,374	34,249	36,958	38,787	39,464	38,860	36,048	33,753	32,399	33,037
Below Normal	22,988	20,995	20,777	21,768	25,084	29,985	33,048	34,611	34,273	31,192	29,023	27,578	27,610
Dry	26,737	25,077	24,431	24,927	26,673	29,482	31,563	32,188	30,775	27,172	25,032	23,577	27,303
Critical Dry	21,804	20,000	18,439	18,339	19,254	20,337	20,737	20,604	19,012	16,512	15,086	14,167	18,691

Table B-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	13,056	13,348	14,443	15,541	16,789	18,201	19,299	19,566	18,884	17,136	15,195	13,776	16,269
Wet	13,261	14,203	17,141	19,537	20,665	21,074	21,206	21,205	20,801	19,617	18,035	16,756	18,625
Above Normal	13,994	14,238	15,247	17,343	19,319	20,591	21,140	21,206	20,783	19,253	17,191	15,728	18,003
Below Normal	12,243	12,328	12,785	13,312	14,936	17,373	19,707	20,599	19,903	17,937	15,756	14,145	15,919
Dry	13,528	13,631	13,932	13,941	14,636	16,363	17,861	18,087	17,041	14,741	12,595	11,100	14,788
Critical Dry	11,147	10,870	11,140	11,002	11,404	12,181	12,690	12,574	11,593	9,975	8,574	7,622	10,898

Table B-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,551	14,915	13,941	13,406	13,532	13,750	15,678	20,302	21,748	21,004	18,394	16,961	16,682
Wet	16,562	15,698	15,805	16,123	16,425	16,681	18,136	21,308	22,332	22,261	20,312	18,915	18,380
Above Normal	16,772	15,037	13,866	13,657	14,081	14,136	15,478	20,588	22,131	22,103	19,286	17,921	17,088
Below Normal	16,163	14,282	12,947	12,026	12,133	12,355	14,577	20,290	22,108	21,311	18,218	16,774	16,099
Dry	16,830	14,867	13,485	12,373	12,184	12,473	15,099	20,024	21,662	19,808	17,001	15,408	15,934
Critical Dry	16,259	14,346	13,036	12,102	11,996	12,288	14,084	17,688	18,492	17,530	15,488	14,291	14,800

Table B-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,620	3,250	3,255	1,606	1,441	1,857	5,089	8,371	8,259	7,446	6,487	4,148	4,569
Wet	3,609	3,351	3,474	3,126	3,017	2,893	5,276	8,418	8,555	8,204	7,241	4,658	5,152
Above Normal	3,621	3,093	3,202	2,122	1,951	1,962	4,103	8,539	8,447	7,675	6,635	4,125	4,623
Below Normal	3,594	3,338	3,297	1,113	771	1,673	5,197	8,361	8,381	7,392	6,395	3,985	4,458
Dry	3,640	3,164	3,052	583	435	1,264	5,894	8,629	8,202	7,093	6,158	3,956	4,339
Critical Dry	3,659	3,347	3,247	493	635	963	4,308	7,134	6,833	5,978	5,261	3,799	3,805

Table B-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	91	140	85	79	45	230	1,237	3,378	4,620	3,308	1,554	380	1,262
Wet	173	287	343	235	139	65	898	3,163	4,935	4,572	3,006	1,169	1,582
Above Normal	87	91	21	120	61	35	861	3,440	4,995	3,806	2,004	341	1,322
Below Normal	72	123	-	-	-	295	1,462	3,750	4,917	3,118	1,128	76	1,245
Dry	45	65	-	-	-	428	1,622	3,466	4,340	2,537	601	55	1,097
Critical Dry	63	111	-	-	-	395	1,340	2,546	2,853	1,396	406	76	766

Table B-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	58	55	61	61	73	156	1,033	1,470	1,386	1,266	198	500
Wet	191	54	52	69	68	69	73	634	1,487	1,497	1,392	261	487
Above Normal	220	58	55	67	67	80	84	817	1,338	1,265	1,145	164	447
Below Normal	154	60	56	57	62	71	75	1,154	1,589	1,475	1,348	187	524
Dry	175	56	53	52	51	67	296	1,475	1,589	1,453	1,326	232	569
Critical Dry	177	65	61	59	56	91	366	1,044	1,064	927	811	39	397

Table B-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,837	4,833	4,832	4,833	4,836	4,837	4,846	4,860	4,866	4,863	4,856	4,845	4,845
Wet	4,836	4,835	4,839	4,845	4,848	4,846	4,853	4,866	4,870	4,869	4,864	4,854	4,852
Above Normal	4,837	4,834	4,833	4,836	4,841	4,840	4,846	4,862	4,870	4,869	4,862	4,850	4,848
Below Normal	4,834	4,830	4,828	4,827	4,829	4,832	4,843	4,860	4,869	4,866	4,859	4,848	4,844
Dry	4,840	4,836	4,832	4,828	4,829	4,834	4,846	4,858	4,863	4,859	4,850	4,840	4,843
Critical Dry	4,835	4,831	4,827	4,824	4,824	4,829	4,836	4,844	4,843	4,835	4,825	4,817	4,831

Table B-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,445	3,440	3,439	3,442	3,447	3,453	3,458	3,460	3,460	3,456	3,452	3,449	3,450
Wet	3,451	3,448	3,451	3,459	3,466	3,469	3,470	3,470	3,470	3,468	3,464	3,461	3,462
Above Normal	3,446	3,441	3,440	3,445	3,454	3,461	3,466	3,468	3,468	3,465	3,461	3,458	3,456
Below Normal	3,439	3,433	3,430	3,432	3,437	3,446	3,454	3,459	3,460	3,457	3,452	3,448	3,446
Dry	3,448	3,443	3,440	3,440	3,442	3,446	3,452	3,454	3,454	3,449	3,443	3,440	3,446
Critical Dry	3,438	3,430	3,426	3,423	3,425	3,428	3,430	3,430	3,429	3,424	3,419	3,417	3,426

Table B-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,235	4,234	4,237	4,241	4,245	4,250	4,254	4,256	4,256	4,252	4,245	4,239	4,245
Wet	4,236	4,236	4,242	4,253	4,259	4,261	4,262	4,262	4,262	4,259	4,255	4,250	4,253
Above Normal	4,239	4,238	4,240	4,246	4,253	4,258	4,261	4,262	4,262	4,259	4,253	4,247	4,251
Below Normal	4,232	4,231	4,232	4,234	4,238	4,246	4,254	4,260	4,259	4,255	4,248	4,242	4,244
Dry	4,238	4,236	4,237	4,238	4,239	4,243	4,249	4,252	4,251	4,245	4,237	4,230	4,241
Critical Dry	4,228	4,225	4,226	4,226	4,227	4,229	4,231	4,232	4,230	4,225	4,218	4,213	4,226

Table B-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,943	7,942	7,942	7,942	7,944	7,950	7,956	7,956	7,953	7,949	7,947
Wet	7,948	7,946	7,946	7,946	7,947	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,943	7,942	7,943	7,943	7,944	7,950	7,956	7,957	7,955	7,951	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,957	7,953	7,949	7,946
Dry	7,948	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,951	7,946	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table B-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,195	7,195	7,192	7,189	7,189	7,194	7,204	7,207	7,206	7,204	7,201	7,198
Wet	7,196	7,195	7,195	7,194	7,194	7,193	7,196	7,204	7,207	7,207	7,205	7,202	7,199
Above Normal	7,196	7,195	7,194	7,192	7,191	7,191	7,193	7,203	7,207	7,206	7,204	7,201	7,198
Below Normal	7,196	7,195	7,195	7,191	7,187	7,188	7,194	7,204	7,207	7,206	7,203	7,200	7,197
Dry	7,196	7,195	7,194	7,190	7,186	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,197
Critical Dry	7,196	7,195	7,195	7,190	7,186	7,187	7,192	7,202	7,204	7,202	7,201	7,199	7,196

Table B-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,197	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,209	8,208	8,204	8,201
Above Normal	8,197	8,196	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table B-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table B-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	402	687	1,101	1,124	1,473	1,730	2,295	2,544	2,026	806	608	761	1,296
Wet	418	1,132	2,452	2,687	2,582	2,865	3,370	4,199	3,634	1,431	729	933	2,203
Above Normal	438	598	940	1,279	2,073	2,127	2,905	3,558	2,698	802	670	844	1,578
Below Normal	367	488	566	495	1,074	1,654	2,338	2,304	1,814	657	587	775	1,093
Dry	399	604	653	384	649	858	1,333	1,063	689	491	523	640	690
Critical Dry	372	458	532	312	466	377	542	501	429	414	426	395	435

Table B-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	28	70	78	63	58	50	137	139	44	20	18	60
Wet	14	62	241	213	174	139	85	316	311	88	28	28	142
Above Normal	16	19	19	86	56	42	46	144	154	39	20	20	55
Below Normal	14	16	16	18	24	48	44	80	104	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table B-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	165	317	450	519	649	1,010	1,531	1,073	296	93	88	522
Wet	96	364	885	1,048	930	1,025	1,428	2,288	1,964	659	157	133	915
Above Normal	86	124	240	535	720	720	1,175	2,132	1,404	312	97	99	637
Below Normal	56	92	103	215	363	651	1,015	1,484	985	217	80	78	445
Dry	68	110	122	150	225	391	708	771	363	98	59	62	260
Critical Dry	77	76	94	120	184	185	326	333	126	48	38	42	137

Table B-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	23	6	37	11	19	23	26	51	23	14	12	10	21
Wet	30	6	137	7	51	11	66	143	50	17	13	11	45
Above Normal	21	7	7	29	16	59	11	47	17	17	13	11	21
Below Normal	20	6	6	7	7	22	16	18	17	14	13	11	13
Dry	22	6	7	7	7	11	14	13	13	11	10	10	11
Critical Dry	23	6	6	7	7	10	11	10	10	8	6	6	9

Table B-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	893	2,768	5,471	4,383	5,049	6,316	6,041	5,403	2,661	1,547	1,613	864	3,584
Wet	1,050	4,110	16,482	8,051	8,360	9,922	10,153	9,485	5,160	1,991	1,794	1,007	6,464
Above Normal	984	2,869	3,401	8,267	7,754	9,063	7,080	7,581	3,053	1,655	1,745	935	4,532
Below Normal	773	1,660	2,138	1,711	3,790	5,205	5,506	4,520	2,254	1,502	1,711	865	2,636
Dry	791	2,880	1,429	1,424	2,118	3,468	3,317	2,057	1,027	1,272	1,446	731	1,830
Critical Dry	862	1,564	897	932	1,406	1,123	1,563	1,052	673	980	1,016	685	1,063

Table B-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	52	88	104	69	107	155	201	167	176	99	102	131	121
Wet	54	120	177	162	184	256	294	287	289	148	111	154	186
Above Normal	52	82	104	67	157	215	275	252	251	95	112	144	151
Below Normal	50	70	70	32	79	147	213	147	160	87	102	137	108
Dry	53	85	83	32	44	63	101	53	64	77	93	113	72
Critical Dry	46	68	64	29	29	17	25	25	53	74	77	70	48

Table B-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	3	4	8	8	10	11	12	9	5	3	4	7
Wet	-	5	7	12	12	12	12	12	12	8	5	6	9
Above Normal	-	3	4	10	10	11	11	12	11	6	2	4	7
Below Normal	-	3	2	8	7	9	11	12	10	5	3	4	6
Dry	-	3	2	6	4	9	11	12	7	3	4	4	5
Critical Dry	-	2	2	5	3	7	10	11	3	0	2	2	4

Table B-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	428	1,176	1,490	1,192	1,419	2,018	2,396	2,636	1,394	656	808	403	1,335
Wet	491	1,613	4,656	2,158	2,525	3,018	4,012	4,591	2,703	850	894	466	2,331
Above Normal	464	1,213	808	2,201	2,009	2,829	2,863	3,799	1,630	656	876	447	1,650
Below Normal	384	817	506	485	999	1,831	2,115	2,215	1,134	634	878	434	1,036
Dry	379	1,212	402	392	615	1,145	1,346	937	566	545	725	336	717
Critical Dry	432	766	240	378	441	365	634	536	333	495	458	233	443

Table B-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	482	431	445	472	501	642	777	834	785	650	559	521	591
Wet	517	473	522	567	567	751	899	967	942	830	717	676	702
Above Normal	515	449	467	531	563	741	900	964	921	765	661	616	674
Below Normal	510	448	443	466	512	671	848	906	836	627	531	488	607
Dry	451	397	374	366	425	524	651	721	630	501	425	390	488
Critical Dry	369	338	344	348	373	413	440	454	426	371	330	312	377

Table B-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,717	2,705	2,846	3,116	3,349	3,688	4,009	4,022	3,746	3,225	2,894	2,749	3,256
Wet	2,846	2,913	3,107	3,474	3,580	3,850	4,306	4,497	4,381	3,900	3,524	3,283	3,638
Above Normal	2,871	2,829	2,991	3,297	3,622	4,024	4,433	4,475	4,262	3,729	3,375	3,150	3,588
Below Normal	2,878	2,862	2,976	3,246	3,503	3,899	4,282	4,218	3,870	3,276	2,928	2,838	3,398
Dry	2,775	2,715	2,841	3,017	3,424	3,853	4,013	3,898	3,460	2,887	2,578	2,517	3,165
Critical Dry	1,989	1,895	1,963	2,103	2,291	2,531	2,578	2,453	2,078	1,655	1,442	1,387	2,030

Table B-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,381	1,392	1,439	1,499	1,604	1,724	1,871	1,866	1,837	1,713	1,560	1,422	1,609
Wet	1,494	1,525	1,620	1,735	1,894	2,033	2,221	2,251	2,236	2,120	1,992	1,835	1,913
Above Normal	1,507	1,511	1,550	1,649	1,757	1,895	2,066	2,093	2,094	1,977	1,829	1,675	1,800
Below Normal	1,440	1,452	1,477	1,536	1,613	1,723	1,883	1,858	1,819	1,689	1,515	1,370	1,615
Dry	1,403	1,406	1,424	1,420	1,504	1,628	1,746	1,706	1,654	1,502	1,315	1,190	1,492
Critical Dry	915	895	916	899	952	1,026	1,080	1,040	1,000	891	752	666	919

Table B-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,870	1,886	2,010	2,162	2,352	2,564	2,882	2,986	2,834	2,353	2,031	1,929	2,322
Wet	2,001	2,087	2,388	2,650	2,835	2,936	3,312	3,511	3,472	3,076	2,791	2,623	2,807
Above Normal	2,005	1,994	2,053	2,351	2,626	2,918	3,318	3,504	3,435	2,870	2,403	2,169	2,637
Below Normal	1,960	1,963	2,026	2,123	2,297	2,569	2,975	3,071	2,896	2,274	1,826	1,756	2,311
Dry	1,701	1,683	1,709	1,743	1,964	2,267	2,498	2,511	2,208	1,678	1,467	1,461	1,908
Critical Dry	1,525	1,473	1,485	1,498	1,609	1,798	1,879	1,823	1,571	1,253	1,048	1,044	1,500

Table B-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,294	2,369	3,059	3,705	4,663	3,299	3,643	4,517	4,132	3,264	2,162	1,733	3,153
Wet	1,322	3,264	5,805	7,717	8,941	5,887	6,323	7,663	6,179	3,677	2,710	2,006	5,125
Above Normal	1,479	2,236	1,836	4,060	5,033	3,888	3,860	5,905	5,099	3,801	2,468	1,961	3,469
Below Normal	1,301	2,253	2,275	1,569	2,769	1,882	2,626	3,421	3,628	4,109	2,167	1,801	2,483
Dry	1,253	1,878	1,576	1,285	1,778	1,611	1,670	1,823	2,518	2,564	1,752	1,507	1,768
Critical Dry	1,115	1,310	1,151	923	1,449	1,401	1,565	1,388	1,551	1,390	1,186	1,105	1,294

Table B-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,746	6,361	10,194	12,565	15,050	13,706	9,881	6,605	5,947	7,161	5,854	6,012	8,757
Wet	6,622	8,123	15,454	18,773	20,779	18,734	14,749	9,355	6,255	7,686	6,867	8,409	11,817
Above Normal	5,851	6,088	10,827	16,155	17,365	16,022	10,609	8,086	5,912	7,087	6,227	7,273	9,792
Below Normal	5,878	6,229	7,972	10,210	12,500	11,878	8,036	5,385	5,454	7,479	5,954	5,294	7,689
Dry	5,144	5,438	5,930	6,740	12,346	10,253	6,629	4,581	6,466	7,384	5,273	3,921	6,675
Critical Dry	4,262	4,080	6,745	6,541	7,887	7,768	5,441	3,675	5,500	5,348	3,871	3,313	5,369

Table B-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,221	3,410	6,688	10,088	12,180	11,716	7,479	7,264	6,574	8,119	6,600	4,248	7,299
Wet	3,977	5,130	13,197	20,649	24,075	22,920	14,780	12,791	9,769	8,696	7,203	6,031	12,435
Above Normal	2,987	2,934	4,476	11,315	12,403	13,054	7,145	9,264	7,469	9,971	9,420	6,767	8,100
Below Normal	3,210	2,812	4,261	4,863	6,991	6,769	4,228	4,544	4,727	9,392	8,277	3,684	5,313
Dry	3,035	2,476	3,106	3,162	4,844	4,194	3,085	3,567	4,858	7,550	4,092	1,965	3,828
Critical Dry	2,035	2,138	2,546	2,534	3,037	2,932	2,250	2,206	3,826	3,944	3,118	1,762	2,694

Table B-2-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,202	8,467	22,264	38,715	50,051	42,328	27,711	20,815	12,036	6,883	4,168	6,147	20,482
Wet	7,849	13,974	45,975	79,405	97,489	81,225	53,316	36,990	21,442	9,666	5,581	10,272	38,599
Above Normal	6,243	5,978	15,511	45,234	54,939	47,243	26,768	25,902	13,932	8,002	5,266	9,709	22,061
Below Normal	6,011	6,752	13,202	18,243	26,247	23,774	17,217	13,564	6,672	6,455	3,418	3,342	12,075
Dry	5,242	5,590	6,700	11,011	23,048	18,040	11,861	9,289	6,120	4,304	3,129	2,654	8,915
Critical Dry	4,039	4,786	9,268	9,766	12,474	11,679	8,255	6,360	5,442	3,582	2,566	2,657	6,740

Table B-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	213	216	218	210	185	156	192	196	236	231	242	209
Wet	224	237	239	236	197	187	199	248	241	269	274	262	234
Above Normal	224	234	246	231	229	191	189	216	224	243	264	238	228
Below Normal	229	217	223	204	223	194	141	180	189	258	248	268	215
Dry	211	205	199	226	214	183	121	157	192	261	228	239	203
Critical Dry	167	146	150	180	193	159	101	111	91	94	85	170	137

Table B-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	30	10	1	1	-	-	0	1	9	6	10	6
Wet	-	23	5	3	3	-	-	1	2	5	-	-	4
Above Normal	3	40	18	-	-	-	-	-	-	1	-	-	5
Below Normal	-	41	8	-	-	-	-	-	-	3	18	42	9
Dry	5	40	11	-	-	-	-	-	-	34	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table B-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16	14	7	-	-	-	-	-	22	30	31	30	13
Wet	16	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	5	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	20	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	14	11	-	-	-	-	-	26	31	31	30	13

Table B-2-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	87	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	88	82	70	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	82	78	76	79	83	86	89	91	85

Table B-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,294	2,367	3,049	3,675	4,637	3,291	3,648	4,544	4,161	3,305	2,189	1,752	3,159
Wet	1,546	3,528	3,462	7,656	8,898	5,862	6,316	7,689	6,206	3,711	2,734	2,022	4,969
Above Normal	1,515	3,052	3,506	4,028	4,987	3,885	3,873	5,937	5,129	3,843	2,495	1,979	3,686
Below Normal	1,319	2,314	3,770	1,554	2,758	1,876	2,636	3,448	3,661	4,154	2,196	1,819	2,626
Dry	987	1,033	2,826	1,271	1,765	1,616	1,678	1,849	2,549	2,609	1,783	1,527	1,791
Critical Dry	845	789	732	924	1,440	1,407	1,581	1,416	1,582	1,435	1,209	1,127	1,207

Table B-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,282	2,373	3,070	3,706	4,664	3,300	3,643	4,517	4,132	3,264	2,160	1,732	3,154
Wet	1,535	3,535	3,482	7,719	8,941	5,887	6,323	7,663	6,179	3,677	2,710	2,006	4,971
Above Normal	1,501	3,055	3,530	4,065	5,033	3,888	3,860	5,905	5,099	3,801	2,467	1,959	3,680
Below Normal	1,314	2,326	3,787	1,571	2,773	1,882	2,626	3,421	3,628	4,108	2,166	1,800	2,617
Dry	970	1,038	2,841	1,282	1,785	1,616	1,670	1,823	2,518	2,564	1,751	1,504	1,780
Critical Dry	827	782	765	927	1,448	1,404	1,563	1,390	1,551	1,390	1,178	1,102	1,194

Table B-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,299	2,418	3,146	3,791	4,750	3,339	3,671	4,541	4,153	3,280	2,171	1,743	3,192
Wet	1,536	3,577	3,543	7,868	9,057	5,935	6,354	7,683	6,186	3,670	2,703	1,999	5,009
Above Normal	1,513	3,099	3,609	4,169	5,146	3,921	3,877	5,934	5,123	3,815	2,473	1,965	3,720
Below Normal	1,346	2,386	3,869	1,620	2,837	1,918	2,658	3,450	3,662	4,141	2,183	1,819	2,657
Dry	990	1,080	2,918	1,322	1,846	1,647	1,696	1,840	2,543	2,589	1,772	1,524	1,814
Critical Dry	856	819	855	962	1,509	1,445	1,595	1,418	1,579	1,421	1,208	1,134	1,233

Table B-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,190	2,319	3,068	3,715	4,676	3,248	3,558	4,400	3,973	3,076	1,982	1,594	3,067
Wet	1,423	3,476	3,463	7,804	8,988	5,845	6,242	7,531	5,997	3,458	2,504	1,834	4,880
Above Normal	1,404	2,999	3,532	4,096	5,075	3,829	3,762	5,786	4,936	3,603	2,279	1,805	3,592
Below Normal	1,240	2,288	3,793	1,539	2,758	1,826	2,545	3,310	3,483	3,932	1,991	1,677	2,532
Dry	882	979	2,841	1,239	1,767	1,554	1,583	1,708	2,369	2,387	1,594	1,392	1,691
Critical Dry	748	724	783	879	1,430	1,354	1,482	1,294	1,413	1,247	1,042	1,002	1,116

Table B-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.69	57.64	54.04	48.41	47.86	50.59	54.30	58.02	61.02	62.75	60.71	63.08	56.68
Wet	58.77	57.09	54.72	46.99	46.61	49.43	52.45	55.79	59.18	60.97	59.15	60.94	53.17
Above Normal	59.49	56.72	54.28	48.77	47.70	50.30	53.49	56.27	59.64	61.35	59.17	61.23	55.70
Below Normal	61.92	57.58	53.15	48.97	48.04	50.55	54.52	57.91	61.00	63.03	60.88	63.37	56.74
Dry	63.08	58.49	53.60	48.84	48.45	51.01	55.47	59.77	62.82	64.15	62.56	63.28	57.96
Critical Dry	65.92	58.86	54.32	49.76	49.69	52.88	57.26	62.48	64.11	65.71	62.96	66.29	59.19

Table B-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.45	57.25	53.21	47.98	47.98	51.22	53.39	59.12	62.30	64.05	62.50	63.61	57.17
Wet	59.22	56.81	54.07	46.95	46.71	49.81	53.08	56.51	60.08	62.41	60.85	61.80	55.69
Above Normal	59.67	56.40	53.67	48.51	47.85	50.81	54.40	57.26	60.55	62.66	60.83	62.00	56.22
Below Normal	61.68	57.30	52.56	48.42	48.14	51.28	55.80	59.07	62.26	63.84	62.48	63.84	57.22
Dry	64.00	57.96	52.49	48.17	48.57	51.97	57.12	61.45	64.50	63.18	64.23	65.47	58.43
Critical Dry	64.70	58.11	52.81	48.84	49.90	53.63	58.54	63.74	66.12	67.75	65.54	66.37	59.67

Table B-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.94	57.40	52.76	48.28	49.15	53.43	58.35	62.42	65.90	67.69	66.41	66.23	59.25
Wet	60.96	56.94	53.61	47.25	47.46	51.37	53.05	58.92	62.90	66.03	64.53	64.48	57.46
Above Normal	61.21	56.49	53.26	48.74	48.85	52.68	56.90	60.12	63.46	66.16	64.47	64.67	58.08
Below Normal	63.02	57.54	52.20	48.66	49.35	53.69	59.10	62.40	65.80	66.69	66.12	66.23	59.23
Dry	63.16	58.03	52.02	48.41	50.04	54.78	61.09	65.81	68.73	68.72	68.08	67.89	60.73
Critical Dry	66.25	58.29	52.20	49.33	51.71	56.53	62.37	68.03	71.32	72.98	70.65	69.42	62.42

Modeling Technical Appendix – Attachment B-3. Absolute change of Commutative Conditions Baseline to Existing Conditions Baseline

This attachment summarizes the absolute change of Cumulative Conditions Baseline to Existing Conditions Baseline (2.0-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table B-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table B-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table B-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table B-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table B-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table B-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-3-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-3-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(466)	(570)	(294)	(13)	(195)	(147)	(277)	(96)	(247)	(311)	(741)	(548)	(325)
Wet	(475)	(541)	(337)	(317)	(292)	(327)	(378)	(93)	5	1	(565)	(309)	(302)
Above Normal	(491)	(539)	(127)	(83)	(947)	(685)	(703)	(12)	(17)	(25)	(573)	(410)	(384)
Below Normal	(518)	(697)	(470)	(161)	(185)	(73)	(84)	38	(59)	(128)	(498)	(426)	(272)
Dry	(319)	(345)	(92)	487	468	423	191	114	(338)	(487)	(852)	(618)	(114)
Critical Dry	(657)	(1,023)	(671)	(41)	(80)	(219)	(856)	(1,279)	(1,749)	(1,847)	(1,973)	(1,669)	(1,005)

Table B-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	-	-	-	-	(1)	(4)	(2)	-	-	-	(1)
Wet	-	-	-	-	-	-	(3)	(14)	(7)	-	-	-	(2)
Above Normal	-	-	-	-	-	-	-	(4)	-	-	-	-	(0)
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(2)	(0)	0	0	0	(0)	(21)	(5)	(5)	(2)	(2)	(3)
Wet	-	-	(2)	-	-	-	(0)	(12)	(1)	(4)	(4)	(4)	(2)
Above Normal	-	-	-	-	-	-	-	(88)	(22)	(22)	(5)	(5)	(12)
Below Normal	1	1	1	1	0	0	0	(3)	0	0	0	0	0
Dry	(7)	(7)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(22,072)	(24,001)	(24,328)	(23,265)	(22,135)	(19,740)	(16,999)	(14,483)	(14,759)	(17,718)	(19,410)	(20,630)	(19,962)
Wet	(23,589)	(25,509)	(25,769)	(21,642)	(17,887)	(12,505)	(8,142)	(4,659)	(6,956)	(13,805)	(17,555)	(20,538)	(16,546)
Above Normal	(21,459)	(23,564)	(24,260)	(23,674)	(21,991)	(17,831)	(14,169)	(10,369)	(12,034)	(17,727)	(21,038)	(23,425)	(19,295)
Below Normal	(21,162)	(22,969)	(23,285)	(23,361)	(23,542)	(22,619)	(19,781)	(17,056)	(15,912)	(16,959)	(17,876)	(18,711)	(20,269)
Dry	(21,760)	(24,154)	(24,445)	(24,469)	(24,628)	(24,363)	(23,220)	(22,190)	(21,063)	(20,953)	(20,980)	(20,914)	(22,762)
Critical Dry	(22,759)	(23,290)	(23,055)	(23,035)	(23,117)	(22,961)	(22,536)	(22,033)	(21,395)	(21,240)	(20,347)	(18,709)	(22,040)

Table B-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4,946)	(5,046)	(4,730)	(4,362)	(3,710)	(2,992)	(2,237)	(1,880)	(2,302)	(3,175)	(3,971)	(4,564)	(3,660)
Wet	(4,511)	(4,359)	(2,936)	(1,696)	(557)	(220)	-	(1)	(310)	(1,156)	(2,088)	(2,818)	(1,721)
Above Normal	(4,374)	(4,531)	(4,265)	(3,608)	(2,131)	(718)	(256)	(68)	(345)	(1,374)	(2,324)	(3,023)	(2,251)
Below Normal	(5,488)	(5,653)	(5,776)	(5,759)	(5,449)	(4,642)	(2,962)	(1,574)	(1,945)	(2,956)	(3,833)	(4,497)	(4,211)
Dry	(5,091)	(5,283)	(5,393)	(5,569)	(5,474)	(4,779)	(3,871)	(3,838)	(4,506)	(5,333)	(5,994)	(6,484)	(5,135)
Critical Dry	(5,589)	(5,804)	(5,985)	(6,169)	(6,279)	(6,339)	(6,399)	(6,559)	(7,075)	(7,401)	(7,630)	(7,694)	(6,577)

Table B-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(50)	(77)	(137)	(51)	(42)	(47)	(46)	(3)	(14)	(27)	(25)	(41)	(47)
Wet	(98)	(139)	(385)	(177)	(145)	(133)	(133)	(40)	-	-	(1)	(15)	(105)
Above Normal	(30)	(102)	(143)	(58)	(58)	(59)	(59)	24	(1)	(1)	19	(1)	(39)
Below Normal	(66)	(27)	(21)	23	29	9	9	3	(12)	(46)	(46)	(70)	(18)
Dry	(12)	(60)	(62)	(14)	(15)	(23)	(22)	4	(42)	(77)	(79)	(81)	(40)
Critical Dry	(28)	(38)	19	6	4	1	1	1	(10)	38	21	(11)	0

Table B-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	22	1,311	1,810	622	325	213	194	36	1	1	1	67	384
Wet	21	986	997	612	470	226	158	63	-	-	-	-	294
Above Normal	8	1,235	1,768	922	584	487	478	96	-	-	-	123	475
Below Normal	25	1,558	2,293	861	343	246	236	0	-	-	-	39	467
Dry	30	1,387	2,017	261	55	12	9	-	-	-	-	79	321
Critical Dry	26	1,485	2,227	313	40	18	30	20	16	12	9	166	364

Table B-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	35	119	(2)	-	-	-	-	-	-	(29)	(12)	32	12
Wet	17	115	(8)	-	-	-	-	-	-	(60)	(43)	(12)	1
Above Normal	39	109	-	-	-	-	-	-	-	29	(7)	3	14
Below Normal	59	163	-	-	-	-	-	-	-	(53)	(8)	50	18
Dry	30	84	-	-	-	-	-	-	-	(30)	0	73	13
Critical Dry	28	135	-	-	-	-	-	-	-	(17)	16	54	18

Table B-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	39	37	21	15	5	1	1	1	1	1	0	10
Wet	0	32	31	1	1	0	-	-	-	-	-	-	5
Above Normal	-	33	31	14	10	7	2	2	2	2	2	1	9
Below Normal	0	48	45	29	20	5	-	-	-	-	-	-	12
Dry	-	38	36	31	22	4	-	-	-	-	-	-	11
Critical Dry	1	51	48	44	35	17	9	9	9	8	7	1	20

Table B-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Below Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	0	0	0	0	0	(0)	(0)	(0)	(0)	(0)
Critical Dry	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(0)

Table B-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(59)	(69)	(71)	(65)	(56)	(47)	(38)	(32)	(29)	(34)	(42)	(49)	(49)
Wet	(62)	(72)	(70)	(55)	(39)	(27)	(17)	(10)	(9)	(19)	(30)	(41)	(38)
Above Normal	(57)	(68)	(70)	(63)	(50)	(39)	(29)	(21)	(19)	(28)	(40)	(50)	(44)
Below Normal	(58)	(67)	(69)	(67)	(62)	(53)	(42)	(34)	(30)	(31)	(35)	(40)	(49)
Dry	(55)	(69)	(72)	(71)	(67)	(61)	(53)	(48)	(46)	(46)	(51)	(56)	(58)
Critical Dry	(66)	(74)	(75)	(74)	(71)	(67)	(64)	(61)	(60)	(63)	(69)	(69)	(68)

Table B-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(19)	(20)	(20)	(18)	(15)	(12)	(9)	(7)	(7)	(10)	(14)	(17)	(14)
Wet	(17)	(18)	(15)	(8)	(4)	(1)	(0)	-	(0)	(2)	(5)	(8)	(7)
Above Normal	(16)	(17)	(17)	(14)	(10)	(5)	(2)	(0)	(0)	(3)	(6)	(9)	(8)
Below Normal	(23)	(24)	(24)	(23)	(22)	(18)	(13)	(6)	(5)	(8)	(12)	(15)	(16)
Dry	(18)	(20)	(20)	(21)	(21)	(19)	(15)	(13)	(14)	(18)	(22)	(26)	(19)
Critical Dry	(25)	(27)	(26)	(26)	(26)	(26)	(25)	(26)	(29)	(33)	(37)	(41)	(29)

Table B-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	(0)	(0)	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	0	0	(0)
Below Normal	(0)	(0)	(0)	0	0	0	0	0	-	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	0	0	(0)	0	0	(0)	0	0	0	(0)

Table B-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	2	5	4	1	1	1	0	0	0	0	0	1
Wet	0	2	3	2	2	1	1	0	0	-	-	(0)	1
Above Normal	0	2	4	4	2	2	1	1	0	-	-	0	1
Below Normal	0	3	6	5	2	1	1	0	0	-	-	(0)	1
Dry	0	2	5	4	0	0	0	0	-	-	-	0	1
Critical Dry	0	3	6	5	0	0	0	0	0	0	0	0	1

Table B-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	1	0	(0)	-	-	-	-	-	(0)	(0)	0	0
Wet	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Above Normal	1	1	0	-	-	-	-	-	-	0	0	(0)	0
Below Normal	1	2	0	-	-	-	-	-	-	(0)	(0)	0	0
Dry	1	1	0	-	-	-	-	-	-	(0)	(0)	0	0
Critical Dry	1	1	0	-	-	-	-	-	-	(0)	(0)	0	0

Table B-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	-	0	0	0	0	0	0	-	-	-	-	-	0
Above Normal	-	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal	0	0	0	0	0	0	0	-	-	-	-	-	0
Dry	-	0	0	0	0	0	0	-	-	-	-	-	0
Critical Dry	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(32)	(17)	(7)	(8)	(35)	(24)	(25)	(27)	(3)	(13)	(22)	(18)
Wet	(0)	(28)	(5)	(21)	(18)	(23)	(23)	(26)	(37)	(2)	(9)	(26)	(18)
Above Normal	(1)	(33)	(25)	(10)	1	(40)	(33)	(40)	(41)	(0)	(10)	(21)	(21)
Below Normal	(1)	(38)	(23)	(1)	(6)	(29)	(21)	(18)	(30)	(2)	(16)	(19)	(17)
Dry	(0)	(33)	(19)	1	(8)	(45)	(23)	(20)	(12)	(7)	(17)	(26)	(17)
Critical Dry	(1)	(24)	(14)	(0)	(7)	(40)	(19)	(21)	(3)	(3)	(9)	(16)	(13)

Table B-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(0)	(0)	(0)	0	(0)	(0)	(1)	(0)	-	-	-	(0)
Wet	-	(1)	(0)	(0)	-	-	(0)	(1)	(0)	-	-	-	(0)
Above Normal	-	-	-	(0)	0	(0)	-	(2)	(0)	-	-	-	(0)
Below Normal	-	-	-	-	-	(0)	-	0	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(34)	(13)	(2)	(11)	(34)	(26)	(23)	(29)	(4)	(20)	(19)	(18)
Wet	1	(30)	(2)	(21)	(18)	(23)	(24)	(23)	(35)	(2)	(18)	(22)	(18)
Above Normal	1	(34)	(18)	(10)	(14)	(36)	(33)	(31)	(40)	(0)	(19)	(18)	(21)
Below Normal	(0)	(41)	(19)	4	(7)	(27)	(21)	(16)	(32)	(3)	(22)	(18)	(17)
Dry	1	(33)	(15)	11	(8)	(46)	(27)	(21)	(19)	(9)	(23)	(22)	(18)
Critical Dry	(0)	(30)	(8)	10	(8)	(42)	(30)	(28)	(11)	(5)	(11)	(11)	(14)

Table B-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	-	-	-	-	-	0	-	-	-	-	0
Wet	-	-	-	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	2	-	-	-	-	0
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(37)	(36)	(27)	(30)	(41)	(36)	(33)	(18)	(7)	(25)	(5)	(25)
Wet	(2)	(18)	(104)	(47)	(31)	1	(21)	(33)	(26)	(2)	(18)	(9)	(26)
Above Normal	2	(28)	(26)	(86)	(48)	(65)	(48)	(47)	(21)	(0)	(21)	(5)	(33)
Below Normal	(2)	(60)	(11)	4	(25)	(44)	(55)	(31)	(30)	(8)	(27)	(2)	(24)
Dry	(1)	(33)	(12)	2	(24)	(59)	(29)	(27)	(4)	(18)	(34)	(6)	(20)
Critical Dry	(1)	(52)	(9)	3	(11)	(37)	(19)	(15)	(1)	(3)	(25)	(2)	(14)

Table B-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(1)	(2)	(1)	0	(2)	(1)	(1)	(0)	0	0	(1)	(1)
Wet	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(0)	1	(2)	(1)
Above Normal	(0)	(1)	(2)	(1)	2	(2)	(1)	(2)	(1)	0	1	(1)	(1)
Below Normal	(0)	(1)	(2)	(1)	(0)	(1)	(1)	(1)	(1)	0	0	(1)	(1)
Dry	(0)	(1)	(2)	(1)	(0)	(2)	(0)	(1)	1	0	0	(2)	(1)
Critical Dry	(0)	(0)	(1)	(1)	(0)	(1)	1	0	1	0	(0)	(1)	(0)

Table B-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(4)	(3)	(0)	(1)	(3)	(2)	(2)	(3)	(0)	(2)	(2)	(2)
Wet	-	(4)	(3)	(2)	(1)	(2)	(2)	(2)	(3)	(0)	(2)	(2)	(2)
Above Normal	-	(4)	(3)	(1)	(1)	(3)	(3)	(3)	(4)	(0)	(2)	(2)	(2)
Below Normal	-	(4)	(3)	0	(1)	(2)	(2)	(2)	(3)	(0)	(2)	(2)	(2)
Dry	-	(4)	(2)	1	(1)	(4)	(2)	(2)	(2)	(1)	(2)	(2)	(2)
Critical Dry	-	(3)	(1)	1	(1)	(4)	(3)	(3)	(1)	(0)	(1)	(1)	(1)

Table B-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(33)	(10)	(7)	(17)	(23)	(20)	(26)	(15)	(7)	(25)	(5)	(16)
Wet	(2)	(11)	(7)	(35)	(20)	13	(16)	(25)	(19)	(1)	(18)	(9)	(13)
Above Normal	4	(28)	(17)	(7)	(21)	(33)	(33)	(37)	(17)	(0)	(21)	(5)	(18)
Below Normal	(1)	(58)	(8)	6	(17)	(26)	(18)	(21)	(24)	(8)	(27)	(2)	(17)
Dry	(1)	(27)	(9)	3	(15)	(41)	(15)	(24)	(4)	(18)	(34)	(6)	(16)
Critical Dry	(1)	(51)	(9)	4	(9)	(35)	(18)	(15)	(1)	(3)	(24)	(2)	(14)

Table B-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(4)	(4)	(3)	(2)	(4)	(4)	(3)	(2)	(3)	(3)	(4)	(3)
Wet	(2)	(3)	(2)	-	-	(0)	(0)	-	(0)	(1)	(1)	(1)	(1)
Above Normal	(3)	(4)	(4)	(2)	(0)	(0)	-	(0)	(0)	(1)	(1)	(2)	(1)
Below Normal	(5)	(5)	(6)	(5)	(3)	(4)	(4)	(3)	(2)	(2)	(2)	(4)	(4)
Dry	(6)	(7)	(8)	(7)	(7)	(10)	(10)	(9)	(7)	(6)	(5)	(7)	(7)
Critical Dry	(3)	(4)	(4)	(4)	(3)	(6)	(7)	(7)	(6)	(6)	(6)	(7)	(5)

Table B-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(4)	(3)	(3)	(2)	(1)	(2)	(2)	(4)	(5)	(4)	(4)	(3)
Wet	(3)	(3)	(2)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(1)
Above Normal	(3)	(1)	(1)	(1)	(1)	0	0	(0)	(1)	(1)	(1)	(1)	(1)
Below Normal	(5)	(5)	(5)	(5)	(1)	(0)	(4)	(5)	(7)	(7)	(7)	(7)	(5)
Dry	(6)	(6)	(5)	(4)	(4)	(3)	(5)	(6)	(9)	(10)	(9)	(9)	(6)
Critical Dry	(3)	(4)	(4)	(4)	(4)	(3)	(3)	(2)	(5)	(9)	(5)	(6)	(4)

Table B-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Wet	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Above Normal	(1)	(1)	(1)	(1)	(0)	0	0	0	0	0	(0)	(0)	(0)
Below Normal	(1)	(0)	(0)	(0)	(0)	0	0	0	0	(0)	(0)	(1)	(0)
Dry	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Critical Dry	(2)	(3)	(3)	(2)	(2)	(3)	(3)	(2)	(2)	(2)	(1)	(0)	(2)

Table B-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(3)	(2)
Wet	(3)	(3)	(2)	(1)	(0)	(0)	(0)	(0)	(0)	(1)	(2)	(2)	(1)
Above Normal	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(0)	(0)	(1)	(2)	(2)	(1)
Below Normal	(2)	(2)	(3)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(2)	(2)
Dry	(3)	(4)	(3)	(3)	(3)	(3)	(4)	(5)	(6)	(4)	(3)	(3)	(4)
Critical Dry	(3)	(3)	(3)	(3)	(3)	(3)	(4)	(4)	(6)	(5)	(5)	(5)	(4)

Table B-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(26)	(21)	(35)	(41)	(29)	(43)	(47)	(54)	(13)	(21)	(14)	(29)
Wet	(0)	(34)	(41)	(73)	(47)	(33)	(39)	(42)	(51)	(9)	(20)	(29)	(35)
Above Normal	0	(10)	(15)	(46)	(61)	(68)	(47)	(38)	(49)	(4)	(14)	(21)	(31)
Below Normal	(0)	(33)	(22)	(9)	(52)	(43)	(61)	(67)	(62)	(4)	(23)	(4)	(32)
Dry	0	(10)	(4)	(12)	(21)	0	(52)	(51)	(68)	(31)	(31)	(4)	(24)
Critical Dry	(12)	(27)	(3)	(9)	(15)	3	(8)	(29)	(34)	(23)	(12)	(3)	(14)

Table B-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	2	(6)	(2)	(13)	(3)	17	6	26	5	3	5	3
Wet	(11)	3	(2)	(4)	(1)	(2)	(0)	(0)	4	(3)	4	8	(0)
Above Normal	(9)	(13)	0	0	(1)	(2)	1	1	10	10	(1)	5	0
Below Normal	(0)	2	(13)	(2)	(54)	(5)	56	11	41	3	11	7	5
Dry	(15)	(4)	(13)	(0)	(1)	(4)	22	16	57	16	15	(2)	7
Critical Dry	(0)	18	(0)	(5)	(0)	(2)	1	6	26	12	(18)	2	3

Table B-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	4	(2)	(4)	(9)	(3)	2	7	9	0	4	1	1
Wet	(4)	(1)	(13)	(7)	(19)	(2)	(3)	(0)	3	13	11	12	(1)
Above Normal	(3)	20	2	(1)	(13)	(13)	(1)	(0)	3	9	11	4	1
Below Normal	1	1	10	(6)	(7)	(5)	1	10	14	3	2	(19)	0
Dry	2	7	1	0	(0)	1	14	17	8	(26)	(16)	(1)	1
Critical Dry	1	2	(1)	(0)	(0)	2	6	11	19	(11)	7	9	4

Table B-3-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(20)	(30)	(45)	(57)	(37)	(22)	(36)	(21)	3	(6)	(1)	(23)
Wet	(4)	(27)	(73)	(98)	(80)	(35)	(36)	(48)	(44)	(0)	(5)	(5)	(38)
Above Normal	(11)	(8)	(15)	(48)	(83)	(101)	(47)	(38)	(36)	15	(0)	(0)	(31)
Below Normal	(1)	(37)	(3)	(18)	(62)	(62)	(2)	(49)	(9)	7	(7)	0	(20)
Dry	0	(8)	(26)	(13)	(24)	(1)	(20)	(13)	(0)	(0)	(5)	3	(9)
Critical Dry	0	(4)	0	(11)	(11)	11	(2)	(18)	(0)	(1)	(12)	(2)	(4)

Table B-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	0	(1)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)
Wet	(0)	0	0	0	0	(0)	(0)	0	0	0	0	(0)	0
Above Normal	(0)	(0)	0	0	(0)	0	(0)	0	(0)	0	(0)	(0)	(0)
Below Normal	0	1	(0)	(0)	(4)	0	(0)	0	(0)	(0)	0	0	(0)
Dry	(0)	0	(0)	0	(0)	(1)	0	(0)	(0)	(1)	(0)	0	(0)
Critical Dry	(1)	0	0	0	(0)	0	(0)	(0)	(0)	(0)	(0)	0	(0)

Table B-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	0	(0)	(0)	-	(0)	0	(0)	(0)	0	0
Wet	-	0	(0)	0	(0)	-	-	(0)	0	(0)	-	-	0
Above Normal	(0)	0	(0)	-	-	-	-	-	-	(0)	-	-	(0)
Below Normal	-	0	(0)	-	0	-	-	-	-	(0)	(0)	0	0
Dry	(1)	0	(0)	-	-	-	-	-	-	(0)	(0)	-	(0)
Critical Dry	-	(0)	0	-	-	(0)	-	-	-	(0)	-	-	(0)

Table B-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	-	-	-	-	-	-	-	-	-	0
Wet	0	-	-	-	-	-	-	-	-	-	-	-	0
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	0	-	-	-	-	-	-	-	-	-	-	0
Dry	-	-	0	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-3-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(0)	0	0	0	0	0	0	0	0	0	0	0
Wet	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal	0	0	0	0	0	0	0	0	0	0	0	(0)	0
Below Normal	0	(0)	0	0	0	0	0	0	0	0	0	0	0
Dry	(0)	(0)	0	0	0	0	0	0	0	0	0	0	0
Critical Dry	0	(0)	0	0	0	0	(0)	(0)	0	0	0	0	0

Table B-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(26)	(22)	(35)	(40)	(29)	(43)	(47)	(54)	(13)	(21)	(15)	(29)
Wet	(0)	(34)	(22)	(73)	(47)	(33)	(39)	(42)	(51)	(9)	(20)	(30)	(33)
Above Normal	(0)	(20)	(7)	(46)	(61)	(68)	(47)	(38)	(49)	(3)	(14)	(21)	(31)
Below Normal	2	(35)	(30)	(8)	(52)	(43)	(61)	(67)	(62)	(4)	(23)	(3)	(32)
Dry	2	(4)	(38)	(14)	(17)	0	(52)	(51)	(68)	(31)	(31)	(6)	(26)
Critical Dry	(23)	(21)	(2)	(9)	(15)	1	(7)	(29)	(34)	(23)	(12)	(5)	(15)

Table B-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(26)	(22)	(35)	(40)	(29)	(43)	(47)	(54)	(13)	(21)	(15)	(29)
Wet	(0)	(34)	(22)	(73)	(47)	(33)	(39)	(42)	(51)	(9)	(20)	(30)	(33)
Above Normal	(0)	(20)	(7)	(46)	(61)	(68)	(47)	(38)	(49)	(3)	(14)	(21)	(31)
Below Normal	2	(35)	(30)	(8)	(52)	(43)	(61)	(67)	(62)	(4)	(23)	(4)	(32)
Dry	2	(4)	(38)	(14)	(17)	0	(52)	(51)	(68)	(31)	(31)	(6)	(26)
Critical Dry	(20)	(19)	(2)	(9)	(15)	1	(7)	(29)	(34)	(23)	(12)	(5)	(15)

Table B-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(26)	(22)	(35)	(40)	(29)	(43)	(47)	(54)	(13)	(21)	(15)	(29)
Wet	(0)	(34)	(22)	(73)	(47)	(33)	(39)	(42)	(51)	(9)	(20)	(29)	(33)
Above Normal	(0)	(21)	(7)	(46)	(62)	(69)	(47)	(38)	(49)	(3)	(14)	(21)	(31)
Below Normal	2	(36)	(30)	(8)	(52)	(43)	(62)	(67)	(62)	(4)	(23)	(3)	(32)
Dry	2	(4)	(38)	(14)	(17)	0	(52)	(51)	(69)	(31)	(31)	(6)	(26)
Critical Dry	(21)	(19)	(2)	(9)	(15)	2	(7)	(29)	(35)	(23)	(12)	(5)	(14)

Table B-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(26)	(22)	(35)	(40)	(29)	(43)	(47)	(54)	(13)	(21)	(14)	(29)
Wet	(0)	(34)	(22)	(73)	(47)	(33)	(39)	(42)	(51)	(9)	(20)	(28)	(33)
Above Normal	(0)	(21)	(7)	(46)	(62)	(69)	(47)	(38)	(49)	(3)	(14)	(21)	(31)
Below Normal	2	(36)	(30)	(8)	(52)	(43)	(62)	(67)	(62)	(4)	(23)	(3)	(32)
Dry	2	(4)	(38)	(14)	(17)	0	(52)	(51)	(68)	(31)	(29)	(6)	(26)
Critical Dry	(21)	(19)	(2)	(9)	(15)	2	(7)	(29)	(35)	(23)	(14)	(5)	(15)

Table B-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.09	0.08	0.13	0.06	0.04	0.05	0.03	0.12	0.07	0.03	0.07	0.18	0.08
Wet	(0.04)	(0.11)	0.04	0.16	0.05	0.04	0.03	0.04	0.05	0.06	0.07	0.01	0.03
Above Normal	0.06	(0.04)	(0.04)	(0.04)	(0.00)	0.02	0.04	0.02	(0.02)	0.09	0.05	0.03	0.01
Below Normal	(0.08)	(0.02)	(0.12)	0.09	0.05	0.08	0.11	0.16	0.20	(0.03)	0.02	0.19	0.05
Dry	0.00	(0.02)	(0.00)	(0.03)	(0.02)	(0.11)	0.05	0.12	(0.02)	(0.03)	(0.01)	0.06	(0.00)
Critical Dry	0.82	0.95	1.08	0.02	0.08	0.25	(0.12)	0.29	0.05	0.09	0.24	0.77	0.38

Table B-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.07	0.04	0.09	0.06	0.03	0.04	0.05	0.10	0.10	0.04	0.06	0.13	0.07
Wet	(0.02)	(0.11)	0.02	0.16	0.05	0.04	0.03	0.04	0.05	0.06	0.07	0.02	0.03
Above Normal	0.04	(0.03)	(0.04)	(0.04)	(0.00)	0.02	0.05	0.03	(0.01)	0.08	0.05	0.04	0.02
Below Normal	(0.05)	(0.02)	(0.11)	0.07	0.05	0.08	0.11	0.15	0.23	(0.02)	0.02	0.17	0.06
Dry	0.03	(0.02)	(0.01)	(0.03)	(0.02)	(0.11)	0.09	0.09	0.07	(0.02)	(0.01)	0.04	0.01
Critical Dry	0.55	0.64	0.84	0.01	0.06	0.16	(0.03)	0.21	0.09	0.16	0.18	0.48	0.28

Table B-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.05	0.02	0.06	0.06	0.04	0.04	0.06	0.10	0.13	0.05	0.07	0.11	0.07
Wet	(0.01)	(0.10)	0.02	0.15	0.05	0.04	0.04	0.04	0.06	0.06	0.08	0.04	0.04
Above Normal	0.04	(0.02)	(0.03)	(0.04)	0.01	0.04	0.07	0.03	0.01	0.07	0.06	0.06	0.02
Below Normal	(0.04)	(0.01)	(0.09)	0.06	0.07	0.10	0.12	0.16	0.26	(0.02)	0.03	0.14	0.06
Dry	0.03	(0.02)	(0.01)	(0.02)	(0.02)	(0.09)	0.10	0.13	0.15	0.02	0.02	0.03	0.03
Critical Dry	0.39	0.45	0.61	0.01	0.05	0.12	0.00	0.16	0.15	0.18	0.20	0.33	0.22

Modeling Technical Appendix – Attachment B-4. Absolute Change of Cumulative Conditions With Project to Existing Conditions Baseline

This attachment summarizes the absolute change of Cumulative Conditions With Project to Existing Conditions Baseline (2.1-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table B-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table B-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table B-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table B-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table B-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table B-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-4-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-4-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9,163)	(6,141)	(2,838)	(5,604)	(5,564)	(4,478)	(3,694)	(2,272)	(3,503)	(6,109)	(9,452)	(6,830)	(5,471)
Wet	(9,508)	(5,980)	(3,072)	(4,053)	(4,848)	(4,619)	(4,325)	(707)	(96)	(2,043)	(6,774)	(4,278)	(4,192)
Above Normal	(8,712)	(5,639)	(2,162)	(4,701)	(4,369)	(2,868)	(2,594)	(334)	(58)	(2,643)	(7,459)	(4,837)	(3,865)
Below Normal	(10,334)	(7,577)	(4,109)	(7,120)	(5,895)	(3,681)	(2,684)	(811)	(1,478)	(3,910)	(6,635)	(4,937)	(4,931)
Dry	(7,655)	(4,582)	(1,243)	(5,249)	(5,484)	(4,541)	(2,771)	(3,302)	(6,656)	(9,594)	(11,472)	(7,932)	(5,873)
Critical Dry	(10,397)	(8,310)	(4,888)	(8,859)	(9,693)	(9,925)	(10,008)	(12,239)	(17,561)	(21,551)	(23,489)	(20,618)	(13,128)

Table B-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(22)	(7)	0	0	(0)	(1)	(15)	(4)	(2)	(1)	(1)	(5)
Wet	-	(93)	(30)	0	0	(1)	(4)	(59)	(2)	-	-	-	(16)
Above Normal	(5)	(1)	(1)	0	(0)	(0)	(0)	(6)	(17)	(10)	(6)	(5)	(4)
Below Normal	-	-	-	-	-	(0)	(0)	-	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(1)	(1)	(1)	4	(70)	(5)	(4)	(0)	(1)	(7)
Wet	-	(1)	(4)	(3)	(3)	(3)	19	(105)	(4)	(1)	(1)	(4)	(9)
Above Normal	-	-	-	-	-	-	-	(148)	(18)	(18)	(0)	(0)	(15)
Below Normal	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(65)	(0)	(0)	(0)	(0)	(6)
Dry	(4)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1,975)	(3,401)	(4,271)	(4,515)	(4,293)	(3,859)	(3,395)	(3,051)	(3,032)	(3,730)	(2,975)	(2,141)	(3,386)
Wet	(38)	(1,509)	(2,084)	(1,831)	(841)	(259)	(131)	(171)	(283)	(780)	107	963	(571)
Above Normal	(1,768)	(2,863)	(3,722)	(4,196)	(4,063)	(2,593)	(1,684)	(1,244)	(1,257)	(1,901)	(1,282)	(388)	(2,247)
Below Normal	(4,145)	(5,867)	(6,634)	(7,008)	(7,073)	(6,929)	(6,017)	(5,001)	(4,497)	(5,202)	(4,446)	(3,588)	(5,534)
Dry	(1,153)	(2,588)	(3,645)	(4,014)	(4,082)	(4,202)	(4,072)	(3,958)	(4,138)	(5,151)	(4,418)	(3,687)	(3,759)
Critical Dry	(4,193)	(5,434)	(6,890)	(7,239)	(7,299)	(7,331)	(7,276)	(7,295)	(7,595)	(8,055)	(7,276)	(6,413)	(6,858)

Table B-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3,283)	(3,415)	(3,224)	(2,986)	(2,498)	(1,980)	(1,344)	(1,063)	(1,246)	(1,921)	(2,602)	(2,943)	(2,375)
Wet	(3,183)	(3,122)	(2,074)	(1,110)	(342)	(132)	-	(1)	(270)	(920)	(1,549)	(1,906)	(1,217)
Above Normal	(2,699)	(2,884)	(2,766)	(2,432)	(1,251)	(341)	(65)	-	(319)	(1,094)	(1,936)	(2,324)	(1,509)
Below Normal	(3,612)	(3,782)	(3,913)	(3,938)	(3,632)	(2,988)	(1,451)	(573)	(809)	(1,602)	(2,431)	(2,870)	(2,634)
Dry	(3,324)	(3,527)	(3,653)	(3,799)	(3,766)	(3,195)	(2,407)	(2,270)	(2,383)	(3,093)	(3,752)	(4,083)	(3,271)
Critical Dry	(3,927)	(4,155)	(4,343)	(4,501)	(4,619)	(4,694)	(4,719)	(4,385)	(4,058)	(4,153)	(4,239)	(4,180)	(4,331)

Table B-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(27)	(49)	(98)	(40)	(31)	(36)	(36)	1	(17)	(17)	38	(11)	(27)
Wet	(88)	(72)	(238)	(144)	(117)	(104)	(103)	(23)	-	-	39	0	(71)
Above Normal	(1)	(64)	(130)	(55)	(54)	(56)	(56)	16	(3)	(3)	125	19	(22)
Below Normal	(45)	(2)	(7)	35	40	17	17	12	(12)	18	99	11	15
Dry	(3)	(74)	(68)	(18)	(9)	(21)	(21)	(2)	(49)	(74)	(64)	(57)	(38)
Critical Dry	61	(8)	27	10	8	5	5	5	(20)	(35)	(42)	(42)	(2)

Table B-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	1,232	1,739	595	322	212	192	36	0	0	0	18	362
Wet	4	886	915	538	441	252	182	69	-	-	-	-	274
Above Normal	(1)	1,166	1,703	924	604	514	504	98	-	-	-	1	459
Below Normal	1	1,515	2,254	845	341	232	222	0	-	-	-	9	452
Dry	4	1,262	1,900	240	55	(17)	(17)	-	-	-	-	63	291
Critical Dry	5	1,477	2,218	299	41	(13)	0	4	3	2	2	4	337

Table B-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7	96	(2)	-	-	-	-	-	-	(78)	(31)	(3)	(1)
Wet	2	104	(8)	-	-	-	-	-	-	(54)	(38)	(15)	(1)
Above Normal	14	91	-	-	-	-	-	-	-	(128)	(80)	(24)	(11)
Below Normal	17	123	-	-	-	-	-	-	-	(119)	(33)	8	(0)
Dry	(1)	60	-	-	-	-	-	-	-	(41)	1	10	2
Critical Dry	3	111	-	-	-	-	-	-	-	(20)	17	18	11

Table B-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	38	35	20	14	5	1	1	1	1	1	0	10
Wet	0	30	29	0	-	-	-	-	-	-	-	-	5
Above Normal	-	32	30	13	9	6	2	2	2	2	2	1	8
Below Normal	0	47	44	27	18	5	-	-	-	-	-	-	12
Dry	-	37	34	29	21	4	-	-	-	-	-	-	10
Critical Dry	1	51	48	44	35	17	9	9	9	8	7	1	20

Table B-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(4)	(2)	(2)	(3)	(2)	(2)	(1)	(1)	(2)	(3)	(3)	(2)
Wet	(4)	(4)	(2)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(2)	(2)	(2)
Above Normal	(3)	(4)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(0)	(2)	(2)	(2)
Below Normal	(5)	(5)	(3)	(3)	(3)	(2)	(1)	(1)	(0)	(1)	(2)	(2)	(2)
Dry	(3)	(3)	(1)	(2)	(3)	(2)	(2)	(1)	(2)	(3)	(4)	(4)	(2)
Critical Dry	(4)	(5)	(3)	(4)	(5)	(5)	(5)	(5)	(7)	(9)	(11)	(11)	(6)

Table B-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	(7)	(10)	(11)	(10)	(9)	(7)	(6)	(6)	(7)	(7)	(6)	(7)
Wet	(1)	(2)	(4)	(4)	(2)	(1)	(0)	(0)	(0)	(1)	(1)	1	(1)
Above Normal	(4)	(6)	(9)	(9)	(9)	(6)	(4)	(2)	(2)	(3)	(3)	(2)	(5)
Below Normal	(9)	(13)	(16)	(16)	(16)	(14)	(12)	(9)	(8)	(9)	(9)	(8)	(12)
Dry	(2)	(5)	(8)	(9)	(10)	(9)	(9)	(8)	(8)	(10)	(10)	(9)	(8)
Critical Dry	(9)	(13)	(17)	(20)	(20)	(19)	(18)	(18)	(18)	(20)	(20)	(18)	(17)

Table B-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(12)	(13)	(12)	(11)	(10)	(8)	(6)	(4)	(4)	(5)	(8)	(10)	(9)
Wet	(11)	(12)	(10)	(6)	(2)	(1)	(0)	-	(0)	(2)	(4)	(6)	(4)
Above Normal	(9)	(10)	(10)	(9)	(6)	(3)	(1)	(0)	(0)	(2)	(5)	(7)	(5)
Below Normal	(13)	(14)	(15)	(14)	(13)	(11)	(7)	(2)	(2)	(4)	(7)	(9)	(9)
Dry	(11)	(12)	(13)	(13)	(14)	(12)	(9)	(8)	(8)	(9)	(12)	(15)	(11)
Critical Dry	(15)	(17)	(17)	(18)	(18)	(18)	(18)	(17)	(16)	(16)	(18)	(19)	(17)

Table B-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)
Wet	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	0	0	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	0	0	(0)
Below Normal	(0)	(0)	(0)	0	0	0	0	0	0	(0)	0	0	0
Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Critical Dry	0	0	(0)	0	0	0	0	0	(0)	(0)	(0)	(0)	0

Table B-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	2	4	4	1	1	1	0	0	0	0	0	1
Wet	0	2	3	2	1	1	1	0	0	-	-	(0)	1
Above Normal	0	2	4	4	2	2	2	1	0	-	-	(0)	1
Below Normal	0	2	6	5	2	1	1	0	0	-	-	(0)	1
Dry	0	2	5	4	0	0	(0)	(0)	-	-	-	0	1
Critical Dry	0	3	6	5	0	0	(0)	0	0	0	0	(0)	1

Table B-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Wet	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Above Normal	0	1	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Below Normal	0	1	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Dry	(0)	0	0	-	-	-	-	-	-	(0)	(0)	0	0
Critical Dry	0	1	0	-	-	-	-	-	-	(0)	(0)	0	0

Table B-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	-	0	0	0	-	-	-	-	-	-	-	-	0
Above Normal	-	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal	0	0	0	0	0	0	0	-	-	-	-	-	0
Dry	-	0	0	0	0	0	0	-	-	-	-	-	0
Critical Dry	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(29)	(99)	(73)	(20)	(19)	(35)	(35)	(55)	(76)	(60)	(63)	(153)	(60)
Wet	(33)	(103)	(63)	(41)	7	(6)	(16)	(64)	(96)	(68)	(44)	(160)	(57)
Above Normal	(32)	(101)	(77)	(29)	(19)	(42)	(23)	(50)	(101)	(59)	(46)	(160)	(62)
Below Normal	(25)	(102)	(79)	(9)	(39)	(58)	(41)	(64)	(93)	(64)	(79)	(143)	(66)
Dry	(29)	(97)	(74)	(8)	(27)	(42)	(59)	(51)	(47)	(61)	(86)	(163)	(62)
Critical Dry	(28)	(82)	(68)	(3)	(15)	(21)	(29)	(25)	(3)	(30)	(48)	(119)	(39)

Table B-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(1)	(1)	(1)	(5)	(0)	(4)	(1)	0	-	-	(1)
Wet	-	(9)	(4)	(6)	1	(12)	(0)	(13)	(2)	0	-	-	(4)
Above Normal	-	-	-	0	(5)	(9)	-	(4)	(1)	-	-	-	(1)
Below Normal	-	-	-	-	0	(3)	-	(0)	(1)	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(36)	(19)	2	3	(8)	(12)	(5)	(12)	(4)	(21)	(16)	(11)
Wet	1	(34)	(17)	(10)	1	(5)	(9)	(5)	(16)	(2)	(21)	(20)	(11)
Above Normal	1	(35)	(20)	(7)	4	(8)	(12)	(1)	(13)	(1)	(24)	(17)	(11)
Below Normal	(0)	(41)	(22)	8	7	(8)	(13)	(5)	(15)	(5)	(23)	(15)	(11)
Dry	0	(36)	(20)	12	1	(10)	(14)	(10)	(6)	(10)	(22)	(16)	(11)
Critical Dry	(0)	(35)	(12)	17	4	(9)	(13)	(7)	(3)	(5)	(10)	(7)	(7)

Table B-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	-	-	-	-	-	1	-	-	-	-	0
Wet	-	-	-	-	-	-	-	19	-	-	-	-	2
Above Normal	-	-	-	-	-	-	-	(17)	-	-	-	-	(1)
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(157)	(34)	(20)	(25)	(38)	(50)	(51)	(68)	(67)	(147)	(23)	(57)
Wet	(18)	(105)	(92)	(76)	21	21	(18)	(22)	(100)	(46)	(122)	(24)	(48)
Above Normal	(11)	(158)	(25)	(16)	(47)	(48)	(49)	(92)	(83)	(42)	(117)	(22)	(59)
Below Normal	(4)	(215)	(14)	5	(47)	(69)	(88)	(58)	(87)	(73)	(148)	(12)	(68)
Dry	(1)	(137)	(16)	(3)	(34)	(59)	(50)	(54)	(28)	(112)	(177)	(32)	(59)
Critical Dry	(9)	(201)	(7)	7	(9)	(29)	(31)	(11)	(1)	(38)	(203)	(28)	(47)

Table B-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4	(11)	(11)	6	(1)	(3)	(3)	(4)	0	4	5	(13)	(2)
Wet	4	(11)	(9)	2	2	2	(1)	(6)	(4)	2	10	(13)	(2)
Above Normal	4	(12)	(12)	5	(0)	(3)	(1)	(5)	(4)	4	9	(13)	(2)
Below Normal	4	(11)	(12)	6	(5)	(7)	(4)	(6)	(2)	3	3	(10)	(3)
Dry	4	(12)	(12)	9	(1)	(4)	(7)	(1)	6	5	1	(16)	(2)
Critical Dry	3	(9)	(11)	9	1	(0)	(1)	4	13	9	3	(12)	1

Table B-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(4)	(3)	0	0	(1)	(1)	(1)	(1)	(0)	(2)	(1)	(1)
Wet	-	(4)	(4)	(1)	(0)	(1)	(1)	(1)	(2)	(0)	(2)	(2)	(1)
Above Normal	-	(4)	(3)	(1)	0	(1)	(1)	(1)	(1)	(0)	(2)	(2)	(1)
Below Normal	-	(4)	(3)	1	1	(1)	(1)	(1)	(1)	(0)	(2)	(1)	(1)
Dry	-	(4)	(3)	1	0	(1)	(1)	(1)	(1)	(1)	(2)	(1)	(1)
Critical Dry	-	(3)	(2)	2	0	(1)	(1)	(1)	(0)	(0)	(1)	(1)	(1)

Table B-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(154)	(15)	(14)	(18)	(25)	(34)	(42)	(64)	(67)	(147)	(23)	(51)
Wet	(18)	(98)	(28)	(64)	25	29	(13)	(33)	(93)	(45)	(122)	(24)	(40)
Above Normal	(11)	(157)	(16)	(5)	(34)	(36)	(34)	(41)	(80)	(42)	(117)	(22)	(50)
Below Normal	(3)	(214)	(8)	7	(39)	(53)	(50)	(54)	(82)	(73)	(148)	(12)	(61)
Dry	(1)	(131)	(13)	(3)	(28)	(40)	(40)	(51)	(28)	(112)	(177)	(32)	(55)
Critical Dry	(9)	(200)	(7)	7	(7)	(27)	(29)	(11)	(1)	(38)	(203)	(28)	(46)

Table B-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(13)	(14)	(14)	(11)	(8)	(9)	(8)	(7)	(5)	(6)	(6)	(11)	(9)
Wet	(9)	(10)	(4)	-	-	(0)	(0)	-	(0)	(2)	(2)	(4)	(3)
Above Normal	(11)	(15)	(16)	(11)	(2)	(2)	-	(0)	(0)	(3)	(5)	(7)	(6)
Below Normal	(16)	(15)	(17)	(17)	(10)	(9)	(6)	(3)	(2)	(3)	(3)	(12)	(9)
Dry	(19)	(20)	(24)	(22)	(21)	(27)	(23)	(20)	(15)	(12)	(11)	(20)	(20)
Critical Dry	(12)	(13)	(16)	(14)	(13)	(16)	(17)	(17)	(15)	(13)	(13)	(19)	(15)

Table B-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	(7)	(7)	(5)	(6)	(3)	(4)	(5)	(8)	(9)	(9)	(8)	(7)
Wet	(2)	(2)	(6)	(1)	(0)	0	(0)	(0)	(1)	(2)	(3)	(1)	(2)
Above Normal	(10)	(8)	(7)	(7)	(7)	1	0	(0)	(1)	(3)	(2)	(2)	(4)
Below Normal	(7)	(9)	(7)	(7)	(3)	(3)	(4)	(5)	(9)	(10)	(12)	(13)	(7)
Dry	(10)	(8)	(1)	(2)	(14)	(3)	(8)	(10)	(15)	(16)	(16)	(13)	(10)
Critical Dry	(12)	(14)	(14)	(14)	(14)	(12)	(12)	(12)	(18)	(22)	(14)	(16)	(14)

Table B-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(2)	(1)
Wet	(4)	(3)	(3)	(2)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(1)
Above Normal	1	(0)	(0)	(0)	1	0	0	0	0	0	(0)	(2)	(0)
Below Normal	(1)	(0)	(0)	0	(0)	(0)	(0)	(0)	(0)	(1)	(2)	(4)	(1)
Dry	(3)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(5)	(4)	(3)
Critical Dry	(2)	(3)	(3)	0	0	(2)	(3)	(2)	(2)	(2)	(2)	0	(1)

Table B-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(8)	(7)	(6)	(4)	(4)	(4)	(4)	(5)	(5)	(6)	(8)	(6)
Wet	(8)	(8)	(5)	(4)	(1)	(1)	(0)	(0)	(1)	(3)	(5)	(12)	(4)
Above Normal	(6)	(6)	(6)	(5)	(2)	(0)	(0)	(0)	(1)	(3)	(5)	(7)	(3)
Below Normal	(7)	(7)	(9)	(7)	(4)	(3)	(3)	(4)	(7)	(7)	(7)	(4)	(6)
Dry	(11)	(11)	(9)	(10)	(10)	(10)	(12)	(13)	(14)	(8)	(6)	(6)	(10)
Critical Dry	(5)	(6)	(6)	(7)	(6)	(5)	(7)	(6)	(9)	(7)	(9)	(9)	(7)

Table B-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(87)	(80)	(73)	(81)	(31)	(78)	(88)	(111)	(69)	(70)	(63)	(69)
Wet	(4)	(99)	(177)	(120)	(30)	(28)	(28)	(79)	(105)	(59)	(61)	(125)	(76)
Above Normal	(1)	(32)	(57)	(138)	(190)	(63)	(72)	(53)	(101)	(31)	(41)	(118)	(75)
Below Normal	(3)	(125)	(56)	(22)	(144)	(76)	(117)	(114)	(105)	(60)	(77)	(22)	(77)
Dry	0	(73)	(7)	(46)	(44)	18	(162)	(116)	(157)	(105)	(98)	(7)	(66)
Critical Dry	(11)	(65)	(12)	(26)	(38)	4	(33)	(63)	(91)	(93)	(71)	(11)	(43)

Table B-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(22)	4	1	(12)	25	(0)	21	14	49	28	14	8	11
Wet	(46)	(10)	56	(13)	(1)	5	(0)	(0)	11	9	12	10	3
Above Normal	(16)	(8)	(5)	1	(0)	(12)	5	2	19	22	(9)	36	3
Below Normal	(2)	13	(21)	(3)	(21)	(1)	19	22	54	32	54	38	15
Dry	(29)	(9)	(72)	(6)	182	1	75	44	120	36	36	(45)	28
Critical Dry	(2)	46	4	(45)	(3)	(1)	21	10	67	59	(52)	(5)	8

Table B-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	4	(8)	(15)	(37)	(8)	3	8	18	1	17	31	1
Wet	(11)	(5)	(38)	(20)	(57)	(6)	(10)	(1)	9	35	35	122	4
Above Normal	6	25	2	(15)	(55)	(26)	(3)	(4)	6	32	41	27	3
Below Normal	6	1	29	(27)	(49)	(16)	(1)	17	33	25	4	(54)	(3)
Dry	(16)	6	(13)	(1)	1	2	30	22	13	(101)	(18)	(3)	(6)
Critical Dry	(1)	9	(5)	(1)	(0)	2	10	5	30	(18)	20	12	5

Table B-4-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(52)	(134)	(118)	(27)	(65)	(54)	(68)	(45)	1	(13)	(12)	(49)
Wet	(15)	(79)	(143)	(223)	(119)	(23)	(33)	(82)	(85)	(18)	(14)	(34)	(72)
Above Normal	4	(18)	(487)	(154)	30	(146)	(70)	(57)	(77)	30	0	0	(79)
Below Normal	(4)	(82)	(50)	(54)	(196)	(88)	(103)	(78)	(22)	11	(8)	(5)	(56)
Dry	10	(34)	(73)	(55)	335	(127)	(59)	(47)	(19)	3	(12)	2	(6)
Critical Dry	(7)	(1)	(14)	(40)	(29)	23	(4)	(54)	(0)	(3)	(31)	(3)	(14)

