CHAPTER 1

INTRODUCTION

This Final Environmental Impact Report (FEIR) was prepared by the Yuba County Water Agency (Yuba Water) for the proposed renewal of the Federal Energy Regulatory Commission (FERC) licenses for both the Yuba River Development Project (YRDP) and the Narrows Hydroelectric Project (Narrows Project). Together, the Proposed YRDP Relicensing and the Proposed Narrows Project Relicensing are referred to as the Proposed Projects.

CEQA requires a lead agency that has prepared a Draft Environmental Impact Report (DEIR) to consult with and obtain comments from responsible and trustee agencies that have jurisdiction by law with respect to the project, and to provide the public with an opportunity to comment on the DEIR. The FEIR is the mechanism for responding to comments received on the DEIR, which are reproduced in this document. Responses to comments include the presentation of corrections, revisions, and other clarifications and amplifications to the DEIR.

The FEIR consists of the following information:

- Revisions to the DEIR;
- Comments and recommendations received on the DEIR before the close of the 45-day public review period;
- A list of persons, organizations, and public agencies commenting on the DEIR; and
- Yuba Water's responses to comments on the DEIR submitted during the public review period.

The FEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. Yuba Water, as the CEQA lead agency, is responsible for the preparation of this FEIR. The FEIR will be used to support Yuba Water's decisions on the Proposed Projects. This FEIR will also be used by CEQA responsible and trustee agencies to ensure that they have met their requirements under CEQA before deciding whether to approve or permit elements of the Proposed Projects over which they have jurisdiction. Responsible and trustee agencies may include the State Water Resources Control Board (SWRCB) and the California Department of Fish and Wildlife (CDFW). The FEIR may also be used by other state, regional, and local agencies that potentially have an interest in resources that could be affected by the Proposed Projects or that have jurisdiction over portions of the Proposed Projects.

The remainder of this FEIR is organized into the following chapters:

- Chapter 2, Responses to Comments, contains a list of all parties who submitted comments on the DEIR during the public review period, copies of the comment letters received, and responses to the comments.

- Chapter 3, Revisions to the DEIR, presents revisions to the DEIR text made in response to comments or to amplify, clarify, or make minor modifications or corrections to information in the DEIR. Changes in the text are signified by ~~strikeouts~~ where text is removed and by <u>underline</u> where text is added.

- Chapter 4, References, identifies the documents used as sources in the FEIR.

This document, combined with the DEIR, comprises the FEIR for the Proposed Projects.

CHAPTER 2

COMMENT LETTERS & RESPONSES TO COMMENTS

2.1 Comments Introduction

This section contains written comments received on the DEIR during the 45-day public review period. In conformance with CEQA Guidelines Section 15088(a), written responses were prepared addressing comments on significant environmental points received from reviewers of the DEIR during the public review period, as well as all other comments for completeness.

2.2 List of Comment Letters Received

Comments provided on the DEIR by agencies and organizations during the public review period are documented in this chapter. Comments were submitted by letter. Yuba Water received a total of seven comment letters. Table 2-1 presents the list of comment letters received, including the designation for each comment letter received, the author of the comment letter, and the date of the comment letter. Copies of these comment letters are presented in Section 2.3 below.

Table 2-1. Commenters on the DEIR

Bracketing Acronym	Commenter	Date of Comment
MR	Mooretown Rancheria	August 21, 2025
SB	California State Water Resources Control Board	September 22, 2025
CDFW	California Department of Fish and Wildlife	September 12, 2025
NID	Nevada Irrigation District	September 22, 2025
NS	Northern Sierra Air Quality Management District	September 15, 2025
FWN	Foothills Water Network	September 22, 2025
PGE	Pacific Gas & Electric Company	September 22, 2025

2.3 Comments and Responses to Comments

The comment letters received on the DEIR and the responses to those comments are provided below. The comment letters are reproduced in their entirety and are followed by the response(s). Where a commenter has provided multiple comments, each comment is indicated by a line bracket and an identifying acronym in the margin of the comment letter. Each response is tied to a bracketed comment.

2.3.1 Comment Letter - Mooretown Rancheria

MR Letter

Mooretown Rancheria
#1 Alverda Drive
Oroville, CA 95966
(530) 533-3625 Office
(530) 533-3680 Fax

RECEIVED
SEP 05 2025
Yuba Water Agency

August 21, 2025

Mr. John James
Director of Resource Planning
Yuba County Water Agency
1220 F St.
Marysville, CA 95901

Re: Proposed Notice of Availability (NOA) Draft Environmental Impact Report (EIR) for the Renewal for the FERC licenses for the Yuba River Development Project Relicensing (FERC project No. 2246) and the Narrows Hydroelectric Project Relicensing (FERC No. 1403) – YUBA RIVER, YUBA COUNTY, CALIFORNIA

Dear Mr. James:

Thank you for your letter dated, 8/11/2025, seeking information regarding the proposed Draft EIR project in Yuba County, California for the FERC licenses for the Yuba River Development Project Relicensing (FERC project No. 2246) and the Narrows Hydroelectric Project Relicensing (FERC No. 1403). Based on the information provided, the Mooretown Rancheria has no further recommendations at this time. MR-1

However, as the project progresses, if any new information or questions arise, please contact the following individual:

THPO
Matthew.hatcher@mooretown.org

CC: eazana@mooretown.org

Thank you for providing us with this notice and opportunity to comment.

Sincerely,

Matthew Hatcher
Tribal Historic Preservation Officer

"Concow - Maidu"

Responses to Comment Letter – Mooretown Rancheria

MR-1 Yuba Water acknowledges the comment. Yuba Water will comply with all statutes related to tribal cultural resources. Yuba Water appreciates the contact information provided.

2.3.2 Comment Letter – California State Water Resources Control Board

SB Letter

Gavin Newsom
Governor

Yana Garcia
Secretary for Environmental Protection

California Water Boards

State Water Resources Control Board

September 22, 2025

Mr. John James, Director of Resource Planning
Yuba County Water Agency
1220 F Street
Marysville, CA 95901
Sent via email: jjames@yubawater.org

Yuba River Development Project and Narrows Hydroelectric Project
Federal Energy Regulatory Commission Project Nos. 2246 and 1403
Yuba, Sierra, and Nevada Counties
North Yuba River, Middle Yuba River, Oregon Creek, and Yuba River

COMMENTS ON YUBA COUNTY WATER AGENCY'S DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE YUBA RIVER DEVELOPMENT PROJECT AND NARROWS HYDROELECTIC PROJECT RELICENSINGS

Dear Mr. John James:

On August 1, 2025, Yuba County Water Agency[1] (YCWA) issued a Notice of Availability (NOA) to notify interested parties of a draft Environmental Impact Report (EIR) for the Federal Energy Regulatory Commission (FERC) relicensings of the Yuba River Development Project and Narrows Hydroelectric Project (collectively, Projects). The NOA noted the draft EIR was available for public review and comment through September 15, 2025. On August 14, 2025, YCWA notified interested parties that given when the NOA was posted to the State Clearinghouse (SCH), the deadline for public comments on the draft EIR for the Projects was extended to September 22, 2025.[2]

State Water Board staff submit the enclosed comments pertaining to YCWA's draft EIR for the Projects' relicensings. If you have questions, please contact Adam Cohen by email to: Adam.Cohen@waterboards.ca.gov or by phone call to: (916) 322-9258. Written correspondence should be directed to:

[1] Doing business as Yuba Water Agency.

[2] On August 14, 2025, YCWA issued an updated Notice of Availability of a Draft Environmental Impact Report, which was posted to the SCH, SCH No. 2024101277, and is available online at: https://ceganet.lci.ca.gov/2024101277/2.

Mr. John James September 22, 2025

State Water Resources Control Board
Division of Water Rights – Water Quality Certification Program
Attn: Adam Cohen
P.O. Box 2000
Sacramento, CA 95812-2000

Sincerely,

Adam P. Cohen

Adam Cohen – Senior Environmental Scientist
Water Quality Certification Program
Division of Water Rights

Enclosure: State Water Board Staff Comments on Yuba County Water Agency's Draft Environmental Impact Report for the Yuba River Development Project and Narrows Hydroelectric Project Relicensings

ec: Ms. Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
Via e-filing to FERC Dockets for P-2246 and P-1403

Mr. Patrick Pulupa, Executive Officer
Central Valley Regional Water Quality Control Board
Email: Patrick.Pulupa@waterboards.ca.gov

Mr. Matt Scroggins, Senior Water Resource Control Engineer
Central Valley Regional Water Quality Control Board
Email: Matt.Scroggins@waterboards.ca.gov

California State Clearinghouse
Governor's Office of Land Use and Climate Innovation
Via Posting to CEQAnet for SCH Number 2024101277

Enclosure:
Comments on Yuba County Water Agency's Draft Environmental Impact Report for the Yuba River Development Project and Narrows Hydroelectric Project Relicensings

State Water Resources Control Board (State Water Board or Board) staff are providing the following comments on Yuba County Water Agency's (YCWA) draft Environmental Impact Report (EIR) for the Yuba River Development Project (YRDP) and Narrows Hydroelectric Project (Narrows Project) (collectively Projects) relicensings.