Table B-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(0)	1	(0)	(2)	(0)	(0)	0	(0)	(1)	(1)	2	(0)
Wet	(1)	(0)	0	1	0	1	0	0	0	0	0	3	0
Above Normal	(1)	0	5	0	(1)	(3)	(0)	0	(0)	(1)	(1)	(1)	(0)
Below Normal	0	1	1	0	(4)	(0)	(0)	(0)	(0)	(0)	(0)	1	(0)
Dry	(1)	(3)	(2)	(1)	(7)	0	(0)	(0)	(0)	(2)	(2)	0	(2)
Critical Dry	0	1	1	(2)	(0)	0	(0)	1	0	(1)	(4)	2	(0)

Table B-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	1	(0)	0	(0)	(0)	-	(0)	0	(0)	(0)	0	0
Wet	-	1	(0)	0	(0)	-	-	(0)	0	(0)	-	-	0
Above Normal	0	1	(1)	-	-	-	-	-	-	(0)	-	-	0
Below Normal	-	1	(1)	-	-	-	-	-	-	(0)	(0)	1	0
Dry	(1)	1	(0)	-	-	-	-	-	-	(1)	(0)	-	(0)
Critical Dry	-	(0)	0	-	-	(0)	-	-	-	(0)	-	-	(0)

Table B-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	-	-	-	-	-	-	-	-	-	(0)
Wet	(1)	-	-	-	-	-	-	-	-	-	-	-	(0)
Above Normal	(0)	0	-	-	-	-	-	-	-	-	-	-	0
Below Normal	-	0	-	-	-	-	-	-	-	-	-	-	0
Dry	0	-	0	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	0	-	-	-	-	-	-	-	-	-	0

Table B-4-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	(0)	0	0	0	0	0	0	0
Wet	0	0	0	0	0	0	(0)	0	0	0	0	0	0
Above Normal	0	0	0	0	0	0	0	0	0	0	0	(0)	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	0	0	0	(0)	(0)	0	0	0	0	0	(0)
Critical Dry	0	0	0	0	0	0	(0)	(0)	0	0	0	0	0

Table B-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(88)	(82)	(72)	(80)	(30)	(78)	(87)	(111)	(68)	(70)	(64)	(70)
Wet	(3)	(138)	(56)	(120)	(30)	(28)	(28)	(79)	(105)	(59)	(61)	(125)	(69)
Above Normal	(5)	(77)	(34)	(132)	(191)	(63)	(72)	(53)	(101)	(31)	(42)	(120)	(77)
Below Normal	5	(99)	(104)	(20)	(143)	(76)	(117)	(114)	(105)	(60)	(77)	(22)	(78)
Dry	4	(16)	(197)	(51)	(42)	23	(162)	(116)	(157)	(104)	(99)	(9)	(77)
Critical Dry	(22)	(56)	(7)	(24)	(40)	4	(35)	(60)	(91)	(93)	(72)	(16)	(43)

Table B-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(88)	(82)	(72)	(80)	(30)	(78)	(87)	(111)	(68)	(70)	(64)	(70)
Wet	(3)	(138)	(56)	(120)	(30)	(28)	(28)	(79)	(105)	(59)	(61)	(125)	(69)
Above Normal	(5)	(77)	(34)	(132)	(190)	(63)	(72)	(53)	(101)	(31)	(42)	(120)	(77)
Below Normal	5	(99)	(104)	(20)	(143)	(76)	(117)	(114)	(105)	(60)	(77)	(22)	(78)
Dry	4	(16)	(197)	(51)	(42)	22	(162)	(116)	(157)	(104)	(99)	(9)	(77)
Critical Dry	(20)	(54)	(7)	(24)	(40)	4	(35)	(60)	(91)	(93)	(72)	(16)	(42)

Table B-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(88)	(82)	(72)	(80)	(30)	(78)	(87)	(111)	(69)	(71)	(64)	(70)
Wet	(3)	(139)	(56)	(120)	(29)	(27)	(28)	(79)	(105)	(59)	(61)	(126)	(69)
Above Normal	(5)	(77)	(34)	(133)	(191)	(63)	(72)	(53)	(101)	(30)	(41)	(120)	(77)
Below Normal	5	(99)	(105)	(20)	(144)	(76)	(117)	(114)	(105)	(60)	(77)	(22)	(78)
Dry	4	(15)	(197)	(51)	(42)	23	(163)	(116)	(158)	(105)	(99)	(9)	(77)
Critical Dry	(20)	(54)	(6)	(24)	(39)	5	(35)	(60)	(92)	(94)	(73)	(15)	(42)

Table B-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(88)	(82)	(72)	(80)	(30)	(78)	(87)	(111)	(69)	(69)	(60)	(69)
Wet	(3)	(139)	(55)	(120)	(29)	(27)	(28)	(79)	(104)	(59)	(60)	(116)	(68)
Above Normal	(5)	(77)	(34)	(133)	(192)	(63)	(72)	(53)	(101)	(30)	(41)	(112)	(76)
Below Normal	5	(99)	(105)	(19)	(144)	(76)	(117)	(114)	(105)	(60)	(76)	(20)	(77)
Dry	4	(15)	(197)	(52)	(42)	23	(163)	(116)	(156)	(105)	(95)	(9)	(77)
Critical Dry	(21)	(52)	(6)	(24)	(39)	5	(35)	(59)	(92)	(94)	(73)	(15)	(42)

Table B-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.28	0.21	0.31	0.24	0.19	0.14	0.12	0.28	0.20	0.16	0.14	0.31	0.21
Wet	0.16	(0.10)	0.07	0.22	0.06	0.03	0.02	0.03	0.06	0.14	0.16	0.12	0.08
Above Normal	(0.32)	(0.26)	0.11	0.18	0.17	0.04	0.13	(0.04)	0.04	0.17	0.12	0.00	0.03
Below Normal	(0.06)	0.17	0.08	0.03	0.02	0.04	0.09	0.14	0.16	0.08	0.11	0.37	0.10
Dry	0.03	0.10	(0.05)	(0.12)	(0.04)	(0.28)	(0.15)	0.43	0.05	(0.01)	0.02	0.15	0.01
Critical Dry	1.95	1.53	1.89	1.06	1.06	1.11	0.66	1.12	0.88	0.53	0.27	1.10	1.10

Table B-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.18	0.14	0.22	0.19	0.17	0.11	0.10	0.22	0.21	0.20	0.16	0.24	0.18
Wet	0.14	(0.10)	0.04	0.22	0.06	0.03	0.02	0.04	0.08	0.16	0.16	0.16	0.08
Above Normal	(0.26)	(0.26)	0.09	0.13	0.17	0.06	0.15	(0.03)	0.05	0.17	0.14	0.06	0.04
Below Normal	(0.03)	0.13	0.07	0.02	0.03	0.06	0.10	0.15	0.22	0.09	0.13	0.31	0.11
Dry	0.02	0.07	(0.10)	(0.14)	(0.05)	(0.17)	(0.14)	0.33	0.23	0.05	0.07	0.13	0.02
Critical Dry	1.23	1.16	1.39	0.82	0.88	0.75	0.50	0.81	0.56	0.63	0.30	0.60	0.80

Table B-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.13	0.09	0.15	0.16	0.15	0.10	0.11	0.21	0.26	0.23	0.22	0.24	0.17
Wet	0.12	(0.08)	0.03	0.22	0.05	0.02	0.02	0.05	0.10	0.19	0.18	0.24	0.10
Above Normal	(0.20)	(0.24)	0.08	0.11	0.19	0.08	0.18	(0.01)	0.08	0.17	0.15	0.15	0.06
Below Normal	(0.03)	0.10	0.04	0.02	0.07	0.10	0.13	0.20	0.29	0.10	0.18	0.28	0.13
Dry	0.01	0.05	(0.12)	(0.12)	(0.04)	(0.13)	(0.05)	0.39	0.44	0.14	0.18	0.12	0.07
Critical Dry	0.8	0.8	1.0	0.6	0.7	0.5	0.4	0.6	0.5	0.7	0.4	0.4	0.6

Modeling Technical Appendix – Attachment B-5. Absolute Change of Cumulative Conditions With Project to Cumulative Conditions Baseline

This attachment summarizes the absolute change of Cumulative Conditions With Project to Cumulative Conditions Baseline (2.1-2.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table B-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table B-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table B-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table B-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. ..... - 7 -
Table B-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table B-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-5-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-5-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8,697)	(5,571)	(2,544)	(5,591)	(5,369)	(4,331)	(3,418)	(2,176)	(3,256)	(5,798)	(8,711)	(6,282)	(5,145)
Wet	(9,032)	(5,439)	(2,735)	(3,736)	(4,555)	(4,292)	(3,947)	(614)	(101)	(2,044)	(6,209)	(3,970)	(3,890)
Above Normal	(8,221)	(5,099)	(2,035)	(4,619)	(3,422)	(2,183)	(1,891)	(323)	(42)	(2,618)	(6,886)	(4,427)	(3,481)
Below Normal	(9,816)	(6,880)	(3,640)	(6,960)	(5,710)	(3,608)	(2,600)	(849)	(1,419)	(3,782)	(6,137)	(4,511)	(4,659)
Dry	(7,337)	(4,238)	(1,152)	(5,736)	(5,952)	(4,964)	(2,962)	(3,416)	(6,318)	(9,107)	(10,619)	(7,314)	(5,759)
Critical Dry	(9,740)	(7,287)	(4,217)	(8,818)	(9,613)	(9,706)	(9,152)	(10,960)	(15,812)	(19,704)	(21,516)	(18,949)	(12,123)

Table B-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(22)	(7)	0	0	(0)	(0)	(11)	(2)	(2)	(1)	(1)	(4)
Wet	-	(93)	(30)	0	0	(1)	(1)	(46)	5	-	-	-	(14)
Above Normal	(5)	(1)	(1)	0	(0)	(0)	(0)	(1)	(17)	(10)	(6)	(5)	(4)
Below Normal	-	-	-	-	-	(0)	(0)	-	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	(1)	(1)	(1)	(1)	4	(48)	(0)	1	1	0	(4)
Wet	-	(1)	(3)	(3)	(3)	(3)	19	(93)	(3)	3	3	(1)	(7)
Above Normal	-	-	-	-	-	-	-	(60)	4	4	4	4	(4)
Below Normal	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(62)	(1)	(1)	(1)	(1)	(6)
Dry	3	3	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	20,097	20,600	20,057	18,750	17,841	15,881	13,604	11,432	11,727	13,988	16,435	18,489	16,575
Wet	23,551	24,000	23,685	19,812	17,047	12,246	8,011	4,488	6,672	13,025	17,662	21,501	15,975
Above Normal	19,691	20,701	20,538	19,477	17,928	15,238	12,485	9,126	10,777	15,827	19,756	23,036	17,048
Below Normal	17,017	17,102	16,651	16,353	16,469	15,690	13,763	12,055	11,415	11,757	13,430	15,123	14,735
Dry	20,607	21,566	20,800	20,456	20,546	20,160	19,149	18,232	16,925	15,802	16,562	17,228	19,003
Critical Dry	18,566	17,855	16,166	15,796	15,818	15,630	15,260	14,738	13,800	13,185	13,072	12,295	15,182

Table B-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,662	1,630	1,506	1,376	1,213	1,012	893	817	1,057	1,253	1,370	1,622	1,284
Wet	1,328	1,238	862	585	215	88	-	-	39	236	539	912	504
Above Normal	1,674	1,647	1,499	1,177	880	377	190	68	26	280	387	699	742
Below Normal	1,877	1,871	1,862	1,821	1,817	1,654	1,511	1,001	1,136	1,354	1,402	1,627	1,578
Dry	1,767	1,756	1,741	1,770	1,708	1,584	1,464	1,568	2,123	2,240	2,242	2,401	1,864
Critical Dry	1,661	1,649	1,641	1,668	1,660	1,645	1,680	2,174	3,018	3,248	3,391	3,514	2,246

Table B-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	23	28	39	11	12	10	10	3	(3)	9	63	30	20
Wet	10	67	147	33	28	29	29	17	-	-	40	15	35
Above Normal	29	38	13	3	3	3	3	(7)	(1)	(1)	106	20	17
Below Normal	20	24	14	12	11	8	8	9	0	64	145	81	33
Dry	9	(14)	(7)	(4)	6	2	2	(6)	(7)	3	15	24	2
Critical Dry	88	31	7	4	4	4	4	4	(11)	(73)	(63)	(31)	(3)

Table B-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(20)	(79)	(71)	(27)	(3)	(2)	(1)	0	(1)	(1)	(1)	(49)	(21)
Wet	(17)	(100)	(82)	(74)	(29)	25	24	6	-	-	-	-	(21)
Above Normal	(8)	(69)	(65)	2	19	27	26	2	-	-	-	(122)	(16)
Below Normal	(24)	(43)	(39)	(15)	(2)	(14)	(13)	(0)	-	-	-	(30)	(15)
Dry	(26)	(126)	(117)	(21)	(0)	(28)	(26)	-	-	-	-	(16)	(30)
Critical Dry	(21)	(8)	(9)	(14)	1	(31)	(30)	(16)	(13)	(10)	(7)	(162)	(27)

Table B-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(28)	(24)	-	-	-	-	-	-	-	(49)	(19)	(35)	(13)
Wet	(14)	(11)	-	-	-	-	-	-	-	5	5	(3)	(1)
Above Normal	(26)	(19)	-	-	-	-	-	-	-	(157)	(73)	(27)	(25)
Below Normal	(42)	(40)	-	-	-	-	-	-	-	(66)	(25)	(43)	(18)
Dry	(31)	(25)	-	-	-	-	-	-	-	(11)	0	(63)	(11)
Critical Dry	(25)	(24)	-	-	-	-	-	-	-	(3)	2	(37)	(7)

Table B-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(1)	(1)	(1)	(0)	-	-	-	-	-	-	(0)
Wet	-	(2)	(2)	(1)	(1)	(0)	-	-	-	-	-	-	(1)
Above Normal	-	(1)	(1)	(1)	(1)	(1)	-	-	-	-	-	-	(0)
Below Normal	-	(2)	(2)	(1)	(1)	-	-	-	-	-	-	-	(0)
Dry	-	(1)	(1)	(1)	(1)	-	-	-	-	-	-	-	(0)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(4)	(2)	(2)	(3)	(2)	(2)	(1)	(1)	(2)	(3)	(3)	(2)
Wet	(4)	(4)	(2)	(2)	(2)	(2)	(2)	(1)	(0)	(0)	(2)	(2)	(2)
Above Normal	(3)	(3)	(2)	(2)	(2)	(1)	(1)	(0)	(0)	(0)	(2)	(2)	(2)
Below Normal	(4)	(4)	(3)	(3)	(3)	(2)	(1)	(1)	(0)	(1)	(2)	(2)	(2)
Dry	(3)	(3)	(1)	(2)	(3)	(2)	(2)	(1)	(2)	(3)	(4)	(4)	(2)
Critical Dry	(4)	(4)	(3)	(4)	(5)	(5)	(5)	(4)	(6)	(8)	(10)	(11)	(6)

Table B-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	54	62	61	54	46	39	31	25	23	27	35	43	42
Wet	61	70	66	51	37	26	17	10	9	18	30	41	36
Above Normal	53	62	61	53	42	33	25	19	16	25	37	49	40
Below Normal	49	54	53	51	46	39	30	25	22	22	26	32	37
Dry	53	64	64	62	58	52	45	40	38	37	41	47	50
Critical Dry	57	61	57	54	52	49	46	43	42	44	50	50	50

Table B-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8	8	7	6	6	4	4	3	4	5	6	7	6
Wet	6	6	5	3	1	0	0	-	0	0	1	2	2
Above Normal	7	7	7	6	4	3	1	0	0	0	1	2	3
Below Normal	9	10	9	9	8	7	5	4	3	4	5	6	7
Dry	7	8	7	8	7	7	6	5	7	9	10	11	8
Critical Dry	9	10	9	8	8	8	8	9	13	17	19	22	12

Table B-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	(0)	0	0	0	0
Wet	0	0	0	0	0	0	0	0	(0)	-	0	0	0
Above Normal	0	0	0	0	0	0	0	0	(0)	(0)	0	0	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	(0)	(0)	(0)	0	0	(0)	(0)	0	0	0	0
Critical Dry	0	0	0	0	0	0	0	0	0	(0)	(0)	(0)	0

Table B-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	(0)	0	0	0	0	-	-	0	(0)
Above Normal	(0)	(0)	(0)	(0)	0	0	0	0	0	-	-	(0)	(0)
Below Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	0	(0)
Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	(0)	(0)
Critical Dry	(0)	(0)	(0)	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Table B-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Wet	(0)	(0)	0	-	-	-	-	-	-	0	0	0	(0)
Above Normal	(0)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Below Normal	(1)	(1)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Dry	(1)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)

Table B-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	(0)
Wet	-	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	(0)
Above Normal	-	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	(0)
Below Normal	-	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	-	(0)
Dry	-	(0)	(0)	(0)	(0)	(0)	-	-	-	-	-	-	(0)
Critical Dry	-	0	-	-	-	-	-	-	-	-	-	-	0

Table B-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(29)	(67)	(55)	(13)	(11)	(1)	(11)	(30)	(49)	(57)	(50)	(131)	(42)
Wet	(33)	(75)	(58)	(21)	25	17	7	(38)	(60)	(67)	(35)	(134)	(39)
Above Normal	(31)	(68)	(52)	(19)	(20)	(2)	10	(11)	(60)	(58)	(36)	(140)	(40)
Below Normal	(24)	(64)	(56)	(9)	(33)	(29)	(21)	(45)	(63)	(62)	(63)	(124)	(49)
Dry	(28)	(64)	(55)	(9)	(19)	3	(36)	(31)	(35)	(54)	(68)	(137)	(44)
Critical Dry	(27)	(58)	(54)	(3)	(8)	18	(10)	(4)	0	(27)	(40)	(103)	(26)

Table B-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(1)	(1)	(1)	(5)	-	(3)	(1)	0	-	-	(1)
Wet	-	(8)	(3)	(6)	1	(12)	-	(12)	(2)	0	-	-	(4)
Above Normal	-	-	-	0	(5)	(8)	-	(2)	(0)	-	-	-	(1)
Below Normal	-	-	-	-	0	(2)	-	(0)	(1)	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(2)	(6)	5	14	26	14	17	18	(1)	(2)	3	7
Wet	(0)	(4)	(15)	10	19	19	15	18	20	0	(3)	2	7
Above Normal	(0)	(1)	(2)	2	18	28	21	30	27	(0)	(5)	1	10
Below Normal	0	(0)	(3)	3	14	19	8	11	16	(1)	(2)	3	6
Dry	(1)	(3)	(5)	1	9	36	13	11	13	(1)	2	6	7
Critical Dry	0	(5)	(4)	7	12	33	17	21	8	0	1	5	8

Table B-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	-	-	-	-	-	1	-	-	-	-	0
Wet	-	-	-	-	-	-	-	19	-	-	-	-	2
Above Normal	-	-	-	-	-	-	-	(19)	-	-	-	-	(2)
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(121)	1	7	5	3	(13)	(19)	(49)	(60)	(122)	(18)	(33)
Wet	(16)	(87)	12	(29)	52	19	2	11	(74)	(44)	(104)	(15)	(23)
Above Normal	(13)	(129)	1	71	1	17	(1)	(45)	(63)	(42)	(95)	(17)	(26)
Below Normal	(2)	(155)	(3)	1	(22)	(25)	(33)	(28)	(57)	(65)	(121)	(9)	(43)
Dry	0	(104)	(4)	(5)	(10)	(0)	(21)	(26)	(24)	(94)	(143)	(26)	(38)
Critical Dry	(7)	(149)	2	3	2	8	(11)	4	1	(34)	(178)	(26)	(32)

Table B-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4	(10)	(10)	7	(1)	(1)	(3)	(3)	1	4	5	(11)	(2)
Wet	4	(10)	(8)	3	3	3	(1)	(5)	(3)	2	8	(11)	(1)
Above Normal	4	(11)	(10)	6	(2)	(1)	(0)	(3)	(3)	4	9	(12)	(2)
Below Normal	4	(10)	(10)	7	(4)	(6)	(3)	(5)	(1)	3	3	(9)	(3)
Dry	5	(11)	(10)	10	(0)	(2)	(6)	(0)	5	5	1	(14)	(2)
Critical Dry	4	(9)	(10)	10	1	1	(2)	4	12	9	3	(10)	1

Table B-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(0)	(0)	0	1	2	1	2	2	(0)	(0)	0	1
Wet	-	(0)	(1)	1	1	2	1	2	2	0	(0)	0	1
Above Normal	-	(0)	(0)	0	2	2	2	3	2	0	(1)	0	1
Below Normal	-	(0)	(0)	0	1	2	1	1	1	(0)	(0)	0	0
Dry	-	(0)	(0)	0	1	3	1	1	1	(0)	0	1	1
Critical Dry	-	(0)	(0)	1	1	3	2	2	1	0	0	0	1

Table B-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(121)	(6)	(7)	(1)	(2)	(14)	(16)	(49)	(60)	(122)	(18)	(35)
Wet	(16)	(87)	(21)	(29)	45	16	2	(8)	(74)	(44)	(104)	(15)	(28)
Above Normal	(14)	(129)	1	2	(14)	(3)	(1)	(3)	(63)	(42)	(95)	(17)	(32)
Below Normal	(2)	(155)	(1)	1	(22)	(27)	(32)	(33)	(58)	(65)	(121)	(9)	(44)
Dry	0	(104)	(4)	(6)	(13)	0	(25)	(27)	(24)	(94)	(143)	(26)	(39)
Critical Dry	(7)	(149)	2	3	2	8	(11)	4	1	(35)	(179)	(26)	(32)

Table B-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(10)	(9)	(8)	(6)	(6)	(4)	(3)	(3)	(3)	(3)	(8)	(6)
Wet	(7)	(7)	(2)	-	-	0	0	-	(0)	(1)	(1)	(3)	(2)
Above Normal	(8)	(11)	(12)	(8)	(2)	(2)	-	(0)	(0)	(2)	(4)	(6)	(5)
Below Normal	(11)	(10)	(11)	(11)	(7)	(5)	(2)	(0)	(1)	(1)	(1)	(8)	(6)
Dry	(13)	(13)	(16)	(15)	(15)	(17)	(13)	(11)	(8)	(6)	(6)	(14)	(12)
Critical Dry	(9)	(9)	(11)	(11)	(10)	(10)	(10)	(10)	(9)	(7)	(7)	(12)	(10)

Table B-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(3)	(4)	(2)	(4)	(2)	(2)	(2)	(3)	(4)	(4)	(4)	(3)
Wet	1	1	(5)	(1)	(0)	0	(0)	(0)	(1)	(1)	(2)	(1)	(1)
Above Normal	(7)	(7)	(5)	(5)	(6)	1	0	(0)	(1)	(2)	(1)	(1)	(3)
Below Normal	(3)	(3)	(2)	(2)	(2)	(3)	0	(1)	(1)	(3)	(5)	(6)	(3)
Dry	(3)	(2)	3	3	(9)	0	(3)	(4)	(6)	(7)	(7)	(4)	(3)
Critical Dry	(9)	(10)	(11)	(10)	(10)	(9)	(9)	(10)	(12)	(13)	(10)	(10)	(10)

Table B-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	0	0	0	(0)	0	(0)	(0)	(1)	(1)	(0)
Wet	(3)	(2)	(2)	(0)	0	0	1	1	1	0	0	(1)	(0)
Above Normal	2	1	1	1	1	0	0	0	0	0	(0)	(2)	0
Below Normal	(0)	(0)	0	0	(0)	(1)	(0)	(0)	(0)	(0)	(2)	(3)	(1)
Dry	(3)	(2)	(2)	(1)	(1)	(1)	(1)	(1)	(3)	(2)	(3)	(3)	(2)
Critical Dry	0	0	0	3	3	1	0	0	0	(0)	(1)	0	1

Table B-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	(5)	(5)	(4)	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(5)	(3)
Wet	(5)	(5)	(4)	(3)	(0)	(0)	(0)	(0)	(0)	(2)	(3)	(10)	(3)
Above Normal	(4)	(4)	(4)	(4)	(1)	(0)	(0)	(0)	(0)	(2)	(4)	(5)	(2)
Below Normal	(5)	(5)	(6)	(5)	(2)	(2)	(2)	(2)	(3)	(4)	(4)	(2)	(3)
Dry	(8)	(7)	(6)	(7)	(7)	(7)	(8)	(8)	(8)	(4)	(3)	(3)	(6)
Critical Dry	(2)	(3)	(3)	(4)	(3)	(2)	(3)	(2)	(3)	(3)	(4)	(4)	(3)

Table B-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(61)	(59)	(38)	(40)	(2)	(35)	(41)	(57)	(55)	(49)	(49)	(41)
Wet	(3)	(64)	(136)	(47)	17	5	11	(37)	(54)	(50)	(41)	(96)	(41)
Above Normal	(1)	(22)	(43)	(93)	(129)	5	(25)	(15)	(52)	(27)	(27)	(97)	(44)
Below Normal	(2)	(92)	(34)	(12)	(92)	(33)	(56)	(47)	(43)	(56)	(54)	(19)	(45)
Dry	0	(63)	(3)	(34)	(23)	18	(110)	(65)	(88)	(73)	(66)	(3)	(43)
Critical Dry	1	(38)	(9)	(17)	(24)	2	(25)	(35)	(56)	(70)	(60)	(8)	(28)

Table B-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(15)	2	6	(10)	38	3	4	8	23	23	10	4	8
Wet	(34)	(13)	57	(9)	(1)	7	(0)	(0)	7	12	8	2	3
Above Normal	(6)	5	(5)	0	0	(10)	4	1	9	13	(8)	32	3
Below Normal	(2)	11	(8)	(2)	32	5	(36)	11	13	29	43	31	11
Dry	(15)	(6)	(59)	(6)	182	5	54	28	63	20	22	(43)	21
Critical Dry	(2)	28	5	(39)	(3)	1	20	5	41	47	(33)	(7)	5

Table B-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	0	(7)	(11)	(27)	(5)	1	1	9	1	13	30	0
Wet	(7)	(4)	(25)	(13)	(38)	(4)	(7)	(1)	6	22	23	111	5
Above Normal	9	5	0	(13)	(43)	(13)	(1)	(4)	3	23	30	22	1
Below Normal	5	0	19	(21)	(41)	(11)	(1)	7	19	22	2	(35)	(3)
Dry	(19)	(1)	(14)	(1)	1	1	17	5	5	(75)	(2)	(1)	(7)
Critical Dry	(2)	6	(3)	(1)	(0)	0	4	(6)	11	(6)	14	3	2

Table B-5-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(32)	(103)	(73)	29	(28)	(33)	(31)	(24)	(3)	(7)	(11)	(26)
Wet	(10)	(52)	(70)	(125)	(39)	12	3	(34)	(40)	(18)	(9)	(29)	(34)
Above Normal	15	(11)	(472)	(106)	113	(46)	(23)	(19)	(41)	16	0	1	(48)
Below Normal	(2)	(44)	(46)	(36)	(134)	(27)	(101)	(29)	(12)	4	(1)	(5)	(36)
Dry	10	(26)	(47)	(42)	359	(126)	(39)	(34)	(19)	3	(7)	(1)	3
Critical Dry	(8)	3	(14)	(29)	(18)	11	(3)	(36)	(0)	(2)	(18)	(2)	(10)

Table B-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(1)	1	(0)	(1)	0	0	0	(0)	(0)	(1)	1	(0)
Wet	(1)	(1)	0	0	0	1	0	(0)	(0)	0	0	3	0
Above Normal	(1)	0	5	0	(1)	(3)	(0)	0	(0)	(1)	(0)	(1)	(0)
Below Normal	0	(0)	1	0	0	(0)	(0)	(0)	0	(0)	(0)	1	0
Dry	(0)	(3)	(2)	(1)	(7)	1	(0)	0	(0)	(2)	(1)	0	(1)
Critical Dry	1	1	1	(2)	(0)	(0)	(0)	1	0	(1)	(3)	2	(0)

Table B-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	(0)	0	(0)	-	-	(0)	-	(0)	(0)	0	0
Wet	-	1	(0)	0	(0)	-	-	(0)	-	(0)	-	-	0
Above Normal	0	1	(1)	-	-	-	-	-	-	(0)	-	-	0
Below Normal	-	1	(1)	-	(0)	-	-	-	-	(0)	(0)	1	0
Dry	(0)	0	(0)	-	-	-	-	-	-	(1)	(0)	-	(0)
Critical Dry	-	(0)	0	-	-	-	-	-	-	(0)	-	-	(0)

Table B-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	-	-	-	-	-	-	-	-	-	(0)
Wet	(1)	-	-	-	-	-	-	-	-	-	-	-	(0)
Above Normal	(0)	0	-	-	-	-	-	-	-	-	-	-	0
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	0	-	0	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	0	-	-	-	-	-	-	-	-	-	0

Table B-5-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	(0)	(0)	0	0	0	0	0	0
Wet	0	0	0	0	0	0	(0)	(0)	0	0	0	0	0
Above Normal	0	0	0	0	0	0	0	0	0	0	0	(0)	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	0	0	0	(0)	(0)	0	0	0	(0)	0	(0)
Critical Dry	0	0	0	0	0	0	(0)	(0)	0	0	0	0	0

Table B-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(62)	(60)	(37)	(40)	(1)	(36)	(41)	(57)	(55)	(50)	(50)	(41)
Wet	(3)	(104)	(34)	(47)	17	6	11	(37)	(54)	(50)	(41)	(96)	(36)
Above Normal	(5)	(56)	(27)	(87)	(129)	5	(25)	(15)	(52)	(27)	(27)	(99)	(45)
Below Normal	3	(63)	(75)	(12)	(91)	(33)	(56)	(47)	(42)	(56)	(54)	(19)	(45)
Dry	1	(11)	(159)	(37)	(25)	22	(110)	(65)	(89)	(73)	(68)	(3)	(51)
Critical Dry	0	(34)	(5)	(15)	(25)	3	(28)	(31)	(57)	(70)	(60)	(11)	(28)

Table B-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(62)	(60)	(37)	(40)	(1)	(36)	(41)	(57)	(55)	(50)	(50)	(41)
Wet	(3)	(104)	(34)	(47)	17	5	11	(37)	(54)	(50)	(41)	(96)	(36)
Above Normal	(5)	(56)	(27)	(86)	(129)	5	(25)	(15)	(52)	(27)	(27)	(99)	(45)
Below Normal	3	(63)	(75)	(12)	(91)	(33)	(56)	(47)	(43)	(56)	(54)	(19)	(45)
Dry	1	(12)	(159)	(37)	(25)	22	(110)	(65)	(89)	(73)	(68)	(3)	(51)
Critical Dry	0	(34)	(5)	(15)	(25)	3	(28)	(31)	(56)	(70)	(60)	(11)	(28)

Table B-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(63)	(60)	(37)	(40)	(1)	(36)	(41)	(57)	(56)	(50)	(50)	(41)
Wet	(3)	(104)	(34)	(47)	18	6	11	(37)	(54)	(50)	(41)	(96)	(36)
Above Normal	(5)	(56)	(27)	(87)	(130)	6	(25)	(15)	(52)	(27)	(27)	(99)	(45)
Below Normal	3	(63)	(75)	(12)	(92)	(33)	(56)	(47)	(42)	(56)	(54)	(19)	(46)
Dry	1	(11)	(159)	(38)	(25)	23	(110)	(65)	(89)	(73)	(68)	(2)	(51)
Critical Dry	0	(35)	(4)	(15)	(25)	3	(28)	(31)	(57)	(71)	(61)	(10)	(28)

Table B-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(62)	(60)	(37)	(40)	(1)	(36)	(40)	(57)	(56)	(48)	(45)	(40)
Wet	(3)	(104)	(34)	(47)	18	6	12	(37)	(53)	(50)	(40)	(88)	(35)
Above Normal	(4)	(56)	(27)	(87)	(130)	6	(25)	(15)	(52)	(27)	(27)	(91)	(45)
Below Normal	3	(64)	(75)	(12)	(92)	(33)	(56)	(47)	(42)	(56)	(53)	(16)	(45)
Dry	1	(11)	(159)	(38)	(25)	23	(111)	(66)	(88)	(73)	(66)	(2)	(51)
Critical Dry	0	(33)	(4)	(15)	(25)	3	(28)	(30)	(57)	(71)	(58)	(10)	(27)

Table B-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.18	0.12	0.19	0.17	0.16	0.09	0.08	0.16	0.13	0.13	0.07	0.14	0.14
Wet	0.21	0.01	0.04	0.06	0.01	(0.00)	(0.01)	(0.00)	0.01	0.08	0.09	0.11	0.05
Above Normal	(0.38)	(0.22)	0.15	0.22	0.17	0.02	0.10	(0.06)	0.05	0.08	0.07	(0.03)	0.01
Below Normal	0.01	0.19	0.21	(0.06)	(0.03)	(0.05)	(0.02)	(0.02)	(0.05)	0.11	0.09	0.17	0.05
Dry	0.03	0.12	(0.04)	(0.09)	(0.02)	(0.17)	(0.21)	0.31	0.06	0.02	0.03	0.08	0.01
Critical Dry	1.13	0.59	0.81	1.04	0.97	0.86	0.78	0.83	0.83	0.44	0.03	0.33	0.72

Table B-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.11	0.10	0.13	0.13	0.13	0.08	0.05	0.12	0.11	0.15	0.10	0.11	0.11
Wet	0.17	0.01	0.02	0.06	0.01	(0.01)	(0.01)	(0.00)	0.02	0.10	0.09	0.14	0.05
Above Normal	(0.30)	(0.23)	0.13	0.18	0.17	0.04	0.10	(0.06)	0.06	0.09	0.08	0.01	0.02
Below Normal	0.01	0.14	0.18	(0.05)	(0.03)	(0.02)	(0.01)	0.01	(0.01)	0.11	0.11	0.14	0.05
Dry	(0.01)	0.09	(0.09)	(0.11)	(0.03)	(0.06)	(0.23)	0.24	0.16	0.06	0.08	0.09	0.02
Critical Dry	0.68	0.51	0.56	0.80	0.82	0.59	0.53	0.60	0.47	0.47	0.11	0.13	0.52

Table B-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.08	0.07	0.09	0.11	0.12	0.05	0.04	0.11	0.13	0.18	0.15	0.14	0.10
Wet	0.13	0.02	0.01	0.07	0.00	(0.02)	(0.01)	0.01	0.04	0.13	0.11	0.20	0.06
Above Normal	(0.23)	(0.22)	0.11	0.15	0.18	0.05	0.11	(0.04)	0.07	0.10	0.09	0.10	0.04
Below Normal	0.01	0.11	0.13	(0.04)	0.00	0.00	0.02	0.05	0.03	0.12	0.15	0.14	0.06
Dry	(0.01)	0.07	(0.11)	(0.09)	(0.02)	(0.05)	(0.14)	0.26	0.29	0.12	0.16	0.09	0.05
Critical Dry	0.45	0.40	0.41	0.62	0.64	0.41	0.35	0.42	0.34	0.48	0.24	0.09	0.40

Modeling Technical Appendix – Attachment B-6. Percentage Change of Cumulative Conditions Baseline to Existing Conditions Baseline

This attachment summarizes the percentage change of Cumulative Conditions Baseline to Existing Conditions Baseline (2.0-1.0)/(1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table B-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table B-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table B-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table B-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table B-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table B-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-6-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-6-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.3%	-0.2%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.3%	-0.3%	-0.2%
Wet	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%	0.0%	0.0%	0.0%	-0.2%	-0.1%	-0.1%
Above Normal	-0.3%	-0.3%	-0.1%	0.0%	-0.5%	-0.3%	-0.3%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.2%
Below Normal	-0.3%	-0.4%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.1%
Dry	-0.2%	-0.2%	-0.1%	0.3%	0.3%	0.2%	0.1%	0.0%	-0.1%	-0.2%	-0.4%	-0.3%	0.0%
Critical Dry	-0.4%	-0.6%	-0.4%	0.0%	0.0%	-0.1%	-0.4%	-0.6%	-0.8%	-1.0%	-1.1%	-1.1%	-0.5%

Table B-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-79.5%	-86.1%	-82.7%	-73.3%	-64.2%	-53.8%	-44.8%	-37.8%	-39.4%	-50.3%	-59.9%	-68.3%	-61.7%
Wet	-81.6%	-84.6%	-73.0%	-56.4%	-44.5%	-30.9%	-20.0%	-11.4%	-17.2%	-35.7%	-49.0%	-61.1%	-47.3%
Above Normal	-77.3%	-83.0%	-82.5%	-70.5%	-57.4%	-43.1%	-33.0%	-25.5%	-30.0%	-46.7%	-60.0%	-71.4%	-57.2%
Below Normal	-78.0%	-85.5%	-84.9%	-81.2%	-73.2%	-61.3%	-50.6%	-43.1%	-41.0%	-46.6%	-53.4%	-60.0%	-63.2%
Dry	-78.0%	-87.3%	-87.1%	-84.6%	-80.1%	-72.3%	-63.2%	-61.4%	-60.3%	-64.8%	-71.2%	-76.7%	-74.1%
Critical Dry	-87.5%	-91.6%	-91.0%	-90.1%	-87.1%	-83.0%	-80.4%	-79.0%	-80.4%	-86.5%	-91.0%	-90.9%	-86.5%

Table B-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-30.3%	-30.1%	-26.8%	-23.5%	-19.2%	-14.8%	-10.8%	-9.1%	-11.4%	-16.7%	-22.3%	-27.3%	-20.2%
Wet	-27.4%	-23.2%	-13.3%	-8.2%	-2.7%	-1.0%	0.0%	0.0%	-1.5%	-5.6%	-10.7%	-13.1%	-9.4%
Above Normal	-26.2%	-26.5%	-23.7%	-18.2%	-10.4%	-3.4%	-1.2%	-0.3%	-1.6%	-6.8%	-12.1%	-16.7%	-12.3%
Below Normal	-34.6%	-33.1%	-34.6%	-33.4%	-29.3%	-22.8%	-14.0%	-7.4%	-9.4%	-13.1%	-21.1%	-26.4%	-23.6%
Dry	-30.2%	-30.8%	-30.7%	-31.4%	-29.7%	-24.4%	-19.1%	-18.9%	-23.2%	-29.9%	-36.7%	-42.7%	-29.0%
Critical Dry	-37.1%	-38.6%	-38.7%	-39.8%	-39.2%	-37.6%	-36.8%	-38.7%	-43.2%	-52.4%	-59.5%	-63.2%	-44.1%

Table B-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.4%	-0.7%	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Wet	-0.5%	-0.7%	-1.9%	-0.9%	-0.7%	-0.7%	-0.7%	-0.2%	0.0%	0.0%	0.0%	-0.1%	-0.5%
Above Normal	-0.1%	-0.5%	-0.7%	-0.3%	-0.3%	-0.3%	-0.3%	0.1%	0.0%	0.0%	0.1%	0.0%	-0.2%
Below Normal	-0.3%	-0.1%	-0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.1%
Dry	-0.1%	-0.3%	-0.3%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.2%	-0.4%	-0.4%	-0.4%	-0.2%
Critical Dry	-0.1%	-0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	-0.1%	0.0%

Table B-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	15.2%	21.0%	7.2%	3.8%	2.5%	2.2%	0.4%	0.0%	0.0%	0.0%	0.8%	4.4%
Wet	0.2%	11.4%	11.5%	7.1%	5.4%	2.6%	1.8%	0.7%	0.0%	0.0%	0.0%	0.0%	3.4%
Above Normal	0.1%	14.3%	20.5%	10.7%	6.8%	5.6%	5.5%	1.1%	0.0%	0.0%	0.0%	1.4%	5.5%
Below Normal	0.3%	18.0%	26.5%	10.0%	4.0%	2.8%	2.7%	0.0%	0.0%	0.0%	0.0%	0.5%	5.4%
Dry	0.4%	16.1%	23.3%	3.0%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.9%	3.7%
Critical Dry	0.3%	17.2%	25.8%	3.6%	0.5%	0.2%	0.4%	0.2%	0.2%	0.1%	0.1%	1.9%	4.2%

Table B-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.7%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.6%	-0.2%	0.6%	0.2%
Wet	0.3%	2.3%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.2%	-0.9%	-0.2%	0.0%
Above Normal	0.8%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	-0.1%	0.1%	0.3%
Below Normal	1.2%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.0%	-0.2%	1.0%	0.3%
Dry	0.6%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.6%	0.0%	1.4%	0.3%
Critical Dry	0.6%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.3%	1.1%	0.4%

Table B-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	2.0%	1.8%	1.1%	0.8%	0.3%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%
Wet	0.0%	1.6%	1.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Above Normal	0.0%	1.6%	1.5%	0.7%	0.5%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.4%
Below Normal	0.0%	2.4%	2.3%	1.4%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
Dry	0.0%	1.9%	1.8%	1.5%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Critical Dry	0.0%	2.5%	2.4%	2.2%	1.7%	0.8%	0.5%	0.4%	0.4%	0.4%	0.3%	0.0%	1.0%

Table B-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.7%	-2.0%	-2.0%	-1.9%	-1.6%	-1.4%	-1.1%	-0.9%	-0.8%	-1.0%	-1.2%	-1.4%	-1.4%
Wet	-1.8%	-2.1%	-2.0%	-1.6%	-1.1%	-0.8%	-0.5%	-0.3%	-0.3%	-0.5%	-0.9%	-1.2%	-1.1%
Above Normal	-1.7%	-2.0%	-2.0%	-1.8%	-1.5%	-1.1%	-0.8%	-0.6%	-0.5%	-0.8%	-1.1%	-1.5%	-1.3%
Below Normal	-1.7%	-1.9%	-2.0%	-1.9%	-1.8%	-1.5%	-1.2%	-1.0%	-0.9%	-0.9%	-1.0%	-1.2%	-1.4%
Dry	-1.6%	-2.0%	-2.1%	-2.1%	-2.0%	-1.8%	-1.5%	-1.4%	-1.3%	-1.3%	-1.5%	-1.6%	-1.7%
Critical Dry	-1.9%	-2.1%	-2.2%	-2.1%	-2.1%	-2.0%	-1.9%	-1.8%	-1.7%	-1.8%	-2.0%	-2.0%	-2.0%

Table B-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.5%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Above Normal	-0.4%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Below Normal	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%	-0.4%	-0.3%	-0.1%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%
Dry	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.4%
Critical Dry	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%	-1.0%	-0.7%

Table B-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-4.1%	-1.5%	-0.6%	-0.5%	-2.0%	-1.0%	-1.0%	-1.3%	-0.3%	-1.9%	-2.5%	-1.4%
Wet	-0.1%	-2.3%	-0.2%	-0.8%	-0.7%	-0.8%	-0.7%	-0.6%	-1.0%	-0.1%	-1.1%	-2.4%	-0.9%
Above Normal	-0.2%	-4.7%	-2.4%	-0.8%	0.1%	-1.9%	-1.1%	-1.1%	-1.5%	0.0%	-1.4%	-2.1%	-1.4%
Below Normal	-0.1%	-6.5%	-3.6%	-0.1%	-0.6%	-1.7%	-0.9%	-0.8%	-1.6%	-0.3%	-2.4%	-2.1%	-1.7%
Dry	-0.1%	-4.7%	-2.7%	0.3%	-1.2%	-3.0%	-1.7%	-1.8%	-1.6%	-1.2%	-2.9%	-3.2%	-2.1%
Critical Dry	-0.4%	-4.5%	-2.3%	0.0%	-1.4%	-9.9%	-3.3%	-4.0%	-0.7%	-0.7%	-1.8%	-3.2%	-2.7%

Table B-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.6%	-0.1%	-0.1%	0.1%	-0.2%	0.0%	-0.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Wet	0.0%	-1.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Above Normal	0.0%	0.0%	0.0%	-0.3%	0.4%	-0.8%	0.0%	-1.2%	-0.1%	0.0%	0.0%	0.0%	-0.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	-0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.8%	-17.0%	-3.8%	-0.5%	-2.2%	-3.1%	-2.6%	-1.5%	-2.7%	-1.3%	-17.3%	-18.5%	-6.0%
Wet	1.1%	-7.5%	-0.2%	-1.9%	-1.9%	-2.3%	-1.7%	-1.0%	-1.8%	-0.3%	-10.1%	-14.3%	-3.5%
Above Normal	1.2%	-21.5%	-7.0%	-1.8%	-2.0%	-4.9%	-2.8%	-1.4%	-2.8%	-0.1%	-15.4%	-15.4%	-6.2%
Below Normal	-0.6%	-30.9%	-15.4%	2.1%	-1.9%	-4.1%	-2.0%	-1.1%	-3.2%	-1.4%	-21.1%	-19.2%	-8.2%
Dry	1.4%	-23.0%	-10.6%	7.7%	-3.7%	-11.5%	-3.8%	-2.7%	-3.2%	-8.4%	-29.2%	-28.5%	-9.8%
Critical Dry	-0.2%	-27.3%	-7.6%	9.8%	-4.2%	-21.6%	-8.8%	-8.2%	-8.7%	-9.4%	-22.1%	-23.1%	-10.9%

Table B-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.1%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-1.2%	-0.7%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%	-0.4%	-1.4%	-0.6%	-0.7%
Wet	-0.2%	-0.4%	-0.6%	-0.6%	-0.4%	0.0%	-0.2%	-0.3%	-0.5%	-0.1%	-0.9%	-0.9%	-0.4%
Above Normal	0.2%	-0.9%	-0.8%	-1.0%	-0.6%	-0.7%	-0.7%	-0.6%	-0.7%	0.0%	-1.1%	-0.5%	-0.6%
Below Normal	-0.3%	-3.2%	-0.5%	0.2%	-0.7%	-0.8%	-1.0%	-0.7%	-1.3%	-0.5%	-1.4%	-0.3%	-0.9%
Dry	-0.1%	-1.1%	-0.8%	0.1%	-1.1%	-1.7%	-0.9%	-1.3%	-0.4%	-1.3%	-2.1%	-0.8%	-1.0%
Critical Dry	-0.2%	-2.9%	-1.0%	0.4%	-0.8%	-3.2%	-1.2%	-1.4%	-0.2%	-0.3%	-2.0%	-0.3%	-1.1%

Table B-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	-1.2%	-1.3%	-1.4%	0.1%	-1.0%	-0.3%	-0.6%	-0.3%	0.0%	0.5%	-1.0%	-0.6%
Wet	-0.3%	-0.8%	-0.5%	-0.5%	-0.4%	-0.3%	-0.2%	-0.3%	-0.3%	0.0%	1.0%	-1.1%	-0.3%
Above Normal	-0.6%	-1.5%	-1.9%	-0.9%	1.3%	-1.0%	-0.4%	-0.8%	-0.6%	0.0%	0.8%	-0.8%	-0.5%
Below Normal	-0.1%	-1.6%	-1.9%	-2.9%	-0.3%	-1.0%	-0.4%	-0.6%	-0.6%	0.1%	0.1%	-0.7%	-0.8%
Dry	-0.5%	-1.5%	-1.7%	-5.8%	-0.6%	-3.0%	-0.4%	-1.4%	1.0%	0.1%	0.1%	-1.3%	-1.3%
Critical Dry	-0.6%	-0.2%	-2.0%	-7.0%	-0.6%	-8.1%	2.5%	0.1%	2.7%	0.2%	-0.1%	-1.7%	-1.2%

Table B-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	#DIV/0!	-51.9%	-40.1%	-3.3%	-12.6%	-28.5%	-18.4%	-17.5%	-26.0%	-7.0%	-34.1%	-31.4%	#DIV/0!
Wet	#DIV/0!	-40.5%	-29.6%	-15.4%	-10.9%	-17.8%	-17.6%	-15.9%	-24.2%	-2.0%	-23.2%	-26.0%	#DIV/0!
Above Normal	#DIV/0!	-54.2%	-42.8%	-10.2%	-13.6%	-27.0%	-22.8%	-24.6%	-29.7%	-0.7%	-40.1%	-31.2%	#DIV/0!
Below Normal	#DIV/0!	-60.8%	-55.5%	5.5%	-9.7%	-23.6%	-13.8%	-13.3%	-25.6%	-6.0%	-38.6%	-32.3%	#DIV/0!
Dry	#DIV/0!	-53.3%	-48.7%	21.6%	-16.7%	-41.3%	-18.3%	-15.4%	-23.2%	-22.8%	-39.1%	-37.1%	#DIV/0!
Critical Dry	#DIV/0!	-54.0%	-34.7%	27.9%	-24.2%	-48.7%	-22.9%	-22.9%	-33.0%	-65.4%	-37.3%	-33.0%	#DIV/0!

Table B-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-2.5%	-0.6%	-0.6%	-1.2%	-1.1%	-0.8%	-1.0%	-1.0%	-1.0%	-2.6%	-1.3%	-1.1%
Wet	-0.3%	-0.6%	-0.1%	-1.6%	-0.8%	0.4%	-0.4%	-0.5%	-0.7%	-0.2%	-1.8%	-1.9%	-0.7%
Above Normal	0.7%	-2.0%	-2.0%	-0.3%	-1.0%	-1.2%	-1.1%	-1.0%	-1.0%	0.0%	-2.1%	-1.0%	-1.0%
Below Normal	-0.1%	-5.7%	-1.5%	1.2%	-1.7%	-1.4%	-0.8%	-0.9%	-2.0%	-1.1%	-2.6%	-0.6%	-1.4%
Dry	-0.2%	-2.0%	-2.1%	0.8%	-2.3%	-3.4%	-1.1%	-2.5%	-0.7%	-2.7%	-3.7%	-1.6%	-1.8%
Critical Dry	-0.3%	-3.3%	-3.6%	1.0%	-2.1%	-8.8%	-2.7%	-2.7%	-0.4%	-0.6%	-3.7%	-0.6%	-2.5%

Table B-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.7%	-1.0%	-1.0%	-0.7%	-0.4%	-0.5%	-0.5%	-0.4%	-0.3%	-0.4%	-0.5%	-0.7%	-0.6%
Wet	-0.5%	-0.5%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Above Normal	-0.5%	-0.8%	-0.9%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.3%
Below Normal	-0.9%	-1.1%	-1.2%	-1.1%	-0.5%	-0.6%	-0.4%	-0.3%	-0.2%	-0.4%	-0.5%	-0.8%	-0.7%
Dry	-1.2%	-1.6%	-2.0%	-1.8%	-1.5%	-1.8%	-1.5%	-1.2%	-1.0%	-1.1%	-1.2%	-1.6%	-1.5%
Critical Dry	-0.9%	-1.0%	-1.2%	-1.0%	-0.8%	-1.3%	-1.5%	-1.4%	-1.4%	-1.4%	-1.8%	-2.2%	-1.3%

Table B-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%
Wet	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Dry	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	-0.3%	-0.4%	-0.4%	-0.2%
Critical Dry	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.3%	-0.5%	-0.3%	-0.4%	-0.2%

Table B-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Wet	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Above Normal	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Dry	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Critical Dry	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	-0.2%

Table B-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Wet	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Above Normal	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Below Normal	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%	-0.1%
Dry	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%
Critical Dry	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.4%	-0.4%	-0.5%	-0.5%	-0.3%

Table B-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-1.1%	-0.7%	-0.9%	-0.9%	-0.9%	-1.2%	-1.0%	-1.3%	-0.4%	-0.9%	-0.8%	-0.8%
Wet	0.0%	-1.0%	-0.7%	-0.9%	-0.5%	-0.6%	-0.6%	-0.5%	-0.8%	-0.2%	-0.7%	-1.4%	-0.7%
Above Normal	0.0%	-0.5%	-0.8%	-1.1%	-1.2%	-1.7%	-1.2%	-0.6%	-0.9%	-0.1%	-0.6%	-1.0%	-0.8%
Below Normal	0.0%	-1.4%	-1.0%	-0.6%	-1.8%	-2.2%	-2.2%	-1.9%	-1.7%	-0.1%	-1.0%	-0.2%	-1.2%
Dry	0.0%	-0.5%	-0.2%	-0.9%	-1.1%	0.0%	-2.8%	-2.6%	-2.5%	-1.2%	-1.7%	-0.3%	-1.2%
Critical Dry	-1.1%	-1.9%	-0.2%	-1.0%	-1.0%	0.2%	-0.5%	-2.0%	-2.1%	-1.6%	-0.9%	-0.3%	-1.0%

Table B-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.0%	-0.1%	0.0%	-0.1%	0.0%	0.2%	0.1%	0.4%	0.1%	0.1%	0.1%	0.1%
Wet	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%
Above Normal	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.1%	0.0%
Below Normal	0.0%	0.0%	-0.2%	0.0%	-0.4%	0.0%	0.7%	0.2%	0.8%	0.0%	0.2%	0.1%	0.1%
Dry	-0.3%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.3%	0.4%	0.9%	0.2%	0.3%	0.0%	0.1%
Critical Dry	0.0%	0.5%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.2%	0.5%	0.2%	-0.5%	0.1%	0.1%

Table B-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%
Wet	-0.1%	0.0%	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.2%	0.0%
Above Normal	-0.1%	0.7%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Below Normal	0.0%	0.0%	0.2%	-0.1%	-0.1%	-0.1%	0.0%	0.2%	0.3%	0.0%	0.0%	-0.5%	0.0%
Dry	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.4%	0.5%	0.2%	-0.3%	-0.4%	-0.1%	0.1%
Critical Dry	0.1%	0.1%	-0.1%	0.0%	0.0%	0.1%	0.3%	0.5%	0.5%	-0.3%	0.2%	0.5%	0.2%

Table B-6-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	0.0%	-0.1%	0.0%	-0.1%
Wet	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.2%	0.0%	-0.1%	0.0%	-0.1%
Above Normal	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.3%	0.2%	0.0%	0.0%	-0.1%
Below Normal	0.0%	-0.5%	0.0%	-0.1%	-0.2%	-0.3%	0.0%	-0.4%	-0.1%	0.1%	-0.2%	0.0%	-0.1%
Dry	0.0%	-0.1%	-0.4%	-0.1%	-0.1%	0.0%	-0.2%	-0.1%	0.0%	0.0%	-0.2%	0.1%	-0.1%
Critical Dry	0.0%	-0.1%	0.0%	-0.1%	-0.1%	0.1%	0.0%	-0.3%	0.0%	0.0%	-0.5%	-0.1%	-0.1%

Table B-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.2%	0.0%	0.1%	-0.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
Wet	-0.2%	0.1%	0.1%	0.2%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%	-0.1%	0.0%
Below Normal	0.1%	0.4%	0.0%	0.0%	-1.8%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	-0.1%
Dry	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.7%	0.0%	-0.2%	-0.1%	-0.2%	-0.1%	0.0%	-0.1%
Critical Dry	-0.5%	0.3%	0.1%	0.0%	-0.1%	0.1%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	0.3%	0.0%

Table B-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-5.8%	0.8%	-1.2%	0.0%	0.0%	-100.0%	#DIV/0!	0.0%	0.0%	-0.3%	-0.4%	0.8%	#DIV/0!
Wet	#DIV/0!	1.3%	-0.9%	0.0%	0.0%	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!
Above Normal	-3.3%	0.5%	-0.4%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-7.4%	#DIV/0!	#DIV/0!	#DIV/0!
Below Normal	#DIV/0!	1.0%	-4.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.4%	-0.4%	0.8%	#DIV/0!
Dry	-9.4%	0.4%	-0.4%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.1%	-0.4%	#DIV/0!	#DIV/0!
Critical Dry	0.0%	-0.2%	0.1%	#DIV/0!	#DIV/0!	-100.0%	#DIV/0!	#DIV/0!	#DIV/0!	-0.3%	#DIV/0!	#DIV/0!	#DIV/0!

Table B-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.1%	0.1%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Wet	0.4%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Above Normal	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Below Normal	0.0%	0.3%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Dry	0.0%	0.0%	0.5%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Critical Dry	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!

Table B-6-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-1.1%	-0.7%	-0.9%	-0.9%	-0.9%	-1.1%	-1.0%	-1.3%	-0.4%	-0.9%	-0.8%	-0.8%
Wet	0.0%	-0.9%	-0.6%	-0.9%	-0.5%	-0.6%	-0.6%	-0.5%	-0.8%	-0.2%	-0.7%	-1.4%	-0.7%
Above Normal	0.0%	-0.7%	-0.2%	-1.1%	-1.2%	-1.7%	-1.2%	-0.6%	-0.9%	-0.1%	-0.6%	-1.0%	-0.8%
Below Normal	0.1%	-1.5%	-0.8%	-0.5%	-1.8%	-2.2%	-2.2%	-1.9%	-1.7%	-0.1%	-1.0%	-0.2%	-1.1%
Dry	0.2%	-0.4%	-1.3%	-1.1%	-1.0%	0.0%	-2.8%	-2.6%	-2.5%	-1.2%	-1.7%	-0.4%	-1.2%
Critical Dry	-2.6%	-2.5%	-0.3%	-1.0%	-1.0%	0.1%	-0.4%	-2.0%	-2.0%	-1.5%	-0.9%	-0.4%	-1.2%

Table B-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-1.0%	-0.7%	-0.9%	-0.8%	-0.9%	-1.1%	-1.0%	-1.3%	-0.4%	-0.9%	-0.8%	-0.8%
Wet	0.0%	-0.9%	-0.6%	-0.9%	-0.5%	-0.6%	-0.6%	-0.5%	-0.8%	-0.2%	-0.7%	-1.4%	-0.7%
Above Normal	0.0%	-0.7%	-0.2%	-1.1%	-1.2%	-1.7%	-1.2%	-0.6%	-0.9%	-0.1%	-0.6%	-1.0%	-0.8%
Below Normal	0.1%	-1.5%	-0.8%	-0.5%	-1.8%	-2.2%	-2.2%	-1.9%	-1.7%	-0.1%	-1.0%	-0.2%	-1.1%
Dry	0.2%	-0.4%	-1.3%	-1.0%	-1.0%	0.0%	-2.8%	-2.6%	-2.5%	-1.2%	-1.7%	-0.4%	-1.2%
Critical Dry	-2.4%	-2.3%	-0.3%	-1.0%	-1.0%	0.1%	-0.4%	-2.0%	-2.1%	-1.6%	-0.9%	-0.4%	-1.2%

Table B-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-1.0%	-0.7%	-0.9%	-0.8%	-0.9%	-1.1%	-1.0%	-1.3%	-0.4%	-0.9%	-0.8%	-0.8%
Wet	0.0%	-0.9%	-0.6%	-0.9%	-0.5%	-0.6%	-0.6%	-0.5%	-0.8%	-0.2%	-0.7%	-1.4%	-0.7%
Above Normal	0.0%	-0.6%	-0.2%	-1.1%	-1.2%	-1.7%	-1.2%	-0.6%	-0.9%	-0.1%	-0.6%	-1.0%	-0.8%
Below Normal	0.2%	-1.4%	-0.7%	-0.5%	-1.8%	-2.2%	-2.2%	-1.9%	-1.7%	-0.1%	-1.0%	-0.2%	-1.1%
Dry	0.2%	-0.4%	-1.2%	-1.0%	-0.9%	0.0%	-2.8%	-2.6%	-2.5%	-1.2%	-1.7%	-0.4%	-1.2%
Critical Dry	-2.4%	-2.2%	-0.2%	-0.9%	-0.9%	0.1%	-0.4%	-2.0%	-2.1%	-1.5%	-0.9%	-0.4%	-1.1%

Table B-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-1.1%	-0.7%	-0.9%	-0.8%	-0.9%	-1.2%	-1.0%	-1.3%	-0.4%	-1.0%	-0.9%	-0.9%
Wet	0.0%	-1.0%	-0.6%	-0.9%	-0.5%	-0.6%	-0.6%	-0.5%	-0.8%	-0.2%	-0.8%	-1.4%	-0.7%
Above Normal	0.0%	-0.7%	-0.2%	-1.1%	-1.2%	-1.8%	-1.2%	-0.7%	-1.0%	-0.1%	-0.6%	-1.1%	-0.8%
Below Normal	0.2%	-1.5%	-0.8%	-0.5%	-1.8%	-2.3%	-2.3%	-2.0%	-1.7%	-0.1%	-1.1%	-0.2%	-1.2%
Dry	0.3%	-0.4%	-1.3%	-1.1%	-1.0%	0.0%	-3.0%	-2.8%	-2.7%	-1.3%	-1.7%	-0.4%	-1.3%
Critical Dry	-2.7%	-2.5%	-0.2%	-1.0%	-1.0%	0.1%	-0.4%	-2.1%	-2.3%	-1.7%	-1.3%	-0.5%	-1.3%

Table B-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.3%	0.1%
Wet	-0.1%	-0.2%	0.1%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
Above Normal	0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%
Below Normal	-0.1%	0.0%	-0.2%	0.2%	0.1%	0.2%	0.2%	0.3%	0.3%	0.0%	0.0%	0.3%	0.1%
Dry	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.2%	0.1%	0.2%	0.0%	-0.1%	0.0%	0.1%	0.0%
Critical Dry	1.3%	1.7%	2.1%	0.0%	0.2%	0.5%	-0.2%	0.5%	0.1%	0.1%	0.4%	1.2%	0.6%

Table B-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%
Wet	0.0%	-0.2%	0.0%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
Above Normal	0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%
Below Normal	-0.1%	0.0%	-0.2%	0.2%	0.1%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.3%	0.1%
Dry	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.2%	0.2%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%
Critical Dry	0.9%	1.1%	1.6%	0.0%	0.1%	0.3%	0.0%	0.3%	0.1%	0.2%	0.3%	0.7%	0.5%

Table B-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%
Wet	0.0%	-0.2%	0.0%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Above Normal	0.1%	0.0%	-0.1%	-0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%
Below Normal	-0.1%	0.0%	-0.2%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.0%	0.0%	0.2%	0.1%
Dry	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.2%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.6%	0.8%	1.2%	0.0%	0.1%	0.2%	0.0%	0.2%	0.2%	0.3%	0.3%	0.5%	0.4%

Modeling Technical Appendix – Attachment B-7. Percentage Change of Cumulative Conditions With Project to Existing Conditions Baseline

This attachment summarizes the percentage change of Cumulative Conditions With Project to Existing Conditions Baseline (2.1-1.0)/(1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table B-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type..... - 1 -
Table B-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type..... - 1 -
Table B-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type..... - 1 -
Table B-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type..... - 1 -
Table B-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type..... - 2 -
Table B-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type..... - 2 -
Table B-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type. ..... - 2 -
Table B-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. ..... - 2 -
Table B-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type..... - 3 -
Table B-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. ..... - 3 -
Table B-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. ..... - 3 -
Table B-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. ..... - 4 -
Table B-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type..... - 4 -
Table B-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. ..... - 5 -
Table B-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. ..... - 5 -
Table B-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. ..... - 5 -
Table B-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. ..... - 5 -
Table B-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. ..... - 6 -
Table B-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. ..... - 6 -
Table B-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. ..... - 6 -
Table B-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type..... - 7 -
Table B-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type..... - 7 -
Table B-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type..... - 7 -
Table B-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type..... - 7 -
Table B-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type..... - 8 -

Table B-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table B-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table B-7-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table B-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table B-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table B-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table B-7-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table B-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table B-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table B-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table B-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table B-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table B-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table B-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table B-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-4.9%	-3.4%	-1.6%	-3.0%	-3.0%	-2.3%	-1.7%	-0.9%	-1.4%	-2.5%	-4.2%	-3.5%	-2.7%
Wet	-3.1%	-3.1%	-1.6%	-1.9%	-2.3%	-2.2%	-1.8%	-0.3%	0.0%	-0.8%	-2.8%	-2.0%	-2.0%
Above Normal	-4.7%	-3.2%	-1.2%	-2.4%	-2.2%	-1.5%	-1.2%	-0.1%	0.0%	-1.0%	-3.1%	-2.4%	-1.9%
Below Normal	-5.7%	-4.4%	-2.5%	-4.1%	-3.4%	-2.0%	-1.3%	-0.3%	-0.6%	-1.6%	-2.9%	-2.5%	-2.6%
Dry	-4.0%	-2.6%	-0.7%	-3.1%	-3.2%	-2.4%	-1.3%	-1.3%	-2.7%	-4.1%	-5.4%	-4.3%	-2.9%
Critical Dry	-5.6%	-4.8%	-3.0%	-5.5%	-5.8%	-5.4%	-3.0%	-5.7%	-8.5%	-11.3%	-13.6%	-13.0%	-7.3%

Table B-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	-0.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-7.1%	-12.2%	-14.5%	-14.2%	-12.5%	-10.5%	-8.9%	-8.0%	-8.1%	-10.6%	-9.2%	-7.1%	-10.2%
Wet	-0.1%	-3.0%	-6.1%	-4.8%	-2.1%	-0.6%	-0.3%	-0.4%	-0.7%	-2.0%	0.3%	2.9%	-1.6%
Above Normal	-6.4%	-10.3%	-12.7%	-12.5%	-10.6%	-6.6%	-4.2%	-3.1%	-3.1%	-3.0%	-3.7%	-1.2%	-6.6%
Below Normal	-13.3%	-21.8%	-24.2%	-24.4%	-22.0%	-18.8%	-15.4%	-12.6%	-11.6%	-14.3%	-13.3%	-11.5%	-17.1%
Dry	-4.1%	-9.4%	-13.0%	-13.9%	-13.3%	-12.5%	-11.4%	-10.9%	-11.9%	-15.9%	-13.0%	-13.5%	-12.1%
Critical Dry	-16.1%	-21.4%	-27.2%	-28.3%	-27.5%	-26.5%	-26.0%	-26.1%	-28.5%	-32.8%	-32.5%	-31.2%	-27.0%

Table B-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-20.1%	-20.4%	-18.2%	-16.1%	-13.0%	-9.8%	-6.5%	-3.2%	-6.2%	-10.1%	-14.6%	-17.6%	-13.1%
Wet	-19.4%	-18.0%	-10.8%	-5.4%	-1.6%	-0.6%	0.0%	0.0%	-1.3%	-4.5%	-7.9%	-10.2%	-6.6%
Above Normal	-16.2%	-16.8%	-15.4%	-12.3%	-6.1%	-1.6%	-0.3%	0.0%	-1.5%	-5.4%	-10.1%	-12.9%	-8.2%
Below Normal	-22.8%	-23.5%	-23.4%	-22.8%	-19.6%	-14.7%	-6.9%	-2.7%	-3.9%	-8.2%	-13.4%	-16.9%	-14.9%
Dry	-19.7%	-20.6%	-20.8%	-21.4%	-20.5%	-16.3%	-11.9%	-11.1%	-12.3%	-17.3%	-23.0%	-26.9%	-18.5%
Critical Dry	-26.1%	-27.7%	-28.1%	-29.0%	-28.8%	-27.8%	-27.1%	-25.9%	-25.9%	-29.4%	-33.1%	-35.4%	-28.7%

Table B-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.2%	-0.5%	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	-0.1%	-0.1%	0.2%	-0.1%	-0.1%
Wet	-0.4%	-0.4%	-1.2%	-0.7%	-0.6%	-0.5%	-0.5%	-0.1%	0.0%	0.0%	0.2%	0.0%	-0.3%
Above Normal	0.0%	-0.3%	-0.6%	-0.3%	-0.3%	-0.3%	-0.3%	0.1%	0.0%	0.0%	0.6%	0.1%	-0.1%
Below Normal	-0.2%	0.0%	0.0%	0.2%	0.2%	0.1%	0.1%	0.1%	-0.1%	0.1%	0.5%	0.1%	0.1%
Dry	0.0%	-0.4%	-0.3%	-0.1%	0.0%	-0.1%	-0.1%	0.0%	-0.2%	-0.4%	-0.3%	-0.3%	-0.2%
Critical Dry	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	0.0%

Table B-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	14.3%	20.1%	6.9%	3.7%	2.5%	2.2%	0.4%	0.0%	0.0%	0.0%	0.2%	4.2%
Wet	0.0%	10.2%	10.6%	6.2%	5.1%	2.9%	2.1%	0.8%	0.0%	0.0%	0.0%	0.0%	3.2%
Above Normal	0.0%	13.5%	19.7%	10.7%	7.0%	5.9%	5.8%	1.1%	0.0%	0.0%	0.0%	0.0%	5.3%
Below Normal	0.0%	17.5%	26.1%	9.8%	3.9%	2.7%	2.6%	0.0%	0.0%	0.0%	0.0%	0.1%	5.2%
Dry	0.0%	14.6%	22.0%	2.8%	0.6%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.7%	3.4%
Critical Dry	0.1%	17.1%	25.7%	3.5%	0.5%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%

Table B-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.5%	-0.6%	-0.1%	0.0%
Wet	0.0%	2.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-0.8%	-0.3%	0.0%
Above Normal	0.3%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-2.5%	-1.6%	-0.5%	-0.2%
Below Normal	0.3%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-2.3%	-0.6%	0.2%	0.0%
Dry	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	0.0%	0.2%	0.0%
Critical Dry	0.1%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	0.3%	0.4%	0.2%

Table B-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	1.9%	1.8%	1.0%	0.7%	0.2%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%
Wet	0.0%	1.5%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Above Normal	0.0%	1.6%	1.5%	0.7%	0.5%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.4%
Below Normal	0.0%	2.3%	2.2%	1.4%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
Dry	0.0%	1.8%	1.7%	1.5%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Critical Dry	0.0%	2.5%	2.4%	2.2%	1.7%	0.8%	0.5%	0.4%	0.4%	0.4%	0.3%	0.0%	1.0%

Table B-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%
Wet	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Critical Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%

Table B-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Wet	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	-0.2%	-0.2%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%
Below Normal	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.2%	-0.3%
Dry	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%
Critical Dry	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%

Table B-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Wet	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%
Above Normal	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.1%
Below Normal	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%
Dry	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Critical Dry	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%

Table B-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-6.8%	-12.6%	-6.2%	-1.7%	-1.3%	-2.0%	-1.5%	-2.1%	-3.6%	-6.9%	-9.4%	-16.8%	-5.9%
Wet	-7.3%	-8.4%	-2.5%	-1.5%	0.3%	-0.2%	-0.5%	-1.5%	-2.6%	-4.6%	-5.7%	-14.7%	-4.1%
Above Normal	-6.7%	-14.5%	-7.6%	-2.2%	-0.9%	-1.9%	-0.8%	-1.4%	-3.6%	-6.8%	-6.4%	-16.0%	-5.7%
Below Normal	-6.4%	-17.3%	-12.3%	-1.8%	-3.5%	-3.4%	-1.7%	-2.7%	-4.9%	-8.9%	-11.8%	-15.5%	-7.5%
Dry	-6.7%	-13.9%	-10.2%	-1.9%	-4.0%	-4.7%	-4.2%	-4.5%	-6.3%	-11.0%	-14.1%	-20.3%	-8.5%
Critical Dry	-7.1%	-13.2%	-11.3%	-1.1%	-3.0%	-5.4%	-3.0%	-4.7%	-0.7%	-6.7%	-10.1%	-23.1%	-7.8%

Table B-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-7.1%	-1.2%	-1.7%	-1.2%	-8.1%	0.0%	-2.8%	-0.7%	0.0%	0.0%	0.0%	-1.9%
Wet	0.0%	-12.9%	-1.4%	-2.8%	0.5%	-7.8%	0.0%	-4.1%	-0.7%	0.0%	0.0%	0.0%	-2.4%
Above Normal	0.0%	0.0%	0.0%	0.3%	-7.8%	-17.4%	0.0%	-2.7%	-0.4%	0.0%	0.0%	0.0%	-2.3%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.2%	-3.2%	0.0%	-0.2%	-1.0%	0.0%	0.0%	0.0%	-0.5%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.5%	-18.1%	-5.6%	0.5%	0.6%	-1.2%	-1.2%	-0.4%	-1.1%	-1.5%	-18.7%	-13.3%	-3.1%
Wet	0.8%	-8.5%	-1.9%	-1.0%	0.1%	-0.4%	-0.7%	-0.2%	-0.8%	-0.3%	-11.7%	-13.0%	-3.1%
Above Normal	1.0%	-21.9%	-7.6%	-1.4%	0.6%	-1.1%	-1.0%	0.0%	-0.9%	-0.2%	-19.8%	-14.8%	-5.6%
Below Normal	-0.2%	-31.1%	-17.7%	3.8%	2.0%	-1.2%	-1.3%	-0.4%	-1.5%	-2.1%	-22.8%	-15.8%	-7.3%
Dry	0.1%	-24.8%	-13.8%	8.5%	0.3%	-2.4%	-1.9%	-1.2%	-1.7%	-9.5%	-26.8%	-20.3%	-7.8%
Critical Dry	-0.2%	-31.9%	-11.5%	16.7%	2.2%	-4.7%	-3.9%	-1.9%	-2.7%	-8.8%	-21.0%	-13.5%	-6.8%

Table B-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.1%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.2%	0.0%	0.0%	0.0%	0.0%	1.3%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-27.0%	0.0%	0.0%	0.0%	0.0%	-2.3%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table B-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.9%	-5.4%	-0.6%	-0.5%	-0.5%	-0.6%	-0.8%	-0.9%	-2.5%	-4.2%	-8.4%	-2.6%	-2.3%
Wet	-1.7%	-2.5%	-0.6%	-0.9%	0.3%	0.2%	-0.2%	-0.2%	-1.9%	-2.3%	-6.3%	-2.3%	-1.5%
Above Normal	-1.1%	-3.2%	-0.7%	-0.2%	-0.6%	-0.5%	-0.7%	-1.2%	-2.7%	-2.5%	-6.3%	-2.3%	-2.0%
Below Normal	-0.6%	-11.5%	-0.7%	0.3%	-1.2%	-1.3%	-1.6%	-1.3%	-3.7%	-4.6%	-8.0%	-1.3%	-3.0%
Dry	-0.1%	-4.5%	-1.1%	-0.2%	-1.6%	-1.7%	-1.5%	-2.6%	-2.7%	-8.1%	-10.9%	-4.2%	-3.3%
Critical Dry	-1.0%	-11.4%	-0.8%	0.7%	-0.7%	-2.5%	-1.9%	-1.0%	-0.1%	-3.7%	-16.7%	-3.9%	-3.6%

Table B-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8.3%	-11.4%	-9.6%	9.5%	-0.7%	-1.9%	-1.6%	-2.2%	0.2%	4.0%	5.4%	-9.0%	-0.7%
Wet	7.8%	-8.1%	-4.6%	1.5%	1.1%	0.7%	-0.4%	-1.9%	-1.3%	1.5%	9.4%	-7.8%	-0.2%
Above Normal	8.0%	-12.8%	-10.4%	8.1%	-0.3%	-1.6%	-0.5%	-1.8%	-1.7%	4.1%	9.2%	-8.4%	-0.7%
Below Normal	8.4%	-13.9%	-14.7%	25.4%	-5.5%	-4.7%	-1.8%	-4.2%	-1.3%	3.6%	3.0%	-7.0%	-1.1%
Dry	8.8%	-12.3%	-12.3%	39.3%	-1.6%	-6.4%	-6.4%	-2.2%	10.6%	6.3%	0.8%	-12.1%	1.0%
Critical Dry	8.2%	-11.5%	-13.0%	43.7%	4.2%	-2.6%	-4.1%	18.3%	32.6%	13.3%	3.7%	-14.3%	6.4%

Table B-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	#DIV/0!	-54.0%	-45.6%	1.3%	2.4%	-6.4%	-8.8%	-5.4%	-10.9%	-7.9%	-37.0%	-26.0%	#DIV/0!
Wet	#DIV/0!	-42.0%	-36.0%	-9.4%	-0.3%	-4.2%	-7.7%	-4.0%	-11.4%	-1.8%	-27.0%	-23.6%	#DIV/0!
Above Normal	#DIV/0!	-54.9%	-43.6%	-8.3%	1.2%	-6.8%	-8.6%	-4.5%	-10.5%	-0.6%	-51.6%	-29.9%	#DIV/0!
Below Normal	#DIV/0!	-61.1%	-60.5%	10.3%	8.1%	-6.5%	-9.1%	-6.3%	-12.8%	-8.7%	-41.8%	-26.5%	#DIV/0!
Dry	#DIV/0!	-59.0%	-57.0%	24.0%	1.8%	-7.6%	-9.5%	-6.8%	-7.9%	-25.8%	-35.9%	-26.5%	#DIV/0!
Critical Dry	#DIV/0!	-62.6%	-44.6%	47.4%	8.4%	-10.1%	-9.3%	-3.3%	-10.1%	-61.3%	-33.2%	-20.5%	#DIV/0!