1. **Water Quality Certification Authority:** Section 401 of the federal Clean Water Act requires any applicant for a federal license or permit for an activity that may result in any discharge to navigable waters to obtain water quality certification (certification) from the State that the activity will comply with water quality requirements. (33 U.S.C. § 1341(a)(1), (d).) Certifying authorities may issue certifications with conditions implementing Clean Water Act requirements, including the requirements of section 303 of the Clean Water Act for water quality standards and implementation plans, or to implement "any other appropriate requirement of State law." (*Id.*, § 1341(d).) Section 401 further provides that certification conditions shall become conditions of any federal license or permit for the project. (*Ibid.*) If a certifying authority denies certification, the federal agency cannot issue a license or permit approving the project. (*Id.*, § 1341(a)(1).) SB-1

   On December 30, 2024, the State Water Board received certification applications from YCWA for the Projects. On January 29, 2025, the State Water Board issued a letter notifying YCWA that the Projects' certification applications were complete pursuant to California Code of Regulations, title 23, section 3835, subdivision (c) and that it plans to act on YCWA's certification applications by the one-year deadline (i.e., December 30, 2025).

2. **Responsible Agency Recommended Alternatives:** On October 29, 2024, YCWA issued a *Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Meetings for the Yuba River Development Project FERC [Federal Energy Regulatory Commission] Relicensing (FERC Project No. 2246) and Narrows Hydroelectric Project FERC Relicensing (FERC Project No. 1403)* (NOP). State Water Board staff's December 2, 2024 comments on the NOP requested YCWA include in its CEQA document an analysis of four alternatives: (1) potential conditions that may be included in a certification for the Projects, noting YCWA should consider the 2020 YRDP certification[1] as an example of potential conditions; (2) regulatory and voluntary agreement pathways in the October 2024 draft Bay-Delta Plan; (3) operation of the dual intakes at New Bullards Bar Dam analyzed separately from the remainder of YCWA's 2022 "Offer of Settlement"; and (4) impacts associated with temperature control devices and/or intake extension(s) as presented in YCWA's February 27, 2023 Narrows 1 and Narrows 2 Intake Extension Assessments Technical Report. SB-2

[1] On July 17, 2020, the State Water Board's Executive Director issued a certification for YRDP relicensing. The 2020 YRDP certification was set aside on the Board's own motion for procedural reasons on September 18, 2024 (State Water Board Order WQ 2024-0083) and is therefore no longer in effect.

Enclosure:
Comments on Yuba County Water Agency's Draft Environmental Impact Report for the Yuba River Development Project and Narrows Hydroelectric Project Relicensings

Below are specific comments on each State Water Board staff requested alternative as it relates to information presented in YCWA's draft EIR:

- Board Alternative 1 (consideration of potential certification conditions): YCWA's draft EIR includes its Yuba River Resilience Initiative Agreement (YRRI) proposed certification conditions as part of the Proposed Projects[2] rather than the 2020 YRDP certification conditions. State Water Board staff will consider YCWA's proposed conditions as well as all other relevant available information in its action on YCWA's requests for certification for relicensing of the Projects. SB-3

- Board Alternative 2 (regulatory and voluntary agreement pathways for Bay-Delta Plan compliance): YCWA's draft EIR includes an analysis of a regulatory pathway, but does not analyze a voluntary agreement pathway. Please see Comments 3 and 4 below for State Water Board staff's comments on YCWA's analysis of Bay-Delta Plan compliance. SB-4

- Board Alternative 3 (operation of dual intakes at New Bullards Bar): As part of YCWA's Proposed YRDP, YCWA proposes the use of both intakes at New Bullards Bar. Board staff appreciate that the Proposed YRDP incorporates this temperature management action. SB-5

- Board Alternative 4 (potential impacts of intake extensions on either Narrows 1 or Narrows 2 intakes): The draft EIR eliminated this alternative for analysis due to cost, potential mobilization of mercury, and potential limited temperature benefits. Board staff note that State Water Board Revised Water Right Decision 1644 requires YCWA to diligently pursue a Narrows 2 Intake Extension, and YCWA's prior analyses (i.e., YCWA's February 27, 2023 Narrows 1 and Narrows 2 Intake Extension Assessments Technical Report) have shown that intake extensions could provide cooler water to the lower Yuba River without additional water supply contributions from YCWA or other water users in the Yuba Watershed. SB-6

3. **Draft EIR Alternative 2 – SWRCB [State Water Board] Draft Bay-Delta Plan Update Regulatory Pathway Scenario:** State Water Board staff appreciate YCWA's inclusion of a possible regulatory pathway under the State Water Board's Sacramento/Delta updates to the Bay-Delta Water Quality Control Plan SB-7

[2] The draft EIR uses the term Proposed Projects to refer to the proposed renewal of FERC licenses for both the YRDP (Proposed YRDP) and the Narrows Project (Proposed Narrows Project).