Table B-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.8%	-11.6%	-1.0%	-1.2%	-1.2%	-1.2%	-1.4%	-1.6%	-4.4%	-9.2%	-15.4%	-5.4%	-4.6%
Wet	-3.5%	-5.7%	-0.6%	-2.9%	1.0%	1.0%	-0.3%	-0.7%	-3.3%	-3.1%	-12.0%	-4.9%	-3.1%
Above Normal	-2.2%	-11.5%	-1.9%	-0.2%	-1.7%	-1.3%	-1.2%	-1.1%	-4.7%	-6.1%	-11.7%	-4.6%	-4.0%
Below Normal	-0.7%	-20.7%	-1.6%	1.5%	-3.8%	-2.8%	-2.3%	-2.4%	-6.7%	-10.3%	-14.4%	-2.6%	-5.6%
Dry	-0.2%	-9.7%	-3.1%	-0.8%	-4.3%	-3.4%	-2.9%	-3.2%	-4.8%	-17.0%	-19.6%	-8.7%	-6.6%
Critical Dry	-2.0%	-20.7%	-2.9%	1.9%	-1.6%	-6.9%	-4.4%	-2.0%	-0.3%	-7.1%	-30.7%	-10.7%	-7.3%

Table B-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.6%	-3.1%	-3.0%	-2.3%	-1.6%	-1.4%	-1.0%	-0.8%	-0.7%	-0.9%	-1.0%	-2.1%	-1.7%
Wet	-1.8%	-2.0%	-0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.6%	-0.5%
Above Normal	-2.1%	-3.3%	-3.4%	-1.9%	-0.4%	-0.3%	0.0%	0.0%	0.0%	-0.4%	-0.8%	-1.2%	-1.2%
Below Normal	-3.0%	-3.2%	-3.7%	-3.4%	-1.9%	-1.3%	-0.7%	-0.3%	-0.3%	-0.5%	-0.6%	-2.4%	-1.8%
Dry	-4.1%	-4.9%	-6.1%	-5.6%	-4.8%	-4.9%	-3.4%	-2.8%	-2.3%	-2.3%	-2.5%	-3.0%	-4.0%
Critical Dry	-3.2%	-3.7%	-4.4%	-3.9%	-3.5%	-3.8%	-3.7%	-3.5%	-3.3%	-3.3%	-3.8%	-5.9%	-3.8%

Table B-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%
Wet	-0.1%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%
Above Normal	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Below Normal	-0.2%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.2%
Dry	-0.3%	-0.3%	0.0%	-0.1%	-0.4%	-0.1%	-0.2%	-0.3%	-0.4%	-0.6%	-0.6%	-0.5%	-0.3%
Critical Dry	-0.6%	-0.8%	-0.7%	-0.7%	-0.6%	-0.5%	-0.5%	-0.5%	-0.8%	-1.3%	-1.0%	-1.1%	-0.7%

Table B-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%
Wet	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Above Normal	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Below Normal	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.3%	-0.1%
Dry	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.4%	-0.3%	-0.2%
Critical Dry	-0.2%	-0.3%	-0.3%	0.0%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	-0.2%

Table B-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	-0.4%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.4%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.5%	-0.2%
Above Normal	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.2%
Below Normal	-0.3%	-0.3%	-0.4%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.4%	-0.2%	-0.3%
Dry	-0.6%	-0.6%	-0.5%	-0.6%	-0.5%	-0.4%	-0.5%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.5%
Critical Dry	-0.3%	-0.4%	-0.4%	-0.5%	-0.4%	-0.3%	-0.4%	-0.3%	-0.6%	-0.6%	-0.8%	-0.9%	-0.5%

Table B-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-3.5%	-2.5%	-1.9%	-1.7%	-0.9%	-2.1%	-1.9%	-2.6%	-2.1%	-3.1%	-3.5%	-2.2%
Wet	-0.3%	-2.9%	-3.0%	-1.5%	-0.3%	-0.5%	-0.4%	-1.0%	-1.7%	-1.6%	-2.2%	-5.9%	-1.8%
Above Normal	-0.1%	-1.4%	-3.0%	-3.3%	-3.6%	-1.6%	-1.8%	-0.9%	-1.9%	-0.8%	-1.7%	-5.7%	-2.2%
Below Normal	-0.2%	-3.3%	-2.4%	-1.4%	-4.9%	-3.9%	-4.3%	-3.2%	-2.8%	-1.4%	-3.4%	-1.2%	-2.9%
Dry	0.0%	-3.7%	-0.4%	-3.5%	-2.4%	1.1%	-8.8%	-6.0%	-5.9%	-3.9%	-3.3%	-0.5%	-3.3%
Critical Dry	-1.0%	-4.7%	-1.0%	-2.8%	-2.6%	0.3%	-2.1%	-4.4%	-5.5%	-6.3%	-5.7%	-1.0%	-3.1%

Table B-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	0.1%	0.0%	-0.1%	0.2%	0.0%	0.2%	0.2%	0.8%	0.4%	0.2%	0.1%	0.1%
Wet	-0.7%	-0.1%	0.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.1%	0.0%
Above Normal	-0.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.3%	0.3%	-0.1%	0.5%	0.0%
Below Normal	0.0%	0.2%	-0.3%	0.0%	-0.2%	0.0%	0.2%	0.4%	1.0%	0.4%	0.9%	0.7%	0.3%
Dry	-0.6%	-0.2%	-1.2%	-0.1%	1.5%	0.0%	1.2%	1.0%	1.9%	0.5%	0.7%	-1.1%	0.3%
Critical Dry	0.0%	1.1%	0.1%	-0.7%	0.0%	0.0%	0.4%	0.3%	1.2%	1.1%	-1.3%	-0.2%	0.2%

Table B-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.1%	-0.1%	-0.1%	-0.3%	-0.1%	0.0%	0.1%	0.3%	0.0%	0.3%	0.7%	0.1%
Wet	-0.3%	-0.1%	-0.3%	-0.1%	-0.2%	0.0%	-0.1%	0.0%	0.1%	0.4%	0.5%	2.1%	0.2%
Above Normal	0.2%	0.8%	0.0%	-0.1%	-0.4%	-0.2%	0.0%	0.0%	0.1%	0.3%	0.4%	0.4%	0.1%
Below Normal	0.2%	0.0%	0.7%	-0.5%	-0.7%	-0.2%	0.0%	0.4%	0.7%	0.3%	0.0%	-1.4%	-0.1%
Dry	-0.5%	0.3%	-0.4%	0.0%	0.0%	0.1%	1.0%	0.6%	0.3%	-1.3%	-0.4%	-0.1%	-0.1%
Critical Dry	-0.1%	0.4%	-0.2%	0.0%	0.0%	0.1%	0.4%	0.2%	0.8%	-0.4%	0.7%	0.7%	0.2%

Table B-7-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.6%	-0.6%	-0.3%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	0.0%	-0.3%	-0.2%	-0.3%
Wet	-0.2%	-0.6%	-0.3%	-0.3%	-0.1%	0.0%	-0.1%	-0.2%	-0.4%	-0.2%	-0.3%	-0.3%	-0.2%
Above Normal	0.1%	-0.3%	-3.0%	-0.3%	0.1%	-0.3%	-0.3%	-0.2%	-0.5%	0.4%	0.0%	0.0%	-0.4%
Below Normal	-0.1%	-1.2%	-0.4%	-0.3%	-0.7%	-0.4%	-0.6%	-0.6%	-0.3%	0.2%	-0.2%	-0.1%	-0.4%
Dry	0.2%	-0.6%	-1.1%	-0.5%	1.5%	-0.7%	-0.5%	-0.5%	-0.3%	0.1%	-0.4%	0.1%	-0.2%
Critical Dry	-0.2%	0.0%	-0.2%	-0.4%	-0.2%	0.2%	-0.1%	-0.8%	0.0%	-0.1%	-1.2%	-0.1%	-0.3%

Table B-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.1%	0.3%	-0.1%	-1.1%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.4%	0.6%	-0.1%
Wet	-0.7%	-0.2%	0.2%	0.3%	0.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	1.2%	0.1%
Above Normal	-0.4%	0.1%	2.0%	0.0%	-0.5%	-1.6%	0.0%	0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.1%
Below Normal	0.1%	0.4%	0.3%	0.0%	-1.7%	-0.1%	-0.2%	0.0%	0.0%	-0.1%	0.0%	0.4%	-0.1%
Dry	-0.3%	-1.3%	-1.1%	-0.4%	-3.2%	0.1%	0.0%	-0.2%	-0.2%	-0.8%	-0.7%	0.1%	-0.7%
Critical Dry	0.1%	0.7%	0.7%	-1.1%	-0.2%	0.1%	0.0%	0.5%	0.2%	-0.8%	-4.0%	1.4%	-0.2%

Table B-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-3.3%	3.0%	-4.9%	0.1%	0.0%	-100.0%	#DIV/0!	0.0%	0.0%	-1.7%	-2.0%	3.0%	#DIV/0!
Wet	#DIV/0!	4.2%	-4.3%	0.1%	0.0%	#DIV/0!	#DIV/0!	0.0%	0.0%	-0.1%	#DIV/0!	#DIV/0!	#DIV/0!
Above Normal	7.1%	3.1%	-3.3%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-15.7%	#DIV/0!	#DIV/0!	#DIV/0!
Below Normal	#DIV/0!	3.4%	-12.1%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.6%	-2.1%	3.0%	#DIV/0!
Dry	-12.7%	1.7%	-4.4%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-1.8%	-1.8%	#DIV/0!	#DIV/0!
Critical Dry	0.0%	-1.3%	0.1%	#DIV/0!	#DIV/0!	-100.0%	#DIV/0!	#DIV/0!	#DIV/0!	-1.8%	#DIV/0!	#DIV/0!	#DIV/0!

Table B-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.8%	0.2%	0.4%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Wet	-5.6%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Above Normal	-0.4%	0.6%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Below Normal	0.0%	0.3%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Dry	0.6%	0.0%	1.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Critical Dry	0.0%	0.0%	0.7%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!

Table B-7-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%
Dry	0.0%	0.0%	0.0%	0.1%	0.1%	-0.5%	-0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%

Table B-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-3.6%	-2.6%	-1.9%	-1.7%	-0.9%	-2.1%	-1.9%	-2.6%	-2.0%	-3.1%	-3.5%	-2.2%
Wet	-0.2%	-3.8%	-1.6%	-1.5%	-0.3%	-0.5%	-0.4%	-1.0%	-1.7%	-1.6%	-2.2%	-5.8%	-1.7%
Above Normal	-0.3%	-2.5%	-1.0%	-3.2%	-3.7%	-1.6%	-1.8%	-0.9%	-1.9%	-0.8%	-1.6%	-5.7%	-2.1%
Below Normal	0.4%	-4.1%	-2.7%	-1.3%	-4.9%	-3.9%	-4.2%	-3.2%	-2.8%	-1.4%	-3.4%	-1.2%	-2.7%
Dry	0.4%	-1.5%	-6.5%	-3.9%	-2.3%	1.4%	-8.8%	-5.9%	-5.8%	-3.8%	-3.3%	-0.6%	-3.6%
Critical Dry	-2.6%	-6.6%	-0.9%	-2.5%	-2.7%	0.3%	-2.2%	-4.1%	-5.4%	-6.1%	-5.6%	-1.4%	-3.3%

Table B-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-3.6%	-2.6%	-1.9%	-1.7%	-0.9%	-2.1%	-1.9%	-2.6%	-2.1%	-3.2%	-3.6%	-2.2%
Wet	-0.2%	-3.8%	-1.6%	-1.5%	-0.3%	-0.5%	-0.4%	-1.0%	-1.7%	-1.6%	-2.2%	-5.9%	-1.7%
Above Normal	-0.3%	-2.4%	-1.0%	-3.2%	-3.6%	-1.6%	-1.8%	-0.9%	-1.9%	-0.8%	-1.7%	-5.8%	-2.1%
Below Normal	0.4%	-4.1%	-2.7%	-1.2%	-4.9%	-3.9%	-4.3%	-3.2%	-2.8%	-1.4%	-3.5%	-1.2%	-2.7%
Dry	0.4%	-1.5%	-6.5%	-3.8%	-2.3%	1.4%	-8.8%	-6.0%	-5.9%	-3.9%	-5.4%	-0.6%	-3.6%
Critical Dry	-2.4%	-6.4%	-0.9%	-2.6%	-2.7%	0.3%	-2.2%	-4.1%	-5.5%	-6.3%	-5.7%	-1.4%	-3.3%

Table B-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-3.5%	-2.5%	-1.9%	-1.7%	-0.9%	-2.1%	-1.9%	-2.6%	-2.0%	-3.1%	-3.6%	-2.2%
Wet	-0.2%	-3.7%	-1.5%	-1.5%	-0.3%	-0.5%	-0.4%	-1.0%	-1.7%	-1.6%	-2.2%	-5.9%	-1.7%
Above Normal	-0.3%	-2.4%	-0.9%	-3.1%	-3.6%	-1.6%	-1.8%	-0.9%	-1.9%	-0.8%	-1.6%	-5.8%	-2.1%
Below Normal	0.4%	-4.0%	-2.6%	-1.2%	-4.8%	-3.8%	-4.2%	-3.2%	-2.8%	-1.4%	-3.4%	-1.2%	-2.7%
Dry	0.4%	-1.4%	-6.3%	-3.7%	-2.2%	1.4%	-8.8%	-5.9%	-5.8%	-3.9%	-3.3%	-0.6%	-3.5%
Critical Dry	-2.3%	-6.2%	-0.7%	-2.4%	-2.5%	0.3%	-2.1%	-4.1%	-5.5%	-6.2%	-5.7%	-1.3%	-3.2%

Table B-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-3.7%	-2.6%	-1.9%	-1.7%	-0.9%	-2.2%	-1.9%	-2.7%	-2.2%	-3.4%	-3.6%	-2.2%
Wet	-0.2%	-3.8%	-1.6%	-1.5%	-0.3%	-0.5%	-0.4%	-1.0%	-1.7%	-1.7%	-2.3%	-5.9%	-1.8%
Above Normal	-0.3%	-2.5%	-1.0%	-3.1%	-3.6%	-1.6%	-1.9%	-0.9%	-2.0%	-0.8%	-1.8%	-5.8%	-2.1%
Below Normal	0.4%	-4.2%	-2.7%	-1.2%	-3.0%	-4.0%	-4.4%	-3.3%	-2.9%	-1.5%	-3.7%	-1.2%	-2.8%
Dry	0.4%	-1.5%	-6.5%	-4.0%	-2.3%	1.5%	-9.3%	-6.4%	-6.2%	-4.2%	-5.6%	-0.6%	-3.7%
Critical Dry	-2.7%	-6.7%	-0.8%	-2.7%	-2.7%	0.3%	-2.3%	-4.3%	-6.1%	-7.0%	-6.5%	-1.5%	-3.6%

Table B-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.4%	0.4%	0.6%	0.5%	0.4%	0.3%	0.2%	0.5%	0.3%	0.3%	0.2%	0.5%	0.4%
Wet	0.3%	-0.2%	0.1%	0.5%	0.1%	0.1%	0.0%	0.1%	0.1%	0.2%	0.3%	0.2%	0.1%
Above Normal	-0.5%	-0.5%	0.2%	0.4%	0.4%	0.1%	0.3%	-0.1%	0.1%	0.3%	0.2%	0.0%	0.1%
Below Normal	-0.1%	0.3%	0.2%	0.1%	0.0%	0.1%	0.2%	0.2%	0.3%	0.1%	0.2%	0.6%	0.2%
Dry	0.1%	0.2%	-0.1%	-0.2%	-0.1%	-0.5%	-0.3%	0.7%	0.1%	0.0%	0.0%	0.2%	0.0%
Critical Dry	3.0%	2.7%	3.6%	2.2%	2.2%	2.1%	1.2%	1.8%	1.4%	0.8%	0.4%	1.7%	1.9%

Table B-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	0.2%	0.4%	0.4%	0.4%	0.2%	0.2%	0.4%	0.3%	0.3%	0.3%	0.4%	0.3%
Wet	0.2%	-0.2%	0.1%	0.5%	0.1%	0.1%	0.0%	0.1%	0.1%	0.3%	0.3%	0.3%	0.2%
Above Normal	-0.4%	-0.5%	0.2%	0.3%	0.4%	0.1%	0.3%	-0.1%	0.1%	0.3%	0.2%	0.1%	0.1%
Below Normal	-0.1%	0.2%	0.1%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.1%	0.2%	0.5%	0.2%
Dry	0.0%	0.1%	-0.2%	-0.3%	-0.1%	-0.3%	-0.2%	0.5%	0.4%	0.1%	0.1%	0.2%	0.0%
Critical Dry	1.9%	2.0%	2.7%	1.7%	1.8%	1.4%	0.9%	1.3%	0.9%	0.9%	0.5%	0.9%	1.4%

Table B-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.3%	0.4%	0.3%	0.3%	0.4%	0.3%
Wet	0.2%	-0.1%	0.0%	0.5%	0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%	0.2%
Above Normal	-0.3%	-0.4%	0.1%	0.2%	0.4%	0.2%	0.3%	0.0%	0.1%	0.3%	0.2%	0.2%	0.1%
Below Normal	0.0%	0.2%	0.1%	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%	0.2%	0.3%	0.4%	0.2%
Dry	0.0%	0.1%	-0.2%	-0.2%	-0.1%	-0.2%	-0.1%	0.6%	0.6%	0.2%	0.3%	0.2%	0.1%
Critical Dry	1.3%	1.5%	2.0%	1.3%	1.4%	0.9%	0.6%	0.9%	0.7%	0.9%	0.6%	0.6%	1.1%

Modeling Technical Appendix – Attachment C-1. Model Results for Climate Change Conditions Baseline

This attachment summarizes the modeling results for Climate Change Conditions Baseline (3.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table C-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table C-1-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table C-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table C-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table C-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table C-1-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table C-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table C-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table C-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table C-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table C-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table C-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table C-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table C-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	176,405	177,550	181,822	199,155	207,255	217,798	249,577	260,092	252,979	237,029	214,138	184,294	213,174
Wet	176,372	186,773	199,992	222,889	224,124	224,765	258,530	265,656	259,787	245,876	223,064	192,558	223,365
Above Normal	170,339	173,444	184,134	208,067	211,460	217,725	254,881	266,363	261,619	245,444	221,888	190,643	217,167
Below Normal	179,142	173,933	173,345	190,921	203,412	218,403	250,122	265,419	259,591	243,276	219,341	185,695	213,550
Dry	177,793	171,212	165,090	172,614	190,799	214,227	242,843	254,838	244,288	226,108	203,345	174,998	203,180
Critical Dry	180,630	170,597	157,019	157,361	163,174	178,409	190,774	195,334	182,486	165,055	148,157	137,875	168,906

Table C-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,079	25,191	26,746	24,683	26,627	29,772	36,500	40,154	39,506	37,421	35,052	31,609	31,945
Wet	30,462	24,206	28,537	25,703	28,120	30,601	37,482	41,931	41,514	39,388	36,680	32,561	33,099
Above Normal	29,258	24,649	26,362	20,872	22,615	27,115	35,675	42,528	41,894	39,494	36,820	32,740	31,669
Below Normal	30,323	25,588	25,913	25,880	27,655	30,662	37,455	40,537	39,263	37,071	34,640	31,249	32,186
Dry	29,884	26,344	25,339	25,074	26,852	30,355	36,113	37,394	36,881	35,065	33,123	30,790	31,101
Critical Dry	30,225	27,085	25,340	23,867	24,437	26,195	29,616	30,134	29,579	28,021	27,490	25,567	27,296

Table C-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	42,317	35,637	31,651	39,861	43,674	43,851	53,291	62,901	63,309	58,531	52,722	45,059	47,734
Wet	42,100	33,019	29,446	42,630	45,000	43,533	51,108	64,290	64,833	60,131	54,321	46,502	48,076
Above Normal	41,313	34,320	30,890	39,635	44,028	43,571	53,733	65,070	65,370	60,216	53,869	45,642	48,138
Below Normal	42,282	36,777	31,821	39,350	43,805	43,672	55,034	62,620	63,344	58,435	52,352	44,698	47,849
Dry	42,845	38,500	34,232	36,855	41,966	44,821	55,441	61,243	61,189	56,391	50,839	43,405	47,311
Critical Dry	45,241	40,910	37,288	37,520	40,549	42,809	49,329	53,558	54,519	51,331	47,429	41,965	45,204

Table C-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,688	2,816	4,618	8,475	12,620	17,342	20,680	22,109	17,884	11,689	6,874	4,076	10,989
Wet	3,240	3,763	7,466	15,282	21,867	27,557	31,758	33,310	27,254	18,019	10,324	5,089	17,078
Above Normal	2,404	2,529	4,563	8,079	12,526	17,712	21,618	23,909	20,555	14,008	8,696	5,596	11,850
Below Normal	2,483	2,188	2,930	4,899	7,835	13,173	16,584	18,394	15,660	10,651	6,136	4,060	8,749
Dry	2,369	2,293	2,347	2,886	4,867	8,055	10,198	10,828	7,092	3,516	2,121	1,985	4,880
Critical Dry	2,040	1,983	2,000	2,124	2,824	3,746	4,236	4,085	1,968	1,863	1,782	1,726	2,531

Table C-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	10,648	11,110	12,818	14,368	15,874	17,439	18,343	18,446	17,160	14,940	12,952	11,384	14,623
Wet	11,119	12,086	15,363	18,358	20,212	21,089	21,206	21,152	20,205	18,106	16,122	14,578	17,466
Above Normal	10,466	11,129	12,595	14,059	16,215	18,346	19,822	20,547	19,680	17,416	15,452	13,753	15,790
Below Normal	10,741	10,963	12,104	13,360	15,002	17,464	18,849	19,308	17,773	15,217	12,944	11,092	14,568
Dry	10,079	10,012	10,456	10,560	11,230	12,871	14,209	13,966	12,175	9,962	8,052	6,658	10,852
Critical Dry	10,329	9,953	9,501	9,112	9,345	9,859	10,310	9,611	7,864	6,297	5,009	4,049	8,436

Table C-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	14,523	13,685	13,786	14,244	15,021	16,267	19,595	21,367	20,025	18,409	16,350	15,163	16,536
Wet	14,931	14,380	15,447	17,064	17,994	18,651	21,158	22,054	20,707	19,025	17,258	16,300	17,914
Above Normal	14,328	13,446	13,500	13,853	14,805	16,255	19,765	22,286	20,632	18,151	16,066	14,740	16,486
Below Normal	14,928	13,857	13,455	13,338	14,489	16,424	20,416	22,173	20,556	19,290	16,694	15,170	16,733
Dry	13,664	12,669	11,991	11,493	11,771	13,312	17,246	19,857	18,835	17,493	15,255	14,035	14,802
Critical Dry	15,065	13,977	13,044	12,444	12,429	12,920	15,846	17,084	16,430	15,665	14,733	13,926	14,464

Table C-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,343	3,075	3,157	2,452	2,641	3,216	7,291	7,955	6,795	5,732	5,059	3,665	4,532
Wet	3,414	3,264	3,514	3,612	3,741	3,733	7,704	8,275	7,174	5,907	5,228	3,756	4,943
Above Normal	3,203	2,852	3,002	2,563	2,667	3,007	7,041	7,641	6,063	5,013	4,448	3,337	4,237
Below Normal	3,456	3,059	3,013	2,279	2,527	2,986	7,443	8,319	6,766	5,765	5,074	3,786	4,539
Dry	3,227	2,991	2,930	1,174	1,561	3,149	7,099	7,785	7,013	6,115	5,371	3,708	4,344
Critical Dry	3,481	2,968	2,779	555	188	1,206	5,317	5,905	5,456	4,824	4,236	3,435	3,362

Table C-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	70	128	303	594	974	1,538	2,975	3,675	3,447	950	373	147	1,264
Wet	114	248	721	1,409	2,041	2,178	3,509	4,156	3,898	907	620	345	1,679
Above Normal	23	52	157	331	527	723	2,494	3,467	3,159	207	113	29	940
Below Normal	80	94	116	223	634	1,344	3,062	3,809	3,527	1,111	223	14	1,186
Dry	18	26	6	-	188	1,460	2,719	3,324	3,210	1,406	317	51	1,060
Critical Dry	149	173	-	-	-	847	1,570	1,964	1,890	930	357	140	668

Table C-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	177	50	48	67	70	939	1,459	1,548	1,451	1,316	1,198	184	709
Wet	211	52	51	76	76	1,113	1,582	1,635	1,537	1,406	1,294	216	771
Above Normal	141	38	36	66	73	862	1,430	1,541	1,425	1,290	1,169	178	687
Below Normal	175	53	51	66	70	930	1,469	1,599	1,497	1,358	1,232	183	724
Dry	147	54	51	58	63	847	1,429	1,535	1,447	1,309	1,185	176	692
Critical Dry	219	47	44	54	51	376	704	716	656	536	437	6	320

Table C-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,836	4,834	4,836	4,841	4,846	4,850	4,858	4,867	4,867	4,862	4,855	4,843	4,849
Wet	4,835	4,836	4,842	4,850	4,854	4,855	4,861	4,869	4,869	4,865	4,859	4,847	4,853
Above Normal	4,833	4,832	4,835	4,843	4,849	4,850	4,859	4,869	4,870	4,866	4,858	4,846	4,851
Below Normal	4,838	4,834	4,834	4,837	4,843	4,849	4,858	4,868	4,869	4,865	4,857	4,845	4,850
Dry	4,837	4,833	4,831	4,831	4,836	4,846	4,856	4,865	4,864	4,859	4,851	4,839	4,846
Critical Dry	4,837	4,834	4,829	4,825	4,827	4,831	4,837	4,842	4,840	4,833	4,824	4,818	4,831

Table C-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,373	3,370	3,374	3,386	3,401	3,415	3,426	3,432	3,429	3,414	3,397	3,383	3,400
Wet	3,376	3,373	3,381	3,403	3,427	3,442	3,452	3,457	3,453	3,436	3,415	3,393	3,417
Above Normal	3,372	3,370	3,374	3,387	3,404	3,418	3,431	3,438	3,438	3,425	3,407	3,391	3,404
Below Normal	3,372	3,369	3,370	3,377	3,388	3,406	3,419	3,426	3,425	3,413	3,396	3,381	3,395
Dry	3,371	3,368	3,368	3,371	3,377	3,390	3,401	3,406	3,400	3,383	3,370	3,367	3,381
Critical Dry	3,370	3,367	3,367	3,367	3,370	3,375	3,379	3,380	3,372	3,366	3,365	3,365	3,370

Table C-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,225	4,224	4,228	4,235	4,240	4,246	4,251	4,253	4,250	4,244	4,236	4,229	4,238
Wet	4,226	4,227	4,235	4,247	4,256	4,260	4,262	4,262	4,261	4,256	4,249	4,243	4,249
Above Normal	4,223	4,223	4,227	4,233	4,241	4,248	4,255	4,259	4,259	4,254	4,247	4,240	4,243
Below Normal	4,226	4,224	4,227	4,232	4,237	4,246	4,252	4,256	4,254	4,247	4,238	4,230	4,239
Dry	4,223	4,220	4,222	4,223	4,225	4,230	4,236	4,238	4,234	4,225	4,216	4,207	4,225
Critical Dry	4,224	4,221	4,219	4,218	4,217	4,219	4,221	4,220	4,213	4,205	4,197	4,190	4,214

Table C-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,944	7,943	7,942	7,942	7,944	7,945	7,949	7,955	7,955	7,952	7,949	7,946	7,947
Wet	7,945	7,944	7,944	7,946	7,949	7,950	7,953	7,957	7,956	7,954	7,950	7,948	7,950
Above Normal	7,944	7,942	7,941	7,942	7,943	7,945	7,950	7,956	7,956	7,953	7,949	7,945	7,947
Below Normal	7,945	7,943	7,942	7,942	7,942	7,945	7,950	7,956	7,956	7,954	7,950	7,946	7,948
Dry	7,943	7,941	7,939	7,938	7,938	7,939	7,944	7,951	7,953	7,950	7,947	7,944	7,944
Critical Dry	7,945	7,944	7,942	7,940	7,940	7,940	7,943	7,947	7,948	7,947	7,945	7,943	7,944

Table C-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,195	7,194	7,194	7,193	7,192	7,194	7,199	7,205	7,204	7,202	7,200	7,198	7,198
Wet	7,196	7,195	7,195	7,195	7,196	7,196	7,200	7,206	7,205	7,203	7,200	7,198	7,199
Above Normal	7,195	7,194	7,194	7,193	7,193	7,193	7,198	7,205	7,203	7,200	7,198	7,197	7,197
Below Normal	7,196	7,195	7,194	7,193	7,192	7,193	7,199	7,206	7,205	7,202	7,200	7,198	7,198
Dry	7,195	7,194	7,194	7,191	7,189	7,192	7,199	7,205	7,205	7,203	7,201	7,199	7,197
Critical Dry	7,195	7,194	7,194	7,189	7,185	7,186	7,194	7,201	7,201	7,199	7,198	7,196	7,194

Table C-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,196	8,196	8,197	8,199	8,201	8,204	8,206	8,207	8,203	8,199	8,197	8,200
Wet	8,196	8,197	8,197	8,200	8,202	8,203	8,205	8,207	8,208	8,204	8,199	8,198	8,201
Above Normal	8,196	8,196	8,196	8,197	8,198	8,198	8,202	8,206	8,206	8,201	8,196	8,196	8,199
Below Normal	8,196	8,196	8,196	8,196	8,197	8,200	8,203	8,207	8,207	8,204	8,199	8,196	8,200
Dry	8,195	8,195	8,195	8,195	8,196	8,200	8,204	8,206	8,206	8,204	8,200	8,198	8,200
Critical Dry	8,197	8,198	8,195	8,195	8,195	8,198	8,201	8,203	8,204	8,202	8,200	8,198	8,199

Table C-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,409	7,408	7,408
Wet	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,410	7,410	7,408	7,408
Above Normal	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,409	7,408	7,408
Below Normal	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,410	7,408	7,408
Dry	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,409	7,408	7,408
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,408	7,408	7,407	7,407	7,406	7,406

Table C-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	422	783	1,530	1,750	2,080	2,373	2,190	2,213	1,033	649	654	837	1,376
Wet	465	1,138	2,761	3,545	3,650	3,641	3,184	3,406	1,522	785	715	929	2,145
Above Normal	392	660	1,187	1,408	2,043	2,479	2,662	2,744	1,116	663	693	883	1,411
Below Normal	401	601	956	750	1,385	2,055	1,862	1,778	788	591	651	855	1,056
Dry	398	538	630	440	693	1,068	989	795	572	530	583	741	665
Critical Dry	424	569	506	331	388	415	493	374	424	413	422	369	427

Table C-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	41	127	171	155	171	67	184	57	39	21	20	89
Wet	15	83	316	423	374	357	118	326	73	56	28	28	183
Above Normal	15	17	37	76	69	150	49	196	68	39	20	20	63
Below Normal	15	17	22	19	43	72	49	112	55	33	17	17	39
Dry	15	18	19	20	13	25	31	55	34	23	15	11	23
Critical Dry	14	18	18	18	7	9	17	33	28	23	15	11	18

Table C-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62	170	415	579	668	822	945	1,037	369	130	73	66	445
Wet	82	296	827	1,159	1,153	1,201	1,272	1,589	601	176	86	83	710
Above Normal	50	129	316	451	630	839	1,113	1,284	417	158	73	66	461
Below Normal	52	101	220	287	457	723	882	857	266	113	72	56	340
Dry	47	86	104	147	261	452	528	372	133	75	59	52	193
Critical Dry	84	95	73	109	103	196	255	127	77	41	42	42	104

Table C-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	28	9	148	26	48	60	53	49	16	15	12	11	39
Wet	34	12	377	62	112	117	116	84	17	17	13	11	81
Above Normal	23	6	71	7	7	36	28	53	17	17	13	11	24
Below Normal	24	6	7	7	27	37	18	22	17	14	13	11	17
Dry	26	6	7	7	7	23	13	23	13	11	10	10	13
Critical Dry	27	7	7	7	6	8	10	10	10	8	6	6	9

Table C-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	932	3,189	8,199	6,092	6,514	8,149	6,523	4,678	1,700	1,556	1,799	902	4,186
Wet	1,040	4,314	18,293	12,884	10,978	13,049	10,532	7,431	2,467	1,789	1,911	1,031	7,143
Above Normal	989	2,629	5,447	4,134	5,820	8,032	7,001	5,457	1,878	1,644	1,928	949	3,826
Below Normal	820	3,323	2,422	2,307	4,970	6,299	4,685	3,377	1,366	1,544	1,998	880	2,833
Dry	814	2,074	1,462	1,574	2,693	3,867	2,764	1,856	913	1,283	1,544	747	1,799
Critical Dry	1,009	1,956	669	895	1,368	1,144	1,413	923	683	900	931	641	1,044

Table C-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	47	96	135	109	149	196	152	157	89	74	96	130	119
Wet	50	122	198	210	255	292	235	239	131	77	101	139	171
Above Normal	45	88	126	112	170	221	200	205	93	77	102	138	131
Below Normal	46	84	113	46	109	184	122	130	62	73	97	137	100
Dry	45	74	79	26	37	82	46	49	57	72	89	118	64
Critical Dry													#DIV/0!

Table C-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	5	7	10	10	12	11	10	4	1	2	2	6
Wet	-	6	10	13	12	12	11	11	8	1	2	3	7
Above Normal	-	5	7	12	12	12	11	11	4	0	1	1	6
Below Normal	-	4	7	10	11	12	12	11	3	0	2	2	6
Dry	-	3	4	7	8	12	11	8	2	1	4	3	5
Critical Dry	-	4	3	6	4	8	10	5	1	0	2	2	4

Table C-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	457	1,317	2,379	1,957	2,138	3,016	2,712	2,430	880	690	904	419	1,608
Wet	519	1,737	5,373	4,157	3,617	4,337	4,299	3,755	1,294	756	926	475	2,604
Above Normal	478	1,122	1,533	1,398	1,970	3,245	2,956	2,921	931	692	928	441	1,551
Below Normal	390	1,264	640	692	1,692	2,628	1,987	1,771	646	681	1,055	433	1,156
Dry	399	964	407	454	782	1,712	1,195	1,032	529	634	816	350	773
Critical Dry	495	908	231	375	400	436	632	539	333	498	456	207	459

Table C-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	458	425	453	487	514	662	762	796	716	599	529	496	575
Wet	489	463	528	565	567	750	885	939	875	741	660	616	673
Above Normal	468	453	489	548	556	756	869	896	776	627	548	497	624
Below Normal	450	418	424	476	528	678	809	838	739	604	532	507	584
Dry	444	397	400	403	447	546	607	643	550	465	405	378	474
Critical Dry	397	350	348	345	384	452	425	415	380	331	294	280	367

Table C-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,543	2,581	2,785	3,082	3,310	3,650	3,913	3,826	3,490	2,989	2,727	2,597	3,124
Wet	2,648	2,739	3,042	3,389	3,505	3,784	4,237	4,340	4,118	3,581	3,305	3,082	3,481
Above Normal	2,855	2,926	3,079	3,401	3,553	4,031	4,361	4,212	3,818	3,274	2,997	2,782	3,441
Below Normal	2,640	2,691	2,818	3,153	3,482	3,875	4,142	3,976	3,597	3,071	2,826	2,778	3,254
Dry	2,493	2,450	2,704	2,934	3,281	3,632	3,647	3,413	3,033	2,621	2,362	2,297	2,905
Critical Dry	1,867	1,802	1,882	2,015	2,253	2,529	2,501	2,282	1,819	1,397	1,148	1,086	1,882

Table C-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,247	1,272	1,369	1,479	1,620	1,758	1,887	1,792	1,683	1,545	1,391	1,273	1,526
Wet	1,321	1,375	1,551	1,727	1,911	2,063	2,228	2,163	2,030	1,904	1,763	1,634	1,806
Above Normal	1,461	1,505	1,620	1,774	1,891	2,019	2,180	2,028	1,899	1,747	1,570	1,418	1,759
Below Normal	1,278	1,303	1,353	1,451	1,585	1,718	1,854	1,734	1,633	1,486	1,322	1,210	1,494
Dry	1,163	1,158	1,218	1,272	1,394	1,559	1,643	1,534	1,436	1,272	1,116	1,005	1,314
Critical Dry	913	878	893	879	955	1,044	1,086	1,018	961	849	707	620	900

Table C-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,608	1,648	1,879	2,124	2,368	2,608	2,860	2,862	2,591	2,087	1,748	1,669	2,171
Wet	1,702	1,826	2,299	2,662	2,855	2,945	3,282	3,411	3,242	2,707	2,288	2,114	2,611
Above Normal	1,803	1,840	2,084	2,471	2,697	2,938	3,263	3,271	2,953	2,355	1,886	1,806	2,447
Below Normal	1,594	1,611	1,699	1,912	2,270	2,645	2,954	2,896	2,583	2,014	1,698	1,666	2,128
Dry	1,461	1,432	1,531	1,644	1,897	2,246	2,362	2,267	1,890	1,487	1,277	1,270	1,730
Critical Dry	1,406	1,344	1,369	1,404	1,548	1,779	1,773	1,663	1,364	1,039	819	812	1,360

Table C-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,331	2,378	3,978	5,279	6,040	4,461	3,959	3,720	2,778	2,652	1,982	1,832	3,366
Wet	1,381	3,313	7,446	10,619	10,354	7,518	6,208	6,024	3,527	3,196	2,298	2,206	5,341
Above Normal	1,613	1,974	3,327	6,190	7,518	5,672	3,749	3,798	3,186	3,155	2,237	2,197	3,718
Below Normal	1,298	1,972	2,352	2,058	4,228	2,766	3,067	3,033	2,759	2,855	2,043	1,734	2,514
Dry	1,247	1,728	1,542	1,727	2,281	2,311	2,082	1,703	2,195	1,879	1,645	1,544	1,824
Critical Dry	1,152	1,745	1,293	1,034	1,378	1,328	2,058	1,171	1,136	1,240	1,179	1,078	1,316

Table C-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,878	6,195	10,834	13,408	15,945	14,475	10,350	5,834	5,530	6,450	4,733	5,565	8,683
Wet	5,351	7,914	16,166	19,796	20,547	18,620	14,244	7,057	5,275	7,308	5,368	7,675	11,277
Above Normal	5,415	6,739	12,098	15,564	18,458	17,267	9,731	6,440	5,883	6,954	5,330	7,396	9,773
Below Normal	4,703	5,605	8,026	10,622	14,201	12,272	9,010	5,351	5,434	6,462	4,333	4,245	7,522
Dry	4,367	4,566	6,794	8,239	12,939	12,256	7,428	5,140	5,512	5,225	4,128	3,582	6,681
Critical Dry	4,153	4,236	6,024	6,287	8,688	8,344	6,416	3,869	6,191	5,113	4,112	3,567	5,583

Table C-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,068	3,522	7,829	12,518	14,936	14,532	8,468	5,589	5,496	7,286	6,172	3,778	7,766
Wet	3,541	5,106	14,952	25,699	28,282	27,717	15,369	7,883	5,942	8,462	8,281	6,111	13,112
Above Normal	3,283	3,124	6,058	12,268	18,339	17,833	7,175	6,707	6,734	8,779	8,342	4,051	8,558
Below Normal	3,091	2,829	4,193	5,342	7,572	6,832	5,135	4,799	5,357	7,973	5,649	2,749	5,127
Dry	2,803	2,443	3,394	3,365	5,046	5,376	4,059	3,866	5,428	5,445	3,487	1,832	3,879
Critical Dry	1,865	2,224	2,621	2,686	3,177	3,159	2,825	2,164	3,725	3,593	3,006	1,654	2,725

Table C-1-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,417	8,746	27,774	47,854	58,657	49,586	29,837	17,263	8,658	6,137	4,359	6,787	22,673
Wet	7,438	14,051	55,416	97,547	104,930	90,260	53,077	27,253	11,831	7,978	5,182	11,721	40,557
Above Normal	7,924	5,835	23,346	49,077	74,327	59,233	25,592	19,078	10,303	7,308	5,806	11,964	24,983
Below Normal	6,079	6,437	13,298	20,200	33,894	25,546	19,644	13,168	6,630	5,566	3,514	3,045	13,085
Dry	5,538	5,186	8,459	14,138	23,519	23,255	13,791	9,810	6,294	4,333	3,905	2,410	10,053
Critical Dry	4,239	5,494	8,983	9,533	14,302	13,305	9,915	6,002	5,855	3,538	3,373	2,549	7,257

Table C-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	169	208	226	227	202	176	151	195	142	136	127	211	181
Wet	179	229	255	244	194	175	180	242	210	196	193	215	209
Above Normal	164	264	265	242	183	172	175	233	140	125	117	147	186
Below Normal	170	207	219	218	222	185	141	177	113	117	103	249	177
Dry	151	181	203	236	222	181	126	156	91	93	82	211	161
Critical Dry	168	139	159	180	169	159	105	118	76	71	52	168	130

Table C-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	23	4	2	1	-	-	1	1	10	4	1	4
Wet	1	21	1	6	1	-	-	2	2	11	-	-	4
Above Normal	-	42	11	-	-	-	-	-	-	10	-	-	5
Below Normal	3	25	9	-	-	-	-	-	-	8	14	4	5
Dry	-	24	-	-	-	-	-	-	-	17	-	-	3
Critical Dry	5	10	4	-	-	-	-	-	-	1	-	-	2

Table C-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16	15	6	-	-	-	-	-	26	31	31	30	13
Wet	16	14	2	-	-	-	-	-	25	31	31	30	12
Above Normal	23	17	4	-	-	-	-	-	26	31	31	30	14
Below Normal	18	16	10	-	-	-	-	-	26	31	31	30	14
Dry	13	18	10	-	-	-	-	-	26	31	31	30	13
Critical Dry	13	12	11	-	-	-	-	-	26	31	31	30	13

Table C-1-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	87	87	87	79	71	65	65	68	73	79	84	87	78
Wet	86	85	83	68	59	57	58	61	66	74	80	84	72
Above Normal	85	84	86	77	65	60	60	65	71	77	82	85	75
Below Normal	86	87	88	84	76	68	67	70	74	81	85	89	80
Dry	87	88	90	88	81	71	68	73	79	83	87	90	82
Critical Dry	91	91	92	89	86	80	78	80	84	87	90	92	86

Table C-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
1,325	2,373	3,967	5,242	6,008	4,447	3,961	3,740	2,799	2,688	2,004	1,847	3,367
1,565	3,229	4,200	10,553	10,308	7,488	6,196	6,041	3,543	3,227	2,316	2,220	5,074
1,504	2,504	5,548	6,145	7,472	5,665	3,758	3,818	3,207	3,189	2,261	2,208	3,940
1,404	2,584	6,056	2,030	4,209	2,760	3,072	3,055	2,784	2,894	2,069	1,749	2,889
1,019	1,082	1,172	1,712	2,260	2,312	2,090	1,724	2,217	1,917	1,671	1,561	1,728
659	848	592	1,035	1,358	1,318	2,078	1,189	1,162	1,281	1,205	1,098	1,152

Table C-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,315	2,383	4,001	5,281	6,042	4,462	3,960	3,720	2,778	2,651	1,980	1,830	3,367
Wet	1,555	3,240	4,230	10,620	10,354	7,518	6,208	6,024	3,527	3,196	2,295	2,206	5,081
Above Normal	1,496	2,522	5,590	6,194	7,519	5,672	3,749	3,798	3,185	3,152	2,237	2,191	3,942
Below Normal	1,400	2,595	6,094	2,060	4,235	2,767	3,067	3,033	2,759	2,854	2,042	1,733	2,886
Dry	1,004	1,091	1,180	1,727	2,285	2,316	2,084	1,703	2,192	1,878	1,643	1,541	1,720
Critical Dry	641	844	652	1,042	1,374	1,324	2,061	1,167	1,136	1,240	1,175	1,076	1,144

Table C-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,325	2,424	4,090	5,376	6,124	4,496	3,972	3,720	2,774	2,653	1,980	1,834	3,397
Wet	1,548	3,273	4,300	10,783	10,455	7,559	6,215	6,012	3,501	3,179	2,277	2,193	5,108
Above Normal	1,502	2,568	5,701	6,313	7,630	5,698	3,736	3,790	3,178	3,151	2,230	2,188	3,974
Below Normal	1,426	2,648	6,217	2,118	4,311	2,797	3,088	3,043	2,770	2,868	2,051	1,747	2,924
Dry	1,018	1,129	1,219	1,768	2,342	2,343	2,098	1,705	2,201	1,889	1,656	1,554	1,744
Critical Dry	663	875	765	1,074	1,426	1,361	2,083	1,183	1,150	1,261	1,198	1,099	1,178

Table C-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,214	2,323	4,014	5,302	6,049	4,404	3,856	3,578	2,595	2,452	1,791	1,684	3,272
Wet	1,434	3,171	4,222	10,719	10,382	7,468	6,098	5,858	3,313	2,968	2,078	2,021	4,978
Above Normal	1,392	2,467	5,629	6,243	7,559	5,605	3,616	3,651	2,996	2,936	2,030	2,030	3,846
Below Normal	1,316	2,549	6,147	2,037	4,235	2,704	2,974	2,905	2,594	2,659	1,863	1,612	2,800
Dry	909	1,028	1,135	1,684	2,262	2,250	1,983	1,570	2,027	1,703	1,478	1,416	1,621
Critical Dry	555	773	693	989	1,345	1,269	1,969	1,053	981	1,091	1,029	967	1,060

Table C-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	64.38	58.12	54.61	49.20	48.66	51.16	54.81	59.33	61.89	63.52	61.74	64.24	57.56
Wet	61.44	57.85	55.12	47.17	47.06	49.63	52.95	56.82	60.05	62.33	60.51	62.62	56.13
Above Normal	62.12	57.35	52.86	48.83	47.91	50.28	54.23	58.75	61.90	62.91	61.75	63.74	56.89
Below Normal	63.74	57.97	53.71	49.84	48.89	51.31	55.07	59.70	62.06	63.42	61.91	64.28	57.66
Dry	65.36	58.40	55.74	50.87	50.22	52.60	56.47	61.74	62.79	64.89	62.90	65.70	58.97
Critical Dry	66.89	59.54	55.22	51.75	51.27	54.02	57.89	64.05	65.54	65.87	63.42	67.29	60.15

Table C-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	64.23	58.01	54.00	48.98	48.87	51.78	55.96	60.69	63.81	65.24	63.90	64.98	58.29
Wet	61.71	57.76	54.62	47.21	47.21	50.04	53.69	57.91	61.78	64.03	62.64	63.57	56.85
Above Normal	62.16	57.18	52.67	48.75	48.08	50.71	55.25	60.25	64.30	64.34	63.57	64.41	57.56
Below Normal	63.51	57.91	54.30	49.50	49.10	51.96	56.31	60.90	63.96	64.81	63.81	65.00	58.34
Dry	64.75	58.49	54.67	50.47	50.45	53.54	58.20	63.58	64.97	66.60	65.11	66.36	59.76
Critical Dry	66.05	59.07	54.03	51.13	51.67	54.95	59.41	64.86	68.09	68.56	66.42	67.65	60.99

Table C-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	64.79	58.42	53.81	49.39	50.05	53.85	58.95	64.37	68.12	69.50	68.27	67.83	60.61
Wet	64.39	58.10	54.40	47.61	48.04	51.60	55.87	60.91	65.72	68.08	66.87	66.37	58.91
Above Normal	63.50	57.44	52.68	49.13	48.99	52.25	58.06	63.95	66.89	68.05	67.45	66.91	59.61
Below Normal	64.88	58.33	54.16	49.97	50.31	54.14	59.44	64.39	68.16	68.64	67.90	67.73	60.59
Dry	66.29	59.07	54.36	50.74	51.92	56.14	62.17	68.05	69.69	71.12	69.62	69.29	62.37
Critical Dry	67.96	59.54	53.85	51.67	53.67	57.89	64.29	69.88	73.73	74.43	71.94	71.05	64.07

Modeling Technical Appendix – Attachment C-2. Model Results for Climate Change Conditions With Project

This attachment summarizes the modeling results for Climate Change Conditions With Project (3.1) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. ..... - 8 -
Table C-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. ..... - 8 -
Table C-2-32. Monthly Average of Delta outflow in Each Water Year Type. ..... - 8 -
Table C-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. ..... - 9 -
Table C-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. ..... - 9 -
Table C-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. ..... - 9 -
Table C-2-36. Monthly Average of X2 Position in Each Water Year Type. ..... - 9 -
Table C-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. ..... - 10 -
Table C-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. ..... - 10 -
Table C-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. ..... - 10 -
Table C-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. ..... - 10 -
Table C-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. ..... - 11 -

Table C-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	164,331	169,167	178,075	194,195	203,207	215,175	247,190	257,960	247,798	227,626	201,202	174,779	206,725
Wet	164,802	179,064	196,421	221,967	223,989	224,767	258,573	265,632	257,608	238,165	210,229	183,723	218,745
Above Normal	157,834	163,749	178,965	201,670	207,856	216,194	253,771	266,361	259,470	238,591	210,946	182,659	211,505
Below Normal	167,494	166,782	171,341	185,645	200,026	217,565	249,808	265,093	256,154	236,669	210,347	178,924	208,821
Dry	165,133	162,141	161,324	164,317	181,984	207,664	236,531	249,197	234,014	213,023	188,538	164,446	194,026
Critical Dry	167,588	160,318	149,790	145,451	149,498	164,390	176,467	179,354	161,835	140,090	119,432	110,228	152,037

Table C-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,070	25,180	26,713	24,640	26,564	29,755	36,494	40,148	39,501	37,419	35,050	31,609	31,929
Wet	30,437	24,173	28,494	25,631	27,993	30,607	37,516	41,939	41,524	39,398	36,686	32,563	33,080
Above Normal	29,258	24,649	26,263	20,776	22,514	27,009	35,575	42,480	41,847	39,462	36,799	32,735	31,614
Below Normal	30,318	25,586	25,911	25,878	27,651	30,659	37,452	40,536	39,261	37,069	34,640	31,249	32,184
Dry	29,885	26,344	25,339	25,073	26,851	30,354	36,112	37,393	36,880	35,065	33,123	30,790	31,101
Critical Dry	30,225	27,085	25,340	23,867	24,437	26,195	29,616	30,134	29,579	28,021	27,490	25,567	27,296

Table C-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	42,313	35,635	31,944	40,030	43,779	43,911	53,319	62,912	63,319	58,535	52,725	45,059	47,790
Wet	42,090	33,013	30,314	43,110	45,300	43,705	51,174	64,322	64,862	60,142	54,329	46,502	48,239
Above Normal	41,313	34,320	30,818	39,635	44,028	43,571	53,764	65,071	65,370	60,216	53,869	45,642	48,135
Below Normal	42,282	36,777	31,821	39,350	43,805	43,672	55,034	62,619	63,344	58,435	52,352	44,698	47,849
Dry	42,845	38,500	34,232	36,855	41,966	44,821	55,441	61,243	61,189	56,391	50,839	43,405	47,311
Critical Dry	45,241	40,910	37,288	37,520	40,549	42,809	49,329	53,558	54,519	51,331	47,429	41,965	45,204

Table C-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	21,342	19,574	20,094	23,234	26,973	30,197	32,007	32,693	31,791	28,259	25,174	23,642	26,248
Wet	22,631	21,475	23,753	29,938	35,135	37,718	39,061	39,524	38,847	35,482	31,894	30,157	32,135
Above Normal	20,333	18,774	20,141	22,906	27,306	30,992	33,400	34,524	34,115	30,097	26,377	24,871	26,986
Below Normal	21,506	19,166	18,647	20,568	23,782	28,717	31,165	32,310	31,411	27,905	24,929	23,250	25,280
Dry	20,188	17,825	16,483	17,035	19,173	22,091	23,949	24,459	23,049	19,430	17,077	15,953	19,726
Critical Dry	20,652	18,984	16,992	16,873	17,507	18,249	18,375	18,082	16,247	13,691	12,569	10,946	16,597

Table C-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	12,231	12,686	14,279	15,774	17,141	18,485	19,250	19,330	18,380	16,393	14,439	12,965	15,946
Wet	12,527	13,446	16,407	19,173	20,615	21,152	21,206	21,166	20,375	18,530	16,598	15,138	18,028
Above Normal	11,922	12,618	14,034	15,514	17,676	19,565	20,712	21,051	20,282	18,277	16,340	14,773	16,897
Below Normal	12,392	12,638	13,795	15,092	16,732	18,917	20,069	20,284	19,134	16,879	14,636	12,888	16,121
Dry	12,007	11,933	12,385	12,532	13,218	14,824	16,091	16,129	15,001	12,953	11,068	9,758	13,158
Critical Dry	11,587	11,230	10,777	10,489	10,746	11,268	11,735	11,411	10,360	8,810	7,534	6,581	10,211

Table C-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	14,403	13,648	13,797	14,263	15,039	16,285	19,596	21,347	19,997	18,331	16,253	15,079	16,503
Wet	14,855	14,369	15,496	17,096	18,030	18,681	21,166	22,054	20,707	18,927	17,077	16,147	17,884
Above Normal	14,167	13,318	13,411	13,794	14,738	16,211	19,755	22,286	20,629	18,044	15,988	14,644	16,415
Below Normal	14,788	13,863	13,581	13,476	14,626	16,559	20,543	22,175	20,556	19,340	16,730	15,174	16,784
Dry	13,520	12,614	11,934	11,466	11,745	13,277	17,152	19,782	18,729	17,356	15,151	13,973	14,725
Critical Dry	14,958	13,992	13,008	12,392	12,377	12,868	15,794	17,032	16,381	15,616	14,706	13,938	14,422

Table C-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,324	2,750	2,798	2,332	2,575	3,220	7,286	7,952	6,795	5,732	5,058	3,618	4,453
Wet	3,408	2,958	3,218	3,542	3,711	3,733	7,702	8,275	7,175	5,906	5,228	3,678	4,878
Above Normal	3,191	2,600	2,800	2,586	2,686	3,036	7,007	7,618	6,061	5,011	4,446	3,245	4,191
Below Normal	3,424	2,896	2,847	2,101	2,392	2,982	7,440	8,319	6,766	5,765	5,074	3,764	4,481
Dry	3,188	2,495	2,269	965	1,428	3,149	7,103	7,788	7,016	6,116	5,372	3,696	4,215
Critical Dry	3,481	2,451	2,148	232	186	1,208	5,320	5,907	5,458	4,826	4,238	3,498	3,246

Table C-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	73	116	300	591	971	1,535	2,972	3,672	3,445	849	331	122	1,248
Wet	123	240	712	1,400	2,032	2,169	3,501	4,148	3,890	792	516	265	1,649
Above Normal	73	51	157	331	527	723	2,494	3,467	3,159	206	105	31	944
Below Normal	56	85	116	223	634	1,344	3,062	3,809	3,527	970	223	9	1,171
Dry	18	23	6	-	188	1,460	2,719	3,324	3,210	1,278	308	69	1,050
Critical Dry	53	24	-	-	-	847	1,570	1,964	1,890	876	327	119	639

Table C-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	177	40	39	64	68	937	1,459	1,548	1,451	1,316	1,198	184	707
Wet	211	44	44	76	76	1,113	1,582	1,635	1,537	1,406	1,294	216	769
Above Normal	141	32	31	61	72	861	1,429	1,541	1,425	1,290	1,169	178	686
Below Normal	175	50	47	66	70	930	1,469	1,599	1,497	1,358	1,232	183	723
Dry	147	35	33	48	57	842	1,427	1,535	1,447	1,309	1,185	176	687
Critical Dry	219	28	27	54	51	376	704	716	656	536	437	6	317

Table C-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,830	4,829	4,833	4,838	4,844	4,848	4,857	4,866	4,865	4,859	4,850	4,838	4,847
Wet	4,829	4,831	4,839	4,849	4,854	4,855	4,861	4,869	4,869	4,864	4,854	4,843	4,851
Above Normal	4,827	4,826	4,831	4,840	4,847	4,849	4,858	4,869	4,869	4,864	4,855	4,843	4,848
Below Normal	4,833	4,830	4,832	4,835	4,841	4,848	4,858	4,868	4,868	4,863	4,854	4,841	4,848
Dry	4,832	4,828	4,828	4,828	4,832	4,842	4,854	4,862	4,861	4,854	4,845	4,833	4,842
Critical Dry	4,831	4,828	4,824	4,820	4,820	4,824	4,830	4,835	4,831	4,821	4,809	4,801	4,823

Table C-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,436	3,430	3,427	3,431	3,439	3,447	3,452	3,455	3,455	3,451	3,444	3,439	3,442
Wet	3,439	3,434	3,433	3,444	3,456	3,463	3,467	3,468	3,468	3,465	3,459	3,454	3,454
Above Normal	3,432	3,426	3,425	3,430	3,440	3,448	3,455	3,459	3,460	3,456	3,448	3,443	3,443
Below Normal	3,436	3,429	3,425	3,427	3,433	3,444	3,451	3,455	3,455	3,451	3,444	3,439	3,441
Dry	3,433	3,426	3,421	3,420	3,423	3,430	3,436	3,439	3,438	3,432	3,426	3,422	3,429
Critical Dry	3,435	3,427	3,422	3,418	3,418	3,421	3,422	3,422	3,421	3,415	3,410	3,407	3,420

Table C-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,232	4,232	4,235	4,241	4,246	4,251	4,255	4,256	4,255	4,250	4,243	4,237	4,244
Wet	4,233	4,233	4,240	4,251	4,258	4,261	4,262	4,262	4,261	4,257	4,251	4,245	4,251
Above Normal	4,231	4,231	4,235	4,240	4,247	4,253	4,259	4,261	4,261	4,257	4,250	4,244	4,247
Below Normal	4,233	4,232	4,235	4,240	4,244	4,252	4,257	4,259	4,258	4,252	4,245	4,237	4,245
Dry	4,232	4,230	4,231	4,232	4,234	4,238	4,243	4,246	4,244	4,238	4,231	4,224	4,235
Critical Dry	4,230	4,227	4,226	4,224	4,224	4,226	4,228	4,228	4,225	4,219	4,213	4,207	4,223

Table C-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,944	7,942	7,942	7,942	7,944	7,945	7,949	7,954	7,955	7,952	7,949	7,946	7,947
Wet	7,945	7,944	7,944	7,947	7,949	7,950	7,953	7,957	7,956	7,954	7,950	7,947	7,950
Above Normal	7,944	7,942	7,941	7,942	7,943	7,945	7,949	7,956	7,956	7,953	7,948	7,945	7,947
Below Normal	7,945	7,943	7,942	7,942	7,943	7,945	7,951	7,956	7,956	7,954	7,950	7,946	7,948
Dry	7,942	7,940	7,939	7,938	7,938	7,939	7,944	7,951	7,953	7,950	7,947	7,943	7,944
Critical Dry	7,945	7,944	7,942	7,940	7,940	7,940	7,943	7,947	7,948	7,946	7,945	7,943	7,944

Table C-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,195	7,194	7,193	7,192	7,192	7,193	7,199	7,205	7,204	7,202	7,200	7,198	7,197
Wet	7,195	7,194	7,194	7,195	7,196	7,196	7,200	7,206	7,205	7,203	7,200	7,198	7,199
Above Normal	7,195	7,193	7,193	7,193	7,193	7,193	7,198	7,204	7,203	7,200	7,198	7,196	7,197
Below Normal	7,195	7,194	7,194	7,192	7,191	7,193	7,199	7,206	7,205	7,202	7,200	7,198	7,197
Dry	7,195	7,193	7,192	7,189	7,188	7,192	7,199	7,205	7,205	7,203	7,201	7,199	7,197
Critical Dry	7,195	7,193	7,192	7,188	7,185	7,186	7,194	7,201	7,201	7,199	7,198	7,197	7,194

Table C-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,196	8,196	8,197	8,199	8,201	8,204	8,206	8,207	8,203	8,199	8,197	8,200
Wet	8,196	8,197	8,197	8,200	8,202	8,203	8,205	8,207	8,208	8,203	8,198	8,198	8,201
Above Normal	8,196	8,196	8,196	8,197	8,198	8,198	8,202	8,206	8,206	8,201	8,196	8,196	8,199
Below Normal	8,196	8,196	8,196	8,196	8,197	8,200	8,203	8,207	8,207	8,204	8,199	8,196	8,200
Dry	8,195	8,195	8,195	8,195	8,196	8,200	8,204	8,206	8,206	8,204	8,200	8,198	8,200
Critical Dry	8,196	8,196	8,195	8,195	8,195	8,198	8,201	8,203	8,204	8,202	8,200	8,198	8,199

Table C-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,409	7,408	7,408
Wet	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,410	7,410	7,408	7,408
Above Normal	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,409	7,408	7,408
Below Normal	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,410	7,408	7,408
Dry	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,410	7,410	7,409	7,408	7,408
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,408	7,408	7,407	7,407	7,406	7,406

Table C-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	398	690	1,449	1,705	2,047	2,344	2,182	2,189	1,000	619	607	685	1,326
Wet	436	1,046	2,688	3,458	3,633	3,648	3,193	3,405	1,474	771	689	760	2,100
Above Normal	372	576	1,105	1,363	1,977	2,440	2,652	2,716	1,071	641	658	736	1,359
Below Normal	380	491	864	728	1,323	1,998	1,840	1,750	758	543	579	719	998
Dry	378	448	540	431	675	1,014	967	740	560	482	510	585	611
Critical Dry	391	491	453	320	384	406	488	368	423	403	407	298	403

Table C-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	38	124	172	152	171	68	184	57	39	21	20	88
Wet	15	75	311	428	376	361	119	327	73	56	28	28	183
Above Normal	15	17	34	72	58	145	50	195	68	39	20	20	61
Below Normal	15	17	19	19	37	67	48	113	55	33	17	17	38
Dry	15	18	19	20	13	24	31	52	34	23	15	11	23
Critical Dry	14	18	18	18	7	9	17	33	28	23	15	11	18

Table C-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62	169	409	580	671	826	952	1,050	371	128	63	63	445
Wet	81	293	820	1,157	1,156	1,213	1,289	1,606	594	171	76	80	711
Above Normal	50	129	309	451	633	844	1,121	1,297	426	158	69	63	462
Below Normal	52	98	213	291	459	722	882	867	276	112	60	55	341
Dry	47	87	102	147	266	449	527	382	136	72	45	50	193
Critical Dry	86	95	70	112	105	195	255	134	83	41	37	33	104

Table C-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	28	9	65	27	47	54	52	52	16	15	12	11	32
Wet	34	12	141	65	110	99	115	93	17	17	13	11	61
Above Normal	23	6	71	7	7	36	28	53	17	17	13	11	24
Below Normal	24	6	7	7	27	37	18	22	17	14	13	11	17
Dry	26	6	7	7	7	23	13	23	13	11	10	10	13
Critical Dry	27	7	7	7	6	8	10	10	10	8	6	6	9

Table C-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	922	3,011	8,102	6,080	6,479	8,111	6,524	4,659	1,661	1,500	1,656	888	4,133
Wet	1,021	4,174	18,059	12,890	10,971	13,032	10,550	7,415	2,408	1,782	1,779	1,009	7,091
Above Normal	989	2,446	5,365	4,122	5,763	7,961	7,005	5,436	1,821	1,580	1,782	948	3,768
Below Normal	814	3,099	2,419	2,266	4,949	6,255	4,680	3,354	1,332	1,472	1,849	868	2,780
Dry	811	1,866	1,461	1,560	2,617	3,819	2,748	1,836	905	1,166	1,383	734	1,742
Critical Dry	959	1,857	670	891	1,371	1,134	1,405	923	684	902	832	633	1,022

Table C-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	52	83	121	111	147	193	151	155	96	84	102	115	117
Wet	54	111	187	205	255	292	235	238	134	91	112	122	170
Above Normal	51	78	113	114	163	216	199	201	97	88	110	125	129
Below Normal	51	68	97	52	103	177	120	129	68	79	100	126	98
Dry	51	61	62	36	37	75	44	46	68	77	90	101	62
Critical Dry	44	70	58	32	20	21	22	26	58	69	71	47	45

Table C-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	5	6	9	8	10	11	12	9	5	5	5	7
Wet	-	6	8	12	11	12	12	12	11	8	5	7	9
Above Normal	-	6	5	9	8	9	11	12	11	5	3	4	7
Below Normal	-	5	5	9	6	10	11	12	10	4	5	5	7
Dry	-	4	3	6	4	9	10	11	7	4	5	5	6
Critical Dry	-	6	4	6	2	4	9	9	2	1	3	3	4

Table C-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	446	1,140	2,358	1,923	2,101	2,980	2,712	2,407	841	634	760	405	1,559
Wet	500	1,599	5,355	4,100	3,608	4,335	4,318	3,730	1,234	749	793	453	2,564
Above Normal	478	940	1,450	1,386	1,911	3,175	2,959	2,898	874	628	782	440	1,493
Below Normal	383	1,042	637	649	1,667	2,575	1,974	1,743	613	609	905	421	1,102
Dry	396	757	406	441	706	1,660	1,177	1,012	520	517	655	337	715
Critical Dry	445	809	231	371	403	427	623	539	334	498	357	198	436

Table C-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	444	410	438	477	509	656	757	792	713	594	523	484	566
Wet	473	447	518	565	567	750	885	939	874	735	654	608	668
Above Normal	454	434	473	536	553	756	869	896	774	621	541	483	616
Below Normal	440	407	410	465	524	669	802	835	736	602	528	494	576
Dry	429	379	376	387	442	538	598	635	547	464	402	365	463
Critical Dry	383	331	326	325	363	433	410	401	368	319	278	257	349

Table C-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,539	2,576	2,782	3,080	3,314	3,649	3,912	3,824	3,485	2,983	2,722	2,593	3,121
Wet	2,644	2,737	3,042	3,389	3,506	3,784	4,237	4,340	4,117	3,584	3,307	3,080	3,481
Above Normal	2,854	2,927	3,083	3,405	3,556	4,034	4,364	4,210	3,816	3,271	2,996	2,782	3,442
Below Normal	2,644	2,690	2,821	3,158	3,490	3,872	4,139	3,971	3,591	3,064	2,818	2,770	3,252
Dry	2,481	2,430	2,684	2,917	3,302	3,646	3,661	3,425	3,035	2,613	2,352	2,288	2,903
Critical Dry	1,853	1,792	1,870	2,004	2,238	2,513	2,478	2,259	1,794	1,368	1,128	1,081	1,865

Table C-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,245	1,271	1,368	1,478	1,619	1,756	1,885	1,789	1,681	1,542	1,388	1,271	1,524
Wet	1,324	1,379	1,554	1,731	1,915	2,065	2,230	2,165	2,032	1,905	1,764	1,636	1,808
Above Normal	1,461	1,505	1,621	1,775	1,891	2,020	2,180	2,028	1,899	1,747	1,570	1,419	1,760
Below Normal	1,277	1,303	1,354	1,450	1,584	1,716	1,853	1,733	1,632	1,482	1,318	1,206	1,492
Dry	1,152	1,146	1,206	1,260	1,382	1,548	1,632	1,523	1,426	1,265	1,107	997	1,304
Critical Dry	904	875	890	874	951	1,038	1,081	1,011	955	845	697	618	895

Table C-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,605	1,647	1,878	2,123	2,370	2,607	2,859	2,861	2,589	2,086	1,746	1,666	2,170
Wet	1,698	1,825	2,298	2,664	2,857	2,945	3,282	3,411	3,241	2,705	2,286	2,109	2,610
Above Normal	1,795	1,832	2,077	2,465	2,692	2,932	3,257	3,271	2,953	2,355	1,873	1,791	2,441
Below Normal	1,595	1,613	1,699	1,911	2,269	2,639	2,949	2,891	2,577	2,009	1,698	1,666	2,126
Dry	1,460	1,429	1,527	1,639	1,909	2,255	2,371	2,274	1,896	1,494	1,283	1,277	1,735
Critical Dry	1,398	1,344	1,369	1,401	1,545	1,776	1,770	1,660	1,360	1,034	813	807	1,356

Table C-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,322	2,300	3,884	5,121	5,923	4,454	3,931	3,678	2,732	2,649	1,945	1,783	3,310
Wet	1,363	3,198	7,264	10,350	10,324	7,523	6,218	6,020	3,501	3,260	2,265	2,080	5,281
Above Normal	1,612	1,925	3,201	6,078	7,295	5,601	3,750	3,786	3,177	3,217	2,202	2,142	3,666
Below Normal	1,293	1,875	2,301	1,972	4,037	2,787	2,999	2,950	2,715	2,791	1,989	1,735	2,454
Dry	1,238	1,686	1,542	1,566	2,077	2,291	2,072	1,616	2,081	1,817	1,601	1,554	1,762
Critical Dry	1,146	1,746	1,264	995	1,362	1,286	1,967	1,136	1,082	1,209	1,178	1,066	1,286

Table C-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,850	6,194	10,819	13,401	15,863	14,503	10,365	5,857	5,558	6,472	4,747	5,568	8,683
Wet	5,316	7,879	16,156	19,794	20,547	18,621	14,243	7,062	5,280	7,254	5,381	7,727	11,272
Above Normal	5,403	6,701	12,073	15,562	18,468	17,267	9,729	6,479	5,888	6,987	5,291	7,378	9,769
Below Normal	4,642	5,675	7,984	10,613	14,198	12,299	9,031	5,386	5,454	6,515	4,345	4,241	7,532
Dry	4,373	4,659	6,795	8,220	12,340	12,358	7,428	5,171	5,618	5,369	4,187	3,548	6,672
Critical Dry	4,163	4,095	6,041	6,287	8,743	8,385	6,495	3,898	6,231	5,127	4,119	3,508	5,591

Table C-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,050	3,499	7,834	12,506	14,892	14,567	8,473	5,586	5,509	7,284	6,170	3,816	7,765
Wet	3,541	5,063	14,925	25,665	28,270	27,750	15,372	7,883	5,953	8,470	8,297	6,157	13,112
Above Normal	3,266	3,125	6,045	12,255	18,324	17,849	7,176	6,615	6,739	8,761	8,527	4,185	8,572
Below Normal	3,071	2,844	4,238	5,344	7,573	6,905	5,137	4,810	5,368	7,961	5,547	2,781	5,132
Dry	2,731	2,460	3,420	3,367	4,786	5,386	4,072	3,880	5,463	5,434	3,499	1,832	3,861
Critical Dry	1,866	2,109	2,611	2,685	3,181	3,164	2,833	2,165	3,728	3,605	3,016	1,658	2,718

Table C-2-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,315	8,670	27,698	47,632	58,391	49,668	29,817	17,247	8,653	6,135	4,370	6,778	22,614
Wet	7,170	13,949	55,214	97,233	104,888	90,309	53,081	27,252	11,821	7,974	5,180	11,710	40,482
Above Normal	7,924	5,796	23,176	48,955	74,096	59,171	25,592	19,037	10,303	7,309	5,883	11,912	24,930
Below Normal	6,048	6,440	13,216	20,099	33,655	25,819	19,569	13,145	6,622	5,564	3,533	3,045	13,063
Dry	5,538	5,174	8,493	13,938	22,425	23,219	13,792	9,776	6,295	4,332	3,896	2,410	9,941
Critical Dry	4,240	5,215	9,204	9,203	14,296	13,307	9,911	5,998	5,853	3,537	3,374	2,549	7,224

Table C-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	172	208	225	228	200	177	151	194	142	138	126	212	181
Wet	185	227	254	243	189	175	180	242	210	197	193	214	209
Above Normal	164	262	265	243	183	172	175	233	140	130	112	148	186
Below Normal	169	206	219	216	222	184	142	177	112	118	101	251	177
Dry	152	187	204	236	221	189	126	155	92	97	85	213	163
Critical Dry	169	142	152	190	172	159	105	118	76	71	53	165	131

Table C-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	25	4	2	1	-	-	1	1	10	4	1	4
Wet	1	23	1	6	1	-	-	2	2	10	-	-	4
Above Normal	-	42	10	-	-	-	-	-	-	11	-	-	5
Below Normal	1	28	9	-	-	-	-	-	-	8	14	4	5
Dry	-	25	-	-	-	-	-	-	-	19	-	-	4
Critical Dry	5	11	4	-	-	-	-	-	-	1	-	-	2

Table C-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16	15	6	-	-	-	-	-	26	31	31	30	13
Wet	16	14	2	-	-	-	-	-	25	31	31	30	12
Above Normal	23	17	4	-	-	-	-	-	26	31	31	30	14
Below Normal	18	15	10	-	-	-	-	-	26	31	31	30	13
Dry	13	18	10	-	-	-	-	-	26	31	31	30	13
Critical Dry	13	12	11	-	-	-	-	-	26	31	31	30	13

Table C-2-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	87	87	87	79	71	66	65	68	73	79	84	87	78
Wet	86	86	83	68	59	57	58	61	66	74	80	84	72
Above Normal	85	84	86	77	65	60	60	65	71	77	82	85	75
Below Normal	86	87	88	84	76	68	67	70	74	81	85	89	80
Dry	87	88	90	88	81	72	69	73	79	83	87	90	82
Critical Dry	91	91	92	89	86	80	78	80	84	87	90	92	87

Table C-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,316	2,294	3,871	5,084	5,891	4,440	3,933	3,698	2,754	2,684	1,968	1,796	3,311
Wet	1,558	3,133	4,069	10,285	10,279	7,494	6,207	6,038	3,517	3,290	2,284	2,093	5,021
Above Normal	1,506	2,395	5,485	6,033	7,246	5,597	3,760	3,807	3,198	3,251	2,225	2,151	3,888
Below Normal	1,386	2,458	5,934	1,944	4,017	2,782	3,004	2,973	2,740	2,830	2,015	1,748	2,819
Dry	1,012	1,073	1,112	1,552	2,056	2,292	2,081	1,636	2,107	1,852	1,626	1,569	1,664
Critical Dry	657	862	594	999	1,345	1,274	1,982	1,158	1,108	1,248	1,206	1,087	1,127

Table C-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,306	2,304	3,906	5,125	5,925	4,454	3,931	3,678	2,732	2,647	1,943	1,779	3,311
Wet	1,548	3,144	4,100	10,353	10,324	7,523	6,218	6,020	3,501	3,259	2,263	2,079	5,028
Above Normal	1,497	2,414	5,527	6,082	7,294	5,604	3,750	3,787	3,177	3,214	2,202	2,134	3,890
Below Normal	1,382	2,470	5,973	1,974	4,043	2,789	2,998	2,950	2,715	2,790	1,988	1,731	2,817
Dry	997	1,083	1,120	1,567	2,081	2,296	2,074	1,615	2,081	1,813	1,598	1,548	1,656
Critical Dry	639	860	654	1,007	1,360	1,280	1,965	1,136	1,082	1,207	1,175	1,064	1,119

Table C-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,316	2,345	3,994	5,218	6,007	4,489	3,943	3,678	2,728	2,650	1,944	1,783	3,341
Wet	1,540	3,177	4,169	10,514	10,427	7,566	6,225	6,009	3,475	3,242	2,245	2,065	5,055
Above Normal	1,504	2,459	5,638	6,201	7,403	5,630	3,738	3,779	3,170	3,214	2,194	2,130	3,922
Below Normal	1,409	2,523	6,095	2,031	4,118	2,819	3,019	2,961	2,725	2,804	1,998	1,746	2,854
Dry	1,010	1,121	1,158	1,606	2,137	2,324	2,089	1,617	2,090	1,825	1,610	1,562	1,679
Critical Dry	661	891	767	1,038	1,412	1,317	1,987	1,152	1,096	1,228	1,199	1,088	1,153

Table C-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,206	2,244	3,918	5,144	5,931	4,397	3,828	3,536	2,549	2,449	1,756	1,636	3,216
Wet	1,427	3,075	4,090	10,450	10,354	7,475	6,109	5,855	3,288	3,032	2,047	1,900	4,925
Above Normal	1,394	2,358	5,566	6,130	7,332	5,537	3,618	3,640	2,988	2,999	1,994	1,972	3,794
Below Normal	1,302	2,424	6,025	1,951	4,041	2,727	2,905	2,822	2,550	2,598	1,811	1,610	2,730
Dry	901	1,020	1,074	1,523	2,057	2,230	1,974	1,482	1,915	1,639	1,437	1,425	1,556
Critical Dry	553	789	695	954	1,332	1,225	1,873	1,022	927	1,058	1,030	956	1,035

Table C-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	63.50	58.16	54.46	49.12	48.63	51.15	54.74	59.19	62.00	63.65	61.83	64.38	57.57
Wet	61.45	57.82	55.06	47.13	47.06	49.63	52.95	56.84	60.12	62.57	60.68	62.78	56.17
Above Normal	62.29	57.40	52.60	48.75	47.91	50.27	54.23	58.76	61.93	62.92	61.87	63.75	56.89
Below Normal	63.70	57.97	53.60	49.76	48.89	51.37	55.12	59.35	62.20	63.47	61.91	64.50	57.65
Dry	65.73	58.69	55.44	50.78	50.10	52.64	55.96	61.19	62.86	65.12	62.95	65.92	58.95
Critical Dry	67.28	59.60	54.91	51.57	51.19	53.75	57.81	64.32	65.80	65.85	63.50	67.18	60.15

Table C-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	64.32	58.06	53.88	48.90	48.84	51.78	55.93	60.60	63.92	65.37	64.01	65.12	58.31
Wet	61.74	57.74	54.56	47.17	47.20	50.03	53.68	57.92	61.85	64.24	62.79	63.78	56.89
Above Normal	62.30	57.25	52.45	48.67	48.09	50.70	55.25	60.26	64.33	64.32	63.71	64.43	57.56
Below Normal	63.52	57.92	54.20	49.42	49.11	52.02	56.38	60.67	64.04	64.90	63.85	65.17	58.35
Dry	65.06	58.69	54.46	50.38	50.35	53.58	57.87	64.20	65.14	66.84	65.23	66.53	59.78
Critical Dry	66.21	59.26	53.86	50.95	51.55	54.81	59.36	65.02	68.36	68.58	66.50	67.59	61.00

Table C-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	64.87	58.47	53.72	49.34	50.06	53.86	58.95	64.34	68.27	69.64	68.41	67.99	60.66
Wet	63.42	58.09	54.35	47.58	48.03	51.60	55.86	60.92	65.79	68.22	67.03	66.66	58.96
Above Normal	63.61	57.52	52.50	49.06	49.02	52.24	58.05	63.96	66.91	68.00	67.60	66.97	59.62
Below Normal	64.89	58.34	54.07	49.91	50.37	54.20	59.53	64.30	68.26	68.78	68.01	67.86	60.63
Dry	66.55	59.23	54.20	50.69	51.91	56.18	61.98	67.88	70.06	71.43	69.82	69.39	62.44
Critical Dry	68.06	59.69	53.73	51.54	53.57	57.83	64.33	70.00	74.00	74.51	72.02	71.03	64.11

Modeling Technical Appendix – Attachment C-3. Absolute Change of Climate Change Conditions to Existing Conditions Baseline

This attachment summarizes the absolute change of Climate Change Conditions to Existing Conditions Baseline (3.0-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. ..... - 8 -
Table C-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. ..... - 8 -
Table C-3-32. Monthly Average of Delta outflow in Each Water Year Type. ..... - 8 -
Table C-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. ..... - 9 -
Table C-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. ..... - 9 -
Table C-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. ..... - 9 -
Table C-3-36. Monthly Average of X2 Position in Each Water Year Type. ..... - 9 -
Table C-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. ..... - 10 -
Table C-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. ..... - 10 -
Table C-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. ..... - 10 -
Table C-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. ..... - 10 -
Table C-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. ..... - 11 -

Table C-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7	(141)	(33)	121	124	110	69	(55)	(125)	(148)	26	(10)	(5)
Wet	(34)	(81)	(2)	(3)	1	-	(42)	(43)	(1)	34	212	97	12
Above Normal	55	(69)	38	32	(16)	20	22	-	(22)	(24)	80	(1)	10
Below Normal	27	(119)	(55)	2	29	4	23	(103)	(184)	(281)	(188)	(194)	(87)
Dry	(6)	(282)	(103)	347	356	298	198	(156)	(370)	(403)	(108)	(88)	(26)
Critical Dry	138	(219)	(69)	738	792	773	639	407	121	(87)	15	332	298

Table C-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	3	2	2	1	2	-	-	-	-	-	1
Wet	-	-	-	(2)	(2)	(2)	(2)	-	-	-	-	-	(1)
Above Normal	-	-	20	13	13	13	13	-	-	-	-	-	6
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	1	-	-	-	(1)	0	-	-	-	-	(0)
Wet	-	-	-	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	4	-	-	-	(6)	-	-	-	-	-	(0)
Below Normal	-	-	-	-	-	-	-	1	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(22,819)	(22,578)	(22,550)	(21,710)	(20,802)	(18,521)	(16,390)	(15,311)	(18,267)	(21,414)	(23,222)	(23,853)	(20,620)
Wet	(22,930)	(23,013)	(22,944)	(20,411)	(17,634)	(12,733)	(8,998)	(7,571)	(12,575)	(18,754)	(23,269)	(26,248)	(18,090)
Above Normal	(22,589)	(22,381)	(22,765)	(22,396)	(22,199)	(19,660)	(17,129)	(15,425)	(17,392)	(20,506)	(22,408)	(23,250)	(20,675)
Below Normal	(23,663)	(23,346)	(23,417)	(23,659)	(23,951)	(23,578)	(22,146)	(20,963)	(22,277)	(24,034)	(25,380)	(25,145)	(23,463)
Dry	(22,244)	(21,656)	(21,439)	(21,700)	(21,899)	(21,687)	(21,275)	(21,038)	(23,424)	(24,192)	(22,990)	(21,114)	(22,055)
Critical Dry	(22,331)	(21,621)	(20,915)	(20,971)	(20,879)	(20,759)	(20,438)	(20,350)	(21,028)	(19,232)	(17,704)	(16,443)	(20,223)

Table C-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5,213)	(5,302)	(4,827)	(4,441)	(3,648)	(2,817)	(2,244)	(2,050)	(2,588)	(3,502)	(4,275)	(4,836)	(3,812)
Wet	(4,924)	(4,849)	(3,506)	(2,329)	(815)	(117)	-	(40)	(549)	(1,590)	(2,534)	(3,250)	(2,042)
Above Normal	(5,117)	(5,239)	(4,789)	(4,787)	(3,726)	(2,462)	(1,379)	(646)	(1,135)	(2,220)	(3,143)	(3,822)	(3,206)
Below Normal	(5,202)	(5,348)	(5,456)	(5,268)	(4,758)	(3,303)	(2,239)	(1,695)	(2,390)	(3,476)	(4,351)	(5,015)	(4,042)
Dry	(5,732)	(5,959)	(6,132)	(6,345)	(6,387)	(5,992)	(5,386)	(5,457)	(5,983)	(6,618)	(7,095)	(7,376)	(6,205)
Critical Dry	(5,051)	(5,312)	(5,539)	(5,800)	(5,961)	(6,060)	(6,161)	(6,257)	(6,582)	(6,603)	(6,606)	(6,569)	(6,042)

Table C-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	79	(89)	(293)	(221)	(147)	(65)	(17)	24	(10)	34	61	52	(49)
Wet	36	(224)	(526)	(406)	(202)	(79)	(56)	-	0	75	144	111	(94)
Above Normal	134	(9)	(95)	(3)	5	37	(3)	-	3	110	99	75	30
Below Normal	64	(69)	(463)	(443)	(436)	(295)	(129)	2	(48)	(72)	(50)	(37)	(165)
Dry	127	36	(17)	21	21	47	106	87	(7)	10	16	34	40
Critical Dry	(0)	(106)	1	43	43	43	43	42	15	15	(7)	(34)	8

Table C-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	994	1,092	344	179	34	10	5	2	1	1	55	227
Wet	(5)	821	555	102	30	-	3	1	1	1	1	49	130
Above Normal	(25)	787	930	427	415	185	41	23	3	3	2	57	237
Below Normal	5	1,223	1,351	505	212	1	0	-	-	-	-	146	287
Dry	27	1,204	1,655	506	233	8	6	2	2	1	1	6	304
Critical Dry	(15)	1,007	1,779	362	6	2	4	3	3	2	2	(24)	261

Table C-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	14	69	15	11	11	11	11	9	9	13	17	23	18
Wet	(3)	89	30	22	22	22	22	17	17	60	60	54	34
Above Normal	(17)	52	-	-	-	-	-	-	-	(9)	(0)	4	2
Below Normal	59	81	16	16	16	16	16	16	15	(38)	8	3	19
Dry	12	26	4	-	-	-	-	-	-	14	(6)	4	5
Critical Dry	73	173	-	-	-	-	-	-	-	(58)	(87)	42	12

Table C-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	32	30	9	4	3	2	-	-	-	-	-	7
Wet	-	27	26	0	-	-	-	-	-	-	-	-	4
Above Normal	-	19	18	5	2	2	1	-	-	-	-	-	4
Below Normal	-	40	38	11	3	3	2	-	-	-	-	-	8
Dry	-	45	42	26	11	10	4	-	-	-	-	-	12
Critical Dry	-	19	18	-	-	-	-	-	-	-	-	-	3

Table C-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(0)	(0)	0	0	0	0	0	(0)	(0)	(0)	0	(0)
Wet	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(0)	0	0	0	(0)
Above Normal	0	(0)	(0)	0	(0)	0	0	0	(0)	(0)	0	0	0
Below Normal	0	(0)	(0)	(0)	0	0	0	(0)	(0)	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	0	0	0	0	0	(0)	(0)	(0)	(0)	(0)
Critical Dry	0	(0)	(0)	0	0	0	0	0	0	0	(0)	0	0

Table C-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(73)	(73)	(70)	(63)	(54)	(45)	(37)	(32)	(35)	(46)	(58)	(67)	(54)
Wet	(71)	(72)	(67)	(54)	(39)	(28)	(18)	(14)	(17)	(30)	(46)	(64)	(43)
Above Normal	(73)	(72)	(70)	(63)	(53)	(45)	(35)	(30)	(30)	(38)	(50)	(61)	(51)
Below Normal	(75)	(75)	(74)	(70)	(64)	(54)	(47)	(42)	(42)	(50)	(62)	(72)	(61)
Dry	(73)	(72)	(71)	(70)	(66)	(59)	(52)	(49)	(54)	(68)	(75)	(73)	(65)
Critical Dry	(74)	(73)	(72)	(71)	(69)	(65)	(62)	(61)	(68)	(70)	(67)	(64)	(68)

Table C-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(21)	(22)	(21)	(18)	(15)	(12)	(9)	(7)	(8)	(11)	(15)	(18)	(15)
Wet	(19)	(20)	(17)	(11)	(5)	(2)	(0)	(0)	(1)	(3)	(7)	(10)	(8)
Above Normal	(21)	(22)	(21)	(19)	(16)	(11)	(6)	(3)	(3)	(5)	(9)	(12)	(12)
Below Normal	(20)	(22)	(21)	(20)	(18)	(14)	(9)	(6)	(6)	(10)	(14)	(18)	(15)
Dry	(23)	(25)	(25)	(25)	(25)	(23)	(20)	(19)	(21)	(25)	(29)	(33)	(24)
Critical Dry	(20)	(22)	(23)	(24)	(25)	(25)	(25)	(26)	(29)	(32)	(34)	(36)	(27)

Table C-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	(0)	(0)	(0)	(0)	(0)	0	0	0	0	0	(0)
Wet	0	(0)	(1)	(1)	(0)	(0)	(0)	(0)	-	0	0	0	(0)
Above Normal	0	0	(0)	(0)	0	0	0	0	0	0	0	0	0
Below Normal	0	0	(0)	(1)	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Dry	0	0	0	0	0	0	0	0	0	(0)	0	0	0
Critical Dry	0	(0)	(0)	0	0	0	0	0	0	0	0	(0)	0

Table C-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	2	3	2	1	0	0	0	0	0	0	0	1
Wet	0	2	2	1	0	0	0	0	0	0	0	(0)	0
Above Normal	(0)	1	3	2	1	1	0	0	0	0	0	0	1
Below Normal	0	2	4	3	1	0	0	0	-	-	-	0	1
Dry	0	2	4	4	1	1	0	0	0	0	0	(0)	1
Critical Dry	(0)	2	4	4	0	0	0	0	0	0	0	(0)	1

Table C-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	0	0	0	0	0	0	0	(0)	0	0	0
Wet	0	1	0	0	0	0	0	0	0	0	0	0	0
Above Normal	0	0	0	-	-	-	-	-	-	0	0	0	0
Below Normal	0	1	0	0	0	0	0	0	0	(0)	(0)	0	0
Dry	0	0	0	0	-	-	-	-	-	(0)	(0)	(0)	0
Critical Dry	1	2	0	-	-	-	-	-	-	(0)	(0)	(0)	0

Table C-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	0	0	0	0	0	0	0	-	-	-	-	0
Wet	-	0	0	0	-	-	-	-	-	-	-	-	0
Above Normal	-	0	0	0	0	0	0	0	-	-	-	-	0
Below Normal	-	0	0	0	0	0	0	0	-	-	-	-	0
Dry	-	0	0	0	0	0	0	0	-	-	-	-	0
Critical Dry	-	0	0	0	-	-	-	-	-	-	-	-	0

Table C-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(8)	8	(2)	(4)	(12)	(17)	(18)	(9)	(0)	3	(2)	(5)
Wet	1	(4)	17	(5)	(9)	(23)	(29)	(25)	(7)	2	2	(1)	(7)
Above Normal	(0)	(8)	3	(3)	(4)	(12)	(17)	(21)	(21)	(1)	2	(0)	(7)
Below Normal	(0)	(13)	10	3	(0)	(7)	(13)	(16)	(13)	(2)	2	(3)	(4)
Dry	1	(8)	(2)	(1)	(2)	(3)	(6)	(11)	(4)	(1)	7	(4)	(3)
Critical Dry	-	(11)	(8)	(2)	(3)	(5)	(3)	(5)	(2)	(0)	(0)	4	(3)

Table C-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(0)	0	0	0	0	(0)	(0)	(0)	-	-	-	0
Wet	-	(0)	1	0	(0)	0	(0)	(0)	(0)	-	-	-	0
Above Normal	-	-	0	0	1	0	-	(0)	-	-	-	-	0
Below Normal	-	-	0	-	-	(0)	-	(0)	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(10)	9	0	(4)	(13)	(18)	(20)	(11)	(1)	6	(2)	(5)
Wet	2	(5)	18	(5)	(9)	(23)	(29)	(25)	(6)	2	5	(3)	(7)
Above Normal	(0)	(10)	5	(3)	(4)	(12)	(17)	(21)	(21)	(1)	4	(2)	(7)
Below Normal	(0)	(15)	11	4	(0)	(8)	(12)	(17)	(14)	(3)	4	(4)	(5)
Dry	1	(13)	1	6	(2)	(3)	(8)	(17)	(8)	(2)	11	(3)	(3)
Critical Dry	(1)	(17)	(5)	11	(2)	(5)	(5)	(9)	(7)	(4)	1	9	(3)

Table C-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	-	-	-	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(6)	(24)	(26)	(23)	(32)	(33)	(18)	(2)	(1)	4	(0)	(13)
Wet	2	(2)	(72)	(70)	(21)	(34)	(41)	(17)	(1)	(1)	5	(0)	(21)
Above Normal	0	(11)	8	(6)	(47)	(45)	(42)	(27)	(6)	0	4	(2)	(14)
Below Normal	(0)	(8)	10	(6)	(27)	(54)	(33)	(24)	(4)	(1)	(0)	0	(12)
Dry	(0)	(5)	(6)	5	(8)	(7)	(18)	(12)	(2)	(3)	7	0	(4)
Critical Dry	16	(9)	(0)	(3)	(8)	(7)	(8)	(6)	-	(1)	3	1	(2)

Table C-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	(0)	(0)	(0)	(1)	(0)	(0)	0	(0)	0	(0)
Wet	(0)	(0)	0	(0)	(0)	(1)	(1)	(1)	(0)	(0)	(0)	0	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(0)	(0)	0	(0)
Below Normal	0	(0)	0	(0)	(0)	(0)	(1)	(0)	(0)	0	(0)	(0)	(0)
Dry	0	0	(1)	(1)	(0)	(0)	(0)	0	0	0	(0)	(0)	(0)
Critical Dry	(42)	(80)	(69)	(23)	(17)	(21)	(21)	(22)	(46)	(58)	(63)	(53)	(43)

Table C-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(2)	(1)	(0)	(0)	(1)	(1)	(2)	(1)	(0)	1	(0)	(1)
Wet	-	(2)	(2)	(1)	(1)	(2)	(2)	(2)	(1)	0	0	(0)	(1)
Above Normal	-	(2)	(2)	(0)	(0)	(1)	(2)	(2)	(2)	(0)	0	(0)	(1)
Below Normal	-	(2)	(1)	(0)	(0)	(1)	(1)	(1)	(1)	(0)	0	(0)	(1)
Dry	-	(2)	(1)	1	(0)	(1)	(1)	(2)	(1)	(0)	1	(0)	(0)
Critical Dry	-	(2)	(1)	1	(0)	(0)	(0)	(1)	(1)	(0)	0	1	(0)

Table C-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(1)	8	2	(4)	(15)	(21)	(12)	0	(1)	4	0	(3)
Wet	2	7	12	1	(4)	(22)	(36)	(10)	3	0	5	(0)	(4)
Above Normal	0	(7)	10	(0)	(10)	(22)	(20)	(17)	1	0	4	0	(5)
Below Normal	(0)	(5)	12	5	(3)	(25)	(17)	(14)	(3)	(1)	(0)	0	(4)
Dry	(0)	(4)	(3)	5	(3)	7	(7)	(10)	(2)	(3)	8	0	(1)
Critical Dry	16	(9)	(0)	(3)	(7)	(5)	(5)	(6)	-	-	4	1	(1)

Table C-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(1)	(1)
Wet	(1)	(1)	(0)	(0)	-	(0)	(0)	(1)	(1)	(1)	(0)	(0)	(0)
Above Normal	(1)	(2)	(1)	(1)	(1)	-	(0)	(1)	(1)	(1)	(1)	(1)	(1)
Below Normal	(0)	(1)	(0)	(1)	(0)	(1)	(1)	(2)	(1)	(1)	(0)	(1)	(1)
Dry	(0)	(1)	(1)	(0)	(1)	(1)	(2)	(2)	(1)	(1)	(1)	(1)	(1)
Critical Dry	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(1)	(1)

Table C-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(0)	(0)	(0)	(0)	(1)	(1)	(2)	(2)	(2)	(1)	(1)
Wet	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)
Above Normal	(2)	(1)	(0)	(0)	(0)	0	(0)	(1)	(2)	(1)	(2)	(1)	(1)
Below Normal	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(2)	(3)	(3)	(3)	(3)	(2)
Dry	2	2	2	2	2	1	0	0	(1)	(0)	(0)	(0)	1
Critical Dry	(0)	(0)	(2)	(1)	(1)	(1)	(1)	(2)	(2)	(1)	(1)	(1)	(1)

Table C-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	0	0	0	0	0	0	(0)	(0)	(0)
Above Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Dry	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(1)
Critical Dry	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(3)	(0)	(1)

Table C-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(1)	(2)	(1)	(1)
Wet	(0)	(1)	(0)	(0)	(0)	-	(0)	(0)	(1)	(1)	(0)	(0)	(0)
Above Normal	(0)	0	0	1	1	0	(0)	(0)	(1)	(1)	(9)	(4)	(1)
Below Normal	(0)	(0)	(1)	(1)	(1)	(0)	(1)	(1)	(2)	(2)	(1)	(1)	(1)
Dry	(3)	(3)	(2)	(2)	(2)	0	(0)	(0)	(1)	(0)	(0)	(0)	(1)
Critical Dry	(5)	(5)	(5)	(4)	(2)	(4)	(4)	(4)	(5)	(5)	(4)	(4)	(4)

Table C-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(6)	(10)	(14)	(23)	(25)	(31)	(22)	(22)	(4)	(1)	(0)	(13)
Wet	(0)	(10)	(19)	(28)	(39)	(37)	(39)	(33)	(22)	(9)	(5)	(5)	(20)
Above Normal	(1)	(6)	(18)	(17)	(32)	(65)	(33)	(21)	(20)	2	0	3	(17)
Below Normal	0	(5)	(2)	(2)	(20)	(16)	(43)	(23)	(36)	(0)	2	2	(12)
Dry	0	(3)	0	(8)	(2)	(11)	(10)	(15)	(11)	(5)	0	2	(5)
Critical Dry	0	(2)	(6)	(3)	(3)	(1)	(5)	(1)	(4)	(2)	(0)	4	(2)

Table C-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(2)	3	0	(2)	5	5	3	13	1	1	(4)	1
Wet	(2)	(4)	1	1	(0)	0	0	3	9	8	2	0	1
Above Normal	(0)	(16)	1	(1)	1	(1)	9	2	15	(3)	6	(15)	(0)
Below Normal	(1)	6	(2)	(0)	(4)	(1)	9	6	28	(2)	(3)	(2)	3
Dry	(49)	(3)	0	0	(0)	35	7	2	8	(15)	4	(2)	(1)
Critical Dry	(2)	(0)	21	2	(2)	(1)	5	1	1	10	4	(14)	2

Table C-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	0	(3)	(1)	(1)	(6)	3	4	8	(1)	3	(1)	0
Wet	(0)	(0)	(5)	(1)	(2)	(1)	1	2	7	0	(2)	(2)	(0)
Above Normal	(1)	(0)	(0)	(5)	(0)	8	3	4	8	6	121	4	12
Below Normal	(2)	2	3	0	(1)	(3)	6	7	14	(2)	(21)	(4)	0
Dry	0	(2)	(2)	(0)	(0)	(40)	3	4	6	(7)	(8)	1	(4)
Critical Dry	2	1	(16)	(2)	(2)	1	2	2	1	(1)	(8)	(1)	(2)

Table C-3-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(8)	(16)	(16)	(29)	(34)	(25)	(14)	(1)	1	(1)	(1)	(12)
Wet	(1)	(10)	(35)	(31)	(41)	(39)	(34)	(34)	(6)	0	(1)	(1)	(19)
Above Normal	(0)	(9)	(28)	(24)	(32)	(66)	(22)	(7)	2	0	0	(2)	(16)
Below Normal	1	(10)	(7)	(4)	(27)	(21)	(39)	(0)	5	2	(2)	(0)	(9)
Dry	0	(10)	8	(8)	(14)	(60)	(1)	(9)	0	0	3	(0)	(8)
Critical Dry	(1)	(0)	(5)	(3)	(13)	0	1	2	(0)	0	(2)	0	(2)

Table C-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	0	(0)	0	0	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	0	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(0)
Above Normal	(0)	(1)	(0)	1	0	(0)	(0)	0	(0)	0	(0)	(0)	(0)
Below Normal	0	0	(1)	0	(0)	0	1	(0)	(0)	(0)	0	0	0
Dry	(2)	0	(0)	0	0	2	0	0	(0)	(1)	(0)	(0)	(0)
Critical Dry	0	0	2	0	0	0	0	0	(0)	1	1	(1)	0

Table C-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	(0)	0	0	-	-	(0)	(0)	(0)	(0)	(0)	0
Wet	0	0	0	0	0	-	-	(0)	(0)	0	-	-	0
Above Normal	-	(0)	0	-	-	-	-	-	-	(0)	-	-	(0)
Below Normal	(0)	1	(0)	-	-	-	-	-	-	(0)	(0)	(0)	0
Dry	-	0	-	-	-	-	-	-	-	(0)	-	-	(0)
Critical Dry	(0)	0	(0)	-	-	-	-	-	-	0	-	-	(0)

Table C-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	-	-	-	-	-	-	-	-	-	0
Wet	(0)	-	-	-	-	-	-	-	-	-	-	-	(0)
Above Normal	-	0	-	-	-	-	-	-	-	-	-	-	0
Below Normal	-	0	0	-	-	-	-	-	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-3-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	(0)	0	0
Wet	0	0	0	0	(0)	0	0	0	0	0	0	0	0
Above Normal	(0)	(0)	0	0	0	0	0	0	0	0	(0)	0	0
Below Normal	0	(0)	0	0	0	0	0	0	0	(0)	(0)	(0)	0
Dry	0	(0)	0	(0)	(0)	0	0	0	0	0	0	(0)	0
Critical Dry	(0)	0	0	0	0	0	0	(0)	(0)	(0)	(0)	0	0

Table C-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(6)	(10)	(14)	(23)	(25)	(31)	(22)	(22)	(4)	(1)	(0)	(13)
Wet	(0)	(9)	(11)	(28)	(39)	(37)	(39)	(33)	(22)	(9)	(5)	(5)	(20)
Above Normal	(1)	(9)	(7)	(17)	(32)	(65)	(33)	(21)	(20)	2	0	3	(17)
Below Normal	1	(8)	(19)	(2)	(20)	(16)	(43)	(23)	(36)	(0)	2	2	(14)
Dry	0	(0)	0	(8)	(2)	(11)	(10)	(15)	(11)	(5)	(0)	3	(5)
Critical Dry	-	(1)	-	(2)	(3)	(1)	(6)	(1)	(4)	(2)	(0)	4	(1)

Table C-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(6)	(10)	(14)	(23)	(25)	(31)	(22)	(22)	(4)	(1)	(0)	(13)
Wet	(0)	(9)	(11)	(28)	(39)	(37)	(39)	(33)	(22)	(9)	(5)	(5)	(20)
Above Normal	(1)	(9)	(7)	(17)	(32)	(65)	(33)	(21)	(20)	2	0	3	(17)
Below Normal	1	(8)	(19)	(2)	(20)	(16)	(43)	(23)	(36)	(0)	2	2	(14)
Dry	0	(0)	0	(8)	(2)	(11)	(10)	(15)	(11)	(5)	(0)	2	(5)
Critical Dry	(0)	(1)	(0)	(3)	(3)	(1)	(5)	(1)	(4)	(2)	(0)	4	(1)

Table C-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(6)	(10)	(14)	(23)	(25)	(31)	(22)	(22)	(4)	(1)	0	(13)
Wet	(0)	(9)	(11)	(29)	(39)	(37)	(39)	(33)	(22)	(9)	(5)	(5)	(20)
Above Normal	(1)	(9)	(7)	(17)	(32)	(66)	(33)	(21)	(20)	2	0	3	(17)
Below Normal	1	(8)	(19)	(2)	(20)	(16)	(43)	(23)	(36)	(0)	2	2	(14)
Dry	(0)	(0)	0	(8)	(2)	(11)	(10)	(15)	(11)	(5)	(0)	3	(5)
Critical Dry	0	(1)	0	(3)	(3)	(0)	(6)	(1)	(4)	(2)	(0)	4	(1)

Table C-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(6)	(10)	(14)	(23)	(25)	(31)	(22)	(22)	(4)	(1)	0	(13)
Wet	(0)	(9)	(11)	(29)	(39)	(37)	(39)	(33)	(22)	(9)	(5)	(5)	(20)
Above Normal	(1)	(9)	(7)	(17)	(32)	(66)	(33)	(21)	(20)	2	0	3	(17)
Below Normal	1	(8)	(19)	(2)	(20)	(16)	(43)	(23)	(36)	(0)	2	2	(14)
Dry	(0)	(0)	0	(8)	(2)	(10)	(10)	(15)	(11)	(5)	(0)	3	(5)
Critical Dry	0	(1)	0	(3)	(4)	(0)	(6)	(1)	(4)	(2)	(0)	4	(1)

Table C-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.01)	0.01	0.01	0.00	0.00	0.01	0.01	0.03	(0.01)	0.01	0.00	0.04	0.01
Wet	(0.00)	(0.01)	(0.01)	0.00	0.01	0.01	0.01	0.00	(0.04)	0.02	0.02	0.02	0.00
Above Normal	(0.00)	0.01	(0.02)	(0.01)	0.00	0.01	0.02	0.06	0.03	(0.02)	(0.03)	0.05	0.01
Below Normal	(0.04)	0.02	0.03	(0.00)	(0.00)	0.01	0.01	0.01	0.00	(0.04)	(0.02)	0.06	0.00
Dry	(0.02)	0.01	0.03	0.01	0.00	0.02	0.01	0.04	0.03	(0.01)	0.01	0.00	0.01
Critical Dry	0.02	0.07	0.00	0.01	(0.00)	(0.02)	0.03	0.09	(0.01)	0.14	0.04	0.05	0.03

Table C-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.01)	0.01	0.01	0.00	0.00	0.01	0.02	0.03	0.01	0.01	0.00	0.03	0.01
Wet	(0.00)	(0.01)	(0.01)	0.00	0.01	0.01	0.01	0.01	(0.03)	0.03	0.01	0.02	0.00
Above Normal	0.00	0.00	(0.01)	(0.02)	0.00	0.01	0.03	0.05	0.04	(0.01)	(0.03)	0.04	0.01
Below Normal	(0.02)	0.02	0.02	(0.00)	(0.00)	0.01	0.03	0.01	0.03	(0.03)	(0.02)	0.04	0.01
Dry	(0.01)	0.00	0.02	0.01	0.00	0.01	0.01	0.04	0.03	(0.00)	0.00	0.00	0.01
Critical Dry	0.03	0.04	0.01	0.01	0.01	(0.01)	0.02	0.07	(0.01)	0.10	0.04	0.02	0.03

Table C-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.00)	0.01	0.01	0.00	0.01	0.01	0.03	0.03	0.03	0.02	0.00	0.02	0.01
Wet	(0.00)	(0.00)	(0.01)	0.00	0.01	0.01	0.02	0.02	(0.01)	0.03	0.02	0.02	0.01
Above Normal	0.01	0.00	(0.01)	(0.01)	0.01	0.02	0.05	0.05	0.05	(0.01)	(0.03)	0.03	0.01
Below Normal	(0.02)	0.02	0.02	(0.00)	0.00	0.02	0.05	0.02	0.06	(0.02)	(0.02)	0.03	0.01
Dry	(0.01)	0.00	0.02	0.01	0.00	0.01	0.02	0.04	0.04	0.01	0.00	(0.01)	0.01
Critical Dry	0.02	0.03	0.01	0.01	0.01	(0.01)	0.02	0.05	0.00	0.08	0.03	0.00	0.02

Modeling Technical Appendix – Attachment C-4. Absolute Change of Climate Change Conditions With Project to Existing Conditions Baseline

This attachment summarizes the absolute change of Climate Change Conditions With Project to Existing Conditions Baseline (3.1-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table C-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table C-4-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table C-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table C-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table C-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table C-4-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table C-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table C-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table C-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table C-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table C-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table C-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table C-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table C-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(12,067)	(8,524)	(3,779)	(4,838)	(3,924)	(2,513)	(2,318)	(2,187)	(5,306)	(9,551)	(12,910)	(9,526)	(6,454)
Wet	(11,604)	(7,790)	(3,573)	(924)	(133)	2	2	(67)	(2,180)	(7,676)	(12,623)	(8,738)	(4,609)
Above Normal	(12,450)	(9,765)	(5,132)	(6,365)	(3,621)	(1,511)	(1,088)	(2)	(2,171)	(6,877)	(10,862)	(7,985)	(5,652)
Below Normal	(11,621)	(7,270)	(2,059)	(5,274)	(3,358)	(834)	(291)	(429)	(3,620)	(6,888)	(9,183)	(6,964)	(4,816)
Dry	(12,667)	(9,353)	(3,869)	(7,950)	(8,459)	(6,265)	(6,114)	(5,797)	(10,643)	(13,487)	(14,914)	(10,639)	(9,180)
Critical Dry	(12,905)	(10,499)	(7,298)	(11,173)	(12,884)	(13,246)	(13,668)	(15,573)	(20,530)	(25,052)	(28,710)	(27,315)	(16,571)

Table C-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(12)	(29)	(41)	(61)	(16)	(4)	(6)	(5)	(2)	(2)	(1)	(16)
Wet	(25)	(32)	(44)	(74)	(129)	4	33	8	11	11	7	1	(19)
Above Normal	-	-	(79)	(83)	(88)	(93)	(87)	(48)	(48)	(32)	(22)	(6)	(49)
Below Normal	(5)	(2)	(2)	(2)	(4)	(3)	(2)	(2)	(2)	(2)	(0)	(0)	(2)
Dry	1	0	0	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(0)	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(2)	293	168	105	60	27	11	10	4	3	0	56
Wet	(10)	(6)	868	480	300	172	65	32	29	10	8	1	162
Above Normal	-	-	(67)	-	-	-	25	1	-	-	-	-	(3)
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4,165)	(5,820)	(7,074)	(6,951)	(6,450)	(5,666)	(5,063)	(4,727)	(4,361)	(4,844)	(4,922)	(4,288)	(5,361)
Wet	(3,539)	(5,301)	(6,656)	(5,755)	(4,366)	(2,572)	(1,695)	(1,357)	(982)	(1,291)	(1,699)	(1,181)	(3,033)
Above Normal	(4,659)	(6,136)	(7,188)	(7,569)	(7,419)	(6,381)	(5,347)	(4,810)	(3,833)	(4,417)	(4,726)	(3,975)	(5,538)
Below Normal	(4,640)	(6,369)	(7,700)	(7,990)	(8,004)	(8,034)	(7,566)	(7,046)	(6,526)	(6,780)	(6,587)	(5,955)	(6,933)
Dry	(4,426)	(6,125)	(7,303)	(7,551)	(7,593)	(7,651)	(7,524)	(7,408)	(7,466)	(8,278)	(8,033)	(7,146)	(7,209)
Critical Dry	(3,720)	(4,620)	(5,923)	(6,222)	(6,197)	(6,257)	(6,300)	(6,354)	(6,749)	(7,404)	(6,917)	(7,223)	(6,157)

Table C-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3,630)	(3,726)	(3,365)	(3,034)	(2,380)	(1,771)	(1,337)	(1,166)	(1,367)	(2,049)	(2,788)	(3,256)	(2,489)
Wet	(3,516)	(3,489)	(2,462)	(1,513)	(412)	(54)	-	(26)	(379)	(1,166)	(2,059)	(2,690)	(1,480)
Above Normal	(3,661)	(3,750)	(3,350)	(3,332)	(2,265)	(1,243)	(490)	(142)	(533)	(1,359)	(2,256)	(2,802)	(2,099)
Below Normal	(3,552)	(3,673)	(3,764)	(3,536)	(3,028)	(1,850)	(1,018)	(719)	(1,029)	(1,814)	(2,660)	(3,219)	(2,488)
Dry	(3,804)	(4,038)	(4,203)	(4,374)	(4,399)	(4,039)	(3,503)	(3,294)	(3,157)	(3,627)	(4,080)	(4,275)	(3,899)
Critical Dry	(3,793)	(4,035)	(4,262)	(4,423)	(4,561)	(4,651)	(4,736)	(4,457)	(4,086)	(4,091)	(4,081)	(4,037)	(4,268)

Table C-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(42)	(126)	(283)	(202)	(128)	(46)	(17)	3	(38)	(44)	(35)	(32)	(83)
Wet	(40)	(235)	(477)	(373)	(167)	(49)	(48)	-	0	(22)	(37)	(41)	(124)
Above Normal	(26)	(137)	(183)	(62)	(62)	(7)	(13)	-	-	3	20	(21)	(41)
Below Normal	(77)	(62)	(337)	(306)	(299)	(160)	(2)	4	(48)	(23)	(14)	(33)	(113)
Dry	(17)	(19)	(73)	(5)	(5)	13	12	12	(113)	(127)	(89)	(29)	(37)
Critical Dry	(107)	(91)	(35)	(10)	(10)	(10)	(10)	(11)	(34)	(34)	(33)	(21)	(34)

Table C-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(19)	669	734	225	113	38	4	2	2	1	1	8	148
Wet	(11)	515	259	32	0	-	1	1	1	0	0	(29)	64
Above Normal	(37)	536	728	449	434	214	7	1	1	0	0	(35)	191
Below Normal	(27)	1,060	1,184	326	76	(2)	(2)	-	-	-	-	125	228
Dry	(13)	707	995	297	99	8	10	5	4	3	3	(6)	176
Critical Dry	(14)	489	1,148	39	4	4	6	6	5	4	4	40	145

Table C-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	58	12	8	8	8	8	6	6	(88)	(24)	(2)	1
Wet	7	81	22	14	13	13	13	9	8	(55)	(44)	(25)	5
Above Normal	33	51	-	-	-	-	-	-	-	(9)	(8)	6	6
Below Normal	34	72	16	16	16	16	16	16	15	(179)	7	(1)	4
Dry	13	23	4	-	-	-	-	-	-	(114)	(16)	22	(6)
Critical Dry	(23)	24	-	-	-	-	-	-	-	(113)	(118)	21	(17)

Table C-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	22	21	6	2	2	1	-	-	-	-	-	4
Wet	-	19	19	-	-	-	-	-	-	-	-	-	3
Above Normal	-	13	12	0	-	-	-	-	-	-	-	-	2
Below Normal	-	36	35	11	3	3	2	-	-	-	-	-	8
Dry	-	25	24	16	5	5	2	-	-	-	-	-	6
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	(5)	(3)	(2)	(2)	(2)	(1)	(1)	(1)	(3)	(5)	(5)	(3)
Wet	(5)	(5)	(3)	(1)	(0)	(0)	0	(0)	(0)	(2)	(4)	(4)	(2)
Above Normal	(6)	(6)	(4)	(3)	(2)	(1)	(1)	(0)	(0)	(2)	(4)	(4)	(3)
Below Normal	(5)	(5)	(2)	(2)	(2)	(1)	(0)	(0)	(1)	(2)	(3)	(3)	(2)
Dry	(5)	(6)	(4)	(3)	(4)	(3)	(3)	(2)	(3)	(5)	(6)	(5)	(4)
Critical Dry	(6)	(6)	(5)	(5)	(7)	(7)	(7)	(7)	(9)	(12)	(15)	(17)	(8)

Table C-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(13)	(17)	(18)	(16)	(13)	(11)	(10)	(9)	(10)	(11)	(11)	(12)
Wet	(8)	(11)	(15)	(13)	(10)	(6)	(3)	(2)	(2)	(2)	(3)	(3)	(7)
Above Normal	(13)	(16)	(19)	(19)	(17)	(14)	(11)	(9)	(8)	(7)	(9)	(9)	(12)
Below Normal	(11)	(15)	(19)	(20)	(19)	(16)	(15)	(13)	(12)	(13)	(14)	(13)	(15)
Dry	(11)	(14)	(19)	(21)	(20)	(18)	(17)	(16)	(16)	(18)	(19)	(19)	(17)
Critical Dry	(8)	(13)	(17)	(20)	(20)	(19)	(19)	(19)	(19)	(21)	(22)	(22)	(18)

Table C-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(13)	(14)	(13)	(12)	(9)	(7)	(5)	(4)	(4)	(6)	(9)	(11)	(9)
Wet	(13)	(13)	(11)	(7)	(3)	(1)	(0)	(0)	(1)	(2)	(5)	(8)	(5)
Above Normal	(13)	(14)	(13)	(12)	(10)	(6)	(3)	(1)	(1)	(3)	(6)	(8)	(7)
Below Normal	(13)	(14)	(14)	(13)	(11)	(8)	(4)	(2)	(3)	(4)	(8)	(11)	(9)
Dry	(13)	(15)	(15)	(16)	(16)	(15)	(13)	(11)	(11)	(12)	(14)	(17)	(14)
Critical Dry	(14)	(16)	(17)	(17)	(18)	(18)	(18)	(18)	(17)	(17)	(19)	(20)	(17)

Table C-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(1)	(1)	(0)	(0)	(0)	(0)	-	(0)	(0)	(0)	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	(0)	(0)	(0)	(0)
Below Normal	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Table C-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	1	2	2	0	0	0	0	0	0	0	(0)	0
Wet	0	1	1	0	0	0	0	0	0	0	0	(0)	0
Above Normal	(0)	1	2	2	1	1	0	0	0	0	0	(0)	1
Below Normal	(0)	2	3	2	0	0	(0)	(0)	-	-	-	0	1
Dry	(0)	1	3	2	0	0	0	0	0	0	0	(0)	1
Critical Dry	(0)	1	3	2	0	0	0	0	0	0	0	0	0

Table C-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	(0)	(0)	(0)	0
Wet	0	1	0	0	0	0	0	0	0	(0)	(0)	(0)	0
Above Normal	0	0	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Below Normal	0	1	0	0	0	0	0	0	0	(0)	(0)	(0)	0
Dry	0	0	0	0	-	-	-	-	-	(0)	(0)	0	0
Critical Dry	(0)	(0)	0	-	-	-	-	-	-	(0)	(0)	(1)	(0)

Table C-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	0	0	0	0	0	0	0	-	-	-	-	0
Wet	-	0	0	0	-	-	-	-	-	-	-	-	0
Above Normal	-	0	0	0	-	-	-	-	-	-	-	-	0
Below Normal	-	0	0	0	0	0	0	0	-	-	-	-	0
Dry	-	0	0	0	0	0	0	0	-	-	-	-	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(24)	(101)	(74)	(47)	(38)	(41)	(25)	(42)	(43)	(30)	(44)	(153)	(55)
Wet	(29)	(96)	(56)	(93)	(25)	(15)	(19)	(26)	(55)	(12)	(23)	(170)	(52)
Above Normal	(20)	(92)	(79)	(48)	(69)	(51)	(27)	(49)	(66)	(22)	(33)	(148)	(59)
Below Normal	(22)	(123)	(81)	(19)	(63)	(64)	(35)	(44)	(43)	(49)	(70)	(139)	(63)
Dry	(20)	(98)	(91)	(10)	(20)	(56)	(28)	(66)	(16)	(49)	(65)	(159)	(56)
Critical Dry	(33)	(89)	(60)	(14)	(7)	(14)	(8)	(11)	(2)	(10)	(15)	(67)	(28)

Table C-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(3)	(3)	1	(2)	(0)	0	(0)	(0)	-	-	-	(1)
Wet	-	(8)	(5)	5	3	4	0	1	(0)	-	-	-	(0)
Above Normal	-	-	(4)	(4)	(11)	(4)	1	(1)	0	-	-	-	(2)
Below Normal	-	-	(3)	-	(6)	(5)	(0)	(0)	-	-	-	-	(1)
Dry	-	-	-	-	-	(0)	-	(2)	-	-	-	-	(0)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(12)	4	1	(1)	(9)	(11)	(7)	(8)	(3)	(4)	(5)	(5)
Wet	1	(8)	11	(7)	(6)	(11)	(13)	(8)	(12)	(2)	(5)	(6)	(5)
Above Normal	(0)	(10)	(2)	(3)	(2)	(7)	(9)	(8)	(12)	(1)	(1)	(5)	(5)
Below Normal	(1)	(18)	5	9	3	(9)	(13)	(7)	(4)	(4)	(8)	(4)	(4)
Dry	0	(12)	(1)	7	3	(6)	(9)	(6)	(4)	(5)	(3)	(6)	(3)
Critical Dry	0	(17)	(8)	15	(0)	(7)	(5)	(2)	(1)	(4)	(4)	0	(3)

Table C-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	(83)	1	(1)	(6)	(0)	3	-	-	-	-	(7)
Wet	-	-	(236)	3	(2)	(18)	(1)	9	-	-	-	-	(20)
Above Normal	-	-	-	-	-	-	-	(0)	-	-	-	-	(0)
Below Normal	-	-	-	-	-	0	-	-	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(184)	(121)	(37)	(58)	(71)	(31)	(37)	(41)	(57)	(139)	(14)	(67)
Wet	(17)	(141)	(306)	(65)	(28)	(51)	(24)	(32)	(60)	(8)	(128)	(22)	(74)
Above Normal	0	(193)	(75)	(18)	(105)	(116)	(38)	(48)	(63)	(64)	(141)	(3)	(72)
Below Normal	(6)	(232)	7	(47)	(49)	(97)	(39)	(47)	(37)	(72)	(150)	(12)	(65)
Dry	(3)	(213)	(7)	(9)	(84)	(56)	(34)	(33)	(10)	(119)	(153)	(13)	(61)
Critical Dry	(35)	(108)	0	(7)	(5)	(17)	(17)	(6)	2	1	(95)	(8)	(25)

Table C-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5	(13)	(14)	2	(2)	(4)	(2)	(2)	6	9	6	(15)	(2)
Wet	4	(12)	(10)	(5)	(0)	(0)	(1)	(1)	3	13	10	(16)	(1)
Above Normal	5	(11)	(13)	2	(7)	(5)	(2)	(4)	3	11	8	(13)	(2)
Below Normal	5	(16)	(16)	6	(6)	(7)	(2)	(1)	6	6	2	(11)	(3)
Dry	6	(13)	(17)	9	0	(8)	(2)	(3)	12	5	1	(17)	(2)
Critical Dry	2	(10)	(11)	8	3	0	1	4	12	11	8	(6)	2

Table C-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(1)	(3)	(1)	(3)	(3)	(2)	0	4	5	3	3	0
Wet	-	(2)	(3)	(2)	(2)	(2)	(1)	(0)	3	7	4	4	1
Above Normal	-	(1)	(4)	(3)	(4)	(4)	(3)	(1)	5	5	3	3	(0)
Below Normal	-	(1)	(3)	(1)	(4)	(3)	(2)	(0)	6	3	3	3	(0)
Dry	-	(1)	(2)	(1)	(4)	(3)	(2)	1	5	3	3	1	(0)
Critical Dry	-	(0)	0	1	(3)	(4)	(2)	3	0	1	1	2	(0)

Table C-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(178)	(14)	(31)	(41)	(51)	(21)	(35)	(39)	(56)	(139)	(14)	(52)
Wet	(17)	(132)	(6)	(57)	(13)	(25)	(18)	(35)	(57)	(7)	(128)	(22)	(43)
Above Normal	0	(189)	(72)	(12)	(68)	(92)	(17)	(41)	(55)	(64)	(141)	(1)	(63)
Below Normal	(6)	(226)	10	(38)	(28)	(77)	(30)	(43)	(37)	(72)	(150)	(12)	(59)
Dry	(3)	(211)	(5)	(8)	(78)	(45)	(24)	(30)	(10)	(119)	(153)	(13)	(58)
Critical Dry	(35)	(108)	0	(7)	(4)	(15)	(14)	(6)	2	1	(95)	(8)	(24)

Table C-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(14)	(17)	(16)	(9)	(5)	(7)	(6)	(5)	(4)	(6)	(7)	(13)	(9)
Wet	(17)	(17)	(11)	(1)	-	(0)	(0)	(1)	(2)	(7)	(6)	(9)	(6)
Above Normal	(16)	(20)	(17)	(13)	(4)	-	(0)	(0)	(2)	(8)	(8)	(14)	(9)
Below Normal	(10)	(12)	(14)	(11)	(4)	(10)	(7)	(5)	(4)	(3)	(4)	(13)	(8)
Dry	(16)	(19)	(25)	(16)	(6)	(9)	(11)	(9)	(4)	(3)	(4)	(14)	(11)
Critical Dry	(14)	(20)	(22)	(20)	(21)	(20)	(15)	(16)	(13)	(14)	(16)	(23)	(18)

Table C-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	(6)	(4)	(3)	4	(1)	(2)	(4)	(7)	(8)	(7)	(6)	(4)
Wet	(5)	(2)	(1)	(0)	1	(0)	0	(0)	(2)	1	0	(3)	(1)
Above Normal	(4)	0	4	3	2	3	3	(2)	(3)	(4)	(2)	(1)	(0)
Below Normal	2	(3)	1	4	7	(5)	(5)	(7)	(9)	(10)	(11)	(11)	(4)
Dry	(11)	(18)	(18)	(15)	24	15	15	11	2	(9)	(11)	(10)	(2)
Critical Dry	(14)	(10)	(13)	(13)	(16)	(17)	(24)	(24)	(27)	(30)	(21)	(7)	(18)

Table C-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(1)	(1)	(2)	(2)	(2)	(2)	(3)	(2)	(2)	(4)	(2)	(2)
Wet	2	3	3	4	3	2	2	2	2	2	1	2	2
Above Normal	0	1	1	1	1	1	1	1	1	0	0	1	1
Below Normal	(1)	0	0	(1)	(1)	(1)	(1)	(1)	(2)	(4)	(4)	(4)	(2)
Dry	(12)	(13)	(12)	(12)	(13)	(13)	(13)	(12)	(10)	(8)	(10)	(8)	(11)
Critical Dry	(9)	(4)	(4)	(6)	(6)	(7)	(6)	(7)	(7)	(5)	(12)	(3)	(6)

Table C-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(2)	(3)	(2)	1	(2)	(2)	(2)	(3)	(3)	(3)	(4)	(3)
Wet	(4)	(1)	(1)	2	2	-	(0)	(0)	(1)	(2)	(3)	(5)	(1)
Above Normal	(8)	(7)	(6)	(6)	(5)	(6)	(7)	(0)	(2)	(1)	(22)	(19)	(7)
Below Normal	1	1	(1)	(2)	(1)	(6)	(6)	(7)	(8)	(7)	(1)	(1)	(3)
Dry	(4)	(5)	(7)	(7)	9	10	9	7	5	7	6	6	3
Critical Dry	(13)	(6)	(5)	(7)	(4)	(7)	(8)	(8)	(8)	(9)	(9)	(9)	(8)

Table C-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(84)	(104)	(171)	(140)	(33)	(59)	(65)	(68)	(6)	(38)	(50)	(69)
Wet	(18)	(125)	(202)	(297)	(69)	(31)	(29)	(36)	(47)	55	(38)	(131)	(81)
Above Normal	(2)	(55)	(144)	(129)	(254)	(136)	(32)	(33)	(29)	64	(36)	(52)	(70)
Below Normal	(4)	(103)	(54)	(88)	(211)	5	(111)	(105)	(81)	(64)	(52)	3	(72)
Dry	(8)	(45)	0	(169)	(206)	(31)	(19)	(101)	(125)	(68)	(44)	11	(67)
Critical Dry	(5)	(1)	(35)	(42)	(19)	(43)	(97)	(36)	(57)	(32)	(1)	(7)	(31)

Table C-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(36)	(3)	(13)	(6)	(84)	33	21	27	42	23	15	(1)	1
Wet	(37)	(39)	(10)	(2)	(0)	1	(0)	8	14	(46)	15	52	(4)
Above Normal	(13)	(54)	(24)	(3)	11	(1)	7	41	20	30	(33)	(33)	(4)
Below Normal	(61)	76	(43)	(9)	(7)	25	31	40	48	51	9	(6)	13
Dry	(43)	89	1	(19)	(599)	137	7	33	113	129	62	(36)	(11)
Critical Dry	8	(141)	38	2	53	41	84	30	41	24	10	(73)	10

Table C-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(18)	(23)	1	(13)	(45)	29	8	0	21	(3)	1	37	(0)
Wet	0	(43)	(31)	(35)	(14)	32	4	3	18	8	15	44	(0)
Above Normal	(18)	0	(13)	(17)	(15)	24	4	(89)	13	(12)	306	138	27
Below Normal	(22)	17	49	3	(0)	70	8	17	25	(13)	(123)	28	5
Dry	(72)	15	23	2	(260)	(30)	16	18	41	(18)	4	1	(22)
Critical Dry	2	(114)	(26)	(3)	3	7	10	4	4	12	2	3	(8)

Table C-4-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(103)	(84)	(93)	(238)	(296)	47	(45)	(30)	(6)	(1)	10	(10)	(71)
Wet	(269)	(111)	(237)	(346)	(84)	10	(30)	(35)	(15)	(4)	(2)	(12)	(95)
Above Normal	0	(48)	(198)	(146)	(263)	(128)	(23)	(49)	3	1	77	(54)	(69)
Below Normal	(30)	(7)	(89)	(104)	(266)	252	(115)	(23)	(3)	0	17	(0)	(31)
Dry	0	(22)	42	(208)	(1,108)	(96)	(0)	(43)	1	(1)	(6)	(0)	(120)
Critical Dry	(0)	(278)	217	(333)	(19)	2	(3)	(2)	(2)	(1)	(1)	(1)	(35)

Table C-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	0	(1)	1	(1)	1	0	(0)	(0)	2	(1)	0	0
Wet	6	(2)	(1)	(0)	(5)	(0)	(0)	(0)	0	2	(0)	(0)	(0)
Above Normal	(1)	(3)	0	2	0	0	0	0	(0)	5	(5)	1	(0)
Below Normal	(1)	(0)	(1)	(1)	0	(1)	1	(0)	(1)	0	(2)	2	(0)
Dry	(2)	6	0	1	(1)	10	(0)	(1)	0	4	3	2	2
Critical Dry	1	4	(6)	10	4	(0)	0	0	(0)	1	1	(4)	1

Table C-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	2	(0)	0	0	-	-	0	(0)	0	(0)	(0)	0
Wet	0	1	0	0	0	-	-	0	(0)	(0)	-	-	0
Above Normal	-	0	(0)	-	-	-	-	-	-	1	-	-	0
Below Normal	(2)	4	(1)	-	-	-	-	-	-	0	(1)	(0)	0
Dry	-	1	-	-	-	-	-	-	-	1	-	-	0
Critical Dry	0	1	(0)	-	-	-	-	-	-	(0)	-	-	0

Table C-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(0)	0	-	-	-	-	-	-	-	-	-	(0)
Wet	0	-	-	-	-	-	-	-	-	-	-	-	0
Above Normal	-	0	0	-	-	-	-	-	-	-	-	-	0
Below Normal	(0)	(1)	0	-	-	-	-	-	-	-	-	-	(0)
Dry	0	-	-	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-4-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	(0)	0
Wet	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal	(0)	(0)	0	0	0	0	0	0	0	0	(0)	(0)	0
Below Normal	(0)	0	0	0	0	0	(0)	0	0	0	0	(0)	0
Dry	0	0	0	(0)	0	1	0	0	0	0	0	0	0
Critical Dry	(0)	(0)	0	0	0	0	0	(0)	0	0	0	0	0

Table C-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(85)	(105)	(171)	(140)	(32)	(60)	(64)	(67)	(7)	(37)	(51)	(69)
Wet	(8)	(104)	(142)	(296)	(68)	(31)	(29)	(36)	(47)	54	(37)	(132)	(73)
Above Normal	0	(117)	(69)	(129)	(257)	(134)	(31)	(32)	(28)	64	(36)	(55)	(69)
Below Normal	(17)	(133)	(141)	(88)	(212)	6	(111)	(105)	(81)	(64)	(52)	(0)	(83)
Dry	(7)	(9)	(61)	(168)	(206)	(31)	(19)	(103)	(122)	(69)	(46)	10	(69)
Critical Dry	(2)	13	2	(39)	(17)	(45)	(101)	(32)	(57)	(34)	1	(7)	(27)

Table C-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(85)	(105)	(170)	(140)	(32)	(60)	(64)	(67)	(8)	(37)	(51)	(69)
Wet	(8)	(104)	(142)	(296)	(69)	(31)	(29)	(36)	(47)	54	(37)	(132)	(73)
Above Normal	0	(117)	(69)	(129)	(257)	(134)	(31)	(32)	(29)	64	(36)	(55)	(69)
Below Normal	(17)	(133)	(140)	(88)	(212)	6	(111)	(105)	(81)	(64)	(52)	(0)	(83)
Dry	(7)	(9)	(61)	(168)	(205)	(31)	(19)	(103)	(121)	(69)	(46)	10	(69)
Critical Dry	(2)	15	2	(38)	(17)	(45)	(101)	(32)	(57)	(34)	0	(7)	(26)

Table C-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(85)	(106)	(171)	(140)	(32)	(60)	(64)	(67)	(7)	(37)	(51)	(69)
Wet	(8)	(105)	(142)	(298)	(68)	(30)	(29)	(36)	(47)	54	(37)	(132)	(73)
Above Normal	0	(118)	(69)	(130)	(258)	(134)	(31)	(32)	(28)	65	(36)	(55)	(69)
Below Normal	(17)	(134)	(141)	(88)	(213)	7	(112)	(106)	(81)	(64)	(52)	0	(83)
Dry	(7)	(9)	(61)	(169)	(207)	(30)	(19)	(103)	(122)	(70)	(46)	11	(69)
Critical Dry	(2)	15	2	(39)	(17)	(45)	(101)	(32)	(58)	(34)	1	(7)	(26)

Table C-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(85)	(106)	(172)	(140)	(32)	(60)	(64)	(67)	(6)	(36)	(48)	(69)
Wet	(8)	(105)	(143)	(298)	(68)	(30)	(28)	(36)	(47)	55	(36)	(125)	(72)
Above Normal	0	(118)	(70)	(130)	(258)	(134)	(31)	(32)	(28)	65	(36)	(55)	(69)
Below Normal	(14)	(134)	(141)	(89)	(213)	7	(112)	(106)	(80)	(61)	(50)	0	(83)
Dry	(7)	(9)	(61)	(169)	(207)	(30)	(18)	(103)	(123)	(70)	(41)	11	(69)
Critical Dry	(2)	15	3	(39)	(17)	(45)	(102)	(32)	(58)	(34)	1	(7)	(26)

Table C-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.10	0.06	(0.15)	(0.08)	(0.03)	(0.01)	(0.06)	(0.11)	0.10	0.14	0.09	0.17	0.02
Wet	0.01	(0.04)	(0.07)	(0.04)	(0.00)	0.00	0.01	0.03	0.02	0.27	0.19	0.18	0.05
Above Normal	0.17	0.06	(0.27)	(0.09)	0.00	(0.00)	0.02	0.06	0.06	(0.02)	0.09	0.06	0.01
Below Normal	(0.07)	0.03	(0.08)	(0.09)	(0.00)	0.07	0.06	(0.34)	0.14	0.01	(0.02)	0.28	(0.00)
Dry	0.36	0.29	(0.27)	(0.08)	(0.12)	0.05	(0.50)	(0.51)	0.10	0.22	0.06	0.23	(0.01)
Critical Dry	0.41	0.14	(0.31)	(0.17)	(0.09)	(0.29)	(0.05)	0.36	0.24	0.11	0.12	(0.07)	0.03

Table C-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.08	0.06	(0.12)	(0.08)	(0.02)	0.01	(0.02)	(0.07)	0.12	0.15	0.11	0.16	0.03
Wet	0.03	(0.03)	(0.07)	(0.03)	(0.00)	0.00	0.01	0.03	0.04	0.23	0.17	0.23	0.05
Above Normal	0.14	0.07	(0.23)	(0.09)	0.01	0.00	0.03	0.05	0.06	(0.03)	0.10	0.06	0.01
Below Normal	(0.02)	0.03	(0.08)	(0.08)	0.01	0.07	0.10	(0.21)	0.12	0.06	0.02	0.21	0.02
Dry	0.30	0.21	(0.19)	(0.08)	(0.09)	0.06	(0.33)	(0.34)	0.20	0.24	0.12	0.17	0.02
Critical Dry	0.19	0.23	(0.16)	(0.17)	(0.11)	(0.15)	(0.03)	0.23	0.26	0.12	0.12	(0.04)	0.04

Table C-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.07	0.06	(0.09)	(0.05)	0.01	0.02	0.03	0.00	0.17	0.16	0.14	0.17	0.06
Wet	0.03	(0.02)	(0.06)	(0.02)	0.00	0.01	0.02	0.03	0.07	0.17	0.18	0.30	0.06
Above Normal	0.12	0.08	(0.18)	(0.07)	0.04	0.02	0.04	0.06	0.07	(0.06)	0.12	0.09	0.03
Below Normal	(0.01)	0.03	(0.07)	(0.06)	0.07	0.07	0.15	(0.07)	0.17	0.13	0.09	0.16	0.06
Dry	0.25	0.16	(0.14)	(0.04)	(0.01)	0.06	(0.17)	(0.13)	0.41	0.32	0.20	0.10	0.08
Critical Dry	0.12	0.18	(0.11)	(0.12)	(0.08)	(0.07)	0.06	0.18	0.27	0.16	0.11	(0.02)	0.06

Modeling Technical Appendix – Attachment C-5. Absolute Change of Climate Change Conditions With Project to Climate Change Conditions Baseline

This attachment summarizes the absolute change of Climate Change Conditions With Project to Climate Change Conditions Baseline (3.1-3.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. ..... - 8 -
Table C-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. ..... - 8 -
Table C-5-32. Monthly Average of Delta outflow in Each Water Year Type. ..... - 8 -
Table C-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. ..... - 9 -
Table C-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. ..... - 9 -
Table C-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. ..... - 9 -
Table C-5-36. Monthly Average of X2 Position in Each Water Year Type. ..... - 9 -
Table C-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. ..... - 10 -
Table C-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. ..... - 10 -
Table C-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. ..... - 10 -
Table C-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. ..... - 10 -
Table C-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. ..... - 11 -

Table C-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(12,074)	(8,383)	(3,746)	(4,959)	(4,048)	(2,623)	(2,387)	(2,132)	(5,181)	(9,403)	(12,936)	(9,515)	(6,449)
Wet	(11,570)	(7,709)	(3,571)	(921)	(134)	2	44	(25)	(2,179)	(7,711)	(12,835)	(8,835)	(4,620)
Above Normal	(12,505)	(9,695)	(5,169)	(6,397)	(3,605)	(1,532)	(1,110)	(2)	(2,149)	(6,853)	(10,942)	(7,984)	(5,662)
Below Normal	(11,648)	(7,151)	(2,004)	(5,276)	(3,387)	(838)	(314)	(326)	(3,437)	(6,607)	(8,995)	(6,771)	(4,729)
Dry	(12,661)	(9,071)	(3,766)	(8,296)	(8,815)	(6,563)	(6,312)	(5,641)	(10,273)	(13,085)	(14,806)	(10,551)	(9,154)
Critical Dry	(13,043)	(10,280)	(7,229)	(11,910)	(13,676)	(14,018)	(14,307)	(15,980)	(20,651)	(24,965)	(28,725)	(27,647)	(16,869)

Table C-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(12)	(32)	(42)	(63)	(17)	(6)	(6)	(5)	(2)	(2)	(1)	(16)
Wet	(25)	(32)	(44)	(72)	(128)	6	34	8	11	11	7	1	(19)
Above Normal	-	-	(99)	(96)	(101)	(107)	(100)	(48)	(48)	(32)	(22)	(6)	(55)
Below Normal	(5)	(2)	(2)	(2)	(4)	(3)	(2)	(2)	(2)	(2)	(0)	(0)	(2)
Dry	1	0	0	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(0)	(1)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(2)	293	168	105	60	28	11	10	4	3	0	56
Wet	(10)	(6)	868	480	300	172	65	32	29	10	8	1	162
Above Normal	-	-	(71)	-	-	-	31	1	-	-	-	-	(3)
Below Normal	-	-	-	-	-	-	-	(1)	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	18,654	16,758	15,476	14,759	14,352	12,855	11,327	10,584	13,906	16,570	18,299	19,566	15,259
Wet	19,391	17,712	16,288	14,656	13,268	10,161	7,302	6,214	11,593	17,462	21,570	25,067	15,057
Above Normal	17,929	16,246	15,578	14,827	14,780	13,280	11,782	10,615	13,560	16,089	17,682	19,274	15,137
Below Normal	19,023	16,977	15,717	15,669	15,947	15,544	14,581	13,917	15,751	17,254	18,792	19,190	16,530
Dry	17,819	15,531	14,136	14,149	14,306	14,036	13,751	13,631	15,957	15,914	14,957	13,969	14,846
Critical Dry	18,612	17,001	14,992	14,749	14,683	14,502	14,139	13,997	14,279	11,828	10,786	9,220	14,066

Table C-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,583	1,576	1,462	1,407	1,267	1,046	906	884	1,220	1,453	1,487	1,581	1,323
Wet	1,408	1,361	1,044	816	403	63	-	14	170	424	476	560	562
Above Normal	1,455	1,488	1,439	1,455	1,461	1,219	889	504	602	862	888	1,020	1,107
Below Normal	1,651	1,675	1,692	1,732	1,730	1,453	1,221	976	1,361	1,662	1,692	1,796	1,553
Dry	1,928	1,921	1,929	1,971	1,988	1,954	1,883	2,164	2,826	2,991	3,016	3,101	2,306
Critical Dry	1,257	1,277	1,276	1,377	1,401	1,409	1,425	1,800	2,496	2,513	2,525	2,532	1,774

Table C-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(121)	(38)	11	19	19	18	1	(20)	(29)	(78)	(97)	(84)	(33)
Wet	(76)	(11)	49	33	36	30	9	-	-	(97)	(181)	(153)	(30)
Above Normal	(161)	(128)	(88)	(59)	(67)	(44)	(10)	-	(3)	(107)	(79)	(97)	(70)
Below Normal	(140)	6	126	137	137	135	127	2	-	50	36	4	52
Dry	(143)	(55)	(57)	(26)	(26)	(34)	(93)	(75)	(106)	(137)	(105)	(63)	(77)
Critical Dry	(107)	15	(36)	(53)	(53)	(53)	(52)	(52)	(49)	(49)	(27)	13	(42)

Table C-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(20)	(325)	(358)	(120)	(66)	4	(6)	(3)	0	(0)	(0)	(47)	(78)
Wet	(6)	(306)	(296)	(70)	(30)	-	(1)	0	0	(1)	(1)	(78)	(66)
Above Normal	(12)	(252)	(202)	22	19	29	(34)	(23)	(3)	(2)	(2)	(92)	(46)
Below Normal	(32)	(163)	(166)	(178)	(136)	(3)	(3)	-	-	-	-	(22)	(59)
Dry	(39)	(497)	(661)	(209)	(133)	0	4	3	2	2	1	(12)	(128)
Critical Dry	0	(517)	(631)	(323)	(1)	2	2	2	2	2	2	64	(116)

Table C-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(12)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(101)	(42)	(25)	(16)
Wet	10	(8)	(9)	(9)	(9)	(9)	(8)	(8)	(8)	(115)	(104)	(80)	(30)
Above Normal	50	(1)	-	-	-	-	-	-	-	(1)	(8)	2	4
Below Normal	(25)	(9)	-	-	-	-	-	-	-	(141)	(1)	(4)	(15)
Dry	0	(3)	-	-	-	-	-	-	-	(128)	(10)	18	(10)
Critical Dry	(96)	(150)	-	-	-	-	-	-	-	(55)	(30)	(21)	(29)

Table C-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(10)	(9)	(3)	(2)	(2)	(1)	-	-	-	-	-	(2)
Wet	-	(8)	(7)	(0)	-	-	-	-	-	-	-	-	(1)
Above Normal	-	(6)	(5)	(5)	(2)	(2)	(1)	-	-	-	-	-	(2)
Below Normal	-	(4)	(4)	-	-	-	-	-	-	-	-	-	(1)
Dry	-	(19)	(18)	(10)	(6)	(5)	(2)	-	-	-	-	-	(5)
Critical Dry	-	(19)	(18)	-	-	-	-	-	-	-	-	-	(3)

Table C-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	(5)	(3)	(2)	(2)	(2)	(1)	(1)	(1)	(3)	(5)	(5)	(3)
Wet	(5)	(5)	(3)	(1)	(0)	(0)	0	0	(0)	(2)	(4)	(4)	(2)
Above Normal	(6)	(6)	(4)	(3)	(2)	(1)	(1)	(0)	(0)	(2)	(4)	(4)	(3)
Below Normal	(5)	(5)	(2)	(2)	(2)	(1)	(0)	(0)	(1)	(2)	(3)	(3)	(2)
Dry	(5)	(5)	(3)	(3)	(4)	(4)	(3)	(2)	(3)	(5)	(6)	(5)	(4)
Critical Dry	(6)	(6)	(5)	(6)	(7)	(7)	(7)	(7)	(9)	(12)	(15)	(17)	(9)

Table C-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62	59	53	45	38	32	26	23	26	37	47	56	42
Wet	63	61	52	40	29	22	15	11	15	28	44	61	37
Above Normal	60	57	51	44	36	30	24	21	22	31	41	52	39
Below Normal	65	61	55	50	45	38	32	29	30	38	48	58	46
Dry	62	58	52	49	46	40	35	33	38	50	56	55	48
Critical Dry	65	61	55	51	49	46	43	42	49	49	45	42	50

Table C-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8	8	7	6	6	5	4	3	4	6	7	7	6
Wet	7	6	5	4	2	1	0	0	0	1	2	2	2
Above Normal	8	8	7	7	6	5	3	2	2	3	3	4	5
Below Normal	8	8	8	8	7	6	5	3	4	5	6	7	6
Dry	10	10	9	9	9	8	8	8	10	13	15	17	10
Critical Dry	6	6	7	7	7	7	7	8	12	15	16	17	9

Table C-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	0	0	0	0	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	0	0	0	0	0	0	-	(0)	(0)	(0)	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Below Normal	(0)	(0)	0	0	0	0	0	0	0	0	0	0	0
Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)

Table C-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(1)	(1)	(1)	(0)	(0)	0	(0)	(0)	0	(0)	(0)	(0)
Wet	(0)	(1)	(1)	(1)	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(0)
Above Normal	(0)	(0)	(1)	(0)	0	0	0	(0)	(0)	(0)	(0)	(0)	(0)
Below Normal	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(0)	-	-	-	(0)	(0)
Dry	(0)	(1)	(2)	(2)	(1)	(0)	0	0	0	0	0	(0)	(0)
Critical Dry	(0)	(1)	(2)	(2)	(0)	-	0	0	0	0	0	0	(0)

Table C-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)
Above Normal	0	0	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Below Normal	(0)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	(0)	(0)
Dry	(0)	(0)	(0)	-	-	-	-	-	-	(0)	(0)	0	(0)
Critical Dry	(1)	(2)	(0)	-	-	-	-	-	-	(0)	0	(0)	(0)

Table C-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	-	(0)
Wet	-	(0)	(0)	(0)	-	-	-	-	-	-	-	-	(0)
Above Normal	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	-	(0)
Below Normal	-	(0)	(0)	(0)	-	-	-	-	-	-	-	-	(0)
Dry	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-	-	-	-	(0)
Critical Dry	-	(0)	(0)	(0)	-	-	-	-	-	-	-	-	(0)

Table C-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(24)	(93)	(81)	(45)	(34)	(28)	(8)	(24)	(33)	(30)	(47)	(151)	(50)
Wet	(29)	(92)	(73)	(87)	(17)	7	9	(1)	(49)	(14)	(25)	(169)	(45)
Above Normal	(20)	(83)	(82)	(45)	(66)	(38)	(10)	(28)	(46)	(22)	(35)	(147)	(52)
Below Normal	(21)	(110)	(91)	(22)	(63)	(57)	(22)	(28)	(30)	(48)	(72)	(136)	(58)
Dry	(20)	(90)	(90)	(9)	(18)	(54)	(22)	(55)	(12)	(48)	(72)	(155)	(54)
Critical Dry	(33)	(79)	(53)	(12)	(4)	(9)	(5)	(6)	(0)	(10)	(15)	(71)	(25)

Table C-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(3)	(3)	1	(2)	(0)	0	(0)	(0)	-	-	-	(1)
Wet	-	(7)	(5)	4	3	4	1	1	(0)	-	-	-	(0)
Above Normal	-	-	(4)	(4)	(11)	(4)	1	(1)	0	-	-	-	(2)
Below Normal	-	-	(3)	-	(6)	(5)	(0)	0	-	-	-	-	(1)
Dry	-	-	-	-	-	(0)	-	(2)	-	-	-	-	(0)
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(1)	(5)	1	3	4	7	13	2	(3)	(10)	(3)	1
Wet	(1)	(3)	(7)	(1)	3	12	17	17	(6)	(4)	(10)	(3)	1
Above Normal	(0)	0	(7)	0	3	5	8	13	9	(0)	(5)	(3)	2
Below Normal	(0)	(3)	(7)	5	3	(1)	(0)	10	10	(1)	(12)	(1)	0
Dry	(0)	1	(2)	1	5	(3)	(1)	10	3	(3)	(14)	(2)	(0)
Critical Dry	1	(0)	(3)	3	2	(2)	(1)	7	5	0	(6)	(9)	(0)

Table C-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	(83)	1	(1)	(6)	(0)	3	-	-	-	-	(7)
Wet	-	-	(236)	3	(2)	(18)	(1)	9	-	-	-	-	(20)
Above Normal	-	-	-	-	-	-	-	(0)	-	-	-	-	(0)
Below Normal	-	-	-	-	-	0	-	-	-	-	-	-	0
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(178)	(97)	(12)	(35)	(38)	1	(19)	(39)	(55)	(143)	(14)	(53)
Wet	(18)	(139)	(234)	5	(7)	(17)	18	(16)	(59)	(7)	(132)	(22)	(52)
Above Normal	0	(182)	(83)	(12)	(58)	(70)	4	(21)	(57)	(64)	(146)	(1)	(58)
Below Normal	(6)	(224)	(3)	(41)	(21)	(43)	(5)	(23)	(33)	(71)	(150)	(12)	(53)
Dry	(3)	(208)	(2)	(13)	(76)	(49)	(16)	(21)	(8)	(117)	(161)	(13)	(57)
Critical Dry	(50)	(99)	0	(4)	3	(9)	(9)	(0)	2	1	(99)	(8)	(23)

Table C-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5	(13)	(14)	3	(2)	(4)	(1)	(2)	6	9	6	(15)	(2)
Wet	4	(11)	(11)	(5)	(0)	1	(0)	(0)	3	14	11	(17)	(1)
Above Normal	5	(11)	(13)	2	(7)	(5)	(2)	(4)	3	11	8	(13)	(2)
Below Normal	5	(16)	(16)	6	(6)	(7)	(2)	(1)	7	6	3	(11)	(3)
Dry	6	(13)	(17)	10	0	(8)	(2)	(3)	11	5	1	(17)	(2)
Critical Dry	44	70	58	32	20	21	22	26	58	69	71	47	45

Table C-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	1	(1)	(1)	(3)	(2)	(0)	2	5	5	2	3	1
Wet	-	0	(2)	(1)	(1)	(0)	1	2	4	7	4	4	1
Above Normal	-	0	(2)	(2)	(4)	(2)	(1)	1	7	5	2	3	1
Below Normal	-	1	(2)	(1)	(4)	(2)	(1)	1	7	4	2	3	1
Dry	-	1	(1)	(1)	(4)	(2)	(1)	2	5	3	1	1	0
Critical Dry	-	2	1	(0)	(2)	(4)	(1)	4	1	1	1	1	0

Table C-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(177)	(21)	(34)	(37)	(36)	(0)	(23)	(39)	(56)	(143)	(14)	(49)
Wet	(18)	(139)	(19)	(57)	(9)	(3)	18	(25)	(59)	(7)	(132)	(22)	(39)
Above Normal	0	(182)	(82)	(12)	(59)	(70)	3	(23)	(57)	(64)	(146)	(1)	(58)
Below Normal	(6)	(221)	(2)	(43)	(26)	(53)	(13)	(28)	(33)	(71)	(150)	(12)	(55)
Dry	(3)	(208)	(1)	(13)	(76)	(52)	(17)	(20)	(8)	(117)	(161)	(13)	(57)
Critical Dry	(51)	(99)	0	(4)	3	(9)	(9)	(0)	2	1	(99)	(9)	(23)

Table C-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(14)	(16)	(16)	(9)	(5)	(6)	(5)	(4)	(3)	(5)	(6)	(13)	(8)
Wet	(16)	(16)	(11)	(1)	-	(0)	(0)	0	(1)	(6)	(6)	(9)	(5)
Above Normal	(15)	(19)	(16)	(12)	(3)	-	0	0	(1)	(7)	(7)	(13)	(8)
Below Normal	(10)	(11)	(14)	(10)	(4)	(9)	(6)	(4)	(3)	(3)	(4)	(13)	(8)
Dry	(15)	(18)	(25)	(16)	(5)	(8)	(9)	(8)	(3)	(2)	(3)	(13)	(10)
Critical Dry	(14)	(19)	(21)	(20)	(20)	(19)	(14)	(15)	(12)	(13)	(16)	(22)	(17)

Table C-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(5)	(4)	(2)	4	(1)	(1)	(3)	(5)	(6)	(6)	(5)	(3)
Wet	(4)	(1)	(1)	(0)	1	(0)	0	(0)	(1)	3	2	(2)	(0)
Above Normal	(2)	1	4	4	3	3	3	(1)	(1)	(3)	(0)	(0)	1
Below Normal	4	(1)	3	6	8	(4)	(3)	(5)	(6)	(7)	(8)	(8)	(2)
Dry	(12)	(20)	(20)	(17)	21	14	14	11	2	(9)	(10)	(9)	(3)
Critical Dry	(14)	(10)	(12)	(11)	(15)	(16)	(22)	(23)	(25)	(28)	(20)	(5)	(17)

Table C-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(1)	(1)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(2)	(2)
Wet	2	4	4	4	3	2	1	1	1	2	1	2	2
Above Normal	(0)	0	0	0	0	0	0	0	0	0	0	1	0
Below Normal	(1)	0	0	(1)	(1)	(1)	(1)	(1)	(2)	(4)	(4)	(4)	(2)
Dry	(11)	(12)	(12)	(12)	(12)	(12)	(12)	(11)	(10)	(7)	(9)	(8)	(11)
Critical Dry	(9)	(4)	(4)	(5)	(5)	(6)	(5)	(6)	(6)	(5)	(9)	(3)	(6)

Table C-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(1)	(1)	(1)	2	(1)	(1)	(1)	(2)	(1)	(2)	(3)	(1)
Wet	(3)	(1)	(0)	2	2	-	0	(0)	(1)	(1)	(2)	(5)	(1)
Above Normal	(8)	(8)	(6)	(6)	(5)	(6)	(6)	(0)	(1)	0	(12)	(15)	(6)
Below Normal	1	1	(0)	(1)	(0)	(5)	(5)	(6)	(6)	(5)	0	(0)	(2)
Dry	(1)	(3)	(4)	(4)	12	10	9	8	6	7	7	6	4
Critical Dry	(8)	(1)	0	(3)	(3)	(3)	(4)	(4)	(4)	(5)	(5)	(5)	(4)

Table C-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(78)	(94)	(158)	(117)	(7)	(28)	(42)	(46)	(3)	(37)	(49)	(56)
Wet	(18)	(115)	(182)	(268)	(29)	6	10	(3)	(26)	64	(34)	(127)	(60)
Above Normal	(1)	(49)	(126)	(112)	(222)	(71)	2	(12)	(9)	62	(36)	(55)	(52)
Below Normal	(4)	(98)	(51)	(86)	(191)	21	(68)	(83)	(45)	(64)	(53)	1	(60)
Dry	(8)	(42)	0	(162)	(203)	(20)	(9)	(86)	(114)	(63)	(44)	9	(62)
Critical Dry	(5)	1	(29)	(39)	(16)	(42)	(91)	(35)	(53)	(30)	(1)	(11)	(29)

Table C-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(28)	(1)	(15)	(6)	(82)	28	16	23	29	22	14	3	0
Wet	(35)	(35)	(11)	(2)	(0)	1	(1)	5	5	(54)	13	52	(5)
Above Normal	(12)	(38)	(25)	(2)	10	(0)	(2)	39	5	34	(38)	(18)	(4)
Below Normal	(61)	69	(41)	(9)	(3)	26	21	34	20	53	12	(3)	10
Dry	6	92	1	(19)	(599)	102	(0)	31	106	144	58	(34)	(9)
Critical Dry	10	(141)	17	0	55	42	79	29	40	14	6	(59)	8

Table C-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(18)	(23)	4	(12)	(44)	35	5	(3)	13	(2)	(2)	38	(1)
Wet	0	(43)	(27)	(34)	(12)	33	3	1	11	7	16	45	0
Above Normal	(17)	0	(13)	(13)	(15)	17	1	(93)	5	(18)	185	134	14
Below Normal	(20)	15	45	2	1	73	2	11	11	(11)	(103)	32	5
Dry	(72)	17	25	2	(259)	9	13	15	35	(11)	12	0	(18)
Critical Dry	1	(115)	(10)	(1)	5	5	8	2	3	12	10	4	(6)

Table C-5-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(103)	(76)	(77)	(222)	(267)	81	(20)	(16)	(6)	(2)	11	(9)	(59)
Wet	(268)	(102)	(202)	(314)	(42)	49	4	(0)	(9)	(4)	(2)	(11)	(75)
Above Normal	0	(38)	(170)	(122)	(231)	(62)	(1)	(41)	0	1	77	(52)	(53)
Below Normal	(31)	3	(82)	(100)	(239)	273	(76)	(23)	(8)	(2)	19	0	(22)
Dry	(0)	(12)	34	(200)	(1,094)	(36)	1	(34)	1	(1)	(9)	(0)	(113)
Critical Dry	1	(278)	221	(331)	(6)	2	(4)	(3)	(2)	(1)	1	(1)	(33)

Table C-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	0	(1)	1	(1)	1	0	(0)	0	2	(1)	0	0
Wet	6	(2)	(1)	(0)	(5)	0	(0)	(0)	0	1	(0)	(0)	(0)
Above Normal	(1)	(3)	0	1	0	0	0	0	(0)	5	(5)	1	(0)
Below Normal	(1)	(0)	0	(1)	0	(1)	1	(0)	(1)	0	(2)	2	(0)
Dry	1	6	1	1	(1)	8	(0)	(1)	0	5	3	2	2
Critical Dry	1	3	(7)	10	3	(0)	0	0	(0)	(0)	1	(3)	1

Table C-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	2	(0)	0	0	-	-	0	(0)	0	(0)	(0)	0
Wet	0	1	0	0	0	-	-	0	(0)	(0)	-	-	0
Above Normal	-	0	(0)	-	-	-	-	-	-	2	-	-	0
Below Normal	(2)	3	(0)	-	-	-	-	-	-	0	(1)	(0)	(0)
Dry	-	1	-	-	-	-	-	-	-	2	-	-	0
Critical Dry	0	1	0	-	-	-	-	-	-	(0)	-	-	0

Table C-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(0)	0	-	-	-	-	-	-	-	-	-	(0)
Wet	0	-	-	-	-	-	-	-	-	-	-	-	0
Above Normal	-	-	0	-	-	-	-	-	-	-	-	-	0
Below Normal	(0)	(1)	-	-	-	-	-	-	-	-	-	-	(0)
Dry	0	-	-	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C-5-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	(0)	0
Wet	0	0	0	0	0	0	(0)	(0)	(0)	0	0	0	0
Above Normal	0	0	0	0	0	0	0	(0)	0	0	(0)	(0)	0
Below Normal	(0)	0	0	0	0	0	(0)	0	0	0	0	(0)	0
Dry	0	0	0	(0)	0	1	0	0	0	0	0	0	0
Critical Dry	(0)	(0)	0	0	0	0	(0)	(0)	0	0	0	(0)	0

Table C-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(79)	(95)	(157)	(117)	(7)	(29)	(42)	(45)	(4)	(36)	(51)	(56)
Wet	(8)	(95)	(131)	(268)	(29)	6	10	(3)	(26)	63	(32)	(127)	(53)
Above Normal	1	(109)	(63)	(112)	(226)	(68)	2	(11)	(9)	63	(36)	(58)	(52)
Below Normal	(18)	(125)	(122)	(86)	(192)	22	(68)	(83)	(45)	(64)	(53)	(2)	(70)
Dry	(7)	(9)	(61)	(161)	(204)	(20)	(9)	(88)	(110)	(64)	(46)	8	(64)
Critical Dry	(2)	14	2	(37)	(13)	(44)	(95)	(31)	(54)	(33)	1	(11)	(25)

Table C-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(79)	(95)	(157)	(117)	(7)	(29)	(42)	(45)	(4)	(36)	(51)	(56)
Wet	(8)	(95)	(130)	(268)	(29)	6	10	(3)	(26)	62	(32)	(127)	(53)
Above Normal	1	(108)	(63)	(112)	(225)	(68)	2	(12)	(9)	62	(36)	(57)	(52)
Below Normal	(18)	(125)	(121)	(86)	(192)	22	(68)	(83)	(45)	(64)	(53)	(2)	(70)
Dry	(7)	(9)	(61)	(160)	(203)	(20)	(9)	(88)	(110)	(65)	(46)	8	(64)
Critical Dry	(2)	16	2	(35)	(13)	(44)	(95)	(31)	(54)	(33)	1	(11)	(25)

Table C-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(79)	(96)	(158)	(117)	(7)	(28)	(42)	(46)	(3)	(36)	(51)	(56)
Wet	(8)	(96)	(131)	(269)	(28)	7	11	(3)	(26)	63	(32)	(128)	(53)
Above Normal	2	(109)	(63)	(113)	(226)	(68)	2	(11)	(8)	63	(36)	(58)	(52)
Below Normal	(17)	(126)	(122)	(87)	(193)	22	(68)	(83)	(45)	(64)	(53)	(1)	(70)
Dry	(7)	(8)	(61)	(161)	(205)	(20)	(9)	(88)	(111)	(65)	(46)	9	(64)
Critical Dry	(2)	16	2	(36)	(13)	(44)	(96)	(31)	(54)	(33)	1	(11)	(25)

Table C-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(8)	(79)	(96)	(158)	(117)	(7)	(28)	(42)	(45)	(2)	(35)	(48)	(55)
Wet	(7)	(96)	(131)	(269)	(28)	7	11	(3)	(25)	63	(31)	(120)	(53)
Above Normal	2	(109)	(63)	(113)	(227)	(68)	2	(11)	(8)	63	(36)	(58)	(52)
Below Normal	(14)	(126)	(122)	(87)	(193)	22	(69)	(83)	(44)	(61)	(52)	(1)	(69)
Dry	(7)	(8)	(61)	(162)	(206)	(20)	(9)	(88)	(111)	(65)	(41)	9	(64)
Critical Dry	(2)	16	3	(36)	(13)	(44)	(96)	(31)	(54)	(33)	1	(12)	(25)

Table C-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.11	0.05	(0.16)	(0.08)	(0.03)	(0.01)	(0.07)	(0.14)	0.11	0.13	0.09	0.14	0.01
Wet	0.01	(0.03)	(0.06)	(0.04)	(0.01)	(0.00)	0.00	0.02	0.07	0.25	0.17	0.16	0.04
Above Normal	0.17	0.05	(0.26)	(0.08)	(0.00)	(0.01)	0.00	0.00	0.03	0.01	0.12	0.01	0.00
Below Normal	(0.04)	0.01	(0.11)	(0.08)	(0.00)	0.06	0.05	(0.35)	0.13	0.05	(0.00)	0.22	(0.01)
Dry	0.38	0.28	(0.30)	(0.09)	(0.12)	0.04	(0.51)	(0.55)	0.07	0.23	0.05	0.23	(0.02)
Critical Dry	0.39	0.07	(0.31)	(0.18)	(0.08)	(0.27)	(0.09)	0.27	0.26	(0.03)	0.08	(0.12)	(0.00)

Table C-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.09	0.05	(0.12)	(0.08)	(0.03)	0.00	(0.04)	(0.09)	0.11	0.13	0.11	0.14	0.02
Wet	0.03	(0.02)	(0.06)	(0.04)	(0.01)	(0.00)	(0.00)	0.02	0.07	0.21	0.16	0.21	0.05
Above Normal	0.14	0.07	(0.22)	(0.08)	0.01	(0.01)	(0.00)	0.00	0.02	(0.02)	0.13	0.02	0.01
Below Normal	0.00	0.01	(0.10)	(0.08)	0.01	0.06	0.07	(0.23)	0.09	0.09	0.04	0.17	0.01
Dry	0.31	0.21	(0.21)	(0.08)	(0.10)	0.05	(0.34)	(0.38)	0.17	0.24	0.12	0.17	0.01
Critical Dry	0.16	0.19	(0.17)	(0.18)	(0.12)	(0.14)	(0.05)	0.16	0.27	0.02	0.08	(0.06)	0.01

Table C-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.08	0.05	(0.10)	(0.05)	0.01	0.01	(0.00)	(0.03)	0.15	0.14	0.14	0.15	0.04
Wet	0.03	(0.02)	(0.05)	(0.02)	(0.01)	(0.00)	(0.00)	0.02	0.07	0.14	0.16	0.28	0.05
Above Normal	0.11	0.08	(0.18)	(0.06)	0.03	(0.01)	(0.01)	0.01	0.03	(0.05)	0.15	0.06	0.01
Below Normal	0.01	0.02	(0.09)	(0.05)	0.06	0.05	0.09	(0.09)	0.11	0.15	0.11	0.13	0.04
Dry	0.26	0.16	(0.16)	(0.05)	(0.01)	0.04	(0.20)	(0.17)	0.36	0.31	0.20	0.10	0.07
Critical Dry	0.10	0.15	(0.11)	(0.13)	(0.09)	(0.06)	0.03	0.12	0.27	0.08	0.08	(0.02)	0.03

Modeling Technical Appendix – Attachment C-6. Percentage Change of Climate Change Conditions to Existing Conditions Baseline

This attachment summarizes the percentage change of Climate Change Conditions to Existing Conditions Baseline (3.0-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. ..... - 8 -
Table C-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. ..... - 8 -
Table C-6-32. Monthly Average of Delta outflow in Each Water Year Type. ..... - 8 -
Table C-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. ..... - 9 -
Table C-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. ..... - 9 -
Table C-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. ..... - 9 -
Table C-6-36. Monthly Average of X2 Position in Each Water Year Type. ..... - 9 -
Table C-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. ..... - 10 -
Table C-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. ..... - 10 -
Table C-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. ..... - 10 -
Table C-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. ..... - 10 -
Table C-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. ..... - 11 -

Table C-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Dry	0.0%	-0.2%	-0.1%	0.2%	0.2%	0.1%	0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%
Critical Dry	0.1%	-0.1%	0.0%	0.5%	0.5%	0.4%	0.3%	0.2%	0.1%	-0.1%	0.0%	0.2%	0.2%

Table C-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-89.5%	-88.9%	-84.0%	-71.9%	-62.2%	-51.6%	-44.2%	-40.9%	-50.5%	-64.7%	-77.2%	-85.4%	-67.5%
Wet	-87.6%	-85.9%	-75.4%	-57.2%	-44.6%	-31.6%	-22.1%	-18.5%	-31.6%	-51.0%	-69.3%	-83.8%	-54.9%
Above Normal	-90.4%	-89.8%	-84.3%	-73.5%	-63.9%	-52.6%	-44.2%	-39.2%	-45.8%	-59.4%	-72.0%	-80.6%	-66.2%
Below Normal	-90.5%	-91.4%	-88.9%	-82.8%	-75.4%	-64.2%	-57.2%	-54.3%	-58.7%	-69.3%	-80.5%	-86.1%	-74.9%
Dry	-90.4%	-90.4%	-90.1%	-88.3%	-81.8%	-72.9%	-67.6%	-66.0%	-76.8%	-87.3%	-91.6%	-91.4%	-82.9%
Critical Dry	-91.6%	-91.6%	-91.3%	-90.8%	-88.1%	-84.7%	-82.8%	-84.3%	-91.4%	-91.2%	-90.9%	-90.5%	-89.0%

Table C-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-32.9%	-32.3%	-27.4%	-23.6%	-18.7%	-13.9%	-10.9%	-10.0%	-14.1%	-19.0%	-24.8%	-29.8%	-21.4%
Wet	-30.7%	-28.6%	-18.6%	-11.3%	-3.9%	-0.6%	0.0%	-0.2%	-2.6%	-8.1%	-13.6%	-18.2%	-11.4%
Above Normal	-32.8%	-32.0%	-27.5%	-25.4%	-18.7%	-11.8%	-6.5%	-4.0%	-5.5%	-11.3%	-16.9%	-21.7%	-17.8%
Below Normal	-32.6%	-32.8%	-31.1%	-28.3%	-24.1%	-15.9%	-10.6%	-8.1%	-11.9%	-18.6%	-25.2%	-31.1%	-22.5%
Dry	-36.3%	-37.3%	-37.0%	-37.5%	-36.3%	-31.8%	-27.5%	-28.1%	-34.0%	-39.9%	-46.8%	-52.6%	-37.0%
Critical Dry	-32.8%	-34.8%	-36.8%	-38.9%	-38.9%	-38.1%	-37.4%	-39.4%	-45.6%	-51.2%	-56.9%	-61.9%	-42.7%

Table C-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.4%	-0.4%	-1.4%	-1.1%	-0.7%	-0.3%	-0.1%	0.1%	0.0%	0.2%	0.3%	0.3%	-0.2%
Wet	0.2%	-1.1%	-2.6%	-2.0%	-1.0%	-0.4%	-0.3%	0.0%	0.0%	0.4%	0.7%	0.5%	-0.5%
Above Normal	0.7%	0.0%	-0.5%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.5%	0.5%	0.4%	0.1%
Below Normal	0.3%	-0.3%	-2.3%	-2.2%	-2.1%	-1.5%	-0.6%	0.0%	-0.2%	-0.4%	-0.2%	-0.2%	-0.8%
Dry	0.6%	0.2%	-0.1%	0.1%	0.1%	0.2%	0.5%	0.4%	0.0%	0.0%	0.1%	0.2%	0.2%
Critical Dry	0.0%	-0.5%	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.0%	-0.2%	0.0%

Table C-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	11.5%	12.6%	4.0%	2.1%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.6%	2.6%
Wet	-0.1%	9.5%	6.4%	1.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	1.5%
Above Normal	-0.3%	9.1%	10.8%	4.9%	4.8%	2.1%	0.5%	0.3%	0.0%	0.0%	0.0%	0.7%	2.7%
Below Normal	0.1%	14.2%	15.6%	5.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	3.3%
Dry	0.3%	13.9%	19.2%	5.9%	2.7%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	3.5%
Critical Dry	-0.2%	11.6%	20.6%	4.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	3.0%

Table C-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	1.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.5%	0.4%
Wet	-0.1%	1.8%	0.6%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	1.2%	1.2%	1.1%	0.7%
Above Normal	-0.3%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.1%	0.0%
Below Normal	1.2%	1.6%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	-0.8%	0.2%	0.1%	0.4%
Dry	0.2%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	-0.1%	0.1%	0.1%
Critical Dry	1.4%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-1.7%	0.8%	0.2%

Table C-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	1.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.5%	0.4%
Wet	-0.1%	1.8%	0.6%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	1.2%	1.2%	1.1%	0.7%
Above Normal	-0.3%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.1%	0.0%
Below Normal	1.2%	1.6%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	-0.8%	0.2%	0.1%	0.4%
Dry	0.2%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	-0.1%	0.1%	0.1%
Critical Dry	1.4%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-1.7%	0.8%	0.2%

Table C-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.1%	-2.1%	-2.0%	-1.8%	-1.6%	-1.3%	-1.1%	-0.9%	-1.0%	-1.3%	-1.7%	-1.9%	-1.6%
Wet	-2.0%	-2.1%	-2.0%	-1.6%	-1.1%	-0.8%	-0.5%	-0.4%	-0.5%	-0.9%	-1.3%	-1.8%	-1.3%
Above Normal	-2.1%	-2.1%	-2.0%	-1.8%	-1.5%	-1.3%	-1.0%	-0.9%	-0.9%	-1.1%	-1.4%	-1.8%	-1.5%
Below Normal	-2.2%	-2.2%	-2.2%	-2.0%	-1.9%	-1.6%	-1.3%	-1.2%	-1.2%	-1.4%	-1.8%	-2.1%	-1.8%
Dry	-2.1%	-2.1%	-2.1%	-2.0%	-1.9%	-1.7%	-1.5%	-1.4%	-1.6%	-2.0%	-2.2%	-2.1%	-1.9%
Critical Dry	-2.1%	-2.1%	-2.1%	-2.1%	-2.0%	-1.9%	-1.8%	-1.8%	-2.0%	-2.0%	-1.9%	-1.9%	-2.0%

Table C-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.5%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Wet	-0.5%	-0.5%	-0.4%	-0.3%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%
Above Normal	-0.5%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%
Below Normal	-0.5%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	-0.1%	-0.2%	-0.3%	-0.4%	-0.3%
Dry	-0.5%	-0.6%	-0.6%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.7%	-0.8%	-0.6%
Critical Dry	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%	-0.8%	-0.9%	-0.6%

Table C-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-1.0%	0.5%	-0.1%	-0.2%	-0.5%	-0.8%	-0.8%	-0.9%	0.0%	0.5%	-0.2%	-0.3%
Wet	0.2%	-0.4%	0.6%	-0.1%	-0.2%	-0.6%	-0.9%	-0.7%	-0.4%	0.2%	0.3%	-0.1%	-0.2%
Above Normal	-0.1%	-1.2%	0.2%	-0.2%	-0.2%	-0.5%	-0.6%	-0.8%	-1.8%	-0.1%	0.3%	0.0%	-0.4%
Below Normal	0.0%	-2.1%	1.1%	0.4%	0.0%	-0.3%	-0.7%	-0.9%	-1.6%	-0.3%	0.3%	-0.4%	-0.4%
Dry	0.1%	-1.5%	-0.3%	-0.3%	-0.3%	-0.2%	-0.6%	-1.3%	-0.7%	-0.2%	1.2%	-0.5%	-0.4%
Critical Dry	0.0%	-1.8%	-1.5%	-0.5%	-0.8%	-1.2%	-0.5%	-1.4%	-0.5%	-0.1%	-0.1%	1.0%	-0.6%

Table C-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.2%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	-0.2%	0.2%	0.0%	0.0%	0.0%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.2%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.0%	0.0%	1.0%	0.0%	0.0%	-0.1%	0.0%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.9%	-5.7%	2.3%	0.1%	-0.6%	-1.5%	-1.8%	-1.9%	-2.8%	-0.4%	8.8%	-3.4%	-0.5%
Wet	2.0%	-1.7%	2.2%	-0.5%	-0.8%	-1.9%	-2.3%	-1.5%	-1.0%	1.3%	6.1%	-4.0%	-0.1%
Above Normal	-0.2%	-7.5%	1.5%	-0.6%	-0.7%	-1.4%	-1.5%	-1.6%	-4.8%	-0.4%	5.4%	-2.7%	-1.2%
Below Normal	-0.9%	-14.0%	5.4%	1.4%	0.0%	-1.0%	-1.4%	-2.0%	-5.0%	-2.7%	5.2%	-5.9%	-1.7%
Dry	1.1%	-12.9%	1.3%	4.4%	-0.6%	-0.8%	-1.4%	-4.2%	-5.4%	-2.4%	24.0%	-6.2%	-0.3%
Critical Dry	-1.1%	-14.9%	-6.6%	11.8%	-2.0%	-2.6%	-1.9%	-6.6%	-8.1%	-8.5%	4.1%	26.7%	-0.9%

Table C-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-0.2%	-0.3%	-0.4%	-0.3%	-0.4%	-0.5%	-0.4%	-0.1%	-0.1%	0.2%	0.0%	-0.2%
Wet	0.1%	0.0%	-0.4%	-0.5%	-0.2%	-0.3%	-0.4%	-0.2%	0.0%	-0.1%	0.2%	0.0%	-0.1%
Above Normal	0.0%	-0.4%	0.1%	-0.1%	-0.8%	-0.6%	-0.6%	-0.5%	-0.3%	0.0%	0.2%	-0.2%	-0.3%
Below Normal	0.0%	-0.3%	0.4%	-0.3%	-0.5%	-0.8%	-0.7%	-0.7%	-0.3%	0.0%	0.0%	0.0%	-0.3%
Dry	0.0%	-0.3%	-0.4%	0.3%	-0.3%	-0.2%	-0.6%	-0.7%	-0.2%	-0.2%	0.5%	0.0%	-0.2%
Critical Dry	1.6%	-0.4%	0.0%	-0.3%	-0.6%	-0.6%	-0.5%	-0.7%	0.0%	-0.1%	0.4%	0.1%	-0.1%

Table C-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-0.1%	-0.4%	-0.1%	-0.2%	-0.3%	-0.2%	-0.3%	0.1%	-0.3%	0.0%	-0.1%
Wet	-0.1%	-0.1%	0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	0.0%	-0.4%	0.2%	-0.1%
Above Normal	0.0%	-0.1%	-0.2%	-0.1%	-0.1%	-0.3%	-0.3%	-0.4%	-0.9%	0.0%	-0.2%	0.1%	-0.2%
Below Normal	0.1%	-0.2%	0.2%	0.0%	-0.1%	-0.1%	-0.5%	-0.3%	-0.6%	0.2%	-0.1%	-0.1%	-0.1%
Dry	0.1%	0.4%	-0.6%	-4.1%	-0.2%	0.0%	0.0%	0.7%	0.7%	0.0%	-0.4%	-0.2%	-0.3%
Critical Dry	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%

Table C-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	#DIV/0!	-27.8%	-15.6%	-2.4%	-3.6%	-9.1%	-11.6%	-15.1%	-18.0%	-8.3%	32.9%	-8.4%	#DIV/0!
Wet	#DIV/0!	-24.1%	-14.3%	-6.6%	-4.2%	-14.3%	-19.0%	-16.9%	-6.6%	19.2%	34.3%	-8.6%	#DIV/0!
Above Normal	#DIV/0!	-23.6%	-19.1%	-4.0%	-1.9%	-9.6%	-14.1%	-14.8%	-30.2%	-26.7%	97.6%	-11.5%	#DIV/0!
Below Normal	#DIV/0!	-34.9%	-16.3%	-2.3%	-2.5%	-5.9%	-5.9%	-11.4%	-32.3%	-50.7%	16.9%	-15.6%	#DIV/0!
Dry	#DIV/0!	-35.9%	-14.0%	8.4%	-5.0%	-4.5%	-4.8%	-15.8%	-30.8%	-12.6%	39.2%	-8.6%	#DIV/0!
Critical Dry	#DIV/0!	-32.5%	-22.3%	24.3%	-4.0%	-5.3%	-4.3%	-14.0%	-38.6%	-95.5%	6.0%	49.9%	#DIV/0!

Table C-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	-0.1%	0.3%	0.1%	-0.2%	-0.5%	-0.8%	-0.5%	0.0%	-0.1%	0.5%	0.0%	-0.1%
Wet	0.3%	0.4%	0.2%	0.0%	-0.1%	-0.5%	-0.8%	-0.3%	0.2%	0.0%	0.5%	0.0%	0.0%
Above Normal	0.0%	-0.6%	0.7%	0.0%	-0.5%	-0.7%	-0.7%	-0.6%	0.1%	0.0%	0.5%	0.1%	-0.1%
Below Normal	0.0%	-0.4%	2.0%	0.7%	-0.1%	-0.9%	-0.9%	-0.8%	-0.5%	-0.1%	0.0%	0.0%	-0.1%
Dry	0.0%	-0.4%	-0.8%	1.2%	-0.3%	0.4%	-0.6%	-1.0%	-0.3%	-0.5%	0.9%	0.1%	-0.1%
Critical Dry	4.3%	-1.0%	-0.1%	-0.7%	-1.7%	-1.2%	-0.8%	-1.2%	0.0%	0.0%	0.8%	0.6%	-0.1%

Table C-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Wet	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Above Normal	-0.3%	-0.4%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%
Below Normal	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Dry	-0.1%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.2%	-0.2%
Critical Dry	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%

Table C-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%
Below Normal	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Dry	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%

Table C-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%
Critical Dry	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.4%	-0.1%	-0.1%

Table C-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.5%	-0.2%	-0.1%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Dry	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Critical Dry	-0.4%	-0.4%	-0.4%	-0.3%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%	-0.5%	-0.3%

Table C-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.2%	-0.3%	-0.4%	-0.6%	-0.8%	-0.6%	-0.8%	-0.1%	-0.1%	0.0%	-0.3%
Wet	0.0%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.5%	-0.6%	-0.3%	-0.2%	-0.2%	-0.3%
Above Normal	0.0%	-0.3%	-0.5%	-0.3%	-0.4%	-1.1%	-0.9%	-0.5%	-0.6%	0.1%	0.0%	0.1%	-0.4%
Below Normal	0.0%	-0.2%	-0.1%	-0.1%	-0.5%	-0.6%	-1.4%	-0.7%	-1.3%	0.0%	0.1%	0.1%	-0.4%
Dry	0.0%	-0.1%	0.0%	-0.4%	-0.1%	-0.5%	-0.5%	-0.8%	-0.5%	-0.3%	0.0%	0.1%	-0.3%
Critical Dry	0.0%	-0.1%	-0.5%	-0.3%	-0.2%	0.0%	-0.3%	-0.1%	-0.3%	-0.1%	0.0%	0.4%	-0.1%

Table C-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	-0.1%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.3%	0.0%	0.1%	-0.2%	0.0%
Below Normal	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.5%	0.0%	-0.1%	-0.1%	0.0%
Dry	-1.1%	-0.1%	0.0%	0.0%	0.0%	0.3%	0.1%	0.0%	0.1%	-0.3%	0.1%	-0.1%	-0.1%
Critical Dry	-0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	-0.4%	0.0%

Table C-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	1.5%	0.1%	0.1%
Below Normal	-0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.3%	0.0%	-0.4%	-0.1%	0.0%
Dry	0.0%	-0.1%	-0.1%	0.0%	0.0%	-0.7%	0.1%	0.1%	0.1%	-0.1%	-0.2%	0.1%	-0.1%
Critical Dry	0.1%	0.0%	-0.6%	-0.1%	-0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	-0.3%	0.0%	-0.1%

Table C-6-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	-0.2%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.2%	0.0%	0.1%	0.0%	-0.1%	0.0%	0.0%
Dry	0.0%	-0.2%	0.1%	-0.1%	-0.1%	-0.3%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.0%
Critical Dry	0.0%	0.0%	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%

Table C-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	-0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	-0.3%	-0.1%	0.0%
Below Normal	0.0%	0.2%	-0.4%	0.0%	0.0%	0.2%	0.4%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
Dry	-1.5%	0.1%	-0.1%	0.0%	0.0%	1.3%	0.0%	0.0%	-0.1%	-0.9%	-0.2%	0.0%	-0.1%
Critical Dry	0.0%	0.3%	1.0%	0.0%	0.2%	0.0%	0.0%	0.0%	-0.1%	0.8%	1.0%	-0.5%	0.2%

Table C-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.8%	-1.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	0.0%	0.0%	-1.0%	-0.1%	-1.4%	#DIV/0!
Wet	0.9%	0.2%	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	0.0%	0.0%	0.1%	#DIV/0!	#DIV/0!	#DIV/0!
Above Normal	#DIV/0!	0.0%	1.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-3.9%	#DIV/0!	#DIV/0!	#DIV/0!
Below Normal	0.0%	2.4%	-1.8%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.2%	-0.1%	-1.4%	#DIV/0!
Dry	#DIV/0!	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-2.3%	#DIV/0!	#DIV/0!	#DIV/0!
Critical Dry	-0.2%	0.5%	-1.5%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.7%	#DIV/0!	#DIV/0!	#DIV/0!

Table C-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.1%	0.5%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Wet	-0.2%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Above Normal	0.0%	0.7%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Below Normal	0.0%	0.2%	1.2%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Dry	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Critical Dry	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!

Table C-6-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.2%	-0.3%	-0.4%	-0.6%	-0.8%	-0.6%	-0.8%	-0.1%	-0.1%	0.0%	-0.3%
Wet	0.0%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.5%	-0.6%	-0.3%	-0.2%	-0.2%	-0.3%
Above Normal	-0.1%	-0.3%	-0.1%	-0.3%	-0.4%	-1.1%	-0.9%	-0.5%	-0.6%	0.1%	0.0%	0.1%	-0.4%
Below Normal	0.0%	-0.3%	-0.3%	-0.1%	-0.5%	-0.6%	-1.4%	-0.7%	-1.3%	0.0%	0.1%	0.1%	-0.4%
Dry	0.0%	0.0%	0.0%	-0.4%	-0.1%	-0.5%	-0.5%	-0.9%	-0.5%	-0.3%	0.0%	0.2%	-0.2%
Critical Dry	0.0%	-0.1%	0.0%	-0.2%	-0.3%	0.0%	-0.3%	-0.1%	-0.3%	-0.1%	0.0%	0.4%	-0.1%

Table C-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.2%	-0.3%	-0.4%	-0.6%	-0.8%	-0.6%	-0.8%	-0.1%	-0.1%	0.0%	-0.3%
Wet	0.0%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.5%	-0.6%	-0.3%	-0.2%	-0.2%	-0.3%
Above Normal	-0.1%	-0.3%	-0.1%	-0.3%	-0.4%	-1.1%	-0.9%	-0.5%	-0.6%	0.1%	0.0%	0.1%	-0.4%
Below Normal	0.0%	-0.3%	-0.3%	-0.1%	-0.5%	-0.6%	-1.4%	-0.7%	-1.3%	0.0%	0.1%	0.1%	-0.4%
Dry	0.0%	0.0%	0.0%	-0.4%	-0.1%	-0.5%	-0.5%	-0.9%	-0.5%	-0.3%	0.0%	0.2%	-0.2%
Critical Dry	0.0%	-0.1%	0.0%	-0.3%	-0.2%	0.0%	-0.3%	-0.1%	-0.3%	-0.1%	0.0%	0.4%	-0.1%

Table C-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.2%	-0.3%	-0.4%	-0.6%	-0.8%	-0.6%	-0.8%	-0.1%	-0.1%	0.0%	-0.3%
Wet	0.0%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.5%	-0.6%	-0.3%	-0.2%	-0.2%	-0.3%
Above Normal	-0.1%	-0.3%	-0.1%	-0.3%	-0.4%	-1.1%	-0.9%	-0.5%	-0.6%	0.1%	0.0%	0.1%	-0.4%
Below Normal	0.1%	-0.3%	-0.3%	-0.1%	-0.5%	-0.6%	-1.4%	-0.7%	-1.3%	0.0%	0.1%	0.1%	-0.4%
Dry	0.0%	0.0%	0.0%	-0.4%	-0.1%	-0.4%	-0.5%	-0.9%	-0.5%	-0.3%	0.0%	0.2%	-0.2%
Critical Dry	0.0%	-0.1%	0.0%	-0.3%	-0.2%	0.0%	-0.3%	-0.1%	-0.3%	-0.1%	0.0%	0.4%	-0.1%

Table C-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.3%	-0.2%	-0.3%	-0.4%	-0.6%	-0.8%	-0.6%	-0.8%	-0.2%	-0.1%	0.0%	-0.3%
Wet	0.0%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.6%	-0.3%	-0.2%	-0.2%	-0.4%
Above Normal	-0.1%	-0.4%	-0.1%	-0.3%	-0.4%	-1.2%	-0.9%	-0.6%	-0.7%	0.1%	0.0%	0.1%	-0.4%
Below Normal	0.1%	-0.3%	-0.3%	-0.1%	-0.5%	-0.6%	-1.4%	-0.8%	-1.4%	0.0%	0.1%	0.1%	-0.4%
Dry	0.0%	0.0%	0.0%	-0.4%	-0.1%	-0.5%	-0.5%	-0.9%	-0.5%	-0.3%	0.0%	0.2%	-0.3%
Critical Dry	0.0%	-0.1%	0.0%	-0.3%	-0.3%	0.0%	-0.3%	-0.1%	-0.4%	-0.1%	0.0%	0.4%	-0.1%

Table C-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%
Below Normal	-0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.1%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.2%	0.1%	0.1%	0.1%

Table C-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	-0.1%	0.1%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%

Table C-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%

Modeling Technical Appendix – Attachment C-7. Percentage Change of Climate Change Conditions With Project to Existing Conditions Baseline

This attachment summarizes the percentage change of full UAR capacity and project to baseline (3.1-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table C-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table C-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table C-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table C-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table C-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table C-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table C-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table C-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table C-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table C-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table C-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table C-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table C-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table C-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table C-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table C-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table C-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table C-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table C-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table C-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table C-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table C-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table C-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table C-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table C-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table C-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table C-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table C-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table C-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. ..... - 8 -
Table C-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. ..... - 8 -
Table C-7-32. Monthly Average of Delta outflow in Each Water Year Type. ..... - 8 -
Table C-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. ..... - 9 -
Table C-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. ..... - 9 -
Table C-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. ..... - 9 -
Table C-7-36. Monthly Average of X2 Position in Each Water Year Type. ..... - 9 -
Table C-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. ..... - 10 -
Table C-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. ..... - 10 -
Table C-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. ..... - 10 -
Table C-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. ..... - 10 -
Table C-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. ..... - 11 -
Table C-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. ..... - 11 -

Table C-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-6.8%	-4.8%	-2.1%	-2.4%	-1.9%	-1.2%	-0.9%	-0.8%	-2.1%	-4.0%	-6.0%	-5.2%	-4.2%
Wet	-6.6%	-4.2%	-1.8%	-0.4%	-0.1%	0.0%	0.0%	0.0%	-0.8%	-4.1%	-5.7%	-4.5%	-2.3%
Above Normal	-7.3%	-5.6%	-2.8%	-4.1%	-1.7%	-0.7%	-0.4%	0.0%	-0.8%	-2.8%	-4.9%	-4.2%	-2.9%
Below Normal	-6.5%	-4.2%	-1.2%	-2.8%	-1.7%	-0.4%	-0.1%	-0.2%	-1.4%	-2.8%	-4.2%	-3.7%	-2.4%
Dry	-7.1%	-5.5%	-2.3%	-4.6%	-4.4%	-2.9%	-2.5%	-2.3%	-4.4%	-6.0%	-7.3%	-6.1%	-4.6%
Critical Dry	-7.1%	-6.1%	-4.6%	-7.1%	-7.9%	-7.5%	-7.2%	-8.0%	-11.3%	-15.2%	-19.4%	-19.9%	-10.1%

Table C-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Wet	-0.1%	-0.1%	-0.2%	-0.3%	-0.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Above Normal	0.0%	0.0%	-0.3%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.9%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Wet	0.0%	0.0%	2.9%	1.1%	0.7%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%
Above Normal	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-16.3%	-22.9%	-26.0%	-24.0%	-19.3%	-15.8%	-13.7%	-12.6%	-12.1%	-14.6%	-16.4%	-15.4%	-17.3%
Wet	-13.5%	-19.8%	-21.9%	-16.1%	-11.1%	-6.4%	-4.2%	-4.3%	-2.5%	-3.5%	-5.1%	-3.8%	-9.3%
Above Normal	-18.6%	-24.6%	-26.3%	-24.8%	-21.4%	-17.1%	-13.8%	-12.2%	-10.1%	-12.8%	-15.2%	-13.8%	-17.6%
Below Normal	-17.7%	-24.9%	-29.2%	-28.0%	-25.2%	-21.9%	-19.5%	-17.9%	-17.2%	-19.5%	-20.9%	-20.4%	-21.9%
Dry	-18.0%	-25.6%	-30.7%	-30.7%	-28.4%	-25.7%	-23.9%	-24.2%	-24.5%	-29.9%	-32.0%	-30.9%	-27.0%
Critical Dry	-15.3%	-19.6%	-25.8%	-26.9%	-26.1%	-25.5%	-25.5%	-26.0%	-29.3%	-35.1%	-35.5%	-39.8%	-27.5%

Table C-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-22.9%	-22.7%	-19.1%	-16.1%	-12.2%	-8.7%	-6.5%	-5.7%	-6.9%	-11.1%	-16.2%	-20.1%	-14.0%
Wet	-21.9%	-20.6%	-14.0%	-7.3%	-2.0%	-0.3%	0.0%	-0.1%	-1.8%	-5.9%	-11.0%	-15.1%	-8.3%
Above Normal	-23.5%	-22.9%	-19.3%	-17.7%	-11.4%	-6.0%	-2.3%	-0.7%	-2.6%	-6.9%	-12.1%	-15.9%	-11.8%
Below Normal	-22.3%	-22.5%	-21.4%	-19.0%	-15.3%	-8.9%	-4.8%	-3.4%	-5.1%	-9.7%	-15.4%	-20.0%	-14.0%
Dry	-24.1%	-25.3%	-25.3%	-25.9%	-25.0%	-21.4%	-17.9%	-17.0%	-17.4%	-21.9%	-26.9%	-30.5%	-24.2%
Critical Dry	-24.7%	-26.4%	-28.3%	-29.7%	-29.8%	-29.2%	-28.8%	-28.1%	-28.3%	-31.7%	-35.1%	-38.0%	-29.8%

Table C-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.6%	-1.4%	-1.0%	-0.6%	-0.2%	-0.1%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Wet	-0.2%	-1.2%	-2.3%	-1.8%	-0.8%	-0.2%	-0.2%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%
Above Normal	-0.1%	-0.7%	-0.9%	-0.3%	-0.3%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	-0.1%	-0.1%
Below Normal	-0.4%	-0.3%	-1.7%	-1.5%	-1.5%	-0.8%	0.0%	0.0%	-0.2%	-0.1%	-0.1%	-0.2%	-0.4%
Dry	-0.1%	-0.1%	-0.4%	0.0%	0.0%	0.1%	0.1%	0.1%	-0.6%	-0.6%	-0.4%	-0.1%	-0.1%
Critical Dry	-0.5%	-0.4%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.5%

Table C-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	7.7%	8.5%	2.6%	1.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	1.7%
Wet	-0.1%	6.0%	3.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.7%
Above Normal	-0.4%	6.2%	8.4%	5.2%	5.0%	2.5%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.4%	2.2%
Below Normal	-0.3%	12.3%	13.7%	3.8%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	2.6%
Dry	-0.1%	8.2%	11.5%	3.4%	1.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	-0.1%	2.0%
Critical Dry	-0.2%	5.7%	13.3%	0.5%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	1.7%

Table C-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	1.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	-1.7%	-0.5%	0.0%	0.0%
Wet	0.1%	1.6%	0.4%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	-1.1%	-0.9%	-0.5%	0.1%
Above Normal	0.7%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	0.1%	0.1%
Below Normal	0.7%	1.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	-3.5%	0.1%	0.0%	0.1%
Dry	0.2%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-2.3%	-0.3%	0.4%	-0.1%
Critical Dry	-0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-2.2%	-2.3%	0.4%	-0.3%

Table C-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	1.1%	1.1%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Wet	0.0%	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Above Normal	0.0%	0.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Below Normal	0.0%	1.8%	1.7%	0.6%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
Dry	0.0%	1.3%	1.2%	0.8%	0.3%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Wet	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Above Normal	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%
Below Normal	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Critical Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%

Table C-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Wet	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Above Normal	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%
Below Normal	-0.3%	-0.4%	-0.6%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
Dry	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-0.5%
Critical Dry	-0.2%	-0.4%	-0.5%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.5%

Table C-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.2%
Wet	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.1%
Above Normal	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Below Normal	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Dry	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.3%
Critical Dry	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.4%

Table C-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-5.6%	-12.7%	-4.8%	-2.7%	-1.8%	-1.7%	-1.1%	-1.9%	-4.1%	-4.6%	-6.7%	-18.3%	-5.5%
Wet	-6.2%	-8.4%	-2.0%	-2.6%	-0.7%	-0.4%	-0.6%	-0.8%	-3.6%	-1.5%	-4.3%	-18.3%	-4.0%
Above Normal	-5.1%	-13.7%	-6.7%	-3.4%	-3.4%	-2.0%	-1.0%	-1.8%	-5.8%	-3.4%	-4.8%	-16.7%	-5.7%
Below Normal	-5.4%	-20.0%	-8.6%	-2.5%	-4.6%	-4.1%	-1.8%	-2.4%	-5.3%	-8.3%	-10.7%	-16.2%	-7.4%
Dry	-4.9%	-17.9%	-14.5%	-2.3%	-2.9%	-5.3%	-2.8%	-8.1%	-2.7%	-9.2%	-11.4%	-21.3%	-8.6%
Critical Dry	-7.7%	-15.4%	-11.7%	-4.1%	-1.8%	-4.2%	-1.6%	-2.9%	-0.5%	-2.5%	-3.6%	-18.4%	-6.1%

Table C-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-6.6%	-2.3%	0.6%	-1.4%	-0.2%	0.3%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.8%
Wet	0.0%	-9.2%	-1.6%	1.1%	0.7%	1.0%	0.4%	0.3%	-0.1%	0.0%	0.0%	0.0%	-0.6%
Above Normal	0.0%	0.0%	-9.5%	-4.9%	-15.6%	-2.8%	1.3%	-0.3%	0.0%	0.0%	0.0%	0.0%	-2.6%
Below Normal	0.0%	0.0%	-12.8%	0.0%	-14.2%	-7.1%	-1.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	-2.9%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	-0.5%	0.0%	-4.5%	0.0%	0.0%	0.0%	0.0%	-0.4%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.5%	-6.4%	1.0%	0.2%	-0.2%	-1.0%	-1.1%	-0.7%	-2.2%	-2.4%	-6.4%	-7.5%	-2.2%
Wet	1.2%	-2.6%	1.4%	-0.6%	-0.5%	-0.9%	-1.0%	-0.5%	-2.0%	-1.3%	-5.7%	-6.9%	-1.6%
Above Normal	-0.2%	-7.4%	-0.6%	-0.6%	-0.3%	-0.8%	-0.8%	-0.6%	-2.8%	-0.5%	-1.3%	-7.4%	-1.9%
Below Normal	-1.0%	-15.6%	2.2%	4.0%	0.6%	-1.2%	-1.4%	-0.8%	-1.5%	-3.6%	-12.5%	-7.5%	-4.3%
Dry	0.6%	-11.8%	-0.7%	4.7%	1.2%	-1.3%	-1.7%	-1.6%	-4.0%	-6.4%	-5.7%	-9.9%	-4.0%
Critical Dry	0.4%	-15.0%	-10.6%	15.2%	0.0%	-3.5%	-2.1%	-1.3%	-1.6%	-8.2%	-10.3%	1.1%	-4.0%

Table C-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-56.1%	4.5%	-1.3%	-10.2%	-0.5%	6.6%	0.0%	0.0%	0.0%	0.0%	-4.7%
Wet	0.0%	0.0%	-62.6%	5.4%	-1.6%	-15.0%	-0.7%	11.0%	0.0%	0.0%	0.0%	0.0%	-5.3%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table C-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.0%	-5.7%	-1.5%	-0.6%	-0.9%	-0.9%	-0.5%	-0.8%	-2.4%	-3.6%	-7.8%	-1.6%	-2.3%
Wet	-1.6%	-4.3%	-1.7%	-0.5%	-0.3%	-0.4%	-0.2%	-0.4%	-2.4%	-0.4%	-6.7%	-2.2%	-1.7%
Above Normal	0.0%	-7.3%	-1.4%	-0.4%	-1.8%	-1.4%	-0.5%	-0.9%	-4.3%	-3.9%	-7.3%	-0.3%	-2.4%
Below Normal	-0.8%	-7.0%	0.3%	-2.0%	-1.0%	-1.5%	-0.8%	-1.4%	-2.7%	-4.7%	-7.5%	-1.4%	-2.5%
Dry	-0.3%	-10.2%	-0.5%	-0.5%	-4.1%	-1.4%	-1.2%	-1.8%	-1.1%	-9.3%	-10.0%	-1.7%	-3.4%
Critical Dry	-3.5%	-5.5%	0.0%	-0.8%	-0.4%	-1.4%	-1.2%	-0.7%	0.2%	0.1%	-10.3%	-1.2%	-2.0%

Table C-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	10.5%	-14.1%	-10.1%	2.0%	-1.5%	-2.1%	-1.1%	-1.2%	6.8%	12.6%	6.2%	-11.2%	-0.2%
Wet	8.2%	-9.4%	-5.3%	-2.5%	-0.1%	0.0%	-0.5%	-0.5%	2.3%	17.5%	10.3%	-11.8%	0.7%
Above Normal	12.1%	-12.3%	-10.4%	1.5%	-4.0%	-2.5%	-1.2%	-2.1%	2.7%	14.2%	7.7%	-9.6%	-0.3%
Below Normal	10.7%	-19.4%	-13.8%	14.0%	-5.4%	-3.8%	-2.0%	-1.1%	9.9%	8.0%	2.5%	-8.2%	-0.7%
Dry	13.9%	-17.1%	-21.9%	33.4%	0.5%	-9.3%	-3.5%	-5.8%	20.8%	6.9%	0.7%	-14.4%	0.3%
Critical Dry	5.8%	-12.8%	-15.3%	35.3%	20.0%	0.9%	3.4%	19.2%	26.6%	18.5%	14.2%	-11.2%	8.6%

Table C-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	#DIV/0!	-18.5%	-34.3%	-14.3%	-30.3%	-22.1%	-14.3%	0.0%	76.9%	571.8%	179.5%	105.7%	#DIV/0!
Wet	#DIV/0!	-20.6%	-28.6%	-10.9%	-12.3%	-15.5%	-10.5%	-2.3%	38.2%	802.6%	297.4%	144.9%	#DIV/0!
Above Normal	#DIV/0!	-19.2%	-44.1%	-21.6%	-36.2%	-28.6%	-19.5%	-7.1%	72.5%	1368.2%	744.0%	195.0%	#DIV/0!
Below Normal	#DIV/0!	-16.5%	-35.7%	-14.3%	-40.6%	-24.0%	-12.8%	-2.4%	144.2%	615.9%	127.7%	131.5%	#DIV/0!
Dry	#DIV/0!	-18.8%	-38.3%	-13.8%	-52.5%	-24.1%	-17.2%	7.4%	196.6%	207.7%	91.7%	28.3%	#DIV/0!
Critical Dry	#DIV/0!	-1.5%	0.9%	17.9%	-56.6%	-49.8%	-16.8%	56.3%	29.8%	226.0%	69.2%	98.5%	#DIV/0!

Table C-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.0%	-13.5%	-0.6%	-1.6%	-1.9%	-1.7%	-0.8%	-1.4%	-4.4%	-8.2%	-15.5%	-4.3%	-4.6%
Wet	-4.3%	-7.6%	-0.1%	-1.4%	-0.4%	-0.6%	-0.4%	-0.9%	-4.4%	-0.9%	-13.9%	-4.7%	-4.2%
Above Normal	0.1%	-16.7%	-4.7%	-0.9%	-3.5%	-2.8%	-0.6%	-1.4%	-6.0%	-9.3%	-15.3%	-0.2%	-5.1%
Below Normal	-1.6%	-17.8%	1.6%	-5.5%	-1.7%	-2.9%	-1.5%	-2.4%	-5.6%	-10.6%	-14.2%	-2.8%	-5.4%
Dry	-0.7%	-21.8%	-1.2%	-1.8%	-10.0%	-2.6%	-2.0%	-2.9%	-1.9%	-18.8%	-19.0%	-3.6%	-7.2%
Critical Dry	-7.2%	-11.8%	0.0%	-1.9%	-0.9%	-4.3%	-2.2%	-1.2%	0.5%	0.1%	-21.1%	-3.7%	-4.4%

Table C-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-4.1%	-3.9%	-3.5%	-1.9%	-1.0%	-1.0%	-0.7%	-0.6%	-0.6%	-1.0%	-1.3%	-2.6%	-1.8%
Wet	-3.4%	-3.6%	-2.0%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.9%	-1.0%	-1.4%	-1.1%
Above Normal	-3.4%	-4.5%	-3.5%	-2.3%	-0.6%	0.0%	0.0%	-0.1%	-0.2%	-1.2%	-1.5%	-2.9%	-1.7%
Below Normal	-2.3%	-2.9%	-3.4%	-2.3%	-0.8%	-1.5%	-0.9%	-0.6%	-0.6%	-0.6%	-0.7%	-2.6%	-1.6%
Dry	-3.5%	-4.8%	-6.3%	-4.0%	-1.3%	-1.7%	-1.8%	-1.5%	-0.7%	-0.6%	-0.9%	-3.7%	-2.6%
Critical Dry	-3.6%	-5.7%	-6.3%	-5.9%	-5.4%	-4.4%	-3.5%	-3.8%	-3.5%	-4.1%	-5.5%	-8.1%	-5.0%

Table C-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.1%	-0.1%	0.1%	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-0.2%	-0.1%
Wet	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Above Normal	-0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%
Below Normal	0.1%	-0.1%	0.0%	0.1%	0.2%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.1%
Dry	-0.4%	-0.7%	-0.7%	-0.5%	0.7%	0.4%	0.4%	0.3%	0.1%	-0.3%	-0.5%	-0.4%	-0.1%
Critical Dry	-0.8%	-0.6%	-0.7%	-0.6%	-0.7%	-0.7%	-1.0%	-1.1%	-1.5%	-2.1%	-1.8%	-0.6%	-1.0%

Table C-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.2%	-0.1%
Wet	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Below Normal	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	-0.3%	-0.3%	-0.1%
Dry	-1.0%	-1.1%	-1.0%	-1.0%	-0.9%	-0.8%	-0.8%	-0.8%	-0.7%	-0.6%	-0.9%	-0.8%	-0.9%
Critical Dry	-1.0%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%	-0.5%	-0.7%	-0.7%	-0.6%	-1.7%	-0.5%	-0.7%

Table C-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.1%
Wet	-0.2%	-0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.1%
Above Normal	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	-0.1%	0.0%	-1.2%	-1.1%	-0.4%
Below Normal	0.1%	0.1%	-0.1%	-0.1%	0.0%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	0.0%	0.0%	-0.1%
Dry	-0.2%	-0.4%	-0.4%	-0.4%	0.5%	0.4%	0.4%	0.3%	0.3%	0.5%	0.5%	0.5%	0.2%
Critical Dry	-0.9%	-0.4%	-0.4%	-0.5%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%	-0.9%	-1.1%	-1.2%	-0.6%

Table C-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.7%	-3.5%	-2.6%	-4.2%	-2.3%	-0.7%	-1.5%	-1.7%	-2.4%	-0.2%	-1.9%	-2.7%	-2.0%
Wet	-1.3%	-3.8%	-2.7%	-2.8%	-0.7%	-0.4%	-0.5%	-0.6%	-1.3%	1.7%	-1.7%	-5.9%	-1.7%
Above Normal	-0.1%	-2.8%	-4.3%	-2.1%	-3.4%	-2.4%	-0.8%	-0.9%	-0.9%	2.0%	-1.6%	-2.4%	-1.6%
Below Normal	-0.3%	-5.2%	-2.3%	-4.3%	-5.0%	0.2%	-3.6%	-3.4%	-2.9%	-2.3%	-2.5%	0.2%	-2.6%
Dry	-0.6%	-2.6%	0.0%	-9.8%	-9.0%	-1.3%	-0.9%	-5.9%	-5.7%	-3.6%	-2.7%	0.7%	-3.4%
Critical Dry	-0.5%	0.0%	-2.7%	-4.0%	-1.4%	-4.2%	-4.7%	-4.1%	-5.0%	-2.6%	-0.1%	-0.7%	-2.3%

Table C-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.7%	0.0%	-0.1%	0.0%	-0.5%	0.2%	0.2%	0.5%	0.8%	0.4%	0.3%	0.0%	0.1%
Wet	-0.7%	-0.5%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	-0.6%	0.3%	0.7%	0.0%
Above Normal	-0.2%	-0.8%	-0.2%	0.0%	0.1%	0.0%	0.1%	0.6%	0.3%	0.4%	-0.6%	-0.4%	-0.1%
Below Normal	-1.3%	1.3%	-0.5%	-0.1%	-0.1%	0.2%	0.3%	0.7%	0.9%	0.8%	0.2%	-0.1%	0.2%
Dry	-1.0%	1.9%	0.0%	-0.2%	-4.6%	1.1%	0.1%	0.6%	2.1%	2.5%	1.5%	-1.0%	0.2%
Critical Dry	0.2%	-4.3%	0.6%	0.0%	0.6%	0.5%	1.3%	0.8%	0.7%	0.5%	0.2%	-2.0%	0.0%

Table C-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.6%	-0.6%	0.0%	-0.1%	-0.3%	0.2%	0.1%	0.0%	0.4%	0.0%	0.0%	1.0%	0.0%
Wet	0.0%	-0.8%	-0.2%	-0.1%	-0.1%	0.1%	0.0%	0.0%	0.3%	0.1%	0.2%	0.7%	0.0%
Above Normal	-0.6%	0.0%	-0.2%	-0.1%	-0.1%	0.1%	0.1%	-1.3%	0.2%	-0.1%	3.7%	3.4%	0.4%
Below Normal	-0.7%	0.6%	1.2%	0.0%	0.0%	1.0%	0.2%	0.4%	0.5%	-0.2%	-2.2%	1.0%	0.1%
Dry	-2.6%	0.6%	0.7%	0.1%	-5.1%	-0.6%	0.4%	0.5%	0.7%	-0.3%	0.1%	0.1%	-0.5%
Critical Dry	0.1%	-5.1%	-1.0%	-0.1%	0.1%	0.2%	0.4%	0.2%	0.1%	0.3%	0.1%	0.2%	-0.4%

Table C-7-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.6%	-1.0%	-0.3%	-0.5%	-0.5%	0.1%	-0.1%	-0.2%	-0.1%	0.0%	0.2%	-0.1%	-0.3%
Wet	-3.6%	-0.8%	-0.4%	-0.4%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	-0.5%
Above Normal	0.0%	-0.8%	-0.8%	-0.3%	-0.4%	-0.2%	-0.1%	-0.3%	0.0%	0.0%	1.3%	-0.5%	-0.2%
Below Normal	-0.5%	-0.1%	-0.7%	-0.5%	-0.8%	1.0%	-0.6%	-0.2%	-0.1%	0.0%	0.5%	0.0%	-0.2%
Dry	0.0%	-0.4%	0.5%	-1.5%	-4.7%	-0.4%	0.0%	-0.4%	0.0%	0.0%	-0.2%	0.0%	-0.6%
Critical Dry	0.0%	-5.1%	2.4%	-3.5%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.5%

Table C-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1.0%	0.1%	-0.5%	0.5%	-0.7%	0.8%	0.2%	-0.1%	0.0%	1.3%	-0.4%	0.2%	0.2%
Wet	4.2%	-1.0%	-0.4%	0.0%	-2.7%	0.0%	0.0%	0.0%	0.1%	0.8%	-0.1%	-0.2%	0.0%
Above Normal	-0.4%	-1.2%	0.1%	0.8%	0.0%	0.1%	0.0%	0.0%	0.0%	4.0%	-4.7%	0.7%	0.0%
Below Normal	-0.3%	-0.1%	-0.3%	-0.7%	0.0%	-0.3%	0.9%	-0.2%	-0.5%	0.1%	-1.8%	0.8%	-0.2%
Dry	-1.0%	3.5%	0.2%	0.2%	-0.5%	5.6%	0.0%	-0.9%	0.3%	4.3%	4.3%	1.0%	1.3%
Critical Dry	0.9%	2.7%	-3.6%	5.6%	2.2%	0.0%	0.0%	0.0%	-0.3%	0.8%	2.6%	-2.3%	0.7%

Table C-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-36.4%	8.3%	-4.4%	0.0%	3.7%	#DIV/0!	#DIV/0!	3.8%	0.0%	2.1%	-4.1%	-4.1%	#DIV/0!
Wet	5.2%	6.2%	0.0%	0.0%	3.7%	#DIV/0!	#DIV/0!	3.8%	0.0%	-3.7%	#DIV/0!	#DIV/0!	#DIV/0!
Above Normal	#DIV/0!	1.1%	-3.4%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	12.3%	#DIV/0!	#DIV/0!	#DIV/0!
Below Normal	-71.8%	15.7%	-6.2%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.1%	-4.1%	-4.1%	#DIV/0!
Dry	#DIV/0!	6.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	8.2%	#DIV/0!	#DIV/0!	#DIV/0!
Critical Dry	2.2%	10.2%	-0.2%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-3.8%	#DIV/0!	#DIV/0!	#DIV/0!

Table C-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-1.3%	0.7%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Wet	0.4%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Above Normal	0.0%	0.7%	4.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Below Normal	-0.2%	-4.6%	1.2%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Dry	0.5%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Critical Dry	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!

Table C-7-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Wet	0.0%	0.3%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Above Normal	0.0%	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.1%	1.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Critical Dry	0.0%	0.0%	0.3%	0.1%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%

Table C-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.7%	-3.6%	-2.6%	-4.3%	-2.3%	-0.7%	-1.5%	-1.7%	-2.4%	-0.3%	-1.9%	-2.8%	-2.0%
Wet	-0.5%	-4.2%	-3.4%	-2.8%	-0.7%	-0.4%	-0.5%	-0.6%	-1.3%	1.7%	-1.6%	-5.9%	-1.6%
Above Normal	0.0%	-4.7%	-1.2%	-2.1%	-3.4%	-2.3%	-0.8%	-0.8%	-0.9%	2.0%	-1.6%	-2.5%	-1.5%
Below Normal	-1.2%	-5.1%	-2.3%	-4.3%	-5.0%	0.2%	-3.6%	-3.4%	-2.9%	-2.2%	-2.5%	0.0%	-2.7%
Dry	-0.7%	-0.8%	-5.2%	-9.8%	-9.1%	-1.3%	-0.9%	-5.9%	-5.5%	-3.6%	-2.7%	0.7%	-3.7%
Critical Dry	-0.3%	1.5%	0.4%	-3.8%	-1.2%	-3.4%	-4.8%	-2.7%	-4.9%	-2.7%	0.0%	-0.7%	-1.9%

Table C-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.7%	-3.6%	-2.6%	-4.2%	-2.3%	-0.7%	-1.5%	-1.7%	-2.4%	-0.3%	-1.9%	-2.8%	-2.0%
Wet	-0.5%	-4.2%	-4.3%	-2.8%	-0.7%	-0.4%	-0.5%	-0.6%	-1.3%	1.7%	-1.6%	-6.0%	-1.6%
Above Normal	0.0%	-4.6%	-1.2%	-2.1%	-3.4%	-2.3%	-0.8%	-0.8%	-0.9%	2.0%	-1.6%	-2.5%	-1.5%
Below Normal	-1.2%	-5.1%	-2.3%	-4.3%	-5.0%	0.2%	-3.6%	-3.4%	-2.9%	-2.3%	-2.5%	0.0%	-2.7%
Dry	-0.7%	-0.8%	-5.1%	-9.7%	-9.0%	-1.3%	-0.9%	-6.0%	-5.5%	-3.7%	-2.8%	0.7%	-3.7%
Critical Dry	-0.4%	1.8%	0.3%	-3.6%	-1.2%	-3.4%	-4.9%	-2.8%	-5.0%	-2.8%	0.0%	-0.7%	-1.9%

Table C-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.7%	-3.5%	-2.6%	-4.2%	-2.3%	-0.7%	-1.5%	-1.7%	-2.4%	-0.3%	-1.9%	-2.8%	-2.0%
Wet	-0.5%	-4.2%	-4.3%	-2.8%	-0.6%	-0.4%	-0.5%	-0.6%	-1.3%	1.7%	-1.6%	-6.0%	-1.6%
Above Normal	0.0%	-4.6%	-1.2%	-2.0%	-3.4%	-2.3%	-0.8%	-0.8%	-0.9%	2.1%	-1.6%	-2.5%	-1.5%
Below Normal	-1.2%	-5.0%	-2.3%	-4.2%	-4.9%	0.2%	-3.6%	-3.4%	-2.9%	-2.2%	-2.5%	0.0%	-2.7%
Dry	-0.7%	-0.8%	-5.0%	-9.5%	-8.8%	-1.3%	-0.9%	-6.0%	-5.5%	-3.7%	-2.8%	0.7%	-3.7%
Critical Dry	-0.3%	1.7%	0.3%	-3.6%	-1.2%	-4.3%	-4.9%	-2.7%	-5.0%	-2.7%	0.1%	-0.7%	-1.8%

Table C-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.6%	-3.7%	-2.6%	-4.2%	-2.3%	-0.7%	-1.5%	-1.8%	-2.6%	-0.3%	-2.0%	-2.9%	-2.0%
Wet	-0.5%	-4.3%	-3.4%	-2.8%	-0.6%	-0.4%	-0.5%	-0.6%	-1.4%	1.8%	-1.7%	-6.2%	-1.6%
Above Normal	0.0%	-4.8%	-1.2%	-2.1%	-3.4%	-2.4%	-0.8%	-0.9%	-0.9%	2.2%	-1.8%	-2.7%	-1.6%
Below Normal	-1.0%	-5.2%	-2.3%	-4.3%	-5.0%	0.3%	-3.7%	-3.6%	-4.1%	-2.3%	-2.7%	0.0%	-2.8%
Dry	-0.8%	-0.8%	-5.4%	-10.0%	-9.2%	-1.3%	-0.9%	-6.5%	-6.0%	-4.1%	-2.8%	0.8%	-3.9%
Critical Dry	-0.4%	2.0%	0.4%	-3.9%	-1.2%	-3.5%	-5.1%	-4.0%	-5.8%	-4.1%	0.1%	-0.8%	-2.0%

Table C-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.1%	-0.3%	-0.2%	-0.1%	0.0%	-0.1%	-0.2%	0.2%	0.2%	0.2%	0.3%	0.0%
Wet	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.3%	0.3%	0.1%
Above Normal	0.3%	0.1%	-0.5%	-0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%
Below Normal	-0.1%	0.1%	-0.2%	-0.2%	0.0%	0.1%	0.1%	-0.6%	0.2%	0.0%	0.0%	0.4%	0.0%
Dry	0.5%	0.5%	-0.5%	-0.2%	-0.2%	0.1%	-0.9%	-0.8%	0.2%	0.3%	0.1%	0.4%	0.0%
Critical Dry	0.6%	0.2%	-0.6%	-0.3%	-0.2%	-0.5%	-0.1%	0.6%	0.4%	0.2%	0.2%	-0.1%	0.0%

Table C-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.1%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	-0.1%	0.2%	0.2%	0.2%	0.3%	0.0%
Wet	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.4%	0.1%
Above Normal	0.2%	0.1%	-0.4%	-0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%
Below Normal	0.0%	0.1%	-0.1%	-0.2%	0.0%	0.1%	0.2%	-0.3%	0.2%	0.1%	0.0%	0.3%	0.0%
Dry	0.5%	0.4%	-0.3%	-0.1%	-0.2%	0.1%	-0.6%	-0.5%	0.3%	0.4%	0.2%	0.3%	0.0%
Critical Dry	0.3%	0.4%	-0.3%	-0.3%	-0.2%	-0.3%	0.0%	0.4%	0.4%	0.2%	0.2%	-0.1%	0.0%

Table C-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	0.1%	-0.2%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.3%	0.2%	0.2%	0.3%	0.1%
Wet	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.5%	0.1%
Above Normal	0.2%	0.1%	-0.3%	-0.2%	0.1%	0.0%	0.1%	0.1%	0.1%	-0.1%	0.2%	0.1%	0.0%
Below Normal	0.0%	0.1%	-0.1%	-0.1%	0.1%	0.1%	0.2%	-0.1%	0.2%	0.2%	0.1%	0.2%	0.1%
Dry	0.4%	0.3%	-0.3%	-0.1%	0.0%	0.1%	-0.3%	-0.2%	0.6%	0.4%	0.3%	0.1%	0.1%
Critical Dry	0.2%	0.3%	-0.2%	-0.2%	-0.1%	-0.1%	0.1%	0.3%	0.4%	0.2%	0.1%	0.0%	0.1%

Modeling Technical Appendix – Attachment D-1. Model Results for Full Water Forum Agreement Diversions Baseline

This attachment summarizes the modeling results for Full Water Forum Agreement Diversions Baseline (4.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 3 -
Table D-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 4 -
Table D-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 5 -
Table D-1-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 6 -
Table D-1-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 7 -
Table D-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 8 -

Table D-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-1-1.

Table D-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-1-2.

Table D-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-1-3.

Table D-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-1-4.

Table D-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-1-5.

Table D-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-1-6.

Table D-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-1-7.

Table D-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-1-8.

Table D-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-1-9.

Table D-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-1-10.

Table D-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-1-11.

Table D-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-1-12.

Table D-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-1-13.

Table D-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-1-14.

Table D-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-1-15.

Table D-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-1-16.

Table D-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-1-17.

Table D-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-1-18.

Table D-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-1-19.

Table D-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-1-20.

Table D-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-1-21.

Table D-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-1-22.

Table D-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-1-23.

Table D-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-1-24.

Table D-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	479	431	446	472	500	641	775	832	782	647	556	521	590
Wet	513	472	522	567	567	751	899	967	942	829	715	675	702
Above Normal	514	450	470	532	563	740	900	964	921	763	660	615	674
Below Normal	507	448	445	467	512	669	845	903	834	625	529	489	606
Dry	449	397	375	364	424	522	648	716	625	496	419	388	485
Critical Dry	368	339	345	348	373	411	437	449	419	364	322	308	373

Table D-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,715	2,702	2,844	3,112	3,345	3,686	4,008	4,021	3,745	3,224	2,893	2,747	3,254
Wet	2,841	2,908	3,105	3,474	3,580	3,850	4,306	4,497	4,380	3,900	3,524	3,284	3,637
Above Normal	2,863	2,819	2,982	3,287	3,613	4,024	4,433	4,474	4,262	3,732	3,378	3,153	3,585
Below Normal	2,879	2,866	2,979	3,249	3,505	3,903	4,287	4,221	3,872	3,278	2,929	2,840	3,401
Dry	2,780	2,717	2,840	3,016	3,425	3,855	4,016	3,901	3,461	2,887	2,579	2,514	3,166
Critical Dry	1,986	1,887	1,955	2,081	2,272	2,513	2,559	2,435	2,063	1,639	1,430	1,371	2,016

Table D-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,383	1,393	1,440	1,500	1,604	1,724	1,872	1,866	1,838	1,713	1,561	1,423	1,610
Wet	1,496	1,525	1,620	1,735	1,893	2,033	2,220	2,251	2,236	2,119	1,991	1,835	1,913
Above Normal	1,506	1,511	1,551	1,649	1,758	1,895	2,066	2,093	2,094	1,977	1,829	1,675	1,800
Below Normal	1,442	1,453	1,477	1,537	1,613	1,724	1,884	1,858	1,820	1,690	1,516	1,372	1,615
Dry	1,409	1,411	1,430	1,426	1,509	1,633	1,750	1,710	1,658	1,506	1,319	1,195	1,496
Critical Dry	914	891	912	895	948	1,022	1,079	1,037	999	890	754	668	917

Table D-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,872	1,888	2,012	2,164	2,353	2,565	2,883	2,986	2,835	2,353	2,031	1,931	2,323
Wet	2,003	2,089	2,389	2,651	2,836	2,936	3,312	3,511	3,472	3,076	2,789	2,628	2,808
Above Normal	2,002	1,991	2,050	2,353	2,627	2,918	3,318	3,504	3,435	2,870	2,403	2,171	2,637
Below Normal	1,963	1,965	2,028	2,124	2,296	2,568	2,974	3,070	2,896	2,273	1,827	1,754	2,312
Dry	1,706	1,688	1,712	1,746	1,968	2,271	2,503	2,515	2,212	1,680	1,469	1,463	1,911
Critical Dry	1,527	1,475	1,486	1,500	1,610	1,799	1,881	1,824	1,573	1,255	1,051	1,047	1,502

Table D-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,291	2,373	3,071	3,706	4,631	3,270	3,593	4,483	4,125	3,248	2,148	1,756	3,141
Wet	1,319	3,261	5,822	7,705	8,882	5,834	6,241	7,627	6,185	3,665	2,676	2,053	5,106
Above Normal	1,473	2,229	1,844	4,080	5,020	3,826	3,773	5,848	5,089	3,781	2,431	2,005	3,450
Below Normal	1,299	2,256	2,285	1,566	2,748	1,870	2,572	3,360	3,605	4,078	2,149	1,812	2,467
Dry	1,255	1,896	1,580	1,299	1,746	1,609	1,671	1,804	2,482	2,542	1,752	1,507	1,762
Critical Dry	1,102	1,320	1,165	933	1,447	1,401	1,569	1,401	1,576	1,398	1,227	1,104	1,303

Table D-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,743	6,388	10,198	12,593	15,045	13,699	9,862	6,610	5,947	7,154	5,847	6,011	8,758
Wet	6,646	8,140	15,447	18,771	20,779	18,735	14,749	9,355	6,258	7,687	6,864	8,404	11,819
Above Normal	5,844	6,103	10,826	16,156	17,365	16,007	10,606	8,089	5,907	7,050	6,222	7,243	9,785
Below Normal	5,865	6,221	7,982	10,210	12,523	11,875	7,987	5,406	5,473	7,484	5,945	5,279	7,687
Dry	5,130	5,460	5,953	6,745	12,314	10,227	6,613	4,583	6,483	7,399	5,269	3,962	6,678
Critical Dry	4,231	4,204	6,748	6,730	7,852	7,764	5,415	3,671	5,451	5,306	3,850	3,316	5,378

Table D-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,221	3,408	6,692	10,083	12,190	11,720	7,475	7,265	6,569	8,128	6,593	4,220	7,297
Wet	3,973	5,130	13,202	20,647	24,093	22,925	14,778	12,790	9,767	8,699	7,215	5,930	12,429
Above Normal	2,983	2,915	4,474	11,250	12,401	13,069	7,145	9,265	7,472	9,961	9,418	6,730	8,090
Below Normal	3,204	2,823	4,259	4,876	7,014	6,774	4,227	4,546	4,716	9,398	8,249	3,725	5,318
Dry	3,051	2,477	3,123	3,162	4,843	4,190	3,073	3,576	4,852	7,597	4,085	1,965	3,833
Critical Dry	2,037	2,126	2,546	2,535	3,035	2,933	2,245	2,205	3,814	3,944	3,105	1,759	2,690

Table D-1-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,124	8,406	22,212	38,672	49,957	42,227	27,593	20,736	11,969	6,806	4,088	6,083	20,406
Wet	7,773	13,911	45,893	79,323	97,355	81,109	53,172	36,890	21,384	9,591	5,496	10,210	38,509
Above Normal	6,128	5,924	15,464	45,148	54,871	47,006	26,624	25,796	13,865	7,897	5,182	9,627	21,961
Below Normal	5,935	6,704	13,168	18,210	26,226	23,693	17,081	13,474	6,604	6,384	3,329	3,293	12,008
Dry	5,155	5,539	6,655	10,987	22,903	17,991	11,788	9,237	6,045	4,223	3,059	2,578	8,847
Critical Dry	3,994	4,690	9,243	9,803	12,384	11,634	8,192	6,334	5,370	3,518	2,501	2,590	6,688

Table D-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	216	215	216	219	209	184	156	192	196	236	231	241	209
Wet	226	238	239	236	197	186	197	248	241	269	274	258	234
Above Normal	226	234	246	231	229	191	189	217	224	243	263	238	228
Below Normal	230	216	222	204	223	194	141	180	189	258	249	268	214
Dry	212	208	200	228	214	183	121	157	192	262	229	240	204
Critical Dry	165	155	149	190	192	160	101	111	90	93	87	168	138

Table D-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	29	10	1	1	-	-	0	1	9	7	10	6
Wet	-	23	5	3	3	-	-	1	2	5	-	-	4
Above Normal	2	40	18	-	-	-	-	-	-	1	-	-	5
Below Normal	-	40	8	-	-	-	-	-	-	3	18	42	9
Dry	5	40	11	-	-	-	-	-	-	34	13	-	9
Critical Dry	3	6	14	-	-	-	-	-	-	8	-	-	3

Table D-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	14	7	-	-	-	-	-	22	30	31	30	13
Wet	17	13	2	-	-	-	-	-	18	29	31	29	12
Above Normal	22	15	5	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	20	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	13	11	-	-	-	-	-	26	31	31	30	13

Table D-1-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	86	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	70	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	82	78	76	79	83	86	89	91	85

Table D-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,310	2,388	3,081	3,694	4,626	3,280	3,617	4,530	4,174	3,316	2,196	1,794	3,167
Wet	1,565	3,542	3,494	7,662	8,861	5,828	6,255	7,675	6,234	3,731	2,724	2,090	4,972
Above Normal	1,531	3,061	3,541	4,065	4,996	3,842	3,806	5,902	5,141	3,854	2,482	2,043	3,689
Below Normal	1,326	2,348	3,810	1,571	2,759	1,883	2,602	3,410	3,660	4,154	2,201	1,851	2,631
Dry	1,008	1,059	2,850	1,301	1,753	1,631	1,696	1,850	2,532	2,614	1,800	1,548	1,803
Critical Dry	861	809	753	942	1,449	1,416	1,595	1,440	1,618	1,452	1,261	1,142	1,228

Table D-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,279	2,376	3,083	3,708	4,633	3,272	3,593	4,483	4,125	3,247	2,146	1,756	3,142
Wet	1,533	3,530	3,493	7,706	8,882	5,834	6,241	7,627	6,185	3,665	2,676	2,053	4,952
Above Normal	1,498	3,046	3,546	4,083	5,020	3,826	3,773	5,848	5,089	3,781	2,431	2,003	3,662
Below Normal	1,301	2,341	3,807	1,569	2,751	1,870	2,572	3,360	3,605	4,077	2,148	1,811	2,601
Dry	972	1,047	2,847	1,296	1,752	1,614	1,671	1,804	2,482	2,542	1,748	1,507	1,773
Critical Dry	830	790	772	935	1,446	1,403	1,567	1,403	1,576	1,395	1,218	1,108	1,204

Table D-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,326	2,453	3,187	3,821	4,751	3,340	3,653	4,537	4,178	3,295	2,188	1,800	3,211
Wet	1,570	3,608	3,588	7,887	9,035	5,916	6,309	7,682	6,230	3,695	2,706	2,085	5,026
Above Normal	1,543	3,123	3,656	4,215	5,166	3,890	3,822	5,908	5,146	3,828	2,470	2,043	3,734
Below Normal	1,363	2,431	3,918	1,646	2,845	1,934	2,632	3,418	3,671	4,140	2,196	1,863	2,671
Dry	1,020	1,117	2,950	1,364	1,843	1,672	1,725	1,849	2,536	2,597	1,799	1,558	1,836
Critical Dry	879	848	884	994	1,531	1,467	1,622	1,455	1,628	1,448	1,271	1,162	1,266

Table D-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,218	2,355	3,112	3,748	4,680	3,252	3,542	4,397	3,998	3,091	1,999	1,650	3,087
Wet	1,459	3,510	3,511	7,826	8,971	5,830	6,199	7,532	6,042	3,484	2,507	1,918	4,899
Above Normal	1,435	3,025	3,582	4,144	5,099	3,801	3,709	5,761	4,960	3,615	2,275	1,880	3,607
Below Normal	1,258	2,335	3,844	1,567	2,769	1,845	2,521	3,280	3,491	3,930	2,005	1,719	2,547
Dry	912	1,019	2,875	1,284	1,767	1,581	1,613	1,717	2,362	2,393	1,620	1,425	1,714
Critical Dry	772	752	813	912	1,455	1,377	1,511	1,330	1,461	1,276	1,100	1,028	1,149

Table D-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.49	57.43	53.71	48.25	47.81	50.54	55.27	58.00	61.02	62.56	60.59	62.99	56.55
Wet	58.56	56.97	54.52	46.85	46.58	49.41	52.45	55.76	59.14	60.86	59.03	60.84	55.08
Above Normal	59.43	56.62	55.01	48.69	47.66	50.28	53.47	56.23	59.59	61.26	59.10	61.21	55.63
Below Normal	61.86	57.29	52.62	48.80	47.97	50.49	54.53	57.94	60.97	62.93	60.79	63.17	56.61
Dry	64.85	58.18	53.33	48.64	48.39	51.03	55.39	59.84	62.99	63.98	62.37	65.22	57.85
Critical Dry	65.37	58.57	53.84	49.56	49.63	52.67	57.18	62.29	65.11	65.14	62.87	66.27	58.96

Table D-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	60.89	56.89	52.78	47.76	47.85	51.10	55.19	58.93	62.08	63.62	62.11	63.21	56.87
Wet	58.71	56.60	53.77	46.79	46.66	49.76	53.01	56.41	59.92	62.02	60.49	61.40	55.46
Above Normal	59.30	56.19	53.34	48.36	47.75	50.71	55.27	57.11	60.37	62.32	60.48	61.68	55.99
Below Normal	61.18	56.90	51.96	48.15	47.97	51.11	55.57	58.89	61.99	63.52	62.07	63.35	56.89
Dry	63.34	57.40	52.01	47.90	48.40	51.82	56.77	61.15	65.30	64.68	63.71	65.04	58.04
Critical Dry	63.89	57.55	52.32	48.57	49.70	53.45	58.24	63.40	65.75	67.11	65.20	66.11	59.27

Table D-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.51	57.10	52.41	48.08	49.04	53.33	58.20	62.28	65.71	67.35	66.08	65.87	59.00
Wet	60.53	56.75	53.36	47.10	47.41	51.34	55.01	58.84	62.74	65.70	65.24	65.09	57.26
Above Normal	60.90	56.30	52.98	48.60	48.76	52.61	56.83	60.01	63.29	65.87	65.19	65.35	57.89
Below Normal	62.64	57.21	51.72	48.43	49.20	53.55	58.94	62.30	65.61	66.42	65.78	65.81	58.97
Dry	64.68	57.59	51.64	48.19	49.89	54.64	60.81	65.61	68.58	68.32	67.65	67.52	60.43
Critical Dry	65.67	57.86	51.83	49.10	51.53	56.37	62.09	67.74	70.98	72.51	70.29	69.16	62.10

Modeling Technical Appendix – Attachment D-2. Model Results for Full Water Forum Agreement Diversions With Project

This attachment summarizes the modeling results Full Water Forum Agreement Diversions With Project (4.1) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 3 -
Table D-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 4 -
Table D-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 5 -
Table D-2-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 6 -
Table D-2-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 7 -
Table D-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 8 -

Table D-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-4-1.

Table D-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-4-2.

Table D-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-4-3.

Table D-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-4-4.

Table D-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-4-5.

Table D-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-4-6.

Table D-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-4-7.

Table D-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-4-8.

Table D-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-4-9.

Table D-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-4-10.

Table D-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-4-11.

Table D-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-4-12.

Table D-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-4-13.

Table D-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-4-14.

Table D-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-4-15.

Table D-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-4-16.

Table D-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-4-17.

Table D-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-4-18.

Table D-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-4-19.

Table D-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-4-20.

Table D-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-4-21.

Table D-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-4-22.

Table D-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-4-23.

Table D-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-4-24.

Table D-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	468	419	434	463	493	634	771	829	779	643	551	511	583
Wet	502	461	514	567	567	751	899	967	942	827	714	671	699
Above Normal	505	439	458	522	560	738	898	964	920	764	657	611	670
Below Normal	493	435	430	452	501	660	844	903	832	620	524	478	598
Dry	433	380	355	345	406	502	632	702	613	486	409	370	470
Critical Dry	364	332	336	340	366	403	431	444	417	360	317	298	367

Table D-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,713	2,702	2,843	3,113	3,347	3,686	4,007	4,019	3,742	3,220	2,890	2,744	3,252
Wet	2,840	2,908	3,104	3,473	3,580	3,850	4,306	4,497	4,380	3,898	3,522	3,281	3,637
Above Normal	2,863	2,821	2,986	3,291	3,616	4,024	4,433	4,474	4,261	3,725	3,374	3,147	3,585
Below Normal	2,875	2,859	2,972	3,241	3,499	3,892	4,276	4,212	3,862	3,266	2,917	2,828	3,391
Dry	2,775	2,715	2,842	3,017	3,429	3,855	4,011	3,894	3,453	2,878	2,570	2,510	3,162
Critical Dry	1,987	1,894	1,958	2,096	2,288	2,528	2,573	2,447	2,072	1,650	1,442	1,384	2,027

Table D-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,380	1,390	1,438	1,498	1,603	1,722	1,870	1,864	1,836	1,712	1,559	1,421	1,608
Wet	1,491	1,521	1,617	1,732	1,891	2,031	2,219	2,249	2,234	2,119	1,990	1,834	1,911
Above Normal	1,506	1,509	1,549	1,648	1,757	1,895	2,066	2,093	2,094	1,978	1,829	1,673	1,800
Below Normal	1,439	1,451	1,476	1,535	1,611	1,721	1,881	1,855	1,818	1,687	1,513	1,368	1,613
Dry	1,403	1,406	1,425	1,422	1,505	1,629	1,746	1,707	1,655	1,502	1,313	1,187	1,492
Critical Dry	916	892	914	897	950	1,021	1,079	1,038	999	891	756	669	919

Table D-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,865	1,880	2,004	2,158	2,349	2,562	2,880	2,983	2,830	2,347	2,026	1,924	2,317
Wet	1,994	2,080	2,383	2,646	2,835	2,936	3,312	3,511	3,471	3,073	2,784	2,617	2,803
Above Normal	1,993	1,982	2,041	2,347	2,624	2,918	3,318	3,504	3,434	2,867	2,398	2,164	2,633
Below Normal	1,956	1,958	2,019	2,117	2,292	2,564	2,970	3,065	2,887	2,263	1,823	1,752	2,305
Dry	1,697	1,678	1,703	1,737	1,959	2,262	2,493	2,504	2,200	1,674	1,463	1,457	1,902
Critical Dry	1,526	1,473	1,483	1,497	1,607	1,797	1,878	1,821	1,567	1,248	1,043	1,041	1,498

Table D-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,294	2,317	3,026	3,639	4,580	3,265	3,548	4,426	4,042	3,185	2,089	1,699	3,092
Wet	1,316	3,185	5,731	7,545	8,879	5,839	6,256	7,573	6,087	3,604	2,619	1,948	5,049
Above Normal	1,472	2,206	1,796	4,028	4,863	3,832	3,779	5,788	4,995	3,679	2,423	1,897	3,396
Below Normal	1,299	2,174	2,254	1,553	2,660	1,832	2,443	3,303	3,554	4,049	2,061	1,781	2,414
Dry	1,255	1,841	1,577	1,275	1,719	1,610	1,570	1,733	2,407	2,431	1,677	1,494	1,716
Critical Dry	1,132	1,320	1,154	913	1,414	1,403	1,546	1,360	1,475	1,365	1,179	1,100	1,280

Table D-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,729	6,368	10,195	12,566	15,046	13,704	9,887	6,614	5,971	7,178	5,847	6,017	8,760
Wet	6,606	8,130	15,435	18,768	20,777	18,731	14,748	9,355	6,269	7,695	6,876	8,407	11,816
Above Normal	5,845	6,102	10,824	16,153	17,365	16,013	10,607	8,092	5,925	7,129	6,189	7,313	9,796
Below Normal	5,874	6,222	7,988	10,210	12,533	11,884	8,029	5,394	5,484	7,515	5,962	5,295	7,699
Dry	5,112	5,422	5,906	6,739	12,279	10,246	6,686	4,611	6,527	7,445	5,294	3,925	6,683
Critical Dry	4,229	4,126	6,797	6,562	7,887	7,762	5,430	3,679	5,500	5,275	3,801	3,308	5,363

Table D-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,217	3,416	6,688	10,063	12,152	11,709	7,475	7,272	6,590	8,137	6,596	4,255	7,298
Wet	3,963	5,125	13,167	20,618	24,026	22,909	14,772	12,789	9,777	8,735	7,252	6,038	12,431
Above Normal	2,995	2,944	4,471	11,209	12,350	13,025	7,141	9,261	7,477	9,995	9,455	6,767	8,091
Below Normal	3,204	2,830	4,289	4,855	6,971	6,771	4,228	4,560	4,756	9,425	8,186	3,720	5,316
Dry	3,038	2,502	3,109	3,161	4,842	4,190	3,086	3,587	4,872	7,498	4,085	1,964	3,828
Critical Dry	2,034	2,122	2,566	2,535	3,036	2,931	2,245	2,219	3,848	3,967	3,112	1,741	2,696

Table D-2-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,122	8,358	22,175	38,574	49,851	42,238	27,567	20,687	11,934	6,809	4,070	6,073	20,372
Wet	7,763	13,840	45,780	79,131	97,264	81,094	53,185	36,838	21,308	9,573	5,483	10,176	38,453
Above Normal	6,131	5,900	15,386	45,046	54,684	47,021	26,625	25,734	13,794	7,934	5,160	9,627	21,920
Below Normal	5,941	6,647	13,159	18,178	26,068	23,718	16,973	13,412	6,600	6,402	3,283	3,303	11,974
Dry	5,165	5,500	6,622	10,953	22,807	18,033	11,769	9,205	6,039	4,227	3,060	2,576	8,830
Critical Dry	3,975	4,672	9,353	9,737	12,389	11,640	8,182	6,308	5,370	3,515	2,498	2,587	6,686

Table D-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	214	216	218	210	185	156	192	195	235	230	243	209
Wet	224	237	239	236	197	187	197	249	241	269	274	262	234
Above Normal	225	235	247	231	229	191	189	217	224	242	264	239	228
Below Normal	231	217	224	202	223	194	142	180	189	258	248	268	215
Dry	212	206	198	227	214	183	121	157	192	259	227	240	203
Critical Dry	168	152	147	181	194	159	101	111	88	91	83	172	137

Table D-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	30	9	1	1	-	-	0	1	9	7	10	6
Wet	-	24	5	3	3	-	-	1	2	5	-	-	4
Above Normal	3	41	18	-	0	-	-	-	-	1	-	-	5
Below Normal	-	41	8	-	-	-	-	-	-	3	19	42	9
Dry	4	40	11	-	-	-	-	-	-	34	13	-	8
Critical Dry	3	6	13	-	-	-	-	-	-	7	-	-	2

Table D-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16	14	7	-	-	-	-	-	23	30	31	30	13
Wet	16	13	2	-	-	-	-	-	19	29	31	29	12
Above Normal	22	15	5	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	20	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	12	11	-	-	-	-	-	26	31	31	30	13

Table D-2-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	86	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	79	83	86	78
Dry	86	86	88	88	82	70	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	82	78	76	79	83	86	89	91	85

Table D-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,313	2,332	3,036	3,626	4,575	3,273	3,573	4,474	4,091	3,253	2,135	1,737	3,118
Wet	1,562	3,446	3,460	7,503	8,859	5,833	6,270	7,622	6,135	3,670	2,667	1,985	4,918
Above Normal	1,523	3,006	3,524	4,014	4,840	3,848	3,812	5,841	5,047	3,751	2,474	1,935	3,635
Below Normal	1,349	2,290	3,715	1,558	2,672	1,847	2,473	3,353	3,609	4,126	2,111	1,820	2,577
Dry	1,006	1,044	2,800	1,278	1,724	1,629	1,599	1,778	2,457	2,503	1,725	1,536	1,757
Critical Dry	858	794	747	922	1,419	1,418	1,573	1,399	1,515	1,419	1,214	1,135	1,201

Table D-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,281	2,320	3,037	3,640	4,582	3,265	3,549	4,427	4,041	3,184	2,086	1,699	3,093
Wet	1,530	3,435	3,459	7,547	8,879	5,839	6,256	7,573	6,087	3,604	2,619	1,948	4,898
Above Normal	1,490	2,991	3,529	4,032	4,863	3,832	3,779	5,788	4,995	3,679	2,423	1,895	3,608
Below Normal	1,323	2,284	3,712	1,556	2,663	1,834	2,443	3,303	3,554	4,049	2,058	1,781	2,547
Dry	970	1,032	2,797	1,272	1,724	1,612	1,574	1,733	2,407	2,431	1,672	1,494	1,727
Critical Dry	826	775	766	915	1,416	1,405	1,544	1,362	1,473	1,362	1,172	1,101	1,176

Table D-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,329	2,396	3,141	3,753	4,700	3,335	3,608	4,481	4,095	3,232	2,128	1,743	3,162
Wet	1,567	3,512	3,554	7,727	9,034	5,922	6,324	7,629	6,131	3,635	2,648	1,979	4,972
Above Normal	1,535	3,068	3,639	4,163	5,009	3,896	3,828	5,847	5,052	3,725	2,462	1,935	3,680
Below Normal	1,386	2,373	3,822	1,633	2,758	1,898	2,503	3,360	3,620	4,113	2,105	1,832	2,617
Dry	1,018	1,102	2,900	1,340	1,815	1,670	1,627	1,777	2,461	2,486	1,723	1,545	1,789
Critical Dry	876	833	877	973	1,501	1,468	1,599	1,413	1,524	1,415	1,224	1,155	1,238

Table D-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,221	2,300	3,067	3,680	4,629	3,246	3,497	4,341	3,915	3,029	1,942	1,599	3,039
Wet	1,457	3,414	3,477	7,666	8,969	5,836	6,215	7,479	5,944	3,425	2,453	1,825	4,847
Above Normal	1,428	2,970	3,565	4,093	4,942	3,807	3,715	5,700	4,866	3,512	2,267	1,780	3,554
Below Normal	1,281	2,278	3,748	1,554	2,682	1,808	2,392	3,222	3,441	3,903	1,916	1,693	2,493
Dry	910	1,004	2,824	1,260	1,739	1,579	1,516	1,645	2,287	2,284	1,549	1,412	1,667
Critical Dry	768	740	806	891	1,425	1,379	1,488	1,288	1,357	1,243	1,058	1,022	1,122

Table D-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.18	57.20	53.29	47.95	47.58	50.43	55.08	57.89	60.88	62.58	60.67	62.92	56.39
Wet	58.80	57.09	54.43	46.69	46.53	49.38	52.44	55.74	59.09	60.90	59.11	60.92	55.09
Above Normal	59.36	56.62	53.85	48.63	47.65	50.25	53.47	56.24	59.60	61.31	59.18	61.28	55.62
Below Normal	61.67	57.27	52.42	48.64	47.85	50.43	54.45	57.96	61.02	63.07	60.87	63.22	56.57
Dry	65.30	58.04	52.93	48.41	48.36	51.18	55.11	59.71	62.90	65.14	62.55	65.41	57.75
Critical Dry	63.65	56.84	52.06	48.46	48.49	52.00	56.35	61.73	63.25	64.70	62.82	65.26	57.97

Table D-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	60.71	56.72	52.44	47.50	47.67	51.01	55.07	58.87	62.03	63.66	62.21	63.22	56.76
Wet	58.89	56.71	53.68	46.62	46.61	49.72	53.00	56.39	59.89	62.09	60.59	61.51	55.47
Above Normal	59.25	56.18	53.20	48.30	47.74	50.71	55.23	57.12	60.39	62.39	60.56	61.76	55.99
Below Normal	61.08	56.89	51.78	48.00	47.86	51.05	55.55	58.93	62.05	63.65	62.18	63.39	56.87
Dry	62.98	57.26	51.66	47.67	48.36	51.95	56.59	61.06	65.27	64.85	63.90	65.22	57.98
Critical Dry	62.84	56.32	50.97	47.69	48.82	52.86	57.76	63.09	65.44	66.81	65.23	65.58	58.62

Table D-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.39	57.00	52.14	47.88	48.90	53.26	58.16	62.29	65.75	67.46	66.23	65.94	58.95
Wet	60.68	56.86	53.27	46.97	47.36	51.30	54.99	58.84	62.76	65.80	65.38	65.28	57.29
Above Normal	60.87	56.29	52.85	48.56	48.79	52.61	56.80	60.04	63.34	65.98	65.25	64.51	57.91
Below Normal	62.54	57.21	51.56	48.32	49.13	53.51	59.03	62.39	65.68	66.54	65.97	65.87	58.98
Dry	64.45	57.48	51.36	48.00	49.86	54.74	60.71	65.65	68.67	68.58	67.91	67.71	60.43
Critical Dry	64.98	57.02	50.84	48.43	50.85	55.96	61.84	67.60	71.01	72.43	70.40	68.85	61.68

Modeling Technical Appendix – Attachment D-3. Absolute Change of Full Water Forum Agreement Diversions Baselines to Existing Conditions Baseline

This attachment summarizes the absolute change of Full Water Forum Agreement Diversions Baselines to Existing Conditions Baseline (4.0-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 2 -
Table D-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 3 -
Table D-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 4 -
Table D-3-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 5 -
Table D-3-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 6 -
Table D-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 7 -

Table D-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-5-1.

Table D-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-5-2.

Table D-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-5-3.

Table D-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-5-4.

Table D-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-5-5.

Table D-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-5-6.

Table D-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-5-7.

Table D-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-5-8.

Table D-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-5-9.

Table D-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-5-10.

Table D-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-5-11.

Table D-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-5-12.

Table D-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-5-13.

Table D-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-5-14.

Table D-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-5-15.

Table D-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-5-16.

Table D-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-5-17.

Table D-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-5-18.

Table D-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-5-19.

Table D-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-5-20.

Table D-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-5-21.

Table D-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-5-22.

Table D-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-5-23.

Table D-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-5-24.

Table D-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(1)	(1)	(1)	(1)	(2)	(3)	(3)	(2)	(1)	(1)	(1)	(2)
Wet	0	0	0	-	-	(0)	(0)	-	(0)	(0)	(0)	(0)	(0)
Above Normal	(1)	(1)	(1)	(0)	(0)	(1)	-	(0)	(0)	(3)	(3)	(3)	(1)
Below Normal	(2)	(2)	(1)	(1)	(1)	(3)	(4)	(3)	(1)	3	1	1	(1)
Dry	(2)	(3)	(2)	(2)	(1)	(4)	(5)	(6)	(4)	(3)	(2)	(2)	(3)
Critical Dry	(4)	(4)	(3)	(3)	(3)	(5)	(6)	(7)	(7)	(5)	(4)	(5)	(5)

Table D-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(5)	(4)	(6)	(5)	(4)	(4)	(4)	(5)	(5)	(4)	(5)	(5)
Wet	(1)	(2)	(1)	(0)	-	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Above Normal	(12)	(13)	(13)	(13)	(13)	0	(0)	(0)	(0)	(0)	(1)	(0)	(5)
Below Normal	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(1)	(3)	(0)	(1)	(1)	(1)
Dry	(3)	(4)	(3)	(2)	(2)	(2)	(3)	(3)	(5)	(5)	(4)	(5)	(3)
Critical Dry	(11)	(11)	(13)	(26)	(23)	(22)	(23)	(22)	(23)	(24)	(22)	(23)	(20)

Table D-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	1	0	0	0	0	0	0	0	0
Wet	(0)	0	1	1	1	(0)	(0)	(0)	(0)	0	0	0	0
Above Normal	0	0	0	0	0	0	0	0	0	0	(0)	(0)	(0)
Below Normal	1	1	1	1	1	1	1	1	1	1	0	1	1
Dry	2	1	1	1	1	1	1	1	1	1	0	1	1
Critical Dry	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(0)	(1)

Table D-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(0)	0	0	(0)	(0)	(0)	(1)	(1)	2	(0)	(0)	(0)
Wet	0	0	0	1	0	(0)	0	0	(0)	(1)	(1)	(0)	0
Above Normal	1	1	1	1	1	0	0	(0)	(0)	(1)	(0)	(0)	0
Below Normal	(0)	(1)	(1)	(1)	(0)	(0)	(0)	(1)	(1)	9	(1)	(1)	0
Dry	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(2)	(1)	(1)	(0)	(1)
Critical Dry	1	1	0	0	0	0	(0)	0	0	1	1	1	1

Table D-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(10)	(6)	(12)	(18)	(27)	(46)	(31)	(18)	(15)	1	2	(15)
Wet	(0)	(11)	(13)	(19)	(39)	(38)	(43)	(32)	(8)	(3)	(3)	2	(17)
Above Normal	(0)	(4)	(3)	(24)	(14)	(71)	(62)	(27)	(11)	46	(8)	2	(15)
Below Normal	-	(12)	(5)	(2)	(3)	(25)	(69)	(52)	(27)	(62)	24	1	(19)
Dry	0	(5)	(2)	(13)	(14)	0	(41)	(21)	(38)	(6)	(6)	(1)	(12)
Critical Dry	(6)	(16)	0	(3)	(7)	(3)	(6)	(12)	(4)	(27)	(9)	7	(7)

Table D-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	6	(1)	26	(6)	1	1	3	14	(5)	4	(1)	3
Wet	(1)	2	(3)	(4)	(1)	11	0	0	1	(2)	0	(1)	0
Above Normal	(10)	9	1	(0)	(1)	(21)	(5)	(1)	0	3	6	(7)	(2)
Below Normal	0	1	(3)	(1)	0	(1)	(1)	8	23	(33)	23	(0)	1
Dry	(2)	9	(15)	0	(6)	(1)	9	3	39	(0)	2	2	3
Critical Dry	0	14	21	186	(34)	2	1	2	7	22	(17)	(1)	17

Table D-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(2)	(0)	(1)	2	2	4	3	(0)	(33)	26	(0)	(0)
Wet	(2)	(0)	(3)	(2)	8	2	0	0	(0)	8	2	(4)	1
Above Normal	(1)	(13)	(1)	(1)	1	9	1	1	1	6	(0)	(3)	(0)
Below Normal	0	2	2	(0)	(4)	(2)	1	8	2	(143)	120	6	(1)
Dry	1	(8)	0	(0)	(0)	1	11	12	(3)	(5)	(16)	(1)	(1)
Critical Dry	1	0	3	2	(0)	2	10	(7)	(2)	(11)	(1)	1	(0)

Table D-3-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(4)	(12)	(11)	(25)	(45)	(39)	(26)	(4)	(17)	8	0	(14)
Wet	0	(8)	(34)	(37)	(31)	(24)	(38)	(36)	(8)	2	(0)	0	(18)
Above Normal	(12)	(3)	0	(25)	(13)	(250)	(67)	(28)	(10)	10	21	(13)	(33)
Below Normal	(0)	(4)	(6)	(4)	(15)	(30)	(67)	(36)	(2)	(81)	27	6	(18)
Dry	0	2	(20)	(13)	(27)	5	(20)	(4)	0	0	(4)	2	(7)
Critical Dry	11	(4)	27	50	(37)	7	5	(11)	(0)	0	(0)	2	4

Table D-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	2	(0)	(0)	(0)	0	0	(0)	(0)	0	0
Wet	(0)	0	0	0	0	(0)	(0)	0	0	0	0	0	0
Above Normal	(0)	0	(0)	0	(0)	(0)	(0)	0	(0)	2	(0)	0	0
Below Normal	0	0	(0)	(0)	0	(0)	(0)	0	(0)	(1)	(0)	0	(0)
Dry	(0)	0	(0)	0	(0)	0	0	(0)	0	(0)	(0)	(0)	(0)
Critical Dry	(1)	1	(1)	11	(1)	0	0	0	0	(0)	(1)	0	1

Table D-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	(0)	(0)	-	-	(0)	0	(0)	(0)	0	0
Wet	-	0	(0)	(0)	(0)	-	-	(0)	0	0	-	-	(0)
Above Normal	(1)	0	(0)	-	-	-	-	-	-	(0)	-	-	(0)
Below Normal	-	0	(0)	-	(0)	-	-	-	-	(0)	(0)	0	(0)
Dry	0	0	(0)	-	-	-	-	-	-	(0)	(0)	-	0
Critical Dry	-	0	1	-	-	-	-	-	-	(0)	-	-	0

Table D-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	-	0	-	-	-	-	-	-	-	-	-	0
Wet	-	-	-	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	-	-	0	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D-3-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	0	0	(0)	0	0	0	0	0	0	0	0
Wet	(0)	(0)	0	0	(0)	0	0	0	0	0	(0)	(0)	0
Above Normal	0	0	0	0	0	0	0	0	0	0	(0)	(0)	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	(0)	(0)	(0)	0	0	0	0	0	0	0	0	0	0
Critical Dry	0	(0)	(0)	(0)	(0)	0	0	(0)	0	0	0	0	(0)

Table D-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(10)	(6)	(12)	(18)	(27)	(46)	(31)	(18)	(15)	1	2	(15)
Wet	(0)	(14)	(7)	(20)	(39)	(38)	(43)	(32)	(8)	(3)	(3)	2	(17)
Above Normal	0	(6)	(3)	(25)	(14)	(71)	(62)	(27)	(11)	46	(9)	2	(15)
Below Normal	(4)	(12)	(4)	(2)	(3)	(25)	(69)	(52)	(27)	(62)	25	1	(19)
Dry	-	0	(15)	(13)	(16)	2	(41)	(22)	(38)	(6)	(8)	0	(13)
Critical Dry	(2)	(13)	0	(2)	(6)	(4)	(8)	(11)	(4)	(29)	(9)	9	(7)

Table D-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(10)	(6)	(12)	(18)	(27)	(46)	(31)	(18)	(15)	1	2	(15)
Wet	(0)	(14)	(7)	(20)	(39)	(38)	(43)	(32)	(8)	(3)	(3)	2	(17)
Above Normal	0	(6)	(3)	(25)	(14)	(71)	(62)	(27)	(11)	46	(9)	2	(15)
Below Normal	(4)	(12)	(4)	(2)	(3)	(25)	(69)	(52)	(27)	(62)	25	1	(19)
Dry	(0)	0	(15)	(13)	(16)	2	(41)	(22)	(38)	(6)	(8)	0	(13)
Critical Dry	(2)	(13)	0	(2)	(6)	(4)	(8)	(11)	(4)	(29)	(9)	8	(7)

Table D-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(10)	(6)	(13)	(19)	(27)	(46)	(31)	(18)	(15)	1	2	(15)
Wet	(0)	(14)	(7)	(20)	(39)	(38)	(44)	(32)	(8)	(3)	(3)	2	(17)
Above Normal	0	(6)	(2)	(25)	(14)	(72)	(62)	(27)	(11)	46	(8)	2	(15)
Below Normal	(4)	(12)	(4)	(2)	(3)	(25)	(69)	(52)	(27)	(62)	25	1	(19)
Dry	(0)	0	(15)	(13)	(16)	2	(41)	(22)	(38)	(6)	(8)	0	(13)
Critical Dry	(2)	(14)	0	(2)	(6)	(4)	(8)	(11)	(4)	(30)	(9)	9	(7)

Table D-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(10)	(6)	(13)	(19)	(27)	(46)	(31)	(18)	(15)	1	2	(15)
Wet	(0)	(14)	(7)	(20)	(39)	(38)	(44)	(32)	(8)	(3)	(3)	2	(17)
Above Normal	0	(6)	(2)	(25)	(14)	(72)	(62)	(27)	(11)	46	(8)	2	(15)
Below Normal	(4)	(12)	(4)	(2)	(3)	(25)	(70)	(51)	(27)	(62)	23	1	(20)
Dry	(0)	0	(15)	(13)	(16)	2	(41)	(22)	(38)	(6)	(8)	0	(13)
Critical Dry	(2)	(14)	0	(2)	(6)	(4)	(8)	(9)	(4)	(30)	(9)	9	(6)

Table D-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.00	(0.03)	0.00	(0.01)	0.01	(0.02)	0.02	0.05	0.06	(0.04)	(0.02)	0.00	0.00
Wet	0.00	(0.01)	0.01	0.01	0.01	0.00	0.02	0.01	(0.00)	0.00	0.00	(0.01)	0.00
Above Normal	0.08	(0.02)	(0.07)	0.00	0.00	0.01	0.03	0.03	0.01	0.04	0.00	(0.05)	0.01
Below Normal	0.02	0.01	0.06	(0.01)	0.00	(0.03)	0.04	0.07	0.05	(0.07)	(0.01)	(0.00)	0.01
Dry	(0.07)	(0.15)	0.01	(0.02)	0.00	0.01	(0.09)	0.17	0.08	(0.04)	(0.12)	0.01	(0.02)
Critical Dry	(0.01)	(0.03)	(0.06)	(0.05)	0.02	(0.12)	0.09	0.00	0.20	(0.17)	(0.02)	0.06	(0.01)

Table D-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.01	(0.03)	(0.00)	(0.01)	0.00	0.00	0.01	0.06	0.05	(0.02)	(0.02)	(0.01)	0.00
Wet	0.00	(0.01)	0.01	0.01	0.01	0.00	0.02	0.01	(0.00)	0.00	0.00	(0.01)	0.00
Above Normal	0.06	(0.02)	(0.05)	0.00	0.00	0.02	0.04	0.03	0.01	0.04	0.01	(0.04)	0.01
Below Normal	0.01	0.00	0.05	(0.01)	0.00	0.01	0.02	0.08	0.06	(0.05)	(0.02)	(0.00)	0.01
Dry	(0.00)	(0.13)	(0.03)	(0.02)	(0.01)	0.02	(0.07)	0.14	0.08	(0.02)	(0.09)	(0.01)	(0.01)
Critical Dry	0.00	(0.02)	(0.04)	(0.05)	0.00	(0.05)	0.01	0.03	0.13	(0.03)	0.00	0.01	(0.00)

Table D-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.01	(0.02)	(0.00)	(0.01)	0.00	0.01	0.03	0.06	0.05	0.01	(0.01)	(0.01)	0.01
Wet	0.00	(0.00)	0.00	0.01	0.01	0.01	0.03	0.02	0.00	0.01	0.00	(0.01)	0.01
Above Normal	0.05	(0.01)	(0.05)	0.00	0.00	0.04	0.08	0.03	0.01	0.03	0.02	(0.03)	0.01
Below Normal	0.01	0.00	0.04	(0.01)	0.00	0.03	0.06	0.11	0.08	(0.01)	(0.04)	(0.00)	0.02
Dry	0.00	(0.10)	(0.02)	(0.02)	(0.00)	0.01	(0.03)	0.13	0.11	(0.00)	(0.06)	(0.01)	0.00
Critical Dry	0.01	(0.01)	(0.03)	(0.04)	(0.00)	(0.02)	(0.01)	0.02	0.10	0.08	0.02	(0.01)	0.01

Modeling Technical Appendix – Attachment D-4. Absolute Change of Full Water Forum Agreement Diversions With Project to Existing Conditions Baseline

This attachment summarizes the absolute change of Full Water Forum Agreement Diversions Baselines to Existing Conditions Baseline (4.1-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 3 -
Table D-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 4 -
Table D-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 5 -
Table D-4-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 6 -
Table D-4-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 7 -
Table D-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 8 -

Table D-4-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-6-1.

Table D-4-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-6-2.

Table D-4-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-6-3.

Table D-4-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-6-4.

Table D-4-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-6-5.

Table D-4-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-6-6.

Table D-4-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-6-7.

Table D-4-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-6-8.

Table D-4-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-6-9.

Table D-4-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-6-10.

Table D-4-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-6-11.

Table D-4-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-6-12.

Table D-4-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-6-13.

Table D-4-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-6-14.

Table D-4-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-6-15.

Table D-4-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-6-16.

Table D-4-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-6-17.

Table D-4-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-6-18.

Table D-4-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-6-19.

Table D-4-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-6-20.

Table D-4-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-6-21.

Table D-4-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-6-22.

Table D-4-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-6-23.

Table D-4-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-6-24.

Table D-4-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(13)	(13)	(13)	(10)	(8)	(9)	(7)	(6)	(5)	(5)	(5)	(11)	(9)
Wet	(11)	(11)	(7)	-	-	(0)	(0)	-	(0)	(2)	(2)	(4)	(3)
Above Normal	(9)	(12)	(13)	(10)	(3)	(3)	(2)	(0)	(0)	(2)	(5)	(7)	(6)
Below Normal	(15)	(15)	(16)	(16)	(12)	(12)	(5)	(3)	(4)	(3)	(4)	(11)	(10)
Dry	(18)	(19)	(22)	(20)	(20)	(24)	(21)	(20)	(16)	(13)	(12)	(20)	(19)
Critical Dry	(7)	(11)	(12)	(11)	(10)	(12)	(12)	(12)	(9)	(9)	(9)	(15)	(11)

Table D-4-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	(6)	(5)	(5)	(4)	(4)	(5)	(6)	(8)	(9)	(8)	(8)	(6)
Wet	(2)	(2)	(2)	(1)	-	0	(0)	(0)	(1)	(2)	(2)	(3)	(1)
Above Normal	(12)	(12)	(9)	(9)	(9)	0	0	(0)	(2)	(7)	(4)	(6)	(6)
Below Normal	(6)	(8)	(9)	(9)	(6)	(10)	(11)	(10)	(13)	(12)	(13)	(14)	(10)
Dry	(9)	(6)	(1)	(1)	1	(3)	(8)	(9)	(14)	(14)	(14)	(9)	(7)
Critical Dry	(10)	(4)	(9)	(11)	(7)	(7)	(9)	(10)	(14)	(13)	(10)	(9)	(9)

Table D-4-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(2)	(2)	(1)	(1)	(2)	(1)	(1)	(1)	(1)	(2)	(2)	(2)
Wet	(5)	(4)	(3)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)
Above Normal	(1)	(2)	(2)	(2)	(1)	0	0	0	0	0	(0)	(2)	(1)
Below Normal	(3)	(1)	(1)	(1)	(1)	(2)	(2)	(2)	(1)	(2)	(3)	(3)	(2)
Dry	(4)	(4)	(4)	(3)	(3)	(3)	(3)	(3)	(2)	(4)	(5)	(7)	(4)
Critical Dry	2	1	1	2	1	(2)	(1)	(0)	(0)	(0)	1	1	0

Table D-4-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	(8)	(7)	(6)	(4)	(3)	(4)	(4)	(6)	(4)	(6)	(7)	(6)
Wet	(9)	(9)	(6)	(4)	(1)	(0)	(0)	(0)	(1)	(4)	(6)	(12)	(4)
Above Normal	(8)	(8)	(8)	(5)	(2)	(0)	(0)	(0)	(1)	(3)	(6)	(7)	(4)
Below Normal	(7)	(7)	(10)	(8)	(5)	(5)	(5)	(7)	(10)	(2)	(5)	(4)	(6)
Dry	(11)	(11)	(10)	(10)	(10)	(10)	(12)	(13)	(14)	(8)	(6)	(6)	(10)
Critical Dry	(0)	(1)	(3)	(3)	(3)	(2)	(3)	(3)	(6)	(6)	(6)	(5)	(3)

Table D-4-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(66)	(51)	(80)	(69)	(33)	(91)	(88)	(101)	(78)	(59)	(56)	(64)
Wet	(3)	(87)	(104)	(179)	(42)	(32)	(28)	(85)	(107)	(64)	(60)	(103)	(75)
Above Normal	(1)	(27)	(51)	(77)	(171)	(66)	(56)	(87)	(105)	(57)	(17)	(106)	(68)
Below Normal	-	(94)	(37)	(14)	(91)	(62)	(198)	(109)	(78)	(91)	(63)	(31)	(72)
Dry	0	(60)	(5)	(37)	(41)	0	(142)	(93)	(112)	(117)	(82)	(14)	(59)
Critical Dry	25	(16)	(11)	(22)	(39)	(1)	(29)	(54)	(106)	(60)	(57)	3	(31)

Table D-4-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(15)	(15)	(4)	(2)	(5)	6	25	6	37	18	5	5	5
Wet	(40)	(7)	(15)	(7)	(2)	7	(0)	(0)	12	6	13	2	(3)
Above Normal	(9)	9	(1)	(3)	(0)	(15)	(4)	2	18	82	(26)	63	10
Below Normal	10	3	2	(2)	11	8	42	(4)	35	(1)	40	16	13
Dry	(20)	(29)	(61)	(6)	(42)	19	82	31	84	45	27	(35)	8
Critical Dry	(2)	(63)	70	18	1	0	16	9	55	(10)	(66)	(10)	2

Table D-4-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	5	(5)	(20)	(36)	(9)	4	10	22	(24)	29	35	0
Wet	(12)	(5)	(39)	(31)	(59)	(13)	(5)	(1)	10	44	40	103	3
Above Normal	12	16	(4)	(42)	(50)	(35)	(4)	(3)	6	40	37	34	1
Below Normal	0	9	31	(22)	(48)	(5)	3	23	42	(116)	57	1	(2)
Dry	(12)	17	(14)	(1)	(1)	1	24	23	17	(104)	(16)	(2)	(6)
Critical Dry	(2)	(3)	22	2	0	0	9	7	32	11	6	(17)	6

Table D-4-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(52)	(49)	(108)	(131)	(34)	(65)	(74)	(40)	(14)	(10)	(9)	(49)
Wet	(9)	(79)	(148)	(230)	(123)	(39)	(25)	(88)	(84)	(17)	(13)	(35)	(74)
Above Normal	(9)	(26)	(78)	(127)	(200)	(235)	(66)	(90)	(81)	47	(1)	(13)	(73)
Below Normal	6	(62)	(15)	(35)	(174)	(5)	(175)	(99)	(7)	(62)	(18)	17	(52)
Dry	10	(36)	(53)	(47)	(123)	47	(39)	(36)	(6)	4	(4)	0	(24)
Critical Dry	(7)	(21)	136	(15)	(32)	12	(5)	(36)	(0)	(3)	(2)	(1)	2

Table D-4-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(1)	(0)	(0)	0	0	(0)	0	(0)	(1)	(1)	2	(0)
Wet	(2)	(1)	0	0	0	1	(0)	0	0	0	0	3	0
Above Normal	(1)	1	0	0	(0)	(0)	(0)	0	(1)	1	0	1	0
Below Normal	1	1	1	(1)	(0)	(0)	0	(0)	(0)	(1)	(0)	1	0
Dry	(1)	(2)	(2)	(1)	(0)	(0)	(0)	(0)	(0)	(3)	(2)	0	(1)
Critical Dry	2	(2)	(3)	2	1	0	(0)	(0)	(1)	(2)	(6)	4	(0)

Table D-4-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	1	(0)	0	(0)	-	-	(0)	0	(0)	0	(0)	0
Wet	-	1	(0)	0	(0)	-	-	(0)	0	(0)	-	-	0
Above Normal	0	1	(1)	-	0	-	-	-	-	(0)	-	-	0
Below Normal	-	1	(1)	-	(0)	-	-	-	-	(0)	0	(0)	0
Dry	(0)	0	(0)	-	-	-	-	-	-	(0)	(0)	-	(0)
Critical Dry	-	(0)	(0)	-	-	-	-	-	-	(1)	-	-	(0)

Table D-4-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	0	-	-	-	-	-	0	-	-	-	(0)
Wet	(1)	-	-	-	-	-	-	-	1	-	-	-	(0)
Above Normal	0	-	-	-	-	-	-	-	-	-	-	-	0
Below Normal	(0)	-	-	-	-	-	-	-	-	-	-	-	(0)
Dry	0	-	0	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	(1)	0	-	-	-	-	-	-	-	-	-	(0)

Table D-4-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	0	0	0	0	0	0	(0)	0	0	0	0	0	0
Above Normal	0	0	(0)	0	0	0	0	0	0	0	(0)	(0)	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	0	0	0	0	0	0	0	0	0	0	0
Critical Dry	0	0	0	(0)	(0)	0	(0)	(0)	0	0	0	0	0

Table D-4-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	(66)	(51)	(80)	(69)	(33)	(91)	(87)	(101)	(78)	(59)	(55)	(64)
Wet	(3)	(110)	(41)	(179)	(41)	(32)	(28)	(85)	(107)	(63)	(60)	(104)	(71)
Above Normal	(8)	(60)	(20)	(76)	(171)	(66)	(56)	(87)	(105)	(56)	(17)	(106)	(69)
Below Normal	20	(69)	(99)	(15)	(90)	(61)	(198)	(109)	(78)	(90)	(65)	(30)	(74)
Dry	(2)	(15)	(65)	(37)	(45)	(0)	(138)	(93)	(112)	(117)	(83)	(12)	(60)
Critical Dry	(5)	(28)	(6)	(22)	(36)	(3)	(31)	(52)	(107)	(62)	(55)	2	(34)

Table D-4-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(66)	(51)	(80)	(69)	(34)	(91)	(87)	(101)	(78)	(59)	(55)	(64)
Wet	(3)	(110)	(41)	(179)	(42)	(32)	(28)	(85)	(107)	(64)	(60)	(104)	(71)
Above Normal	(8)	(60)	(20)	(76)	(171)	(66)	(56)	(87)	(105)	(57)	(17)	(106)	(69)
Below Normal	19	(69)	(99)	(15)	(90)	(61)	(198)	(109)	(78)	(90)	(65)	(30)	(74)
Dry	(2)	(15)	(65)	(37)	(45)	(1)	(138)	(93)	(112)	(117)	(83)	(12)	(60)
Critical Dry	(5)	(28)	(6)	(22)	(36)	(3)	(31)	(52)	(107)	(62)	(55)	2	(34)

Table D-4-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	(66)	(52)	(80)	(69)	(33)	(91)	(88)	(101)	(78)	(59)	(55)	(64)
Wet	(2)	(110)	(41)	(180)	(41)	(32)	(28)	(85)	(107)	(63)	(60)	(104)	(71)
Above Normal	(7)	(61)	(20)	(76)	(171)	(66)	(56)	(87)	(105)	(56)	(17)	(106)	(69)
Below Normal	20	(69)	(100)	(15)	(90)	(61)	(199)	(109)	(78)	(90)	(65)	(29)	(74)
Dry	(2)	(14)	(66)	(37)	(45)	(0)	(139)	(94)	(113)	(117)	(83)	(12)	(60)
Critical Dry	(5)	(29)	(6)	(23)	(36)	(3)	(31)	(52)	(108)	(63)	(55)	2	(34)

Table D-4-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	(66)	(52)	(80)	(69)	(33)	(91)	(87)	(101)	(77)	(57)	(49)	(63)
Wet	(2)	(110)	(41)	(180)	(41)	(32)	(28)	(85)	(106)	(62)	(57)	(91)	(70)
Above Normal	(7)	(61)	(20)	(76)	(172)	(66)	(56)	(87)	(105)	(56)	(17)	(98)	(68)
Below Normal	20	(69)	(100)	(15)	(90)	(61)	(199)	(108)	(77)	(90)	(65)	(25)	(73)
Dry	(2)	(14)	(66)	(37)	(45)	(0)	(139)	(94)	(113)	(115)	(79)	(12)	(60)
Critical Dry	(5)	(26)	(6)	(23)	(36)	(2)	(31)	(51)	(108)	(63)	(51)	2	(33)

Table D-4-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.31)	(0.27)	(0.41)	(0.31)	(0.22)	(0.13)	(0.18)	(0.05)	(0.09)	(0.03)	0.05	(0.07)	(0.17)
Wet	0.24	0.11	(0.09)	(0.15)	(0.05)	(0.03)	0.00	(0.01)	(0.05)	0.04	0.08	0.08	0.01
Above Normal	0.01	(0.03)	(0.23)	(0.06)	(0.01)	(0.02)	0.03	0.03	0.02	0.10	0.08	0.02	(0.00)
Below Normal	(0.17)	(0.02)	(0.14)	(0.17)	(0.12)	(0.09)	(0.04)	0.09	0.10	0.07	0.08	0.04	(0.03)
Dry	(0.63)	(0.29)	(0.39)	(0.25)	(0.03)	0.15	(0.37)	0.04	(0.01)	0.12	0.06	0.20	(0.12)
Critical Dry	(1.73)	(1.76)	(1.84)	(1.14)	(1.13)	(0.79)	(0.75)	(0.56)	(0.66)	(0.61)	(0.07)	(0.95)	(1.00)

Table D-4-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.17)	(0.19)	(0.34)	(0.27)	(0.18)	(0.09)	(0.11)	(0.00)	0.00	0.03	0.09	0.00	(0.10)
Wet	0.19	0.11	(0.09)	(0.15)	(0.05)	(0.03)	0.01	(0.00)	(0.03)	0.06	0.10	0.10	0.02
Above Normal	0.01	(0.03)	(0.19)	(0.05)	(0.01)	0.02	0.00	0.04	0.03	0.11	0.08	0.04	0.00
Below Normal	(0.10)	(0.01)	(0.13)	(0.15)	(0.11)	(0.05)	(0.00)	0.12	0.11	0.07	0.10	0.04	(0.01)
Dry	(0.36)	(0.27)	(0.38)	(0.26)	(0.05)	0.14	(0.25)	0.05	0.05	0.16	0.10	0.18	(0.07)
Critical Dry	(1.04)	(1.26)	(1.39)	(0.93)	(0.88)	(0.64)	(0.46)	(0.28)	(0.18)	(0.34)	0.04	(0.52)	(0.66)

Table D-4-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.11)	(0.12)	(0.27)	(0.21)	(0.13)	(0.05)	(0.01)	0.07	0.10	0.12	0.14	0.07	(0.03)
Wet	0.15	0.11	(0.08)	(0.12)	(0.04)	(0.03)	0.01	0.02	0.01	0.11	0.13	0.18	0.04
Above Normal	0.02	(0.02)	(0.17)	(0.04)	0.03	0.04	0.05	0.06	0.06	0.14	0.08	0.13	0.03
Below Normal	(0.08)	(0.00)	(0.11)	(0.12)	(0.08)	(0.01)	0.15	0.19	0.15	0.11	0.16	0.06	0.03
Dry	(0.23)	(0.20)	(0.31)	(0.21)	(0.03)	0.12	(0.12)	0.16	0.20	0.25	0.20	0.18	0.00
Critical Dry	(0.69)	(0.85)	(1.02)	(0.71)	(0.67)	(0.44)	(0.25)	(0.12)	0.12	0.00	0.13	(0.33)	(0.40)

Modeling Technical Appendix – Attachment D-5. Absolute Change of Full Water Forum Agreement Diversions With Project to Full Water Forum Agreement Diversions Conditions Baseline

This attachment summarizes the absolute change of Full Water Forum Agreement Diversions With Project to Full Water Forum Agreement Diversions Conditions Baseline (4.1-4.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 3 -
Table D-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 4 -
Table D-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 5 -
Table D-5-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 6 -
Table D-5-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 7 -
Table D-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 8 -

Table D-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-7-1.

Table D-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-7-2.

Table D-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-7-3.

Table D-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-7-4.

Table D-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-7-5.

Table D-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-7-6.

Table D-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-7-7.

Table D-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-7-8.

Table D-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-7-9.

Table D-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-7-10.

Table D-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-7-11.

Table D-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-7-12.

Table D-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-7-13.

Table D-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-7-14.

Table D-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-7-15.

Table D-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-7-16.

Table D-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-7-17.

Table D-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-7-18.

Table D-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-7-19.

Table D-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-7-20.

Table D-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-7-21.

Table D-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-7-22.

Table D-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-7-23.

Table D-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-7-24.

Table D-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(11)	(12)	(12)	(9)	(7)	(7)	(4)	(3)	(3)	(4)	(4)	(9)	(7)
Wet	(12)	(11)	(8)	-	-	0	0	-	(0)	(2)	(1)	(4)	(3)
Above Normal	(8)	(11)	(11)	(10)	(3)	(2)	(2)	(0)	(0)	1	(2)	(5)	(5)
Below Normal	(13)	(13)	(15)	(15)	(11)	(9)	(1)	(0)	(2)	(5)	(5)	(12)	(8)
Dry	(16)	(17)	(20)	(19)	(19)	(19)	(15)	(13)	(13)	(10)	(10)	(18)	(16)
Critical Dry	(4)	(7)	(9)	(8)	(7)	(7)	(6)	(5)	(2)	(4)	(5)	(10)	(6)

Table D-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(1)	(1)	1	2	(0)	(1)	(2)	(3)	(4)	(4)	(3)	(2)
Wet	(1)	(0)	(1)	(1)	-	0	(0)	(0)	(1)	(2)	(2)	(3)	(1)
Above Normal	(0)	1	4	4	4	(0)	0	(0)	(1)	(7)	(4)	(6)	(0)
Below Normal	(5)	(6)	(8)	(8)	(6)	(10)	(11)	(9)	(10)	(12)	(12)	(12)	(9)
Dry	(5)	(2)	2	1	3	(0)	(5)	(6)	(9)	(9)	(9)	(4)	(4)
Critical Dry	1	7	4	15	16	15	14	12	9	11	12	13	11

Table D-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(2)	(2)	(3)	(2)
Wet	(4)	(4)	(3)	(2)	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)
Above Normal	(1)	(2)	(2)	(2)	(1)	0	0	0	0	0	(0)	(2)	(1)
Below Normal	(3)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(4)	(3)
Dry	(6)	(5)	(5)	(4)	(4)	(4)	(4)	(4)	(3)	(5)	(6)	(8)	(5)
Critical Dry	2	2	2	3	2	(1)	(0)	1	1	1	2	1	1

Table D-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	(8)	(7)	(6)	(4)	(3)	(3)	(4)	(5)	(6)	(5)	(7)	(5)
Wet	(9)	(9)	(7)	(5)	(1)	(0)	(0)	(0)	(1)	(3)	(5)	(11)	(4)
Above Normal	(9)	(9)	(9)	(6)	(3)	(0)	(0)	(0)	(1)	(3)	(5)	(7)	(4)
Below Normal	(6)	(7)	(9)	(7)	(5)	(5)	(5)	(6)	(8)	(11)	(4)	(3)	(6)
Dry	(10)	(10)	(9)	(10)	(10)	(10)	(10)	(11)	(12)	(6)	(6)	(6)	(9)
Critical Dry	(1)	(2)	(3)	(3)	(3)	(2)	(3)	(3)	(6)	(7)	(7)	(6)	(4)

Table D-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4	(56)	(45)	(68)	(51)	(6)	(45)	(56)	(83)	(63)	(60)	(57)	(49)
Wet	(3)	(76)	(91)	(160)	(3)	5	15	(53)	(98)	(61)	(57)	(105)	(57)
Above Normal	(1)	(23)	(48)	(53)	(156)	5	6	(60)	(94)	(102)	(8)	(108)	(54)
Below Normal	-	(82)	(32)	(12)	(88)	(37)	(129)	(58)	(51)	(29)	(88)	(32)	(53)
Dry	0	(55)	(3)	(24)	(27)	0	(101)	(71)	(75)	(110)	(75)	(12)	(46)
Critical Dry	30	(0)	(11)	(20)	(33)	3	(23)	(41)	(101)	(33)	(48)	(4)	(23)

Table D-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(14)	(21)	(4)	(28)	1	5	24	3	23	23	1	6	2
Wet	(39)	(9)	(12)	(3)	(2)	(3)	(0)	(0)	11	9	13	2	(3)
Above Normal	1	(0)	(2)	(3)	0	6	1	3	17	79	(33)	70	12
Below Normal	9	2	5	(1)	11	9	42	(12)	11	31	17	16	12
Dry	(18)	(39)	(47)	(7)	(35)	19	73	28	44	45	25	(36)	4
Critical Dry	(3)	(77)	49	(168)	35	(2)	15	7	49	(31)	(49)	(9)	(15)

Table D-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	8	(4)	(20)	(38)	(11)	0	7	22	9	3	35	0
Wet	(10)	(5)	(36)	(29)	(67)	(15)	(6)	(1)	10	36	38	108	2
Above Normal	12	29	(3)	(41)	(51)	(44)	(4)	(4)	5	34	37	37	1
Below Normal	(0)	7	29	(21)	(43)	(3)	1	15	40	28	(63)	(5)	(1)
Dry	(13)	25	(14)	(1)	(0)	(0)	13	11	20	(99)	0	(1)	(5)
Critical Dry	(3)	(4)	20	(0)	1	(2)	(1)	14	35	22	7	(18)	6

Table D-5-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(48)	(38)	(97)	(106)	11	(26)	(49)	(36)	3	(18)	(9)	(35)
Wet	(10)	(71)	(114)	(193)	(92)	(16)	13	(52)	(77)	(19)	(13)	(35)	(56)
Above Normal	3	(23)	(79)	(102)	(187)	15	1	(62)	(71)	37	(22)	(0)	(41)
Below Normal	7	(58)	(9)	(32)	(158)	25	(108)	(63)	(4)	18	(46)	11	(35)
Dry	10	(38)	(33)	(34)	(96)	42	(18)	(32)	(6)	4	1	(2)	(17)
Critical Dry	(19)	(18)	109	(66)	5	6	(10)	(26)	0	(3)	(2)	(3)	(2)

Table D-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(1)	(0)	(2)	0	0	(0)	0	(0)	(1)	(1)	2	(0)
Wet	(1)	(1)	0	0	0	2	(0)	0	(0)	(0)	0	3	0
Above Normal	(1)	1	0	0	(0)	(0)	(0)	0	(1)	(1)	0	1	0
Below Normal	1	1	2	(1)	(0)	(0)	0	(0)	0	0	(0)	0	0
Dry	(1)	(2)	(2)	(1)	0	(0)	(0)	(0)	(0)	(3)	(2)	0	(1)
Critical Dry	3	(3)	(2)	(9)	2	(0)	(0)	(0)	(2)	(2)	(5)	3	(1)

Table D-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	(0)	0	0	-	-	(0)	-	(0)	0	(0)	0
Wet	-	1	(0)	0	0	-	-	(0)	-	(0)	-	-	0
Above Normal	1	1	(1)	-	0	-	-	-	-	(0)	-	-	0
Below Normal	-	1	(0)	-	-	-	-	-	-	(0)	0	(0)	0
Dry	(0)	0	(0)	-	-	-	-	-	-	(0)	(0)	-	(0)
Critical Dry	-	(0)	(1)	-	-	-	-	-	-	(1)	-	-	(0)

Table D-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	0	-	-	-	-	-	0	-	-	-	(0)
Wet	(1)	-	-	-	-	-	-	-	1	-	-	-	(0)
Above Normal	0	-	-	-	-	-	-	-	-	-	-	-	0
Below Normal	(0)	-	-	-	-	-	-	-	-	-	-	-	(0)
Dry	0	-	-	-	-	-	-	-	-	-	-	-	0
Critical Dry	-	(1)	0	-	-	-	-	-	-	-	-	-	(0)

Table D-5-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	0	0	0	0	0	0	(0)	(0)	0	0	0	0	0
Above Normal	0	0	(0)	0	0	0	0	(0)	0	0	(0)	0	0
Below Normal	0	0	0	0	0	0	0	0	0	0	(0)	0	0
Dry	0	(0)	0	0	0	0	0	0	0	0	0	(0)	0
Critical Dry	0	0	0	(0)	(0)	0	(0)	0	0	0	0	0	0

Table D-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(56)	(45)	(67)	(51)	(6)	(45)	(56)	(83)	(63)	(60)	(58)	(49)
Wet	(3)	(95)	(34)	(159)	(2)	6	15	(53)	(98)	(61)	(57)	(105)	(54)
Above Normal	(8)	(55)	(17)	(51)	(157)	6	6	(60)	(94)	(102)	(8)	(108)	(54)
Below Normal	23	(57)	(96)	(13)	(87)	(36)	(129)	(57)	(51)	(28)	(90)	(30)	(54)
Dry	(2)	(15)	(50)	(23)	(29)	(2)	(97)	(71)	(75)	(111)	(75)	(12)	(47)
Critical Dry	(4)	(15)	(6)	(21)	(30)	2	(23)	(41)	(103)	(33)	(46)	(7)	(27)

Table D-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(56)	(45)	(67)	(51)	(6)	(45)	(56)	(83)	(63)	(60)	(58)	(49)
Wet	(3)	(95)	(34)	(159)	(3)	5	15	(53)	(98)	(61)	(57)	(105)	(54)
Above Normal	(8)	(55)	(17)	(51)	(157)	5	6	(60)	(94)	(102)	(8)	(108)	(54)
Below Normal	23	(57)	(95)	(13)	(87)	(36)	(129)	(58)	(51)	(28)	(90)	(31)	(54)
Dry	(2)	(15)	(50)	(23)	(29)	(2)	(97)	(71)	(75)	(111)	(75)	(12)	(47)
Critical Dry	(4)	(15)	(6)	(20)	(30)	1	(23)	(41)	(103)	(33)	(46)	(6)	(27)

Table D-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(56)	(45)	(68)	(51)	(6)	(45)	(57)	(84)	(63)	(60)	(58)	(49)
Wet	(2)	(96)	(34)	(160)	(2)	6	16	(53)	(99)	(61)	(57)	(105)	(54)
Above Normal	(7)	(55)	(17)	(51)	(157)	6	6	(60)	(94)	(103)	(8)	(108)	(54)
Below Normal	23	(57)	(96)	(13)	(87)	(36)	(129)	(57)	(51)	(28)	(90)	(30)	(54)
Dry	(2)	(15)	(50)	(24)	(29)	(2)	(98)	(72)	(75)	(111)	(75)	(12)	(47)
Critical Dry	(4)	(15)	(6)	(21)	(30)	2	(23)	(42)	(104)	(33)	(47)	(6)	(27)

Table D-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(56)	(46)	(68)	(50)	(6)	(45)	(57)	(83)	(62)	(58)	(51)	(48)
Wet	(2)	(96)	(34)	(160)	(2)	6	16	(53)	(98)	(59)	(54)	(92)	(52)
Above Normal	(7)	(55)	(17)	(51)	(158)	6	6	(60)	(94)	(103)	(8)	(100)	(53)
Below Normal	23	(57)	(96)	(13)	(88)	(36)	(129)	(57)	(50)	(28)	(89)	(26)	(54)
Dry	(2)	(15)	(51)	(24)	(29)	(2)	(98)	(72)	(76)	(109)	(71)	(12)	(47)
Critical Dry	(4)	(12)	(6)	(21)	(30)	2	(23)	(42)	(104)	(33)	(43)	(6)	(27)

Table D-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.31)	(0.24)	(0.42)	(0.30)	(0.22)	(0.11)	(0.20)	(0.11)	(0.14)	0.01	0.08	(0.07)	(0.17)
Wet	0.24	0.11	(0.10)	(0.16)	(0.05)	(0.03)	(0.02)	(0.02)	(0.05)	0.04	0.08	0.09	0.01
Above Normal	(0.07)	(0.01)	(0.16)	(0.06)	(0.01)	(0.03)	(0.00)	0.01	0.01	0.05	0.08	0.07	(0.01)
Below Normal	(0.19)	(0.03)	(0.20)	(0.16)	(0.12)	(0.07)	(0.08)	0.02	0.05	0.14	0.08	0.05	(0.04)
Dry	(0.55)	(0.14)	(0.40)	(0.23)	(0.03)	0.14	(0.28)	(0.14)	(0.09)	0.16	0.18	0.19	(0.10)
Critical Dry	(1.72)	(1.73)	(1.78)	(1.09)	(1.15)	(0.68)	(0.84)	(0.56)	(0.86)	(0.44)	(0.06)	(1.01)	(0.99)

Table D-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.18)	(0.16)	(0.34)	(0.26)	(0.18)	(0.09)	(0.12)	(0.06)	(0.05)	0.04	0.11	0.01	(0.11)
Wet	0.18	0.11	(0.09)	(0.17)	(0.05)	(0.04)	(0.02)	(0.01)	(0.03)	0.06	0.10	0.11	0.01
Above Normal	(0.05)	(0.01)	(0.14)	(0.05)	(0.01)	(0.00)	(0.04)	0.02	0.02	0.07	0.08	0.08	(0.00)
Below Normal	(0.10)	(0.01)	(0.18)	(0.14)	(0.12)	(0.05)	(0.02)	0.03	0.05	0.13	0.12	0.04	(0.02)
Dry	(0.36)	(0.14)	(0.35)	(0.23)	(0.04)	0.13	(0.19)	(0.09)	(0.03)	0.18	0.19	0.18	(0.06)
Critical Dry	(1.04)	(1.23)	(1.35)	(0.88)	(0.88)	(0.59)	(0.48)	(0.31)	(0.31)	(0.31)	0.04	(0.53)	(0.66)

Table D-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0.12)	(0.10)	(0.27)	(0.20)	(0.14)	(0.07)	(0.04)	0.01	0.05	0.11	0.16	0.08	(0.04)
Wet	0.15	0.11	(0.08)	(0.13)	(0.05)	(0.04)	(0.02)	(0.01)	0.01	0.10	0.13	0.19	0.03
Above Normal	(0.03)	(0.01)	(0.12)	(0.04)	0.02	(0.01)	(0.04)	0.03	0.05	0.11	0.07	0.16	0.02
Below Normal	(0.09)	(0.00)	(0.16)	(0.11)	(0.08)	(0.04)	0.09	0.09	0.07	0.12	0.19	0.06	0.01
Dry	(0.23)	(0.11)	(0.29)	(0.19)	(0.03)	0.11	(0.09)	0.03	0.09	0.26	0.26	0.19	(0.00)
Critical Dry	(0.70)	(0.84)	(0.99)	(0.67)	(0.67)	(0.41)	(0.25)	(0.14)	0.02	(0.08)	0.11	(0.32)	(0.41)

Modeling Technical Appendix – Attachment D-6. Percentage Change of Full Water Forum Agreement Diversions Baselines to Existing Conditions Baseline

This attachment summarizes the percentage change of Full Water Forum Agreement Diversions Baselines to Existing Conditions Baseline (4.1-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-5-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-5-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-5-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-5-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-5-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-5-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-5-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-5-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-5-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-5-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-5-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-5-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-5-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-5-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-5-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-5-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-5-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 3 -
Table D-5-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-5-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-5-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-5-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-5-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-5-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 4 -
Table D-5-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-5-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-5-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-5-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 5 -
Table D-5-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-5-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-5-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-5-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 6 -
Table D-5-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-5-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-5-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-5-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 7 -
Table D-5-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-5-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-5-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-5-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 8 -

Table D-6-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-8-1.

Table D-6-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-8-2.

Table D-6-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-8-3.

Table D-6-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-8-4.

Table D-6-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-8-5.

Table D-6-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-8-6.

Table D-6-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-8-7.

Table D-6-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-8-8.

Table D-6-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-8-9.

Table D-6-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-8-10.

Table D-6-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-8-11.

Table D-6-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-8-12.

Table D-6-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-8-13.

Table D-6-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-8-14.

Table D-6-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-8-15.

Table D-6-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-8-16.

Table D-6-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-8-17.

Table D-6-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-8-18.

Table D-6-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-8-19.

Table D-6-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-8-20.

Table D-6-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-8-21.

Table D-6-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-8-22.

Table D-6-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-8-23.

Table D-6-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-8-24.

Table D-6-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.4%	-0.4%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%
Wet	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.2%	-0.3%	-0.3%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	-0.4%	-0.4%	-0.4%	-0.2%
Below Normal	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%	-0.5%	-0.4%	-0.3%	-0.1%	0.4%	0.2%	0.3%	-0.2%
Dry	-0.5%	-0.6%	-0.7%	-0.4%	-0.2%	-0.8%	-0.8%	-0.8%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
Critical Dry	-1.0%	-1.0%	-1.0%	-0.9%	-0.7%	-1.2%	-1.4%	-1.6%	-1.7%	-1.4%	-1.3%	-1.6%	-1.2%

Table D-6-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%
Wet	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.4%	-0.5%	-0.4%	-0.4%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Dry	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Critical Dry	-0.5%	-0.6%	-0.6%	-1.2%	-1.0%	-0.9%	-0.9%	-0.9%	-1.1%	-1.4%	-1.5%	-1.6%	-1.0%

Table D-6-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
Dry	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%
Critical Dry	0.0%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%

Table D-6-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	-0.1%	0.0%
Dry	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	-0.1%
Critical Dry	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%

Table D-6-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.4%	-0.2%	-0.3%	-0.4%	-0.8%	-1.3%	-0.7%	-0.4%	-0.5%	0.1%	0.1%	-0.4%
Wet	0.0%	-0.3%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	-0.1%	-0.1%	0.1%	-0.3%
Above Normal	0.0%	-0.2%	-0.2%	-0.6%	-0.3%	-1.8%	-1.6%	-0.5%	-0.2%	1.2%	-0.3%	0.1%	-0.4%
Below Normal	0.0%	-0.5%	-0.2%	-0.1%	-0.1%	-1.3%	-2.6%	-1.5%	-0.7%	-1.5%	1.2%	0.0%	-0.6%
Dry	0.0%	-0.3%	-0.1%	-1.0%	-0.8%	0.0%	-2.4%	-1.2%	-1.5%	-0.3%	-0.4%	-0.1%	-0.7%
Critical Dry	-0.5%	-1.2%	0.0%	-0.3%	-0.5%	-0.2%	-0.4%	-0.9%	-0.3%	-1.9%	-0.7%	0.6%	-0.5%

Table D-6-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	-0.1%	0.1%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.2%	0.2%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	-0.1%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.4%	-0.4%	0.4%	0.0%	0.0%
Dry	0.0%	0.2%	-0.2%	0.0%	-0.1%	0.0%	0.1%	0.1%	0.6%	0.0%	0.0%	0.0%	0.1%
Critical Dry	0.0%	0.3%	0.3%	2.8%	-0.4%	0.0%	0.0%	0.0%	0.1%	0.4%	-0.4%	0.0%	0.3%

Table D-6-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	0.4%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	-0.1%	0.0%
Above Normal	0.0%	-0.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.1%	0.1%	0.0%	-0.1%	0.0%	0.0%	0.2%	0.0%	-1.5%	1.5%	0.1%	0.0%
Dry	0.0%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.4%	0.3%	-0.1%	-0.1%	-0.4%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.4%	-0.3%	-0.1%	-0.3%	0.0%	0.1%	0.0%

Table D-6-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.2%	0.2%	0.0%	-0.1%
Wet	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.2%	0.0%	0.0%	-0.1%	0.0%	-0.5%	-0.3%	-0.1%	-0.1%	0.1%	0.4%	-0.1%	-0.1%
Below Normal	0.0%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.4%	-0.3%	0.0%	-1.2%	0.8%	0.2%	-0.1%
Dry	0.0%	0.0%	-0.3%	-0.1%	-0.1%	0.0%	-0.2%	0.0%	0.0%	0.0%	-0.1%	0.1%	-0.1%
Critical Dry	0.3%	-0.1%	0.3%	0.5%	-0.3%	0.1%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.1%	0.1%

Table D-6-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.1%	-0.1%	0.7%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.1%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.6%	0.0%	0.1%	0.1%
Below Normal	0.1%	0.0%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	0.0%	0.2%	0.0%
Dry	0.0%	0.0%	-0.2%	0.0%	0.0%	0.1%	0.0%	-0.1%	0.0%	-0.1%	0.0%	-0.1%	0.0%
Critical Dry	-0.3%	0.5%	-0.4%	6.1%	-0.6%	0.1%	0.0%	0.3%	0.2%	-0.2%	-1.4%	0.3%	0.4%

Table D-6-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-5.2%	0.5%	1.6%	-0.1%	-0.1%	#DIV/0!	#DIV/0!	-9.2%	0.0%	-0.2%	-0.3%	0.0%	#DIV/0!
Wet	#DIV/0!	0.8%	-0.5%	-0.1%	-0.1%	#DIV/0!	#DIV/0!	-9.2%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!
Above Normal	-23.5%	0.3%	-0.3%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.1%	#DIV/0!	#DIV/0!	#DIV/0!
Below Normal	#DIV/0!	0.3%	-1.2%	#DIV/0!	-100.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.4%	-0.2%	0.0%	#DIV/0!
Dry	0.3%	0.5%	-0.3%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.2%	-0.4%	#DIV/0!	#DIV/0!
Critical Dry	0.0%	0.0%	10.7%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.1%	#DIV/0!	#DIV/0!	#DIV/0!

Table D-6-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Wet	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Above Normal	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Below Normal	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Dry	0.0%	0.0%	0.5%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Critical Dry	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!

Table D-6-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table D-6-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.4%	-0.2%	-0.3%	-0.4%	-0.8%	-1.3%	-0.7%	-0.4%	-0.5%	0.1%	0.1%	-0.4%
Wet	0.0%	-0.4%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	-0.1%	-0.1%	0.1%	-0.3%
Above Normal	0.0%	-0.2%	-0.1%	-0.6%	-0.3%	-1.8%	-1.6%	-0.5%	-0.2%	1.2%	-0.3%	0.1%	-0.4%
Below Normal	-0.3%	-0.5%	-0.1%	-0.1%	-0.1%	-1.3%	-2.6%	-1.5%	-0.7%	-1.5%	1.1%	0.0%	-0.6%
Dry	0.0%	0.0%	-0.5%	-1.0%	-0.9%	0.1%	-2.3%	-1.2%	-1.5%	-0.2%	-0.4%	0.0%	-0.7%
Critical Dry	-0.2%	-1.6%	0.1%	-0.2%	-0.4%	-0.3%	-0.5%	-0.7%	-0.3%	-2.0%	-0.7%	0.8%	-0.5%

Table D-6-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.4%	-0.2%	-0.3%	-0.4%	-0.8%	-1.3%	-0.7%	-0.4%	-0.5%	0.1%	0.1%	-0.4%
Wet	0.0%	-0.4%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	-0.1%	-0.1%	0.1%	-0.3%
Above Normal	0.0%	-0.2%	-0.1%	-0.6%	-0.3%	-1.8%	-1.6%	-0.5%	-0.2%	1.2%	-0.3%	0.1%	-0.4%
Below Normal	-0.3%	-0.5%	-0.1%	-0.1%	-0.1%	-1.3%	-2.6%	-1.5%	-0.7%	-1.5%	1.2%	0.0%	-0.6%
Dry	0.0%	0.0%	-0.5%	-1.0%	-0.9%	0.1%	-2.4%	-1.2%	-1.5%	-0.3%	-0.5%	0.0%	-0.7%
Critical Dry	-0.2%	-1.6%	0.0%	-0.2%	-0.4%	-0.3%	-0.5%	-0.8%	-0.3%	-2.1%	-0.7%	0.8%	-0.5%

Table D-6-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.4%	-0.2%	-0.3%	-0.4%	-0.8%	-1.2%	-0.7%	-0.4%	-0.5%	0.1%	0.1%	-0.4%
Wet	0.0%	-0.4%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	-0.1%	-0.1%	0.1%	-0.3%
Above Normal	0.0%	-0.2%	-0.1%	-0.6%	-0.3%	-1.8%	-1.6%	-0.5%	-0.2%	1.2%	-0.3%	0.1%	-0.3%
Below Normal	-0.3%	-0.5%	-0.1%	-0.1%	-0.1%	-1.3%	-2.6%	-1.5%	-0.7%	-1.5%	1.1%	0.1%	-0.6%
Dry	0.0%	0.0%	-0.5%	-1.0%	-0.9%	0.1%	-2.3%	-1.2%	-1.5%	-0.2%	-0.4%	0.0%	-0.7%
Critical Dry	-0.2%	-1.6%	0.1%	-0.2%	-0.4%	-0.3%	-0.5%	-0.7%	-0.3%	-2.0%	-0.7%	0.7%	-0.5%

Table D-6-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.4%	-0.2%	-0.3%	-0.4%	-0.8%	-1.3%	-0.7%	-0.4%	-0.5%	0.0%	0.1%	-0.4%
Wet	0.0%	-0.4%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.4%	-0.1%	-0.1%	-0.1%	0.1%	-0.3%
Above Normal	0.0%	-0.2%	-0.1%	-0.6%	-0.3%	-1.9%	-1.6%	-0.5%	-0.2%	1.3%	-0.4%	0.1%	-0.4%
Below Normal	-0.3%	-0.5%	-0.1%	-0.1%	-0.1%	-1.3%	-2.7%	-1.5%	-0.8%	-1.6%	1.2%	0.1%	-0.6%
Dry	0.0%	0.0%	-0.5%	-1.0%	-0.9%	0.1%	-2.5%	-1.3%	-1.6%	-0.3%	-0.5%	0.0%	-0.7%
Critical Dry	-0.2%	-1.8%	0.1%	-0.2%	-0.4%	-0.3%	-0.5%	-0.7%	-0.3%	-2.3%	-0.8%	0.8%	-0.5%

Table D-6-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	-0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	-0.1%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.0%	-0.1%	0.1%	0.1%	0.1%	-0.1%	0.0%	0.0%	0.0%
Dry	-0.1%	-0.3%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.3%	0.1%	-0.1%	-0.2%	0.0%	0.0%
Critical Dry	0.0%	0.0%	-0.1%	-0.1%	0.0%	-0.2%	0.2%	0.0%	0.3%	-0.3%	0.0%	0.1%	0.0%

Table D-6-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	-0.1%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	-0.1%	0.0%	0.0%	0.0%
Dry	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.2%	0.1%	0.0%	-0.1%	0.0%	0.0%
Critical Dry	0.0%	0.0%	-0.1%	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%

Table D-6-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.1%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.1%	0.0%	-0.1%	0.0%	0.0%
Dry	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.0%	-0.1%	0.0%	0.0%
Critical Dry	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%

Modeling Technical Appendix – Attachment D-7. Percentage Change of Full Water Forum Agreement Diversions With Project to Existing Conditions Baseline

This attachment summarizes the percentage change of Full Water Forum Agreement Diversions With Project to Existing Conditions Baseline (4.1-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table D-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table D-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table D-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table D-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table D-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 1 -
Table D-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 1 -
Table D-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 1 -
Table D-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 1 -
Table D-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 1 -
Table D-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 1 -
Table D-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 2 -
Table D-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 2 -
Table D-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 2 -
Table D-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 2 -
Table D-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 2 -
Table D-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 2 -
Table D-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 2 -
Table D-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 2 -
Table D-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 2 -
Table D-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 2 -
Table D-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 3 -
Table D-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 3 -
Table D-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 3 -
Table D-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 3 -
Table D-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 3 -
Table D-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 3 -
Table D-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 4 -
Table D-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 4 -
Table D-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 4 -
Table D-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 4 -

Table D-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 5 -
Table D-7-32. Monthly Average of Delta outflow in Each Water Year Type. - 5 -
Table D-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 5 -
Table D-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 5 -
Table D-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 6 -
Table D-7-36. Monthly Average of X2 Position in Each Water Year Type. - 6 -
Table D-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 6 -
Table D-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 6 -
Table D-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 7 -
Table D-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 7 -
Table D-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 7 -
Table D-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 7 -
Table D-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 8 -

Table D-7-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Same as Table A-9-1.

Table D-7-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Same as Table A-9-2.

Table D-7-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Same as Table A-9-3.

Table D-7-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Same as Table A-9-4.

Table D-7-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Same as Table A-9-5.

Table D-7-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Same as Table A-9-6.

Table D-7-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Same as Table A-9-7.

Table D-7-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Same as Table A-9-8.

Table D-7-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Same as Table A-9-9.

Table D-7-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Same as Table A-9-10.

Table D-7-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Same as Table A-9-11.

Table D-7-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Same as Table A-9-12.

Table D-7-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Same as Table A-9-13.

Table D-7-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Same as Table A-9-14.

Table D-7-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Same as Table A-9-15.

Table D-7-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Same as Table A-9-16.

Table D-7-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Same as Table A-9-17.

Table D-7-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Same as Table A-9-18.

Table D-7-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Same as Table A-9-19.

Table D-7-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Same as Table A-9-20.

Table D-7-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Same as Table A-9-21.

Table D-7-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Same as Table A-9-22.

Table D-7-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Same as Table A-9-23.

Table D-7-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Same as Table A-9-24.

Table D-7-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.6%	-3.1%	-3.0%	-2.1%	-1.6%	-1.4%	-0.9%	-0.7%	-0.7%	-0.8%	-1.0%	-2.0%	-1.6%
Wet	-2.2%	-2.3%	-1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.6%	-0.6%
Above Normal	-1.8%	-2.7%	-2.7%	-1.8%	-0.5%	-0.4%	-0.2%	0.0%	0.0%	-0.3%	-0.8%	-1.2%	-1.0%
Below Normal	-3.0%	-3.3%	-3.7%	-3.4%	-2.4%	-1.8%	-0.6%	-0.3%	-0.4%	-0.5%	-0.7%	-2.2%	-1.8%
Dry	-5.0%	-4.8%	-5.9%	-5.5%	-4.6%	-4.5%	-3.1%	-2.7%	-2.6%	-2.6%	-2.9%	-5.2%	-5.0%
Critical Dry	-2.0%	-3.1%	-3.5%	-3.1%	-2.6%	-2.9%	-2.8%	-2.7%	-2.2%	-2.4%	-2.7%	-4.9%	-2.9%

Table D-7-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%
Wet	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Above Normal	-0.4%	-0.4%	-0.3%	-0.3%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.1%	-0.2%	-0.2%
Below Normal	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%	-0.3%
Dry	-0.3%	-0.2%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.4%	-0.5%	-0.5%	-0.3%	-0.2%
Critical Dry	-0.5%	-0.2%	-0.5%	-0.5%	-0.3%	-0.3%	-0.3%	-0.4%	-0.7%	-0.8%	-0.7%	-0.7%	-0.5%

Table D-7-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%
Wet	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Above Normal	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Below Normal	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%
Dry	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.2%	-0.1%	-0.3%	-0.4%	-0.6%	-0.3%
Critical Dry	0.2%	0.1%	0.1%	0.2%	0.1%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%

Table D-7-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.3%
Wet	-0.4%	-0.4%	-0.3%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.4%	-0.2%
Above Normal	-0.4%	-0.4%	-0.4%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.2%
Below Normal	-0.3%	-0.4%	-0.5%	-0.4%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.1%	-0.3%	-0.2%	-0.3%
Dry	-0.6%	-0.7%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.5%
Critical Dry	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.2%	-0.1%	-0.4%	-0.5%	-0.6%	-0.5%	-0.2%

Table D-7-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-2.8%	-1.7%	-2.1%	-1.5%	-1.0%	-2.5%	-1.9%	-2.4%	-2.4%	-2.7%	-3.2%	-2.0%
Wet	-0.2%	-2.7%	-1.8%	-2.3%	-0.5%	-0.6%	-0.5%	-1.1%	-1.7%	-1.7%	-2.2%	-5.0%	-1.7%
Above Normal	-0.1%	-1.2%	-2.8%	-1.9%	-3.4%	-1.7%	-1.5%	-1.5%	-2.1%	-1.5%	-0.7%	-5.3%	-2.0%
Below Normal	0.0%	-5.1%	-1.6%	-0.9%	-3.3%	-3.3%	-7.5%	-3.2%	-2.1%	-2.2%	-3.0%	-1.7%	-2.7%
Dry	0.0%	-3.2%	-0.3%	-2.8%	-2.3%	0.0%	-8.3%	-5.1%	-4.5%	-4.6%	-4.6%	-0.9%	-3.0%
Critical Dry	2.2%	-1.2%	-0.9%	-2.4%	-2.7%	-0.1%	-1.8%	-3.8%	-6.7%	-5.2%	-4.6%	0.3%	-2.2%

Table D-7-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.6%	0.3%	0.1%	0.1%	0.1%
Wet	-0.6%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%
Above Normal	-0.2%	0.2%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.3%	1.2%	-0.4%	0.9%	0.1%
Below Normal	0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.5%	-0.1%	0.6%	0.0%	0.7%	0.3%	0.2%
Dry	-0.4%	-0.5%	-1.0%	-0.1%	-0.3%	0.2%	1.2%	0.7%	1.3%	0.6%	0.5%	-0.9%	0.1%
Critical Dry	-0.1%	-1.5%	1.0%	0.3%	0.0%	0.0%	0.3%	0.2%	1.0%	-0.2%	-1.7%	-0.3%	-0.1%

Table D-7-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	0.2%	-0.1%	-0.2%	-0.3%	-0.1%	0.1%	0.1%	0.3%	-0.3%	0.4%	0.8%	0.1%
Wet	-0.3%	-0.1%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.1%	0.5%	0.5%	1.7%	0.1%
Above Normal	0.4%	0.6%	-0.1%	-0.4%	-0.4%	-0.3%	0.0%	0.0%	0.1%	0.4%	0.4%	0.5%	0.1%
Below Normal	0.0%	0.3%	0.7%	-0.4%	-0.7%	-0.1%	0.1%	0.5%	0.9%	-1.2%	0.7%	0.0%	0.1%
Dry	-0.4%	0.7%	-0.5%	0.0%	0.0%	0.0%	0.8%	0.6%	0.4%	-1.4%	-0.4%	-0.1%	0.0%
Critical Dry	-0.1%	-0.2%	0.9%	0.1%	0.0%	0.0%	0.4%	0.3%	0.8%	0.3%	0.2%	-1.0%	0.1%

Table D-7-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-0.6%	-0.2%	-0.3%	-0.3%	-0.1%	-0.2%	-0.4%	-0.3%	-0.2%	-0.2%	-0.1%	-0.3%
Wet	-0.1%	-0.6%	-0.3%	-0.3%	-0.1%	0.0%	0.0%	-0.2%	-0.4%	-0.2%	-0.2%	-0.3%	-0.2%
Above Normal	-0.1%	-0.4%	-0.5%	-0.3%	-0.4%	-0.5%	-0.2%	-0.3%	-0.6%	0.6%	0.0%	-0.1%	-0.2%
Below Normal	0.1%	-0.9%	-0.1%	-0.2%	-0.7%	0.0%	-1.0%	-0.7%	-0.1%	-1.0%	-0.6%	0.5%	-0.4%
Dry	0.2%	-0.6%	-0.8%	-0.4%	-0.5%	0.3%	-0.3%	-0.4%	-0.1%	0.1%	-0.1%	0.0%	-0.2%
Critical Dry	-0.2%	-0.5%	1.5%	-0.2%	-0.3%	0.1%	-0.1%	-0.6%	0.0%	-0.1%	-0.1%	-0.1%	0.0%

Table D-7-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.3%	-0.1%	-0.1%	0.0%	0.2%	0.0%	0.0%	-0.2%	-0.3%	-0.5%	0.8%	0.0%
Wet	-0.7%	-0.3%	0.2%	0.1%	0.1%	0.6%	-0.1%	0.1%	0.1%	0.0%	0.0%	1.2%	0.1%
Above Normal	-0.5%	0.5%	0.2%	0.0%	-0.1%	0.0%	0.0%	0.1%	-0.4%	0.3%	0.0%	0.6%	0.1%
Below Normal	0.4%	0.4%	0.7%	-0.7%	-0.1%	0.0%	0.1%	0.0%	0.0%	-0.2%	-0.1%	0.3%	0.1%
Dry	-0.3%	-1.2%	-1.1%	-0.4%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-1.1%	-0.8%	0.0%	-0.4%
Critical Dry	1.5%	-1.3%	-1.8%	0.9%	0.5%	0.0%	0.0%	0.0%	-1.6%	-2.3%	-6.5%	2.2%	-0.7%

Table D-7-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	2.7%	-3.2%	0.1%	0.0%	#DIV/0!	#DIV/0!	-9.2%	0.0%	-1.9%	0.0%	-0.3%	#DIV/0!
Wet	#DIV/0!	5.4%	-2.7%	0.1%	0.0%	#DIV/0!	#DIV/0!	-9.2%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!
Above Normal	14.7%	2.8%	-3.8%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-15.3%	#DIV/0!	#DIV/0!	#DIV/0!
Below Normal	#DIV/0!	2.4%	-6.4%	#DIV/0!	-100.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-5.3%	0.9%	-0.3%	#DIV/0!
Dry	-7.3%	0.5%	-2.4%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-0.4%	-1.7%	#DIV/0!	#DIV/0!
Critical Dry	0.0%	-1.6%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-8.0%	#DIV/0!	#DIV/0!	#DIV/0!

Table D-7-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.0%	-1.1%	0.7%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.2%	0.0%	0.0%	0.0%	#DIV/0!
Wet	-5.9%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	4.8%	0.0%	0.0%	0.0%	#DIV/0!
Above Normal	0.4%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Below Normal	-0.6%	0.0%	0.0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Dry	0.3%	0.0%	0.5%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!
Critical Dry	0.0%	-8.1%	2.7%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	#DIV/0!

Table D-7-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	-0.1%	0.2%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Dry	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.1%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table D-7-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-2.8%	-1.7%	-2.2%	-1.5%	-1.0%	-2.5%	-1.9%	-2.4%	-2.3%	-2.7%	-3.1%	-2.0%
Wet	-0.2%	-3.1%	-1.2%	-2.3%	-0.5%	-0.5%	-0.4%	-1.1%	-1.7%	-1.7%	-2.2%	-5.0%	-1.7%
Above Normal	-0.5%	-2.0%	-0.6%	-1.9%	-3.4%	-1.7%	-1.4%	-1.5%	-2.0%	-1.5%	-0.7%	-5.2%	-1.9%
Below Normal	1.5%	-2.9%	-2.6%	-1.0%	-3.3%	-3.2%	-7.4%	-3.1%	-2.1%	-2.1%	-3.0%	-1.6%	-2.6%
Dry	-0.2%	-1.4%	-2.3%	-2.8%	-2.5%	0.0%	-7.9%	-5.0%	-4.4%	-4.5%	-4.6%	-0.8%	-3.0%
Critical Dry	-0.6%	-3.5%	-0.8%	-2.4%	-2.4%	-0.2%	-1.9%	-3.6%	-6.6%	-5.2%	-5.3%	0.2%	-2.5%

Table D-7-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-2.8%	-1.7%	-2.1%	-1.5%	-1.0%	-2.5%	-1.9%	-2.4%	-2.4%	-2.8%	-3.2%	-2.0%
Wet	-0.2%	-3.1%	-1.2%	-2.3%	-0.5%	-0.6%	-0.5%	-1.1%	-1.7%	-1.7%	-2.2%	-5.0%	-1.7%
Above Normal	-0.5%	-2.0%	-0.6%	-1.8%	-3.4%	-1.7%	-1.5%	-1.5%	-2.1%	-1.5%	-0.7%	-5.3%	-1.9%
Below Normal	1.5%	-2.9%	-2.6%	-1.0%	-3.3%	-3.2%	-7.5%	-3.2%	-2.2%	-2.2%	-3.1%	-1.6%	-2.6%
Dry	-0.2%	-1.4%	-2.3%	-2.8%	-2.5%	0.0%	-8.0%	-5.1%	-4.5%	-4.6%	-4.7%	-0.8%	-3.1%
Critical Dry	-0.6%	-3.5%	-0.8%	-2.4%	-2.5%	-0.2%	-2.0%	-3.7%	-6.8%	-4.4%	-4.5%	0.2%	-2.6%

Table D-7-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-2.7%	-1.6%	-2.1%	-1.4%	-1.0%	-2.5%	-1.9%	-2.4%	-2.4%	-2.7%	-3.1%	-2.0%
Wet	-0.2%	-3.0%	-1.1%	-2.3%	-0.5%	-0.5%	-0.4%	-1.1%	-1.7%	-1.7%	-2.2%	-5.0%	-1.6%
Above Normal	-0.5%	-1.9%	-0.5%	-1.8%	-3.3%	-1.7%	-1.4%	-1.5%	-2.0%	-1.5%	-0.7%	-5.2%	-1.8%
Below Normal	1.4%	-2.8%	-2.5%	-0.9%	-3.2%	-3.1%	-7.4%	-3.1%	-2.1%	-2.1%	-3.0%	-1.6%	-2.5%
Dry	-0.2%	-1.3%	-2.2%	-2.7%	-2.4%	0.0%	-7.8%	-5.0%	-4.4%	-4.5%	-4.6%	-0.8%	-3.0%
Critical Dry	-0.6%	-3.4%	-0.7%	-2.3%	-2.3%	-0.2%	-1.9%	-3.6%	-6.6%	-5.3%	-5.3%	0.2%	-2.5%

Table D-7-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-2.8%	-1.7%	-2.1%	-1.5%	-1.0%	-2.5%	-2.0%	-2.5%	-2.5%	-2.8%	-3.0%	-2.0%
Wet	-0.2%	-3.1%	-1.2%	-2.3%	-0.5%	-0.5%	-0.4%	-1.1%	-1.8%	-1.8%	-2.3%	-4.7%	-1.7%
Above Normal	-0.5%	-2.0%	-0.5%	-1.8%	-3.4%	-1.7%	-1.5%	-1.5%	-2.1%	-1.6%	-0.7%	-5.2%	-1.9%
Below Normal	1.6%	-2.9%	-2.6%	-1.0%	-3.3%	-3.3%	-7.7%	-3.2%	-2.2%	-2.3%	-3.3%	-1.4%	-2.6%
Dry	-0.2%	-1.4%	-2.3%	-2.9%	-2.5%	0.0%	-8.4%	-5.4%	-4.7%	-4.8%	-4.9%	-0.8%	-3.2%
Critical Dry	-0.7%	-3.4%	-0.7%	-2.5%	-2.4%	-0.2%	-2.0%	-3.8%	-7.4%	-4.8%	-4.6%	0.2%	-2.7%

Table D-7-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.5%	-0.5%	-0.8%	-0.6%	-0.5%	-0.3%	-0.3%	-0.1%	-0.1%	0.0%	0.1%	-0.1%	-0.3%
Wet	0.4%	0.2%	-0.2%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.1%	0.1%	0.1%	0.0%
Above Normal	0.0%	0.0%	-0.4%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%
Below Normal	-0.3%	0.0%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	-0.1%
Dry	-1.0%	-0.5%	-0.7%	-0.5%	-0.1%	0.3%	-0.7%	0.1%	0.0%	0.2%	0.1%	0.3%	-0.2%
Critical Dry	-2.6%	-3.0%	-3.4%	-2.3%	-2.3%	-1.5%	-1.3%	-0.9%	-1.0%	-0.9%	-0.1%	-1.4%	-1.7%

Table D-7-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.7%	-0.6%	-0.4%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	-0.2%
Wet	0.3%	0.2%	-0.2%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.0%
Above Normal	0.0%	0.0%	-0.4%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.1%	0.1%	0.0%
Below Normal	-0.2%	0.0%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.2%	0.2%	0.1%	0.2%	0.1%	0.0%
Dry	-0.6%	-0.5%	-0.7%	-0.5%	-0.1%	0.3%	-0.4%	0.1%	0.1%	0.2%	0.2%	0.3%	-0.1%
Critical Dry	-1.6%	-2.2%	-2.7%	-1.9%	-1.8%	-1.2%	-0.8%	-0.4%	-0.3%	-0.5%	0.1%	-0.8%	-1.2%

Table D-7-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.2%	-0.5%	-0.4%	-0.3%	-0.1%	0.0%	0.1%	0.2%	0.2%	0.2%	0.1%	-0.1%
Wet	0.2%	0.2%	-0.2%	-0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.1%
Above Normal	0.0%	0.0%	-0.3%	-0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.0%
Below Normal	-0.1%	0.0%	-0.2%	-0.2%	-0.2%	0.0%	0.2%	0.3%	0.2%	0.2%	0.2%	0.1%	0.0%
Dry	-0.4%	-0.4%	-0.6%	-0.4%	-0.1%	0.2%	-0.2%	0.3%	0.3%	0.4%	0.3%	0.3%	0.0%
Critical Dry	-1.1%	-1.5%	-2.0%	-1.4%	-1.3%	-0.8%	-0.4%	-0.2%	0.2%	0.0%	0.2%	-0.5%	-0.7%

Modeling Technical Appendix – Model Results for the 30,000 AF Alternative

This attachment summarizes the modeling results for the 30,000 AF Alternative (1.2x) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table E-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table E-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table E-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table E-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table E-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table E-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table E-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table E-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table E-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table E-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table E-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table E-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table E-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table E-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table E-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table E-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table E-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table E-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table E-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table E-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table E-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table E-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table E-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table E-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table E-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table E-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table E-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table E-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table E-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table E-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table E-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table E-1-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table E-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table E-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table E-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table E-1-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table E-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table E-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table E-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table E-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table E-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table E-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table E-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table E-1-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	182,439	176,789	172,566	180,659	180,394	191,685	219,571	254,099	253,214	241,271	219,690	191,625	205,334
Wet	182,703	187,815	194,454	211,968	205,699	206,944	237,805	265,081	265,025	260,103	239,559	208,306	222,122
Above Normal	182,636	176,317	173,546	192,542	190,991	193,800	218,858	263,464	264,776	256,255	231,878	200,594	212,138
Below Normal	176,942	168,588	161,695	165,389	166,293	184,020	211,522	259,363	261,304	248,523	226,212	195,397	202,104
Dry	188,397	176,889	165,646	164,078	167,392	188,081	218,976	247,019	245,406	227,508	206,535	180,828	198,063
Critical Dry	179,237	169,852	159,840	156,004	161,801	176,132	194,968	207,539	193,474	173,521	155,985	145,119	172,789

Table E-1-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	30,582	26,320	26,167	23,520	23,400	24,743	29,490	38,561	41,251	39,352	36,478	32,113	30,998
Wet	30,927	25,333	28,432	21,956	21,931	22,728	25,777	37,333	43,087	41,653	38,571	33,387	30,926
Above Normal	30,715	26,333	25,499	22,160	21,980	23,290	28,305	40,905	42,993	41,093	37,792	33,042	31,176
Below Normal	30,005	26,537	25,480	24,340	23,690	25,212	30,441	39,956	42,309	40,056	36,845	32,315	31,432
Dry	30,828	26,932	25,466	24,816	24,930	26,756	32,684	38,061	39,585	37,513	35,001	31,660	31,186
Critical Dry	30,200	26,651	25,421	25,062	25,617	26,661	30,718	33,977	33,945	32,243	30,843	27,151	29,041

Table E-1-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	43,784	38,531	34,455	37,920	40,781	36,536	33,145	58,789	67,204	63,327	55,915	46,147	46,378
Wet	43,574	36,710	33,098	40,429	43,213	37,590	26,318	56,668	68,583	67,115	59,753	48,769	46,818
Above Normal	43,936	37,418	32,510	38,200	42,324	34,344	25,662	59,484	68,816	65,321	57,193	46,857	46,005
Below Normal	43,201	38,991	34,443	36,670	39,647	34,702	31,619	57,716	67,258	62,903	55,236	45,744	45,677
Dry	44,079	40,173	36,366	36,734	38,911	37,743	42,032	60,927	65,999	60,406	53,382	44,406	46,763
Critical Dry	44,760	40,193	37,351	37,201	38,919	40,413	48,341	59,773	62,900	57,738	51,479	43,364	46,869

Table E-1-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	12,451	10,052	9,823	12,919	16,968	21,272	24,655	26,731	26,981	24,959	22,375	17,728	18,909
Wet	11,621	10,030	13,046	20,897	26,671	31,373	34,706	37,007	37,338	35,035	32,205	25,780	26,309
Above Normal	14,214	11,630	11,108	15,490	22,276	27,208	30,681	33,154	33,624	30,416	26,660	20,132	23,050
Below Normal	12,341	9,835	8,687	9,694	13,126	18,760	23,409	26,126	26,524	24,784	22,439	17,843	17,797
Dry	12,044	9,223	7,491	8,065	9,861	13,049	16,118	17,638	17,666	16,160	13,890	11,212	12,701
Critical Dry	12,019	9,340	7,732	7,693	8,677	9,941	10,674	11,018	10,756	10,068	9,383	8,288	9,632

Table E-1-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	13,262	13,556	14,681	15,813	17,049	18,488	19,523	19,712	19,080	17,555	15,732	14,116	16,547
Wet	13,243	14,231	17,279	19,710	20,759	21,196	21,206	21,205	20,800	19,608	17,932	16,297	18,622
Above Normal	13,975	14,215	15,251	17,444	19,409	20,713	21,203	21,206	20,779	19,246	17,144	15,376	17,997
Below Normal	12,938	13,002	13,454	14,007	15,629	18,060	20,203	20,808	20,044	18,392	16,457	14,700	16,475
Dry	13,392	13,486	13,785	13,795	14,527	16,318	17,908	18,156	17,312	15,466	13,616	12,091	14,988
Critical Dry	12,138	11,859	12,134	11,993	12,398	13,172	13,675	13,510	12,753	11,592	10,416	9,336	12,081

Table E-1-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	16,538	14,826	13,819	13,289	13,424	13,649	15,576	20,282	21,756	20,971	18,368	16,943	16,620
Wet	16,540	15,470	15,409	15,785	16,133	16,396	17,852	21,252	22,332	22,261	20,312	18,915	18,222
Above Normal	16,746	14,960	13,765	13,541	13,965	14,022	15,365	20,563	22,133	22,105	19,318	17,928	17,034
Below Normal	16,148	14,244	12,946	12,006	12,117	12,346	14,569	20,285	22,109	21,263	18,152	16,741	16,077
Dry	16,853	14,847	13,450	12,332	12,132	12,433	15,058	20,023	21,693	19,734	16,937	15,359	15,904
Critical Dry	16,201	14,281	13,039	12,102	11,996	12,287	14,084	17,688	18,492	17,485	15,477	14,291	14,785

Table E-1-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,628	3,351	3,343	1,755	1,498	1,884	5,115	8,373	8,260	7,446	6,488	4,177	4,610
Wet	3,624	3,488	3,580	3,205	3,084	2,924	5,305	8,424	8,555	8,204	7,241	4,664	5,191
Above Normal	3,621	3,264	3,364	2,283	2,009	1,977	4,119	8,535	8,447	7,675	6,635	4,190	4,677
Below Normal	3,598	3,359	3,313	1,305	851	1,708	5,229	8,361	8,381	7,392	6,395	4,009	4,492
Dry	3,656	3,337	3,211	721	477	1,291	5,920	8,629	8,202	7,093	6,158	3,966	4,388
Critical Dry	3,656	3,193	3,098	719	638	988	4,332	7,145	6,841	5,985	5,266	3,873	3,811

Table E-1-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	89	142	85	79	45	230	1,237	3,378	4,620	3,340	1,564	377	1,266
Wet	171	288	343	235	139	65	898	3,163	4,935	4,572	3,006	1,169	1,582
Above Normal	71	80	21	120	61	35	861	3,440	4,995	3,876	2,042	340	1,329
Below Normal	79	144	-	-	-	295	1,462	3,750	4,917	3,166	1,136	69	1,252
Dry	46	66	-	-	-	428	1,622	3,466	4,340	2,556	600	48	1,098
Critical Dry	60	109	-	-	-	395	1,340	2,546	2,853	1,416	406	76	767

Table E-1-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	183	58	55	61	61	73	155	1,033	1,469	1,385	1,266	198	500
Wet	191	56	55	70	69	69	73	634	1,487	1,497	1,392	261	488
Above Normal	220	61	58	68	69	81	84	817	1,338	1,265	1,145	164	447
Below Normal	154	59	56	57	61	71	75	1,154	1,589	1,475	1,348	187	524
Dry	175	57	54	53	52	67	296	1,475	1,589	1,453	1,326	232	569
Critical Dry	177	56	53	51	49	85	362	1,039	1,059	923	806	39	392

Table E-1-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,838	4,835	4,834	4,834	4,836	4,838	4,846	4,860	4,866	4,863	4,857	4,846	4,846
Wet	4,837	4,837	4,840	4,846	4,848	4,846	4,853	4,866	4,870	4,869	4,864	4,854	4,853
Above Normal	4,839	4,836	4,834	4,837	4,841	4,840	4,846	4,862	4,870	4,869	4,862	4,851	4,849
Below Normal	4,836	4,832	4,829	4,828	4,830	4,833	4,843	4,860	4,869	4,866	4,860	4,848	4,845
Dry	4,842	4,837	4,833	4,829	4,829	4,834	4,846	4,859	4,864	4,859	4,852	4,841	4,844
Critical Dry	4,837	4,833	4,830	4,825	4,826	4,831	4,838	4,846	4,845	4,837	4,828	4,821	4,833

Table E-1-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,417	3,404	3,399	3,404	3,414	3,426	3,436	3,442	3,444	3,442	3,438	3,430	3,425
Wet	3,415	3,402	3,401	3,418	3,438	3,450	3,458	3,463	3,465	3,463	3,459	3,450	3,440
Above Normal	3,423	3,410	3,404	3,411	3,427	3,441	3,450	3,456	3,459	3,456	3,449	3,439	3,435
Below Normal	3,416	3,404	3,397	3,398	3,405	3,420	3,433	3,442	3,445	3,443	3,439	3,432	3,423
Dry	3,416	3,402	3,395	3,393	3,397	3,406	3,417	3,423	3,425	3,423	3,419	3,412	3,411
Critical Dry	3,415	3,403	3,396	3,393	3,395	3,400	3,403	3,406	3,406	3,404	3,402	3,399	3,402

Table E-1-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	4,237	4,236	4,238	4,242	4,246	4,251	4,255	4,257	4,256	4,253	4,247	4,241	4,247
Wet	4,237	4,236	4,243	4,253	4,259	4,261	4,262	4,262	4,262	4,259	4,255	4,249	4,253
Above Normal	4,239	4,238	4,240	4,246	4,253	4,258	4,261	4,262	4,262	4,259	4,253	4,247	4,252
Below Normal	4,236	4,234	4,235	4,237	4,241	4,248	4,256	4,260	4,260	4,256	4,250	4,244	4,247
Dry	4,238	4,236	4,237	4,237	4,238	4,243	4,249	4,252	4,251	4,247	4,240	4,234	4,242
Critical Dry	4,233	4,230	4,231	4,231	4,231	4,234	4,236	4,237	4,235	4,231	4,227	4,222	4,231

Table E-1-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,948	7,946	7,943	7,942	7,941	7,942	7,943	7,950	7,956	7,956	7,953	7,949	7,947
Wet	7,948	7,946	7,945	7,946	7,946	7,947	7,948	7,953	7,957	7,957	7,956	7,952	7,950
Above Normal	7,948	7,946	7,943	7,942	7,942	7,943	7,944	7,950	7,956	7,957	7,955	7,951	7,948
Below Normal	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,949	7,956	7,956	7,953	7,949	7,946
Dry	7,948	7,946	7,943	7,941	7,939	7,939	7,942	7,949	7,956	7,955	7,951	7,946	7,946
Critical Dry	7,947	7,945	7,942	7,940	7,939	7,939	7,941	7,947	7,951	7,950	7,948	7,944	7,944

Table E-1-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,196	7,195	7,195	7,192	7,189	7,189	7,194	7,204	7,207	7,206	7,204	7,201	7,198
Wet	7,196	7,195	7,195	7,195	7,194	7,194	7,196	7,204	7,207	7,207	7,205	7,202	7,199
Above Normal	7,196	7,195	7,195	7,193	7,191	7,191	7,193	7,203	7,207	7,206	7,204	7,201	7,198
Below Normal	7,196	7,195	7,195	7,192	7,188	7,188	7,194	7,204	7,207	7,206	7,203	7,200	7,197
Dry	7,196	7,195	7,195	7,190	7,186	7,187	7,195	7,205	7,207	7,205	7,203	7,200	7,197
Critical Dry	7,196	7,195	7,194	7,190	7,186	7,187	7,192	7,202	7,204	7,202	7,201	7,199	7,196

Table E-1-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,204	8,208	8,208	8,205	8,201	8,200
Wet	8,197	8,197	8,196	8,197	8,196	8,196	8,198	8,203	8,209	8,209	8,208	8,204	8,201
Above Normal	8,196	8,196	8,195	8,195	8,196	8,195	8,198	8,204	8,209	8,209	8,206	8,202	8,200
Below Normal	8,196	8,197	8,195	8,195	8,195	8,196	8,200	8,205	8,209	8,208	8,204	8,199	8,200
Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,205	8,208	8,207	8,203	8,199	8,200
Critical Dry	8,196	8,196	8,195	8,195	8,195	8,197	8,201	8,204	8,205	8,204	8,201	8,198	8,199

Table E-1-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Wet	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,409	7,410	7,410	7,408	7,407
Above Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,409	7,410	7,409	7,408	7,407
Below Normal	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,407	7,410	7,410	7,410	7,408	7,407
Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,410	7,410	7,410	7,408	7,407
Critical Dry	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,408	7,409	7,409	7,408	7,407	7,407

Table E-1-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	424	751	1,158	1,125	1,471	1,730	2,291	2,541	2,024	811	627	850	1,317
Wet	445	1,207	2,519	2,669	2,569	2,854	3,358	4,184	3,626	1,433	734	1,026	2,219
Above Normal	462	663	996	1,290	2,066	2,125	2,892	3,542	2,685	805	678	945	1,596
Below Normal	384	549	623	501	1,077	1,662	2,337	2,310	1,821	661	610	864	1,117
Dry	421	666	705	391	651	862	1,339	1,070	693	500	564	732	716
Critical Dry	392	502	578	314	479	380	546	508	430	417	446	434	452

Table E-1-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	15	29	71	78	62	59	50	137	139	44	20	18	60
Wet	14	66	244	216	174	139	85	316	311	88	28	28	143
Above Normal	16	19	19	86	56	46	46	144	154	39	20	20	56
Below Normal	14	16	16	18	24	48	44	80	104	33	17	17	36
Dry	15	18	19	20	15	20	33	51	34	23	15	11	23
Critical Dry	14	16	16	17	12	15	22	33	28	23	15	11	19

Table E-1-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	76	191	345	458	521	651	1,011	1,530	1,070	300	110	100	530
Wet	96	396	925	1,052	928	1,025	1,427	2,283	1,961	662	173	150	923
Above Normal	87	147	266	548	721	721	1,172	2,126	1,397	317	119	114	645
Below Normal	56	117	129	221	368	655	1,016	1,488	986	218	97	88	453
Dry	69	135	146	160	230	394	711	774	357	103	79	73	269
Critical Dry	76	97	108	121	190	187	330	335	125	49	44	46	142

Table E-1-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	23	6	37	11	19	23	26	52	23	14	12	10	21
Wet	30	6	137	7	51	11	66	143	50	17	13	11	45
Above Normal	21	7	7	29	16	59	11	51	17	17	13	11	22
Below Normal	20	6	6	7	7	22	16	18	17	14	13	11	13
Dry	22	6	7	7	7	11	14	13	13	11	10	10	11
Critical Dry	23	6	6	7	7	10	11	10	10	8	6	6	9

Table E-1-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	898	2,862	5,487	4,377	5,046	6,313	6,041	5,398	2,662	1,554	1,679	884	3,600
Wet	1,063	4,190	16,498	8,010	8,346	9,909	10,140	9,461	5,159	1,993	1,819	1,029	6,468
Above Normal	991	2,957	3,429	8,270	7,754	9,053	7,080	7,565	3,047	1,654	1,803	953	4,546
Below Normal	776	1,786	2,151	1,717	3,794	5,209	5,519	4,528	2,259	1,506	1,782	876	2,659
Dry	791	2,965	1,443	1,429	2,117	3,469	3,318	2,063	1,032	1,298	1,541	758	1,852
Critical Dry	870	1,642	902	933	1,408	1,126	1,568	1,055	672	979	1,110	703	1,081

Table E-1-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	47	94	111	71	107	155	201	168	176	98	99	135	122
Wet	49	127	183	163	184	256	294	287	289	147	109	159	187
Above Normal	47	89	111	70	157	215	274	252	251	94	110	149	152
Below Normal	46	76	77	34	79	149	213	148	160	86	100	141	109
Dry	48	92	89	32	44	63	102	52	63	76	90	119	73
Critical Dry	42	71	71	29	29	17	25	24	51	72	74	70	48

Table E-1-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	5	6	9	8	10	11	12	9	5	5	5	7
Wet	-	7	9	12	12	12	12	12	12	9	7	7	9
Above Normal	-	5	6	11	10	11	11	12	11	6	4	5	8
Below Normal	-	5	4	8	8	9	11	12	10	5	5	5	7
Dry	-	5	4	7	5	9	12	12	7	3	6	5	6
Critical Dry	-	4	3	5	4	7	10	11	3	0	2	3	4

Table E-1-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	434	1,269	1,512	1,184	1,417	2,015	2,394	2,630	1,395	663	874	422	1,351
Wet	504	1,693	4,696	2,112	2,512	3,006	3,999	4,567	2,701	852	918	488	2,337
Above Normal	471	1,302	836	2,204	2,007	2,824	2,858	3,779	1,624	655	935	465	1,663
Below Normal	387	944	519	492	1,002	1,834	2,117	2,223	1,139	639	949	445	1,057
Dry	379	1,297	416	398	617	1,147	1,351	943	571	571	821	363	740
Critical Dry	439	844	245	379	442	368	639	540	333	494	553	252	461

Table E-1-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	488	437	450	476	504	646	779	837	786	652	561	527	595
Wet	521	477	524	567	567	751	899	967	942	830	717	677	703
Above Normal	521	457	475	537	565	742	900	965	921	765	664	619	678
Below Normal	517	453	449	473	516	674	848	906	835	629	534	495	611
Dry	460	406	384	374	434	534	660	729	634	504	428	399	495
Critical Dry	377	344	349	353	380	420	448	461	432	377	335	319	383

Table E-1-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2,711	2,701	2,841	3,110	3,347	3,685	4,006	4,018	3,743	3,220	2,890	2,744	3,251
Wet	2,839	2,907	3,104	3,474	3,580	3,850	4,306	4,497	4,380	3,899	3,524	3,282	3,637
Above Normal	2,863	2,822	2,986	3,291	3,617	4,022	4,432	4,474	4,261	3,729	3,374	3,150	3,585
Below Normal	2,875	2,860	2,974	3,243	3,501	3,901	4,281	4,216	3,869	3,270	2,923	2,834	3,396
Dry	2,773	2,711	2,831	3,009	3,428	3,847	4,008	3,892	3,458	2,883	2,574	2,509	3,160
Critical Dry	1,981	1,892	1,952	2,083	2,279	2,518	2,561	2,436	2,059	1,638	1,428	1,370	2,016

Table E-1-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,378	1,388	1,436	1,495	1,600	1,720	1,867	1,862	1,834	1,709	1,556	1,418	1,605
Wet	1,492	1,520	1,616	1,731	1,890	2,029	2,217	2,248	2,232	2,117	1,988	1,832	1,909
Above Normal	1,499	1,503	1,543	1,642	1,755	1,895	2,066	2,093	2,094	1,977	1,829	1,675	1,798
Below Normal	1,435	1,447	1,472	1,532	1,608	1,718	1,878	1,853	1,814	1,684	1,509	1,364	1,610
Dry	1,403	1,405	1,423	1,418	1,501	1,626	1,743	1,703	1,651	1,499	1,312	1,187	1,489
Critical Dry	911	894	914	891	944	1,017	1,074	1,034	995	884	748	662	914

Table E-1-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,871	1,887	2,011	2,162	2,350	2,564	2,881	2,985	2,833	2,350	2,028	1,929	2,321
Wet	2,003	2,089	2,389	2,650	2,835	2,935	3,312	3,511	3,472	3,076	2,791	2,631	2,808
Above Normal	2,005	1,993	2,053	2,349	2,622	2,918	3,318	3,504	3,435	2,870	2,404	2,173	2,637
Below Normal	1,963	1,967	2,031	2,127	2,298	2,570	2,976	3,072	2,897	2,275	1,827	1,756	2,313
Dry	1,706	1,689	1,713	1,747	1,969	2,271	2,503	2,516	2,212	1,679	1,467	1,461	1,911
Critical Dry	1,516	1,467	1,473	1,485	1,595	1,789	1,865	1,809	1,555	1,235	1,030	1,026	1,487

Table E-1-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,299	2,431	3,092	3,731	4,682	3,305	3,665	4,525	4,160	3,274	2,191	1,774	3,178
Wet	1,325	3,329	5,870	7,754	8,936	5,889	6,322	7,660	6,185	3,693	2,733	2,088	5,149
Above Normal	1,480	2,262	1,858	4,116	5,105	3,890	3,881	5,902	5,113	3,808	2,477	2,047	3,495
Below Normal	1,301	2,337	2,300	1,578	2,822	1,905	2,668	3,422	3,660	4,083	2,202	1,827	2,509
Dry	1,253	1,935	1,578	1,313	1,785	1,611	1,724	1,853	2,606	2,605	1,786	1,500	1,796
Critical Dry	1,138	1,368	1,170	929	1,440	1,406	1,572	1,417	1,565	1,412	1,228	1,096	1,312

Table E-1-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5,742	6,337	10,214	12,590	15,004	13,694	9,875	6,600	5,924	7,170	5,837	6,004	8,749
Wet	6,633	8,127	15,445	18,770	20,774	18,719	14,741	9,342	6,243	7,669	6,846	8,391	11,808
Above Normal	5,837	6,056	10,798	16,150	17,359	16,010	10,591	8,083	5,900	7,063	6,220	7,230	9,775
Below Normal	5,877	6,209	7,972	10,207	12,483	11,861	8,046	5,395	5,432	7,534	5,928	5,274	7,685
Dry	5,136	5,459	5,983	6,740	12,161	10,243	6,601	4,577	6,396	7,386	5,262	3,969	6,659
Critical Dry	4,230	3,946	6,860	6,729	7,831	7,764	5,447	3,662	5,497	5,370	3,861	3,309	5,375

Table E-1-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3,218	3,405	6,696	10,106	12,197	11,710	7,472	7,263	6,574	8,131	6,603	4,204	7,298
Wet	3,976	5,131	13,206	20,654	24,092	22,917	14,770	12,789	9,764	8,692	7,190	5,913	12,425
Above Normal	2,977	2,944	4,475	11,335	12,430	13,000	7,139	9,267	7,463	9,965	9,410	6,715	8,093
Below Normal	3,197	2,811	4,225	4,889	7,021	6,777	4,226	4,542	4,726	9,386	8,287	3,689	5,315
Dry	3,045	2,470	3,120	3,162	4,848	4,194	3,076	3,561	4,860	7,609	4,112	1,963	3,835
Critical Dry	2,030	2,104	2,619	2,585	3,038	2,931	2,245	2,212	3,839	3,977	3,137	1,760	2,706

Table E-1-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	6,207	8,501	22,320	38,802	49,996	42,322	27,727	20,813	12,047	6,891	4,181	6,158	20,497
Wet	7,855	14,035	46,005	79,433	97,510	81,206	53,300	36,977	21,443	9,673	5,595	10,294	38,610
Above Normal	6,244	5,993	15,465	45,316	55,021	47,136	26,786	25,895	13,941	8,000	5,273	9,699	22,064
Below Normal	6,014	6,811	13,208	18,283	26,311	23,739	17,279	13,576	6,688	6,468	3,435	3,359	12,098
Dry	5,238	5,649	6,745	11,048	22,670	18,174	11,885	9,314	6,146	4,305	3,144	2,665	8,915
Critical Dry	4,057	4,708	9,563	10,114	12,321	11,673	8,258	6,332	5,453	3,598	2,575	2,655	6,776

Table E-1-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	215	213	216	218	211	184	156	193	196	236	231	241	209
Wet	225	238	239	236	197	187	198	248	241	268	274	258	234
Above Normal	226	234	247	231	230	192	190	216	225	243	264	238	228
Below Normal	229	217	222	203	223	194	141	180	188	258	248	267	214
Dry	211	207	201	227	221	182	121	157	191	262	230	239	204
Critical Dry	167	144	148	179	193	159	102	115	90	95	85	170	137

Table E-1-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	29	10	1	1	-	-	0	1	10	6	10	6
Wet	-	22	5	3	3	-	-	2	2	5	-	-	3
Above Normal	3	39	19	-	-	-	-	-	-	1	-	-	5
Below Normal	-	40	9	-	-	-	-	-	-	3	18	43	9
Dry	5	40	11	-	-	-	-	-	-	35	13	-	9
Critical Dry	3	6	13	-	-	-	-	-	-	8	-	-	2

Table E-1-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	17	14	7	-	-	-	-	-	23	30	31	30	13
Wet	17	13	2	-	-	-	-	-	19	29	31	29	12
Above Normal	22	15	6	-	-	-	-	-	17	28	31	30	12
Below Normal	16	16	9	-	-	-	-	-	26	31	31	30	13
Dry	20	14	13	-	-	-	-	-	26	31	31	30	14
Critical Dry	9	13	11	-	-	-	-	-	26	31	31	30	12

Table E-1-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	85	86	86	78	70	64	63	66	70	75	81	85	76
Wet	84	83	81	66	57	54	54	57	60	67	75	81	68
Above Normal	85	85	87	79	64	58	57	61	64	71	78	83	73
Below Normal	85	85	86	82	75	67	65	68	72	78	83	86	78
Dry	86	86	88	87	82	71	68	73	78	82	85	89	81
Critical Dry	90	91	91	87	81	78	76	79	83	86	89	91	85

Table E-1-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,298	2,430	3,082	3,701	4,656	3,297	3,670	4,552	4,189	3,315	2,217	1,792	3,183
Wet	1,549	3,640	3,490	7,692	8,892	5,863	6,315	7,685	6,211	3,727	2,757	2,104	4,994
Above Normal	1,515	3,123	3,526	4,079	5,058	3,887	3,893	5,933	5,142	3,849	2,505	2,067	3,715
Below Normal	1,336	2,390	3,832	1,562	2,810	1,900	2,678	3,449	3,692	4,129	2,229	1,845	2,654
Dry	986	1,035	2,863	1,300	1,771	1,614	1,731	1,879	2,637	2,649	1,818	1,519	1,817
Critical Dry	841	784	734	928	1,431	1,410	1,589	1,442	1,595	1,457	1,251	1,117	1,215

Table E-1-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,287	2,436	3,104	3,732	4,684	3,306	3,665	4,525	4,160	3,274	2,189	1,772	3,178
Wet	1,538	3,647	3,510	7,755	8,935	5,889	6,322	7,660	6,185	3,693	2,733	2,087	4,996
Above Normal	1,501	3,126	3,551	4,117	5,105	3,890	3,881	5,902	5,113	3,808	2,477	2,047	3,710
Below Normal	1,331	2,402	3,850	1,580	2,825	1,905	2,668	3,422	3,660	4,083	2,200	1,826	2,646
Dry	969	1,041	2,879	1,312	1,791	1,614	1,724	1,853	2,606	2,605	1,786	1,496	1,806
Critical Dry	824	778	768	931	1,440	1,407	1,572	1,417	1,565	1,412	1,220	1,094	1,202

Table E-1-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,298	2,476	3,173	3,811	4,764	3,340	3,688	4,544	4,176	3,285	2,194	1,778	3,211
Wet	1,534	3,685	3,566	7,899	9,045	5,930	6,348	7,674	6,186	3,681	2,721	2,076	5,029
Above Normal	1,509	3,166	3,626	4,216	5,213	3,919	3,893	5,926	5,132	3,816	2,478	2,048	3,745
Below Normal	1,358	2,456	3,927	1,623	2,883	1,936	2,694	3,445	3,689	4,110	2,211	1,840	2,681
Dry	983	1,076	2,950	1,347	1,847	1,640	1,745	1,866	2,626	2,625	1,802	1,510	1,835
Critical Dry	845	807	851	960	1,494	1,442	1,597	1,439	1,587	1,436	1,245	1,118	1,235

Table E-1-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1,187	2,376	3,096	3,736	4,690	3,249	3,576	4,402	3,995	3,081	2,004	1,625	3,085
Wet	1,420	3,584	3,486	7,834	8,976	5,841	6,235	7,523	5,997	3,469	2,520	1,904	4,899
Above Normal	1,398	3,066	3,549	4,143	5,143	3,827	3,778	5,778	4,945	3,605	2,283	1,884	3,617
Below Normal	1,250	2,358	3,850	1,542	2,805	1,845	2,582	3,305	3,510	3,902	2,019	1,694	2,555
Dry	873	975	2,872	1,265	1,768	1,548	1,632	1,732	2,451	2,422	1,620	1,375	1,711
Critical Dry	735	708	778	877	1,415	1,351	1,485	1,313	1,419	1,263	1,073	983	1,117

Table E-1-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.64	57.60	53.99	48.39	47.87	50.61	54.33	57.95	61.03	62.76	60.73	63.05	56.66
Wet	58.77	57.13	54.70	46.92	46.61	49.43	52.46	55.80	59.19	60.97	59.16	60.93	55.17
Above Normal	59.50	56.72	54.28	48.76	47.69	50.37	53.47	56.27	59.65	61.34	59.16	61.28	55.71
Below Normal	61.89	57.44	52.96	48.93	48.03	50.57	54.52	57.93	61.04	63.05	60.86	63.30	56.71
Dry	65.13	58.49	53.60	48.87	48.45	51.04	55.65	59.58	62.83	64.27	62.60	65.15	57.97
Critical Dry	65.53	58.69	54.31	49.79	49.81	52.94	57.27	62.13	64.09	65.66	63.08	66.30	59.13

Table E-1-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	61.42	57.23	53.17	47.97	47.98	51.24	55.42	59.08	62.29	64.04	62.51	63.58	57.16
Wet	59.22	56.86	54.06	46.88	46.71	49.81	53.09	56.52	60.09	62.41	60.84	61.76	55.69
Above Normal	59.68	56.41	53.68	48.50	47.83	50.86	54.37	57.27	60.55	62.65	60.82	62.00	56.22
Below Normal	61.67	57.19	52.41	48.40	48.13	51.28	55.81	59.10	62.27	63.87	62.45	63.79	57.20
Dry	64.03	57.97	52.50	48.24	48.57	51.94	57.31	61.32	64.37	65.26	64.26	65.38	58.43
Critical Dry	64.50	57.98	52.77	48.89	49.94	53.73	58.56	63.49	66.11	67.61	65.61	66.45	59.64

Table E-1-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	62.92	57.38	52.73	48.26	49.14	53.44	58.37	62.38	65.84	67.67	66.38	66.18	59.23
Wet	60.95	56.99	53.61	47.18	47.45	51.37	55.06	58.93	62.91	66.01	64.51	64.38	57.45
Above Normal	61.22	56.49	53.26	48.73	48.83	52.71	56.85	60.14	63.45	66.14	64.46	64.60	58.07
Below Normal	63.00	57.45	52.08	48.64	49.32	53.68	59.09	62.42	65.77	66.72	66.07	66.18	59.20
Dry	65.19	58.04	52.02	48.46	50.04	54.75	61.21	65.69	68.45	68.74	68.08	67.84	60.71
Critical Dry	66.12	58.20	52.17	49.36	51.74	56.59	62.39	67.84	71.32	72.83	70.61	69.49	62.39

Modeling Technical Appendix – Absolute Change of the 30,000 AF Alternative to Existing Conditions Baseline

This attachment summarizes the absolute change of the 30,000 AF Alternative to Existing Conditions Baseline (1.2x-1.0) conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table E-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table E-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table E-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table E-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table E-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table E-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table E-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table E-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table E-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table E-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table E-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table E-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table E-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table E-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table E-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table E-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table E-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table E-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table E-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table E-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table E-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table E-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table E-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table E-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table E-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table E-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table E-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table E-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table E-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table E-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table E-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table E-2-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table E-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table E-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table E-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table E-2-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table E-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table E-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table E-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table E-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table E-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table E-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table E-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table E-2-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4,402)	(2,901)	(1,333)	(4,742)	(4,670)	(3,749)	(3,087)	(1,708)	(2,900)	(5,292)	(7,224)	(4,683)	(3,891)
Wet	(4,755)	(3,113)	(1,821)	(3,397)	(4,259)	(4,164)	(3,936)	(469)	(99)	(2,141)	(6,151)	(3,615)	(3,160)
Above Normal	(3,905)	(2,352)	(574)	(4,130)	(3,825)	(2,645)	(2,417)	(216)	(54)	(2,677)	(6,383)	(3,780)	(2,746)
Below Normal	(5,362)	(3,925)	(2,277)	(6,278)	(4,976)	(3,071)	(2,208)	(759)	(1,328)	(3,598)	(4,940)	(3,073)	(3,483)
Dry	(3,350)	(1,959)	(315)	(4,569)	(4,715)	(3,773)	(2,285)	(2,560)	(5,700)	(7,976)	(7,671)	(4,805)	(4,140)
Critical Dry	(4,999)	(3,516)	(2,119)	(6,169)	(6,832)	(7,031)	(7,072)	(8,823)	(13,632)	(17,105)	(17,167)	(13,838)	(9,025)

Table E-2-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	(7)	(0)	(0)	(0)	(1)	(1)	(15)	(4)	(1)	(1)	(1)	(3)
Wet	-	(29)	(0)	(0)	(0)	(2)	(5)	(60)	(7)	-	-	-	(9)
Above Normal	(5)	(1)	(1)	0	(1)	(0)	(0)	(6)	(11)	(7)	(6)	(5)	(4)
Below Normal	-	-	-	-	-	(0)	(0)	-	-	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E-2-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(1)	(0)	(0)	(1)	(1)	4	(67)	(4)	(4)	(1)	(2)	(7)
Wet	-	-	1	1	1	1	14	(109)	(1)	(1)	(1)	(4)	(8)
Above Normal	-	-	-	-	-	-	-	(160)	(21)	(21)	(4)	(4)	(17)
Below Normal	(3)	1	(3)	(3)	(5)	(5)	(1)	(41)	2	2	(2)	(2)	(5)
Dry	(5)	(5)	2	2	2	2	2	2	1	1	1	1	0
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E-2-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(14,399)	(16,567)	(18,032)	(17,427)	(16,282)	(14,533)	(12,700)	(11,087)	(9,946)	(9,254)	(9,058)	(11,536)	(13,402)
Wet	(16,427)	(18,827)	(19,923)	(16,767)	(13,326)	(9,099)	(5,943)	(3,763)	(3,003)	(2,789)	(2,759)	(6,935)	(9,963)
Above Normal	(12,952)	(15,120)	(16,891)	(16,893)	(15,398)	(12,284)	(9,798)	(7,562)	(6,445)	(6,700)	(7,546)	(11,831)	(11,618)
Below Normal	(13,749)	(15,718)	(17,039)	(17,315)	(17,261)	(16,898)	(15,189)	(13,292)	(11,930)	(10,643)	(10,068)	(12,374)	(14,290)
Dry	(14,918)	(17,156)	(18,918)	(19,119)	(19,046)	(18,904)	(18,225)	(17,510)	(16,165)	(15,093)	(14,581)	(15,130)	(17,064)
Critical Dry	(12,561)	(14,434)	(15,731)	(15,953)	(15,876)	(15,746)	(15,438)	(15,073)	(14,024)	(12,494)	(11,311)	(10,847)	(14,124)

Table E-2-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3,078)	(3,207)	(2,986)	(2,713)	(2,237)	(1,693)	(1,119)	(917)	(1,049)	(1,503)	(2,065)	(2,603)	(2,097)
Wet	(3,201)	(3,094)	(1,937)	(936)	(248)	(10)	-	(1)	(271)	(929)	(1,651)	(2,365)	(1,220)
Above Normal	(2,718)	(2,907)	(2,762)	(2,331)	(1,161)	(219)	(3)	-	(323)	(1,100)	(1,983)	(2,676)	(1,515)
Below Normal	(2,917)	(3,108)	(3,245)	(3,243)	(2,939)	(2,300)	(955)	(363)	(668)	(1,147)	(1,730)	(2,315)	(2,078)
Dry	(3,460)	(3,672)	(3,799)	(3,944)	(3,875)	(3,240)	(2,360)	(2,201)	(2,113)	(2,367)	(2,731)	(3,092)	(3,071)
Critical Dry	(2,937)	(3,165)	(3,350)	(3,509)	(3,625)	(3,703)	(3,734)	(3,449)	(2,899)	(2,536)	(2,398)	(2,466)	(3,148)

Table E-2-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(40)	(135)	(216)	(142)	(123)	(123)	(123)	(14)	(8)	(49)	13	(29)	(83)
Wet	(111)	(298)	(629)	(458)	(388)	(368)	(367)	(72)	-	-	39	1	(221)
Above Normal	(25)	(137)	(223)	(148)	(148)	(147)	(147)	(1)	(1)	(1)	157	26	(66)
Below Normal	(61)	(39)	(7)	27	35	18	17	14	(11)	(30)	33	(23)	(2)
Dry	20	(93)	(101)	(47)	(47)	(48)	(48)	(3)	(17)	(147)	(127)	(104)	(63)
Critical Dry	3	(72)	30	10	8	5	5	5	(20)	(74)	(53)	(42)	(16)

Table E-2-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	11	1,329	1,802	732	367	228	208	38	1	1	1	47	397
Wet	20	1,019	1,023	611	499	277	205	72	-	-	-	5	311
Above Normal	(1)	1,336	1,828	1,041	617	485	476	95	-	-	-	66	495
Below Normal	5	1,524	2,220	1,033	420	267	254	0	-	-	-	33	480
Dry	20	1,435	2,034	376	94	10	9	-	-	-	-	72	337
Critical Dry	2	1,322	2,068	525	44	7	28	17	13	10	9	81	344

Table E-2-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	5	98	(2)	-	-	-	-	-	-	(46)	(22)	(6)	2
Wet	-	105	(8)	-	-	-	-	-	-	(54)	(38)	(15)	(1)
Above Normal	(2)	80	-	-	-	-	-	-	-	(58)	(42)	(24)	(4)
Below Normal	23	144	-	-	-	-	-	-	-	(70)	(24)	1	6
Dry	(0)	60	-	-	-	-	-	-	-	(22)	0	3	3
Critical Dry	-	109	-	-	-	-	-	-	-	5	13	15	12

Table E-2-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	38	36	20	14	5	1	1	1	1	1	0	10
Wet	-	32	31	1	1	0	-	-	-	-	-	-	5
Above Normal	-	34	32	14	10	7	2	2	2	2	2	1	9
Below Normal	0	46	43	27	18	5	-	-	-	-	-	-	12
Dry	-	38	36	31	22	4	-	-	-	-	-	-	11
Critical Dry	1	42	39	36	28	11	5	5	5	4	3	0	15

Table E-2-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(2)	(2)	(1)	(2)	(2)	(2)	(1)	(1)	(1)	(2)	(3)	(3)	(2)
Wet	(2)	(2)	(1)	(1)	(2)	(2)	(2)	(1)	(0)	(0)	(2)	(2)	(1)
Above Normal	(2)	(2)	(1)	(1)	(2)	(1)	(1)	(0)	(0)	(0)	(2)	(2)	(1)
Below Normal	(3)	(2)	(2)	(2)	(3)	(2)	(1)	(1)	(0)	(1)	(2)	(2)	(2)
Dry	(1)	(1)	(1)	(1)	(2)	(2)	(1)	(1)	(1)	(3)	(3)	(3)	(2)
Critical Dry	(2)	(2)	(1)	(2)	(3)	(3)	(3)	(3)	(5)	(7)	(8)	(8)	(4)

Table E-2-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(31)	(41)	(47)	(46)	(40)	(34)	(28)	(23)	(21)	(19)	(19)	(23)	(31)
Wet	(36)	(47)	(51)	(43)	(30)	(20)	(12)	(8)	(5)	(5)	(5)	(9)	(22)
Above Normal	(26)	(36)	(42)	(41)	(34)	(26)	(19)	(15)	(12)	(11)	(13)	(19)	(24)
Below Normal	(31)	(40)	(46)	(47)	(44)	(38)	(31)	(26)	(23)	(21)	(20)	(23)	(32)
Dry	(32)	(43)	(50)	(53)	(51)	(46)	(41)	(37)	(35)	(33)	(32)	(35)	(41)
Critical Dry	(29)	(38)	(44)	(46)	(45)	(43)	(40)	(39)	(38)	(36)	(33)	(33)	(39)

Table E-2-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(10)	(11)	(11)	(10)	(9)	(7)	(5)	(3)	(3)	(4)	(6)	(8)	(7)
Wet	(10)	(11)	(9)	(5)	(2)	(0)	-	-	(0)	(2)	(4)	(6)	(4)
Above Normal	(9)	(10)	(10)	(9)	(6)	(2)	(0)	-	(0)	(2)	(5)	(8)	(5)
Below Normal	(10)	(11)	(12)	(11)	(11)	(9)	(5)	(1)	(1)	(3)	(5)	(7)	(7)
Dry	(11)	(13)	(13)	(14)	(14)	(12)	(9)	(7)	(7)	(7)	(9)	(11)	(11)
Critical Dry	(10)	(12)	(12)	(13)	(13)	(13)	(13)	(13)	(11)	(10)	(10)	(10)	(12)

Table E-2-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(0)	(0)
Wet	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(0)	-	0	0	(0)
Above Normal	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0	0	(0)
Below Normal	(0)	(0)	(0)	0	0	0	0	0	0	(0)	(0)	(0)	(0)
Dry	0	0	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	(0)	(0)	(0)
Critical Dry	(0)	(0)	(0)	0	0	0	0	0	(0)	(0)	(0)	(0)	(0)

Table E-2-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	2	5	4	2	1	1	0	0	0	0	0	1
Wet	0	2	3	3	2	1	1	0	0	-	-	(0)	1
Above Normal	0	2	5	5	2	2	1	1	0	-	-	0	2
Below Normal	0	2	6	6	2	1	1	0	0	-	-	0	1
Dry	0	2	5	4	0	0	0	0	-	-	-	0	1
Critical Dry	0	2	5	5	1	0	0	0	0	0	0	0	1

Table E-2-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Wet	0	1	0	(0)	-	-	-	-	-	(0)	(0)	(0)	0
Above Normal	(0)	1	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Below Normal	0	1	0	-	-	-	-	-	-	(0)	(0)	(0)	0
Dry	(0)	1	0	-	-	-	-	-	-	(0)	(0)	0	0
Critical Dry	(0)	1	0	-	-	-	-	-	-	0	0	0	0

Table E-2-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet	-	0	0	0	-	-	0	-	-	-	-	-	0
Above Normal	-	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal	0	0	0	0	0	0	0	-	-	-	-	-	0
Dry	-	0	0	0	0	0	0	-	-	-	-	-	0
Critical Dry	0	0	0	0	0	0	0	0	0	0	0	0	0

Table E-2-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	(42)	(22)	(20)	(23)	(36)	(39)	(58)	(79)	(62)	(44)	(65)	(41)
Wet	(6)	(36)	(3)	(60)	(7)	(17)	(28)	(78)	(105)	(76)	(40)	(68)	(44)
Above Normal	(8)	(44)	(29)	(20)	(27)	(44)	(36)	(67)	(115)	(66)	(38)	(60)	(46)
Below Normal	(8)	(45)	(28)	(6)	(38)	(52)	(43)	(58)	(88)	(68)	(57)	(55)	(45)
Dry	(7)	(42)	(28)	(1)	(26)	(38)	(53)	(45)	(44)	(52)	(45)	(72)	(38)
Critical Dry	(8)	(43)	(24)	(2)	(3)	(17)	(24)	(18)	(3)	(28)	(29)	(80)	(23)

Table E-2-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(1)	(0)	(1)	(1)	(4)	(0)	(4)	(1)	(0)	-	-	(1)
Wet	-	(5)	(0)	(3)	(0)	(12)	(0)	(13)	(2)	(0)	-	-	(3)
Above Normal	-	-	-	1	(5)	(4)	-	(4)	(1)	-	-	-	(1)
Below Normal	-	-	-	-	0	(3)	-	(0)	(1)	-	-	-	(0)
Dry	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Dry	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E-2-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	(16)	3	8	5	(6)	(12)	(6)	(16)	(10)	(3)	(4)	(5)
Wet	1	(10)	16	(8)	(2)	(5)	(11)	(10)	(19)	(11)	(5)	(3)	(6)
Above Normal	1	(18)	0	4	4	(7)	(15)	(7)	(20)	(8)	(3)	(3)	(6)
Below Normal	(0)	(20)	(1)	12	10	(5)	(11)	(2)	(16)	(14)	(6)	(4)	(5)
Dry	1	(16)	(2)	20	4	(6)	(11)	(7)	(15)	(7)	(1)	(5)	(4)
Critical Dry	(0)	(18)	(2)	17	9	(6)	(8)	(4)	(6)	(5)	(1)	(3)	(2)

Table E-2-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(2)	(111)	(15)	(29)	(37)	(27)	3	7	(1)	(0)	(0)	(18)
Wet	(8)	(9)	(426)	(52)	(51)	(92)	(84)	41	33	-	-	-	(54)
Above Normal	(4)	-	(55)	(13)	(64)	(35)	(37)	(11)	-	-	-	-	(18)
Below Normal	(4)	0	-	(0)	(7)	(19)	1	(6)	0	(1)	0	0	(3)
Dry	(3)	(0)	(0)	-	(9)	(16)	(0)	(11)	(1)	(1)	(1)	(0)	(3)
Critical Dry	(1)	-	(0)	(0)	0	0	(0)	(2)	(2)	(2)	(2)	(2)	(1)

Table E-2-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(33)	(333)	(2,735)	(1,741)	(1,490)	(1,869)	(514)	702	959	(2)	(116)	(19)	(599)
Wet	(57)	(560)	(8,722)	(3,436)	(2,191)	(2,742)	(1,425)	1,397	2,368	149	(76)	(34)	(1,277)
Above Normal	(40)	(402)	(1,905)	(2,936)	(2,405)	(2,307)	(976)	1,201	1,216	4	(128)	(16)	(725)
Below Normal	(37)	(165)	(1,018)	(865)	(1,360)	(1,820)	5	555	670	(125)	(185)	(32)	(365)
Dry	(8)	(277)	(256)	(513)	(618)	(1,214)	13	(14)	38	(38)	(112)	(7)	(251)
Critical Dry	(16)	(163)	(96)	(175)	(251)	(440)	142	68	(80)	6	(22)	20	(84)

Table E-2-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1	(2)	(24)	(38)	(43)	(42)	49	11	86	24	3	6	3
Wet	(4)	(9)	(38)	(84)	(70)	(36)	57	41	140	72	9	18	8
Above Normal	1	(7)	(37)	(78)	(68)	(51)	55	36	159	16	7	11	4
Below Normal	3	1	(22)	(14)	(52)	(54)	56	(25)	80	11	(1)	1	(1)
Dry	1	7	(8)	(1)	(4)	(35)	43	(2)	8	4	(1)	(4)	1
Critical Dry	1	2	(3)	6	5	(20)	3	(1)	4	7	0	(2)	0

Table E-2-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-	(1)	(3)	(2)	(3)	(3)	(1)	1	4	4	3	3	0
Wet	-	(1)	(4)	(2)	(1)	(2)	(2)	(0)	3	8	5	4	1
Above Normal	-	(2)	(3)	(2)	(2)	(2)	(2)	(1)	4	6	4	4	0
Below Normal	-	(1)	(4)	(2)	(4)	(3)	(1)	0	5	4	4	4	0
Dry	-	(1)	(2)	(1)	(4)	(3)	(1)	2	4	2	2	1	(0)
Critical Dry	-	(0)	(1)	(1)	(3)	(3)	0	4	1	0	0	1	(0)

Table E-2-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(22)	(49)	(859)	(770)	(725)	(1,015)	(339)	188	515	(27)	(26)	4	(260)
Wet	(56)	(149)	(2,719)	(1,558)	(1,019)	(1,283)	(708)	526	1,221	84	8	7	(470)
Above Normal	(30)	(107)	(774)	(1,431)	(1,245)	(1,052)	(543)	416	721	(46)	1	11	(340)
Below Normal	(3)	2	(159)	(354)	(678)	(1,057)	(175)	124	381	(87)	(51)	0	(171)
Dry	(3)	21	(111)	(124)	(293)	(920)	(98)	(193)	5	(53)	(48)	5	(151)
Critical Dry	(10)	23	(26)	(37)	(56)	(347)	12	(14)	(74)	(49)	(50)	(18)	(54)

Table E-2-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(7)	(8)	(7)	(6)	(4)	(6)	(5)	(5)	(4)	(4)	(4)	(6)	(5)
Wet	(5)	(5)	(0)	-	-	(0)	(0)	-	(0)	(2)	(2)	(2)	(1)
Above Normal	(5)	(6)	(7)	(5)	(0)	(0)	-	(0)	(0)	(3)	(4)	(5)	(3)
Below Normal	(9)	(9)	(10)	(9)	(5)	(6)	(5)	(3)	(2)	(0)	(0)	(3)	(5)
Dry	(10)	(12)	(13)	(12)	(12)	(17)	(15)	(14)	(10)	(10)	(10)	(14)	(12)
Critical Dry	(4)	(8)	(10)	(9)	(7)	(9)	(10)	(10)	(8)	(8)	(7)	(9)	(8)

Table E-2-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(9)	(9)	(9)	(8)	(6)	(5)	(6)	(7)	(10)	(12)	(11)	(11)	(9)
Wet	(4)	(4)	(6)	(1)	(0)	0	(0)	(0)	(1)	(2)	(2)	(2)	(2)
Above Normal	(9)	(9)	(6)	(6)	(6)	1	0	(0)	(2)	(4)	(3)	(3)	(4)
Below Normal	(8)	(8)	(7)	(7)	(3)	(2)	(4)	(5)	(9)	(15)	(14)	(14)	(8)
Dry	(7)	(7)	(8)	(7)	(7)	(8)	(10)	(12)	(14)	(17)	(17)	(17)	(11)
Critical Dry	(24)	(24)	(22)	(27)	(23)	(24)	(25)	(25)	(30)	(31)	(25)	(26)	(26)

Table E-2-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(3)	(4)	(3)	(3)	(3)	(3)	(2)	(3)	(3)	(3)	(4)	(3)
Wet	(4)	(4)	(4)	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)	(2)	(2)
Above Normal	(2)	(1)	(1)	(1)	0	0	0	0	0	0	(0)	(2)	(1)
Below Normal	(2)	(2)	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(4)	(5)	(2)
Dry	(3)	(2)	(3)	(4)	(4)	(3)	(3)	(3)	(5)	(5)	(6)	(5)	(4)
Critical Dry	(7)	(8)	(9)	(7)	(7)	(7)	(8)	(7)	(7)	(7)	(6)	(5)	(7)

Table E-2-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(5)	(5)	(5)	(5)	(3)	(3)	(3)	(3)	(5)	(6)	(6)	(6)	(5)
Wet	(6)	(6)	(4)	(4)	(1)	(1)	(0)	(0)	(1)	(3)	(5)	(6)	(3)
Above Normal	(3)	(3)	(3)	(4)	(1)	(0)	(0)	(0)	(1)	(3)	(5)	(5)	(2)
Below Normal	(6)	(6)	(7)	(6)	(4)	(4)	(4)	(5)	(7)	(8)	(7)	(3)	(6)
Dry	(6)	(5)	(5)	(5)	(5)	(5)	(6)	(8)	(9)	(7)	(6)	(6)	(6)
Critical Dry	(5)	(5)	(5)	(7)	(6)	(6)	(7)	(7)	(9)	(9)	(9)	(9)	(7)

Table E-2-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	(26)	(39)	(40)	(67)	(27)	(62)	(80)	(104)	(71)	(53)	(30)	(50)
Wet	(0)	(38)	(99)	(76)	(41)	(32)	(37)	(93)	(112)	(62)	(53)	(53)	(58)
Above Normal	0	(14)	(22)	(56)	(137)	(68)	(60)	(61)	(108)	(40)	(36)	(51)	(54)
Below Normal	(3)	(44)	(24)	(15)	(108)	(51)	(87)	(99)	(104)	(108)	(57)	(14)	(59)
Dry	0	(25)	(4)	(14)	(28)	18	(111)	(75)	(104)	(63)	(59)	(10)	(40)
Critical Dry	17	19	12	(15)	(44)	8	(20)	(43)	(83)	(65)	(57)	(14)	(24)

Table E-2-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(22)	(2)	12	1	(12)	(5)	18	10	43	44	7	7	8
Wet	(17)	(1)	54	(10)	(2)	(5)	(1)	(1)	13	7	8	7	4
Above Normal	(16)	(7)	(32)	(0)	(1)	(11)	4	2	20	31	(7)	23	1
Below Normal	4	(2)	(10)	(4)	(38)	(7)	40	17	57	95	30	15	16
Dry	(86)	(5)	20	(1)	(0)	(4)	43	30	84	49	37	(1)	14
Critical Dry	(8)	5	(15)	34	(17)	(1)	7	3	54	50	(50)	(8)	4

Table E-2-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(3)	(2)	(4)	(3)	(23)	(6)	(0)	7	19	16	14	(8)	0
Wet	(11)	(3)	(26)	(13)	(43)	(5)	(13)	(1)	9	38	31	22	(1)
Above Normal	3	1	(0)	3	(36)	(22)	(2)	1	7	32	36	1	2
Below Normal	2	(0)	15	(13)	(23)	(12)	0	16	36	14	6	(65)	(2)
Dry	(2)	2	2	(0)	(0)	4	18	19	15	(21)	(16)	(1)	2
Critical Dry	3	(10)	1	23	2	1	8	5	28	(3)	7	0	5

Table E-2-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(4)	(30)	(45)	(65)	(109)	(50)	(45)	(60)	(42)	(0)	(8)	(9)	(39)
Wet	(13)	(35)	(88)	(165)	(114)	(41)	(53)	(92)	(90)	(18)	(10)	(16)	(61)
Above Normal	(1)	(21)	(68)	(57)	(201)	(187)	(59)	(57)	(79)	28	(0)	(0)	(58)
Below Normal	(1)	(39)	(26)	(34)	(133)	(83)	(46)	(67)	(14)	9	(8)	(15)	(38)
Dry	0	(24)	1	(15)	(30)	17	(53)	(20)	(0)	0	0	(1)	(10)
Critical Dry	5	(19)	(16)	38	(71)	23	(3)	(31)	(0)	(2)	(21)	(0)	(8)

Table E-2-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(1)	1	1	0	(1)	(0)	(0)	(0)	(0)	(0)	(1)	0	(0)
Wet	(0)	0	0	0	(0)	(0)	(0)	0	0	(0)	0	(0)	(0)
Above Normal	(0)	0	0	0	(0)	0	(0)	0	(0)	(0)	(0)	(0)	(0)
Below Normal	(0)	1	(0)	(0)	(4)	(0)	(0)	(0)	(0)	0	(0)	0	(0)
Dry	(2)	0	5	0	0	(1)	0	(0)	(0)	0	(0)	1	0
Critical Dry	1	3	1	1	(2)	0	(0)	(0)	(1)	(0)	(4)	2	(0)

Table E-2-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	(0)	0	(0)	-	-	0	(0)	0	(0)	0	(0)
Wet	-	0	(0)	0	(0)	-	-	0	(0)	(0)	-	-	0
Above Normal	(0)	0	(0)	-	(0)	-	-	-	-	(0)	-	-	(0)
Below Normal	-	1	(0)	-	-	-	-	-	-	(0)	(0)	0	0
Dry	(3)	0	(0)	-	-	-	-	-	-	0	(0)	-	(0)
Critical Dry	-	(0)	0	-	-	-	-	-	-	0	-	-	0

Table E-2-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	(0)	0	0	-	-	-	-	-	0	-	-	-	0
Wet	-	-	-	-	-	-	-	-	1	-	-	-	0
Above Normal	-	-	0	-	-	-	-	-	-	-	-	-	0
Below Normal	-	0	-	-	-	-	-	-	-	-	-	-	0
Dry	(2)	-	(0)	-	-	-	-	-	-	-	-	-	(0)
Critical Dry	-	-	1	-	-	-	-	-	-	-	-	-	0

Table E-2-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0	0	0	0	0	(0)	(0)	0	0	0	0	0	0
Wet	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal	0	0	0	0	0	0	0	0	0	0	0	(0)	0
Below Normal	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry	0	(0)	0	0	0	0	(0)	0	0	0	0	0	0
Critical Dry	0	(0)	0	0	(0)	(0)	(0)	0	(0)	0	0	0	(0)

Table E-2-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(26)	(40)	(39)	(67)	(26)	(62)	(79)	(104)	(70)	(53)	(31)	(50)
Wet	(0)	(47)	(20)	(76)	(41)	(32)	(37)	(93)	(112)	(63)	(53)	(53)	(52)
Above Normal	(6)	(19)	(9)	(54)	(137)	(67)	(60)	(61)	(108)	(39)	(36)	(51)	(54)
Below Normal	12	(9)	(29)	(14)	(108)	(51)	(87)	(99)	(104)	(107)	(58)	(13)	(55)
Dry	3	(12)	(147)	(18)	(28)	21	(112)	(75)	(105)	(63)	(58)	(13)	(50)
Critical Dry	1	(32)	-	(15)	(44)	6	(21)	(41)	(83)	(65)	(57)	(17)	(31)

Table E-2-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	2	(26)	(40)	(39)	(67)	(26)	(62)	(79)	(104)	(70)	(53)	(31)	(50)
Wet	(0)	(47)	(20)	(75)	(41)	(32)	(37)	(93)	(112)	(63)	(53)	(53)	(52)
Above Normal	(6)	(19)	(9)	(54)	(137)	(67)	(60)	(61)	(108)	(39)	(36)	(51)	(54)
Below Normal	12	(10)	(29)	(14)	(108)	(51)	(87)	(99)	(104)	(107)	(58)	(14)	(56)
Dry	3	(12)	(147)	(18)	(28)	21	(111)	(75)	(105)	(63)	(58)	(13)	(50)
Critical Dry	1	(32)	(0)	(15)	(44)	6	(20)	(41)	(83)	(65)	(57)	(17)	(31)

Table E-2-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(26)	(39)	(40)	(67)	(26)	(62)	(80)	(105)	(71)	(53)	(31)	(50)
Wet	0	(47)	(20)	(76)	(41)	(32)	(37)	(93)	(112)	(63)	(53)	(53)	(52)
Above Normal	(6)	(19)	(9)	(54)	(138)	(67)	(60)	(61)	(109)	(39)	(36)	(51)	(54)
Below Normal	12	(9)	(28)	(14)	(108)	(51)	(87)	(99)	(104)	(107)	(58)	(13)	(56)
Dry	3	(11)	(147)	(17)	(28)	21	(112)	(75)	(106)	(63)	(58)	(13)	(51)
Critical Dry	1	(32)	0	(15)	(44)	6	(21)	(41)	(84)	(66)	(57)	(16)	(31)

Table E-2-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	3	(26)	(39)	(40)	(67)	(26)	(62)	(79)	(104)	(70)	(53)	(30)	(50)
Wet	0	(47)	(20)	(76)	(40)	(32)	(37)	(93)	(112)	(63)	(53)	(50)	(52)
Above Normal	(6)	(19)	(9)	(54)	(138)	(67)	(60)	(61)	(109)	(39)	(36)	(47)	(54)
Below Normal	12	(9)	(28)	(14)	(108)	(51)	(87)	(99)	(104)	(107)	(58)	(13)	(56)
Dry	3	(11)	(147)	(17)	(28)	21	(112)	(75)	(104)	(63)	(57)	(13)	(50)
Critical Dry	1	(32)	0	(15)	(44)	6	(21)	(40)	(85)	(63)	(58)	(16)	(31)

Table E-2-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.27	0.18	0.27	0.26	0.26	0.21	0.16	0.21	0.21	0.20	0.16	0.25	0.22
Wet	0.15	(0.08)	0.03	0.15	0.05	0.04	0.02	0.03	0.06	0.14	0.15	0.10	0.07
Above Normal	(0.32)	(0.27)	0.27	0.19	0.17	0.11	0.11	(0.03)	0.04	0.16	0.09	0.06	0.05
Below Normal	(0.03)	0.08	(0.12)	0.01	0.02	0.06	0.09	0.14	0.19	0.12	0.13	0.26	0.08
Dry	0.16	0.11	(0.10)	0.13	0.22	(0.01)	0.09	0.32	0.07	0.21	0.14	0.00	0.11
Critical Dry	1.76	1.43	1.97	1.11	1.19	1.16	0.67	0.79	0.85	0.47	0.34	1.03	1.06

Table E-2-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.16	0.13	0.18	0.22	0.21	0.17	0.13	0.17	0.19	0.20	0.17	0.19	0.18
Wet	0.13	(0.07)	0.01	0.15	0.05	0.03	0.03	0.04	0.08	0.16	0.15	0.11	0.07
Above Normal	(0.25)	(0.27)	0.22	0.15	0.17	0.11	0.12	(0.02)	0.06	0.16	0.11	0.07	0.05
Below Normal	(0.03)	0.05	(0.09)	0.01	0.03	0.06	0.10	0.14	0.23	0.13	0.13	0.23	0.08
Dry	0.08	0.10	(0.15)	0.11	0.19	0.01	0.09	0.27	0.14	0.19	0.18	0.02	0.10
Critical Dry	1.01	1.11	1.42	0.87	0.94	0.87	0.45	0.57	0.56	0.45	0.32	0.56	0.76

Table E-2-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.10	0.08	0.12	0.18	0.19	0.13	0.12	0.17	0.23	0.22	0.20	0.17	0.16
Wet	0.11	(0.06)	0.00	0.15	0.05	0.03	0.03	0.05	0.11	0.19	0.16	0.14	0.08
Above Normal	(0.19)	(0.25)	0.18	0.13	0.17	0.12	0.14	0.00	0.09	0.17	0.12	0.11	0.07
Below Normal	(0.03)	0.03	(0.08)	0.01	0.06	0.08	0.12	0.18	0.29	0.16	0.16	0.21	0.10
Dry	0.05	0.08	(0.16)	0.09	0.16	0.01	0.12	0.28	0.22	0.20	0.22	0.05	0.11
Critical Dry	0.67	0.79	1.03	0.68	0.73	0.60	0.32	0.40	0.50	0.46	0.38	0.38	0.58

Modeling Technical Appendix – Percentage Change of the 30,000 AF Alternative to Existing Conditions Baseline

This attachment summarizes the percentage change of the 30,000 AF Alternative to Existing Conditions Baseline (1.2x-1.0)/1.0 conducted for El Dorado Water Reliability Project (EDWRP) Draft Environmental Impact Report (EIR).

CONTENTS

Tables

Table E-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type. - 1 -
Table E-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type. - 1 -
Table E-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type. - 1 -
Table E-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type. - 1 -
Table E-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type. - 2 -
Table E-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type. - 2 -
Table E-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type. - 2 -
Table E-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type. - 2 -
Table E-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type. - 3 -
Table E-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type. - 3 -
Table E-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type. - 3 -
Table E-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type. - 3 -
Table E-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type. - 4 -
Table E-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type. - 4 -
Table E-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type. - 4 -
Table E-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type. - 4 -
Table E-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type. - 5 -
Table E-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type. - 5 -
Table E-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type. - 5 -
Table E-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type. - 5 -
Table E-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type. - 6 -
Table E-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type. - 6 -
Table E-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type. - 6 -
Table E-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type. - 6 -
Table E-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type. - 7 -
Table E-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type. - 7 -
Table E-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type. - 7 -
Table E-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type. - 7 -
Table E-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type. - 8 -

Table E-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type. - 8 -
Table E-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type. - 8 -
Table E-3-32. Monthly Average of Delta outflow in Each Water Year Type. - 8 -
Table E-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type. - 9 -
Table E-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type. - 9 -
Table E-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type. - 9 -
Table E-3-36. Monthly Average of X2 Position in Each Water Year Type. - 9 -
Table E-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type. - 10 -
Table E-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type. - 10 -
Table E-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type. - 10 -
Table E-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type. - 10 -
Table E-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type. - 11 -
Table E-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type. - 11 -
Table E-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type. - 11 -

Table E-3-1. Monthly Average of Union Valley Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-2.4%	-1.6%	-0.8%	-2.6%	-2.5%	-1.9%	-1.4%	-0.7%	-1.1%	-2.1%	-3.2%	-2.4%	-1.9%
Wet	-2.5%	-1.6%	-0.9%	-1.6%	-2.0%	-2.0%	-1.6%	-0.2%	0.0%	-0.8%	-2.5%	-1.7%	-1.5%
Above Normal	-2.1%	-1.3%	-0.3%	-2.1%	-2.0%	-1.3%	-1.1%	-0.1%	0.0%	-1.0%	-2.7%	-1.8%	-1.3%
Below Normal	-2.9%	-2.3%	-1.4%	-3.7%	-2.9%	-1.6%	-1.0%	-0.3%	-0.5%	-1.4%	-2.1%	-1.5%	-1.8%
Dry	-1.7%	-1.1%	-0.2%	-2.7%	-2.7%	-2.0%	-1.0%	-1.0%	-2.3%	-3.4%	-3.6%	-2.6%	-2.0%
Critical Dry	-2.7%	-2.0%	-1.3%	-3.8%	-4.1%	-3.8%	-3.5%	-4.1%	-6.6%	-9.0%	-9.9%	-8.7%	-5.0%

Table E-3-2. Monthly Average of Ice House Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-3. Monthly Average of Loon Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-4. Monthly Average of Jenkinson Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-53.6%	-62.2%	-64.7%	-57.4%	-49.0%	-40.6%	-34.0%	-29.3%	-26.9%	-27.0%	-28.8%	-39.4%	-42.8%
Wet	-58.6%	-65.2%	-60.4%	-44.5%	-33.3%	-22.5%	-14.6%	-9.2%	-7.4%	-7.4%	-7.9%	-21.2%	-29.4%
Above Normal	-47.7%	-56.5%	-60.3%	-52.2%	-40.9%	-31.1%	-24.2%	-18.6%	-16.1%	-18.1%	-22.1%	-37.0%	-35.4%
Below Normal	-52.7%	-61.5%	-66.2%	-64.1%	-56.8%	-47.4%	-39.4%	-33.7%	-31.0%	-30.0%	-31.0%	-41.0%	-46.2%
Dry	-55.3%	-65.0%	-71.6%	-70.3%	-65.9%	-59.2%	-53.1%	-49.8%	-47.8%	-48.3%	-51.2%	-57.4%	-57.9%
Critical Dry	-51.1%	-60.7%	-67.0%	-67.5%	-64.7%	-61.3%	-59.1%	-57.8%	-56.6%	-55.4%	-54.7%	-56.7%	-59.4%

Table E-3-5. Monthly Average of Stumpy Meadow Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-18.8%	-19.1%	-16.9%	-14.6%	-11.6%	-8.4%	-5.4%	-4.4%	-5.2%	-7.9%	-11.6%	-15.6%	-11.6%
Wet	-19.5%	-17.9%	-10.1%	-4.5%	-1.2%	0.0%	0.0%	0.0%	-1.3%	-4.5%	-8.4%	-12.7%	-6.7%
Above Normal	-16.3%	-17.0%	-15.3%	-11.8%	-5.6%	-1.0%	0.0%	0.0%	-1.5%	-5.4%	-10.4%	-14.8%	-8.3%
Below Normal	-18.4%	-19.3%	-19.4%	-18.8%	-15.8%	-11.3%	-4.5%	-1.7%	-3.2%	-5.9%	-9.5%	-13.6%	-11.8%
Dry	-20.5%	-21.4%	-21.6%	-22.2%	-21.1%	-16.6%	-11.6%	-10.8%	-10.9%	-13.3%	-16.7%	-20.4%	-17.3%
Critical Dry	-19.5%	-21.1%	-21.6%	-22.6%	-22.6%	-21.9%	-21.4%	-20.3%	-18.5%	-18.0%	-18.7%	-20.9%	-20.6%

Table E-3-6. Monthly Average of Caples Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.7%	-1.1%	-0.7%	-0.6%	-0.6%	-0.6%	-0.1%	0.0%	-0.2%	0.1%	-0.1%	-0.4%
Wet	-0.5%	-1.5%	-3.1%	-2.3%	-1.9%	-1.8%	-1.8%	-0.4%	0.0%	0.0%	0.2%	0.0%	-1.1%
Above Normal	-0.1%	-0.7%	-1.1%	-0.7%	-0.7%	-0.7%	-0.7%	0.0%	0.0%	0.0%	0.8%	0.1%	-0.3%
Below Normal	-0.3%	-0.2%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	-0.1%	-0.1%	0.2%	-0.1%	0.0%
Dry	0.1%	-0.5%	-0.5%	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	-0.1%	-0.7%	-0.6%	-0.5%	-0.3%
Critical Dry	0.0%	-0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.4%	-0.3%	-0.2%	-0.1%

Table E-3-7. Monthly Average of Silver Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	15.4%	20.9%	8.5%	4.2%	2.6%	2.4%	0.4%	0.0%	0.0%	0.0%	0.5%	4.6%
Wet	0.2%	11.8%	11.8%	7.1%	5.8%	3.2%	2.4%	0.8%	0.0%	0.0%	0.0%	0.1%	3.6%
Above Normal	0.0%	15.5%	21.2%	12.0%	7.1%	5.6%	5.5%	1.1%	0.0%	0.0%	0.0%	0.8%	5.7%
Below Normal	0.1%	17.6%	25.7%	12.0%	4.9%	3.1%	2.9%	0.0%	0.0%	0.0%	0.0%	0.4%	5.6%
Dry	0.2%	16.6%	23.5%	4.4%	1.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.8%	3.9%
Critical Dry	0.0%	15.3%	23.9%	6.1%	0.5%	0.1%	0.3%	0.2%	0.2%	0.1%	0.1%	0.9%	4.0%

Table E-3-8. Monthly Average of Aloha Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.9%	-0.4%	-0.1%	0.0%
Wet	0.0%	2.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-0.8%	-0.3%	0.0%
Above Normal	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%	-0.8%	-0.5%	-0.1%
Below Normal	0.5%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.4%	-0.5%	0.0%	0.1%
Dry	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	0.0%	0.0%	0.1%
Critical Dry	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	0.2%

Table E-3-9. Monthly Average of Echo Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	1.9%	1.8%	1.0%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Wet	0.0%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Above Normal	0.0%	1.7%	1.6%	0.7%	0.5%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.5%
Below Normal	0.0%	2.3%	2.2%	1.3%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
Dry	0.0%	1.9%	1.8%	1.5%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Critical Dry	0.0%	2.1%	2.0%	1.8%	1.4%	0.5%	0.2%	0.2%	0.2%	0.2%	0.1%	0.0%	0.7%

Table E-3-10. Monthly Average of Union Valley Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%
Wet	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%

Table E-3-11. Monthly Average of Jenkinson Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.9%	-1.2%	-1.4%	-1.3%	-1.2%	-1.0%	-0.8%	-0.7%	-0.6%	-0.6%	-0.6%	-0.7%	-0.9%
Wet	-1.0%	-1.4%	-1.5%	-1.2%	-0.9%	-0.6%	-0.4%	-0.2%	-0.2%	-0.1%	-0.1%	-0.3%	-0.7%
Above Normal	-0.8%	-1.0%	-1.2%	-1.2%	-1.0%	-0.7%	-0.5%	-0.4%	-0.3%	-0.3%	-0.4%	-0.5%	-0.7%
Below Normal	-0.9%	-1.1%	-1.3%	-1.4%	-1.3%	-1.1%	-0.9%	-0.7%	-0.7%	-0.6%	-0.6%	-0.7%	-0.9%
Dry	-0.9%	-1.2%	-1.5%	-1.5%	-1.5%	-1.3%	-1.2%	-1.1%	-1.0%	-1.0%	-0.9%	-1.0%	-1.2%
Critical Dry	-0.8%	-1.1%	-1.3%	-1.3%	-1.3%	-1.2%	-1.2%	-1.1%	-1.1%	-1.0%	-1.0%	-1.0%	-1.1%

Table E-3-12. Monthly Average of Stumpy Meadow Reservoir Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Wet	-0.2%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.1%
Above Normal	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.1%
Below Normal	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%
Dry	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.2%
Critical Dry	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%

Table E-3-13. Monthly Average of Caples Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-14. Monthly Average of Silver Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-15. Monthly Average of Aloha Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-16. Monthly Average of Echo Lake Water Elevation in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-17. Monthly Average of South Fork American River below Chili Bar Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.7%	-5.3%	-1.9%	-1.7%	-1.5%	-2.0%	-1.7%	-2.2%	-3.8%	-7.1%	-6.5%	-7.2%	-3.5%
Wet	-1.3%	-2.9%	-0.1%	-2.2%	-0.3%	-0.6%	-0.8%	-1.8%	-2.8%	-5.1%	-5.1%	-6.2%	-2.4%
Above Normal	-1.7%	-6.2%	-2.8%	-1.5%	-1.3%	-2.0%	-1.2%	-1.9%	-4.1%	-7.6%	-5.3%	-6.0%	-3.5%
Below Normal	-2.1%	-7.6%	-4.3%	-1.1%	-3.4%	-3.0%	-1.8%	-2.4%	-4.6%	-9.3%	-8.5%	-6.0%	-4.5%
Dry	-1.7%	-5.9%	-3.9%	-0.3%	-3.9%	-4.2%	-3.8%	-4.0%	-6.0%	-9.4%	-7.4%	-8.9%	-5.0%
Critical Dry	-2.1%	-7.9%	-4.0%	-0.7%	-0.7%	-4.4%	-4.2%	-3.4%	-0.6%	-6.3%	-6.0%	-15.6%	-4.7%

Table E-3-18. Monthly Average of Silver Creek at mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	-3.6%	0.0%	-0.7%	-1.6%	-6.6%	0.0%	-2.9%	-0.6%	0.0%	0.0%	0.0%	-1.3%
Wet	0.0%	-6.5%	0.0%	-1.3%	0.0%	-7.7%	0.0%	-4.1%	-0.7%	-0.1%	0.0%	0.0%	-1.7%
Above Normal	0.0%	0.0%	0.0%	0.9%	-8.1%	-7.4%	0.0%	-2.9%	-0.5%	0.0%	0.0%	0.0%	-1.5%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.1%	-6.3%	0.0%	-0.2%	-0.7%	0.0%	0.0%	0.0%	-0.6%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table E-3-19. Monthly Average of South Fork American River above Silver Creek Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.6%	-7.7%	0.9%	1.8%	0.9%	-0.9%	-1.1%	-0.4%	-1.5%	-3.2%	-3.1%	-3.6%	-1.4%
Wet	0.8%	-2.4%	1.8%	-0.7%	-0.2%	-0.4%	-0.8%	-0.4%	-1.0%	-1.7%	-3.0%	-2.1%	-0.8%
Above Normal	1.4%	-10.6%	0.0%	0.7%	0.6%	-1.0%	-1.2%	-0.3%	-1.4%	-2.6%	-2.1%	-2.2%	-1.6%
Below Normal	-0.4%	-14.7%	-1.0%	5.6%	2.7%	-0.7%	-1.1%	-0.1%	-1.6%	-5.9%	-5.6%	-4.6%	-2.3%
Dry	0.8%	-10.8%	-1.0%	14.5%	1.8%	-1.5%	-1.6%	-0.9%	-4.0%	-6.4%	-1.3%	-6.6%	-1.4%
Critical Dry	-0.4%	-15.5%	-1.4%	16.3%	5.0%	-2.9%	-2.4%	-1.2%	-4.7%	-9.9%	-3.1%	-5.5%	-2.1%

Table E-3-20. Monthly Average of Gerle Creek below Diversion Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-15.6%	-25.3%	-74.9%	-56.4%	-60.3%	-61.0%	-51.4%	6.7%	46.9%	-3.5%	-2.5%	-2.0%	-25.0%
Wet	-21.3%	-59.2%	-75.7%	-88.2%	-50.3%	-89.0%	-55.9%	40.9%	192.6%	0.0%	0.0%	0.0%	-17.2%
Above Normal	-14.4%	0.0%	-88.9%	-31.4%	-80.2%	-36.9%	-78.0%	-18.3%	0.0%	0.0%	0.0%	0.0%	-29.0%
Below Normal	-15.4%	1.5%	0.0%	-0.7%	-51.4%	-46.0%	7.4%	-25.3%	1.1%	-6.4%	1.1%	0.4%	-11.1%
Dry	-12.0%	-2.6%	-1.3%	0.0%	-56.0%	-57.9%	-2.5%	-45.1%	-6.3%	-5.6%	-6.1%	-2.1%	-16.5%
Critical Dry	-5.3%	0.0%	-1.9%	-1.8%	1.9%	3.9%	-3.3%	-13.0%	-13.0%	-15.8%	-25.0%	-25.0%	-8.2%

Table E-3-21. Monthly Average of Total Inflow Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-3.6%	-10.4%	-33.3%	-28.5%	-22.8%	-22.8%	-7.8%	14.9%	56.4%	-0.2%	-6.5%	-2.1%	-5.5%
Wet	-5.1%	-11.8%	-34.6%	-30.0%	-20.8%	-21.7%	-12.3%	17.3%	84.8%	8.1%	-4.0%	-3.2%	-2.8%
Above Normal	-3.9%	-12.0%	-35.7%	-26.2%	-23.7%	-20.3%	-12.1%	18.9%	66.4%	0.2%	-6.6%	-1.6%	-4.7%
Below Normal	-4.5%	-8.5%	-32.1%	-33.5%	-26.4%	-25.9%	0.1%	14.0%	42.2%	-7.7%	-9.4%	-3.6%	-7.9%
Dry	-1.0%	-8.6%	-15.1%	-26.4%	-22.6%	-25.9%	0.4%	-0.7%	3.8%	-2.9%	-6.8%	-0.9%	-8.9%
Critical Dry	-1.9%	-9.0%	-9.6%	-15.8%	-15.2%	-28.1%	10.0%	6.9%	-10.6%	0.7%	-2.0%	3.0%	-6.0%

Table E-3-22. Monthly Average of Upper American River Project Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	1.1%	-1.6%	-17.7%	-35.2%	-28.6%	-21.2%	31.8%	6.8%	95.8%	32.6%	3.3%	4.4%	6.0%
Wet	-7.2%	-6.5%	-17.1%	-34.1%	-27.6%	-12.4%	24.4%	16.7%	94.6%	94.5%	9.0%	13.1%	12.3%
Above Normal	2.4%	-7.6%	-25.0%	-52.7%	-30.1%	-19.1%	25.0%	16.7%	173.2%	20.3%	7.1%	8.0%	9.8%
Below Normal	7.5%	0.7%	-22.6%	-28.7%	-39.6%	-26.6%	35.4%	-14.4%	99.4%	15.0%	-1.0%	0.7%	2.2%
Dry	3.0%	8.0%	-8.5%	-1.8%	-7.9%	-36.0%	74.6%	-3.0%	13.9%	5.8%	-0.7%	-3.0%	3.7%
Critical Dry	2.9%	3.4%	-4.0%	25.5%	21.6%	-53.2%	12.0%	-2.5%	8.1%	11.1%	0.6%	-3.3%	1.8%

Table E-3-23. Monthly Average of El Dorado Powerhouse Power Generation Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	#DIV/0!	-18.5%	-33.4%	-14.9%	-25.2%	-21.3%	-10.5%	4.5%	69.8%	540.8%	207.2%	106.5%	#DIV/0!
Wet	#DIV/0!	-16.2%	-28.2%	-13.3%	-7.4%	-16.4%	-12.5%	-3.4%	32.5%	917.1%	303.1%	101.7%	#DIV/0!
Above Normal	#DIV/0!	-25.2%	-31.2%	-14.5%	-18.9%	-16.4%	-14.1%	-6.9%	65.7%	1099.2%	914.2%	271.6%	#DIV/0!
Below Normal	#DIV/0!	-18.7%	-46.3%	-20.6%	-32.2%	-26.5%	-11.1%	1.4%	96.4%	784.5%	434.6%	314.8%	#DIV/0!
Dry	#DIV/0!	-17.3%	-32.4%	-10.2%	-45.8%	-22.8%	-7.9%	15.9%	159.4%	130.3%	66.4%	21.0%	#DIV/0!
Critical Dry	#DIV/0!	-10.7%	-26.5%	-17.0%	-43.4%	-31.4%	0.5%	59.0%	36.3%	7.3%	25.3%	47.2%	#DIV/0!

Table E-3-24. Monthly Average of South Fork American abv Folsom Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-4.7%	-3.7%	-36.2%	-39.4%	-33.9%	-33.5%	-12.4%	7.7%	58.6%	-3.9%	-2.9%	0.9%	-8.6%
Wet	-10.1%	-8.1%	-36.7%	-42.4%	-28.9%	-29.9%	-15.0%	13.0%	82.5%	10.9%	0.9%	1.4%	-5.2%
Above Normal	-6.0%	-7.6%	-48.1%	-39.4%	-38.3%	-27.1%	-16.0%	12.4%	79.8%	-6.5%	0.1%	2.5%	-7.8%
Below Normal	-0.7%	0.2%	-23.5%	-41.9%	-40.4%	-36.6%	-7.6%	5.9%	50.2%	-12.0%	-5.1%	0.1%	-9.3%
Dry	-0.9%	1.6%	-21.1%	-23.8%	-32.2%	-44.5%	-6.7%	-17.0%	0.9%	-8.6%	-5.5%	1.4%	-13.0%
Critical Dry	-2.3%	2.8%	-9.6%	-8.9%	-11.2%	-48.5%	1.9%	-2.6%	-18.2%	-9.0%	-8.3%	-6.7%	-10.0%

Table E-3-25. Monthly Average of Folsom Reservoir Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.3%	-1.7%	-1.5%	-1.3%	-0.9%	-0.9%	-0.7%	-0.6%	-0.5%	-0.6%	-0.7%	-1.1%	-1.0%
Wet	-0.9%	-1.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.4%	-0.2%
Above Normal	-0.9%	-1.4%	-1.4%	-0.9%	-0.1%	-0.1%	0.0%	0.0%	0.0%	-0.4%	-0.6%	-0.7%	-0.5%
Below Normal	-1.7%	-2.0%	-2.2%	-2.0%	-0.9%	-0.8%	-0.5%	-0.4%	-0.3%	0.0%	-0.1%	-0.7%	-1.0%
Dry	-2.2%	-2.8%	-3.3%	-3.2%	-2.8%	-3.1%	-2.2%	-1.9%	-1.6%	-1.9%	-2.2%	-3.3%	-2.5%
Critical Dry	-1.0%	-2.3%	-2.8%	-2.5%	-1.9%	-2.2%	-2.3%	-2.2%	-1.9%	-2.0%	-1.9%	-2.9%	-2.1%

Table E-3-26. Monthly Average of Shasta Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%
Wet	-0.1%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Above Normal	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Below Normal	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	-0.1%	-0.1%	-0.2%	-0.4%	-0.5%	-0.5%	-0.3%
Dry	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.6%	-0.7%	-0.7%	-0.4%
Critical Dry	-1.2%	-1.2%	-1.1%	-1.3%	-1.0%	-1.0%	-1.0%	-1.0%	-1.4%	-1.9%	-1.7%	-1.9%	-1.3%

Table E-3-27. Monthly Average of Trinity Lake Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.2%
Wet	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%
Above Normal	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Below Normal	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	-0.4%	-0.1%
Dry	-0.2%	-0.2%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%	-0.3%
Critical Dry	-0.8%	-0.9%	-1.0%	-0.7%	-0.7%	-0.7%	-0.8%	-0.7%	-0.7%	-0.8%	-0.8%	-0.7%	-0.8%

Table E-3-28. Monthly Average of Lake Oroville Storage in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%
Wet	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.1%
Above Normal	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.1%
Below Normal	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.2%	-0.3%
Dry	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%
Critical Dry	-0.4%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.6%	-0.7%	-0.9%	-0.9%	-0.5%

Table E-3-29. Monthly Average of American River at Nimbus Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.1%	-1.0%	-1.2%	-1.0%	-1.4%	-0.8%	-1.7%	-1.7%	-2.4%	-2.1%	-2.4%	-1.7%	-1.5%
Wet	0.0%	-1.1%	-1.7%	-1.0%	-0.5%	-0.5%	-0.6%	-1.2%	-1.8%	-1.7%	-1.9%	-2.5%	-1.2%
Above Normal	0.0%	-0.6%	-1.2%	-1.3%	-2.6%	-1.7%	-1.5%	-1.0%	-2.1%	-1.0%	-1.4%	-2.4%	-1.4%
Below Normal	-0.3%	-1.9%	-1.0%	-0.9%	-3.7%	-2.6%	-3.2%	-2.8%	-2.8%	-2.6%	-2.5%	-0.7%	-2.1%
Dry	0.0%	-1.3%	-0.2%	-1.1%	-1.5%	1.1%	-6.1%	-3.9%	-3.9%	-2.4%	-3.2%	-0.6%	-1.9%
Critical Dry	1.5%	1.4%	1.0%	-1.6%	-2.9%	0.5%	-1.3%	-2.9%	-5.0%	-4.4%	-4.4%	-1.3%	-1.6%

Table E-3-30. Monthly Average of Sacramento River at Wilkins Slough Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.4%	0.0%	0.1%	0.0%	-0.1%	0.0%	0.2%	0.1%	0.7%	0.6%	0.1%	0.1%	0.1%
Wet	-0.3%	0.0%	0.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.1%	0.1%	0.0%
Above Normal	-0.3%	-0.1%	-0.3%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.3%	0.4%	-0.1%	0.3%	0.0%
Below Normal	0.1%	0.0%	-0.1%	0.0%	-0.3%	-0.1%	0.5%	0.3%	1.1%	1.3%	0.5%	0.3%	0.3%
Dry	-1.6%	-0.1%	0.3%	0.0%	0.0%	0.0%	0.7%	0.7%	1.3%	0.7%	0.7%	0.0%	0.2%
Critical Dry	-0.2%	0.1%	-0.2%	0.5%	-0.2%	0.0%	0.1%	0.1%	1.0%	0.9%	-1.3%	-0.3%	0.0%

Table E-3-31. Monthly Average of Feather River flows at Mouth Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.1%	-0.1%	0.0%	-0.2%	-0.1%	0.0%	0.1%	0.3%	0.2%	0.2%	-0.2%	0.0%
Wet	-0.3%	-0.1%	-0.2%	-0.1%	-0.2%	0.0%	-0.1%	0.0%	0.1%	0.4%	0.4%	0.4%	0.0%
Above Normal	0.1%	0.0%	0.0%	0.0%	-0.3%	-0.2%	0.0%	0.0%	0.1%	0.3%	0.4%	0.0%	0.0%
Below Normal	0.1%	0.0%	0.4%	-0.3%	-0.3%	-0.2%	0.0%	0.4%	0.8%	0.1%	0.1%	-1.7%	-0.1%
Dry	-0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.6%	0.5%	0.3%	-0.3%	-0.4%	0.0%	0.1%
Critical Dry	0.1%	-0.5%	0.0%	0.9%	0.1%	0.0%	0.3%	0.2%	0.7%	-0.1%	0.2%	0.0%	0.2%

Table E-3-32. Monthly Average of Delta outflow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.1%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.2%	-0.3%	-0.3%	0.0%	-0.2%	-0.1%	-0.2%
Wet	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	0.0%	-0.1%	-0.2%	-0.4%	-0.2%	-0.2%	-0.2%	-0.2%
Above Normal	0.0%	-0.3%	-0.4%	-0.1%	-0.4%	-0.4%	-0.2%	-0.2%	-0.6%	0.4%	0.0%	0.0%	-0.2%
Below Normal	0.0%	-0.6%	-0.2%	-0.2%	-0.5%	-0.3%	-0.3%	-0.5%	-0.2%	0.1%	-0.2%	-0.4%	-0.3%
Dry	0.0%	-0.4%	0.0%	-0.1%	-0.1%	0.1%	-0.4%	-0.2%	0.0%	0.0%	0.0%	0.0%	-0.1%
Critical Dry	0.1%	-0.4%	-0.2%	0.4%	-0.6%	0.2%	0.0%	-0.5%	0.0%	0.0%	-0.8%	0.0%	-0.2%

Table E-3-33. Monthly Average of Jones Pumping Plant Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-0.2%	0.4%	0.5%	0.1%	-0.6%	-0.1%	-0.1%	0.0%	-0.1%	0.0%	-0.3%	0.2%	0.0%
Wet	-0.2%	0.1%	0.0%	0.1%	0.0%	-0.1%	-0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Above Normal	-0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.1%	-0.2%	-0.1%	0.0%
Below Normal	-0.2%	0.3%	-0.1%	-0.1%	-1.8%	0.0%	-0.1%	0.0%	0.0%	0.0%	-0.1%	0.2%	-0.2%
Dry	-1.0%	0.0%	2.5%	0.1%	0.1%	-0.5%	0.0%	-0.2%	-0.2%	0.0%	-0.1%	0.4%	0.1%
Critical Dry	0.4%	2.0%	0.8%	0.4%	-1.0%	0.0%	-0.1%	-0.2%	-0.6%	-0.2%	-5.0%	0.9%	-0.2%

Table E-3-34. Monthly Average of Banks Pumping Plant (CVP) Export in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-22.7%	1.1%	-1.7%	2.5%	-0.1%	N/A	N/A	7.5%	0.0%	0.9%	-0.8%	0.9%	N/A
Wet	N/A	1.3%	-0.8%	2.5%	-0.1%	N/A	N/A	7.5%	0.0%	0.0%	N/A	N/A	N/A
Above Normal	-1.6%	0.9%	-0.9%	N/A	-100.0%	N/A	N/A	N/A	N/A	-15.9%	N/A	N/A	N/A
Below Normal	N/A	1.5%	-5.0%	N/A	N/A	N/A	N/A	N/A	N/A	-1.2%	-0.1%	0.9%	N/A
Dry	-35.9%	0.8%	-1.6%	N/A	N/A	N/A	N/A	N/A	N/A	1.1%	-2.0%	N/A	N/A
Critical Dry	0.0%	-1.0%	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	5.0%	N/A	N/A	N/A

Table E-3-35. Monthly Average of Delta Cross Channel (DCC) Days Gate Open in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	-1.9%	0.1%	2.4%	N/A	N/A	N/A	N/A	N/A	1.2%	0.0%	0.0%	0.0%	N/A
Wet	0.0%	0.0%	0.0%	N/A	N/A	N/A	N/A	N/A	4.8%	0.0%	0.0%	0.0%	N/A
Above Normal	0.0%	0.0%	1.5%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Below Normal	0.0%	0.3%	0.0%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Dry	-8.8%	0.0%	-0.5%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A
Critical Dry	0.0%	0.0%	12.1%	N/A	N/A	N/A	N/A	N/A	0.0%	0.0%	0.0%	0.0%	N/A

Table E-3-36. Monthly Average of X2 Position in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Wet	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
Above Normal	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
Below Normal	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Dry	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Critical Dry	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%

Table E-3-37. Monthly Average of American River below Folsom Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-1.1%	-1.3%	-1.1%	-1.4%	-0.8%	-1.7%	-1.7%	-2.4%	-2.1%	-2.3%	-1.7%	-1.4%
Wet	0.0%	-1.3%	-0.6%	-1.0%	-0.5%	-0.5%	-0.6%	-1.2%	-1.8%	-1.6%	-1.9%	-2.5%	-1.1%
Above Normal	-0.4%	-0.6%	-0.3%	-1.3%	-2.6%	-1.7%	-1.5%	-1.0%	-2.1%	-1.0%	-1.4%	-2.4%	-1.4%
Below Normal	0.9%	-0.4%	-0.7%	-0.9%	-3.7%	-2.6%	-3.1%	-2.8%	-2.7%	-2.5%	-2.5%	-0.7%	-1.8%
Dry	0.3%	-1.1%	-4.9%	-1.3%	-1.6%	1.3%	-6.1%	-3.8%	-3.8%	-2.3%	-3.1%	-0.8%	-2.3%
Critical Dry	0.1%	-3.9%	0.0%	-1.6%	-3.0%	0.4%	-1.3%	-2.8%	-5.0%	-4.3%	-4.3%	-1.5%	-2.3%

Table E-3-38. Monthly Average of American River below Nimbus (Hazel Ave) Dam Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-1.1%	-1.3%	-1.0%	-1.4%	-0.8%	-1.7%	-1.7%	-2.4%	-2.1%	-2.4%	-1.7%	-1.5%
Wet	0.0%	-1.3%	-0.6%	-1.0%	-0.5%	-0.5%	-0.6%	-1.2%	-1.8%	-1.7%	-1.9%	-2.5%	-1.1%
Above Normal	-0.4%	-0.6%	-0.3%	-1.3%	-2.6%	-1.7%	-1.5%	-1.0%	-2.1%	-1.0%	-1.4%	-2.4%	-1.4%
Below Normal	0.9%	-0.4%	-0.7%	-0.9%	-3.7%	-2.6%	-3.1%	-2.8%	-2.8%	-2.5%	-2.6%	-0.7%	-1.8%
Dry	0.3%	-1.1%	-4.8%	-1.3%	-1.5%	1.3%	-6.1%	-3.9%	-3.9%	-2.4%	-3.2%	-0.8%	-2.3%
Critical Dry	0.1%	-3.9%	0.0%	-1.6%	-2.9%	0.4%	-1.3%	-2.8%	-5.1%	-4.4%	-4.4%	-1.5%	-2.3%

Table E-3-39. Monthly Average of American River at Watt Ave Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-1.1%	-1.2%	-1.0%	-1.4%	-0.8%	-1.7%	-1.7%	-2.4%	-2.1%	-2.4%	-1.7%	-1.4%
Wet	0.0%	-1.3%	-0.5%	-0.9%	-0.4%	-0.5%	-0.6%	-1.2%	-1.8%	-1.7%	-1.9%	-2.5%	-1.1%
Above Normal	-0.4%	-0.6%	-0.3%	-1.3%	-2.6%	-1.7%	-1.5%	-1.0%	-2.1%	-1.0%	-1.4%	-2.4%	-1.4%
Below Normal	0.9%	-0.4%	-0.7%	-0.8%	-3.6%	-2.6%	-3.1%	-2.8%	-2.8%	-2.5%	-2.6%	-0.7%	-1.8%
Dry	0.3%	-1.1%	-4.7%	-1.3%	-1.5%	1.3%	-6.0%	-3.9%	-3.9%	-2.4%	-3.1%	-0.8%	-2.3%
Critical Dry	0.1%	-3.8%	0.0%	-1.5%	-2.8%	0.4%	-1.3%	-2.8%	-5.0%	-4.4%	-4.4%	-1.4%	-2.3%

Table E-3-40. Monthly Average of American River above Confluence Flow in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	-1.1%	-1.3%	-1.0%	-1.4%	-0.8%	-1.7%	-1.8%	-2.5%	-2.2%	-2.6%	-1.8%	-1.5%
Wet	0.0%	-1.3%	-0.6%	-1.0%	-0.4%	-0.5%	-0.6%	-1.2%	-1.8%	-1.8%	-2.0%	-2.6%	-1.2%
Above Normal	-0.4%	-0.6%	-0.3%	-1.3%	-2.6%	-1.7%	-1.6%	-1.0%	-2.2%	-1.1%	-1.5%	-2.4%	-1.4%
Below Normal	1.0%	-0.4%	-0.7%	-0.9%	-3.7%	-2.7%	-3.3%	-2.9%	-2.9%	-2.7%	-2.8%	-0.8%	-1.9%
Dry	0.4%	-1.2%	-4.9%	-1.4%	-1.6%	1.4%	-6.4%	-4.2%	-4.1%	-2.5%	-3.4%	-0.9%	-2.4%
Critical Dry	0.1%	-4.3%	0.1%	-1.7%	-3.0%	0.5%	-1.4%	-2.9%	-5.6%	-4.8%	-5.1%	-1.6%	-2.5%

Table E-3-41. Monthly Average of American River below Folsom Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.4%	0.3%	0.5%	0.5%	0.5%	0.4%	0.3%	0.4%	0.3%	0.3%	0.3%	0.4%	0.4%
Wet	0.3%	-0.1%	0.1%	0.3%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.2%	0.1%
Above Normal	-0.5%	-0.5%	0.5%	0.4%	0.4%	0.2%	0.2%	-0.1%	0.1%	0.3%	0.2%	0.1%	0.1%
Below Normal	0.0%	0.1%	-0.2%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.2%	0.2%	0.4%	0.1%
Dry	0.2%	0.2%	-0.2%	0.3%	0.5%	0.0%	0.2%	0.5%	0.1%	0.3%	0.2%	0.0%	0.2%
Critical Dry	2.8%	2.5%	3.8%	2.3%	2.4%	2.2%	1.2%	1.3%	1.4%	0.7%	0.5%	1.6%	1.9%

Table E-3-42. Monthly Average of American River below Nimbus (Hazel Ave) Dam Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.3%	0.2%	0.3%	0.5%	0.4%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Wet	0.2%	-0.1%	0.0%	0.3%	0.1%	0.1%	0.0%	0.1%	0.1%	0.3%	0.2%	0.2%	0.1%
Above Normal	-0.4%	-0.5%	0.4%	0.3%	0.3%	0.2%	0.2%	0.0%	0.1%	0.3%	0.2%	0.1%	0.1%
Below Normal	0.0%	0.1%	-0.2%	0.0%	0.1%	0.1%	0.2%	0.2%	0.4%	0.2%	0.2%	0.4%	0.1%
Dry	0.1%	0.2%	-0.3%	0.2%	0.4%	0.0%	0.2%	0.4%	0.2%	0.3%	0.3%	0.0%	0.2%
Critical Dry	1.6%	1.9%	2.8%	1.8%	1.9%	1.6%	0.8%	0.9%	0.9%	0.7%	0.5%	0.8%	1.4%

Table E-3-43. Monthly Average of American River at Watt Ave Water Temperature in Each Water Year Type.

Water Year Type	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Average
Full Period	0.2%	0.1%	0.2%	0.4%	0.4%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Wet	0.2%	-0.1%	0.0%	0.3%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.3%	0.2%	0.1%
Above Normal	-0.3%	-0.4%	0.3%	0.3%	0.4%	0.2%	0.3%	0.0%	0.1%	0.3%	0.2%	0.2%	0.1%
Below Normal	0.0%	0.1%	-0.1%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.2%	0.2%	0.3%	0.2%
Dry	0.1%	0.1%	-0.3%	0.2%	0.3%	0.0%	0.2%	0.4%	0.3%	0.3%	0.3%	0.1%	0.2%
Critical Dry	1.0%	1.4%	2.0%	1.4%	1.4%	1.1%	0.5%	0.6%	0.7%	0.6%	0.5%	0.5%	1.0%

Appendix G
Modeling Technical Appendix

APPENDIX H

Full Water Forum Agreement Diversion, Sensitivity Analysis

H.1 Introduction

This appendix presents the results of simulated changes to surface water resources associated with the full amount of water allowed for diversion under the Sacramento Water Forum Agreement (WFA) together with the El Dorado Water Reliability Project (Proposed Project), which involves the diversion of up to 40,000 acre-feet (af) of water from the upper American River pursuant to a 1927 seniority appropriative water right. The WFA allows diversion of water from the lower American River in volumes higher than the amount estimated to be actually diverted to meet 2040 demand levels. However, because these additional amounts are allowed under the agreement, to assess the potential effects of water diverted at the amounts allowed under the WFA, additional modeling scenarios were developed to conduct a sensitivity analysis. These scenarios consider a future (2040) condition that reflects a higher future level of water diverted in the lower American River based on full diversion amounts from the 2015 update to the WFA (Sacramento Water Forum 2015). This set of modeling scenarios is referred to herein using the title "Full WFA Diversions."

Development and analysis of these modeling scenarios is beyond what is required by the California Environmental Quality Act (CEQA), but the results from this additional modeling are presented herein for informational purposes. Thus, the results presented in this appendix are not used as the basis for the CEQA impact analysis. Further, the presentation of results is limited to changes in surface water hydrology parameters only.

H.2 Sacramento Water Forum Agreement

The WFA is a collaborative agreement signed in January 2000, and later updated in 2015, that outlines a regional water management framework for the Sacramento region in California. It was designed to address the area's long-term water needs while balancing environmental preservation efforts, particularly focused on the lower American River. The WFA has two coequal goals:

- Ensure a reliable and safe water supply for the region's economic health and development, extending through the year 2030.
- Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River, which is a crucial natural resource for the community.

Water purveyors in the lower American River region have signed voluntary Purveyor Specific Agreements (PSAs) as part of the WFA. These voluntary agreements specify the amount of water that purveyors can divert in wet, dry, and driest years; outline infrastructure projects needed to support these diversions; and require water conservation measures and sustainable groundwater management. Each PSA ensures that the water purveyor's specific needs are met while supporting the WFA's broader goals of reliable water supply and environmental conservation.

Under the WFA, the water year types are defined based on the amount of unimpaired inflow to Folsom Lake during the March–November period. These year types are used to determine how much water can be diverted by purveyors from the lower American River, depending on the water availability each year. The categories are:

- **Wet Year:** When unimpaired inflows exceed 1,600,000 af, there are no restrictions on water diversions.
- **Average Year (Hodge Year):** Unimpaired inflows are between 950,000 and 1,600,000 af. There are generally no restrictions on water diversions.
- **Drier Year (Wedge Year):** Unimpaired inflows are between 400,000 and 950,000 af, requiring water agencies to implement actions to reduce diversions.
- **Driest Year (Conference Year):** Unimpaired inflows are less than 400,000 af, leading to cutbacks in water diversions to protect the river ecosystem.

The volumes of water allowed for diversion in these categories are greater than the volumes of water expected to be diverted to meet estimated 2040 level of demands. Additional details on the surface water diversion limits for water purveyors under each of these year types are available in the 2015 WFA update (Sacramento Water Forum 2015) and summarized in Appendix G, *Modeling Technical Appendix*.

H.3 Approach to Analysis

This appendix presents two primary modeling scenarios:

- **Full WFA Diversions Conditions Baseline:** This scenario accounts for future water demands at the 2040 development level within the upper American River Basin, and the Central Valley Project/State Water Project (CVP/SWP) system by allowing for the diversion of water up to the maximum diversions permitted under the 2015 WFA update.
- **Full WFA Diversions Conditions with Project:** This scenario evaluates the potential effects of the Proposed Project, assuming maximum diversions in the lower American River as allowed by the WFA. It reflects conditions where the proposed development proceeds in conjunction with full WFA diversion implementation and implementation of the Proposed Project.

Both scenarios are evaluated using historical hydrology to ensure consistency with past water conditions. The Full WFA Diversions Conditions with Project scenario is analyzed relative to the Full WFA Diversions Conditions Baseline to isolate the incremental effects attributable to the Proposed Project.

In both scenarios, the demand, diversions, and operations for the upper American River (upstream of Folsom Reservoir) remain identical to those in the existing-conditions baseline and With-Project conditions, as detailed in Section 4.2, *Summary of Surface Hydrology Results*. Hence, these results are not repeated in this appendix. The focus of this appendix is on the combined effects of the Proposed Project and the increased water diversions allowed by the WFA in the lower American River. Therefore, the modeling results presented concentrate on areas downstream of Folsom Reservoir, including the lower American River, the CVP/SWP system, and the Sacramento–San Joaquin Delta (Delta).

The analytical tools used in this appendix are the same introduced in Section 4.1, *Approach to the Analysis,* and detailed in Appendix G, *Modeling Technical Appendix*. The modeling and assessment of model results followed the same approach as described in Section 4.2, *Summary of Surface Hydrology Results*. This approach is summarized below; more detailed information and complete model simulation results are provided in Appendix G, *Modeling Technical Appendix.*

Potential changes to surface water resources are quantified as the difference between two modeling scenario results. Relevant model locations and parameters for assessing potential changes to surface water resources are summarized in Table 4.2-2, Table 4.2-3, and Table 4.2-4. For consistency, the presentation and comparison approach mimics the results presented in Section 4.2, *Summary of Surface Hydrology Results*. See Appendix G, *Modeling Technical Appendix*, for more complete modeling details and results.

H.4 Comparison of Full WFA Diversions Conditions With Project to Full WFA Diversions Conditions Baseline

The following presents results from comparing the Full WFA Diversions Conditions With-Project and Full WFA Diversions Conditions Baseline model results. Changes in simulated (CalSim 3), long-term average monthly surface water parameters between the Full WFA Diversions Conditions With Project and Full WFA Diversions Conditions Baseline are summarized in **Table H-1**. Changes in simulated (HEC-5Q), long-term monthly average water temperatures for the lower American River are summarized in **Table H-2**.

H.4.1 Lower American River Flows and Temperatures, and Folsom Lake Storage

Based on CalSim 3 and HEC5Q modeling results, the majority of the changes for Folsom Lake and the lower American River under the Full WFA Diversions Conditions With Project scenario were negligible compared to the Full WFA Diversions Conditions Baseline. Across all water year types, the maximum decrease in average end-of-month Folsom Lake storage under the Full WFA Diversions Conditions With Project scenario was 5.3 percent (or 20,000 af). However, decreases of this magnitude were temporally limited, and on average, the long-term monthly decrease was

1.4 percent (or approximately 7,000 af)[1]. Storage decreases were generally greatest between August and January and were greater in drier water year types.

Comparison of the With Project and baseline long-term monthly average flows for the lower American River at Nimbus for each of the five water year types found that only in April of Dry years and June of Dry and Critically Dry years did simulated flow reductions exceed 5 percent for the With-Project scenario (the maximum simulated long-term monthly average flow decrease was 6.4 percent). Like storage decreases at Folsom Lake, flow decreases of these magnitudes (e.g., greater than 3–4 percent) were temporally limited and, on average, long-term monthly With-Project simulated flows at the American River at Nimbus decreased by only 1.6 percent compared to the Full WFA Diversions Conditions Baseline. Despite the slight decreases, simulated flows at this location always met the minimum-flow requirements set forth in State Water Resources Control Board Water Right Decision 893 and were above the minimum-flow targets set forth in the Modified American River Flow Management Standard (Sacramento Water Forum 2015; ARWA 2017) at a near-identical rate across all modeling scenarios. (For example, flows recommended in the standard were met more than 98.7 percent of the time in each model scenario.)

HEC-5Q model results for several locations along the lower American River show no changes in long-term monthly average water temperatures greater than 5 percent (Table H-2). Overall, simulated water temperatures along the lower American River under the Full WFA Diversions Conditions With Project scenario were always similar to the Full WFA Diversions Conditions Baseline and effectively showed very little change. Maximum simulated increases in long-term average monthly temperature at all Lower American River HEC-5Q model output locations between the Full WFA Diversions Conditions With Project scenario and the Full WFA Diversions Conditions Baseline were always no more than approximately 0.4 percent (i.e., no more than 0.3 degree Fahrenheit).

H.4.2 CVP/SWP-Related Rivers and Storage Facilities

Based on CalSim 3 modeling results, average changes in long-term average end-of-month storage at Shasta Lake, Trinity Lake, and Lake Oroville reservoirs under the Full WFA Diversions Conditions With Project scenario were all less than 10 thousand acre-feet (TAF) and all changes were below 1 percent of total reservoir storage capacity. Further, no simulated changes in long-term average end-of-month storage at Shasta Lake, Trinity Lake, and Lake Oroville reservoirs under the With Project scenario exceeded 5 percent when compared to the Full WFA Diversions Conditions Baseline (Table H-1). During certain months and water year types, potentially large-magnitude simulated storage decreases (e.g., 10 TAF) occurred at Shasta Lake and Lake Oroville. These decreases occurred primarily during drier water year types.

Like the CVP/SWP reservoirs, long-term average monthly flows for the Sacramento and Feather rivers and Delta outflows were very similar between the Full WFA Diversions Conditions With

[1] Decreases of this magnitude represent roughly 0.8 percent of total Folsom storage capacity.

Project scenario and Full WFA Diversions Conditions Baseline. For example, in general, average monthly flows for these locations were nearly identical between these modeling scenarios. Further, no simulated changes in long-term average monthly flows under the With-Project scenario exceeded 5 percent when compared to the Full WFA Diversions Conditions Baseline (Table H-1).

H.4.3 Delta Water Quality

Table H-3 summarizes CalSim 3-simulated changes in long-term average days the Delta Cross Channel (DCC) gates are open and the X2 position under the Full WFA Diversions Conditions With-Project scenario. Simulated changes to the number of days the DCC gates were open as a result of the Proposed Project relative to the Full WFA Diversions Conditions Baseline were typically negligible, with average changes varying by no more than 0.1 percent.

Simulated average differences in the X2 position between Full WFA Diversions With Project Conditions and the Full WFA Diversions Conditions Baseline were also typically negligible (Table H-3). The maximum increase between the With-Project scenario and the Full WFA Diversions Conditions Baseline was 0.1 kilometer (km). Comparison of February–June X2 positions found that all X2 locations were west of Collinsville (i.e., less than 81 km) in accordance with Water Right Decision 1641 (D-1641) objectives. In addition to meeting D-1641 X2 objectives, simulated results for all future model scenarios met other D-1641 objectives, Net Delta Outflow Index outflow standards, and export-to-inflow ratio criteria. Salinity criteria at Rock Slough, Emmaton, Jersey Point, and Collinsville were met consistently across all model scenarios (i.e., there were either no or only negligible differences between the With-Project scenario and the baseline) and on a daily basis were found to be met on more than 93 percent of simulation days, which is consistent with other CalSim 3 modeling (DWR 2017, 2021).

H.5 Summary of Findings

A comparison of the Full WFA Diversions Conditions With Project scenario to the Full WFA Diversion Conditions Baseline shows that the Proposed Project would introduce only negligible reductions in reservoir storage and river flows, primarily during dry years, while water quality and salinity in the Delta would remain unaffected.

TABLE H-1
SUMMARY OF CALSIM 3 SIMULATED MONTHLY LONG-TERM AVERAGE STREAMFLOWS AND RESERVOIR STORAGE UNDER THE FULL WFA DIVERSIONS CONDITIONS BASELINE AND FULL WFA DIVERSIONS CONDITIONS WITH PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for All Years (Percent change [magnitude change])[b]			Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for Critical/Dry Water Years (Percent change [magnitude change])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
American River at Nimbus (cfs)								
Full WFA Diversions Baseline	3,156	1,542	-	-	-	-	-	-
Full WFA Diversions With Project	3,108	1,508	-6.4% (-160)	2.7% (30)	-1.6% (-49)	-6.4% (-110)	2.7% (30)	-2% (-35)
Sacramento River at Wilkins Slough (cfs)								
Full WFA Diversions Baseline	8,755	6,018	-	-	-	-	-	-
Full WFA Diversions With Project	8,757	6,013	-2.6% (-168)	1.1% (79)	0% (2)	-2.6% (-168)	1.1% (73)	-0.1% (-5)
Feather River Flows at Mouth (cfs)								
Full WFA Diversions Baseline	7,297	3,262	-	-	-	-	-	-
Full WFA Diversions With Project	7,298	3,262	-1.3% (-99)	1.8% (108)	0.1% (0)	-1.3% (-99)	1% (35)	0.1% (0)
Delta Outflow (cfs)								
Full WFA Diversions Baseline	20,421	7,768	-	-	-	-	-	-
Full WFA Diversions With Project	20,386	7,759	-1.4% (-193)	1.2% (109)	-0.2% (-35)	-0.7% (-96)	1.2% (109)	-0.1% (-10)
Folsom Reservoir (TAF)								
Full WFA Diversions Baseline	592	433	-	-	-	-	-	-
Full WFA Diversions With Project	585	422	-5.3% (-20)	0.1% (1)	-1.4% (-7)	-5.3% (-20)	-0.5% (-2)	-2.6% (-11)
Shasta Lake (TAF)								
Full WFA Diversions Baseline	3,258	2,603	-	-	-	-	-	-
Full WFA Diversions With Project	3,257	2,606	-0.4% (-12)	0.9% (16)	0% (-2)	-0.4% (-9)	0.9% (16)	0.2% (4)
Trinity Lake (TAF)								
Full WFA Diversions Baseline	1,609	1,207	-	-	-	-	-	-
Full WFA Diversions With Project	1,607	1,205	-0.6% (-8)	0.3% (3)	-0.1% (-2)	-0.6% (-8)	0.3% (3)	-0.1% (-2)

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for All Years (Percent change [magnitude change])[b]			Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for Critical/Dry Water Years (Percent change [magnitude change])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Lake Oroville (TAF)								
Full WFA Diversions Baseline	2,323	1,707	-	-	-	-	-	-
Full WFA Diversions With Project	2,317	1,700	-0.7% (-12)	0% (0)	-0.3% (-5)	-0.7% (-12)	-0.1% (-1)	-0.4% (-7)

NOTES: cfs = cubic feet per second; TAF = thousand acre-feet; WFA = Sacramento Water Forum Agreement

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

TABLE H-2
SUMMARY OF HEC-5Q SIMULATED MONTHLY LONG-TERM AVERAGE WATER TEMPERATURES UNDER THE FULL WFA DIVERSIONS CONDITIONS BASELINE AND FULL WFA DIVERSIONS CONDITIONS WITH PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
American River below Folsom Dam (°F)								
Full WFA Diversions Baseline	56.6	58.4	-	-	-	-	-	-
Full WFA Diversions With Project	56.4	57.9	-3.3% (-1.8)	0.4% (0.2)	-0.4% (-0.2)	-3.3% (-1.8)	0.3% (0.2)	-1% (-0.5)
American River below Nimbus (Hazel Avenue) Dam (°F)								
Full WFA Diversions Baseline	56.9	58.7	-	-	-	-	-	-
Full WFA Diversions With Project	56.8	58.3	-2.6% (-1.3)	0.3% (0.2)	-0.3% (-0.1)	-2.6% (-1.3)	0.3% (0.2)	-0.6% (-0.4)
American River at Watt Avenue (°F)								
Full WFA Diversions Baseline	59.0	61.3	-	-	-	-	-	-
Full WFA Diversions With Project	58.9	61.1	-1.9% (-1)	0.4% (0.3)	-0.1% (-0.1)	-1.9% (-1)	0.4% (0.3)	-0.4% (-0.2)

NOTES: °F = degrees Fahrenheit; WFA = Sacramento Water Forum Agreement

See Appendix G, *Modeling Technical Appendix*, for a complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

TABLE H-3
SUMMARY OF CALSIM 3 SIMULATED MONTHLY LONG-TERM AVERAGE WATER QUALITY PARAMETERS UNDER THE FULL WFA DIVERSIONS CONDITIONS BASELINE AND FULL WFA DIVERSIONS CONDITIONS WITH PROJECT

Location and Compared Modeling Scenarios	Long-Term Average All Years (Magnitude)[a]	Long-Term Average Dry/ Critical Years (Magnitude)[a]	Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for All Years (Percent [magnitude])[b]			Comparison of Long-Term Average Monthly Changes from Full WFA Diversions Conditions Baseline to Full WFA Diversions Conditions With Project for Critical/Dry Water Years (Percent [magnitude])[b]		
			Minimum Change	Maximum Change	Average Change	Minimum Change	Maximum Change	Average Change
Delta Cross Channel (Days gates open)								
Full WFA Diversions Baseline	13	13	-	-	-	-	-	-
Full WFA Diversions With Project	13	13	-8.1% (-1)	4.8% (1)	-0.1% (0)	-8.1% (-1)	2.7% (0)	-0.2% (0)
X2 Position (km)								
Full WFA Diversions Baseline	76	83	-	-	-	-	-	-
Full WFA Diversions With Project	76	83	-0.1% (-0.1)	0.2% (0.1)	0% (0)	0% (0)	0.1% (0.1)	0% (0)

NOTES: km = kilometers; WFA = Sacramento Water Forum Agreement

See Appendix G, *Modeling Technical Appendix*, for complete description of all modeling scenarios and rationale for effects analysis.

a. Calculated as arithmetic mean of long-term average of monthly averages from entire simulation period (1922–2015).
b. Calculated from long-term monthly averages from specified water year types (i.e., all five water year types or just Critically Dry and Dry year types). Percentage-change statistics are shown first followed by magnitude changes in parentheses. Percent-change and magnitude-change statistics are calculated independently, meaning that the minimum and maximum percent- and magnitude-change values do not necessarily correspond to changes occurring in the same month and water year type.

H.6 References

ARWA (American River Water Agencies). 2017. Modified Flow Management Standard Proposed Water-Right Terms and Conditions. November 2017. Available: https://www.waterforum.org/wp-content/uploads/2017/12/ARWA-502-Modified-Flow-Management-Standard-Proposed-Water-Right-Terms-and-Conditions_-November-2017-_00022797-3xE2E14_.pdf.

DWR (California Department of Water Resources). 2017. *A Water Resources Planning Model for State Water Project and Central Valley Project.* CalSim 3 Draft Report. Sacramento, CA. December 2017.

DWR (California Department of Water Resources). 2021. CalSim 3. Modeling Support Branch, Bay-Delta Office, California Department of Water Resources, Sacramento, CA. Available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-3.

Sacramento Water Forum. 2015. *Water Forum Agreement.* January 2000, updated October 2015.