(Bay-Delta Plan)[3] as a Proposed Projects alternative. The draft EIR (pp. 3-9 and 3-10) states:

> *Alternative 2 includes [the following] modifications to YRDP and Narrows Project operations (as well as similar operational changes to the upstream YB/DS [Yuba-Bear and Drum-Spaulding] projects under new FERC licenses) to comply with the following additional regulatory requirements under the SWRCB [State Water Resources Control Board] Draft Bay-Delta Plan Update:*
> - *A requirement to provide 55% of the unimpaired Middle Yuba River [flow]*
> - *A requirement to provide 55% of the unimpaired South Yuba River flow*
> - *A requirement to provide 55% of the unimpaired Yuba River flow at its confluence with the Feather River*
> - *A minimum end-of-September New Bullards Bar Reservoir storage of 600 TAF [thousand acre-feet] in Wet, Above Normal, and Below Normal years*
> - *A minimum end-of-September New Bullards Bar Reservoir storage of 400 TAF in Dry and Critical years*

SB-7 cont.

The above requirements appear to be consistent with the starting point for the regulatory pathway for the proposed Bay-Delta Plan amendments as described in the State Water Board's October 2024 Draft Sacramento/Delta updates to the Bay-Delta Plan (October 2024 draft Bay-Delta Plan).

More recently, State Water Board staff identified proposed modifications to the possible regulatory pathway for the Sacramento/Delta updates to the Bay-Delta Plan. In July 2025, the State Water Board released a revised draft Bay-Delta Plan (July 2025 revised draft Bay-Delta Plan)[4] that includes proposed changes to the draft Bay-Delta Plan released in October 2024 based on public input and comments received through the planning process. The July 2025 revised draft Bay-Delta Plan proposes to move forward with voluntary agreements (VAs) in the Bay-Delta Plan for water rights included in approved VAs (VA pathway) and the regulatory provisions for water rights not included as part of approved VAs (regulatory pathway). In addition, modifications to the originally proposed inflows under the regulatory pathway have been incorporated in the July 2025 revised draft Bay-Delta Plan that reduce water supply impacts and allow more water to be stored in reservoirs. These modifications are referred to as water supply

[3] Additional information regarding the Sacramento/Delta updates to the Bay-Delta Plan is available at: https://waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.html

[4] Available at: https://waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/docs/secondrevised-notice-baydeltaplanupdates-08-2025-en.pdf

adjustments that allow for lowering the percent of unimpaired flow requirements in all but the wettest hydrologic conditions to 45 or 35 percent of unimpaired flow. Additionally, the July 2025 revised draft Bay-Delta Plan identifies a carryover (end-of-September) storage target range of 400-600 TAF for New Bullards Bar Reservoir for all years, including during drought years. These proposed modifications that are described in the July 2025 revised draft Bay-Delta Plan do not appear to have not been included in the modeling or evaluation of Alternative 2. SB-7 cont.

In its final EIR, Board staff requests that YCWA consider its Proposed Projects operations in combination with the regulatory pathway as described in the July 2025 revised draft Bay-Delta Plan. State Water Board staff are available to assist YCWA in refining the modeling of the regulatory pathway.

4. **Voluntary Agreement Pathway (Healthy Rivers and Landscapes Program):** As discussed above, the October 2024 draft Bay-Delta Plan and July 2025 revised draft Bay-Delta Plan provide for a possible VA pathway that would provide flow and non-flow habitat commitments in lieu of contributing to the new inflow, cold water habitat, and Delta outflow requirements identified under the regulatory pathway.

   State Water Board staff appreciate the draft EIR's consideration of the VA pathway, which is also referred to as the Healthy Rivers and Landscapes program. However, it is unclear why the proposed Yuba River VA is currently considered only in the context of the draft EIR's cumulative analysis. Based on Table 5.4-2, *Summary of Model Scenarios for YRDP and Narrows Joint EIR*, it appears that the draft EIR does not currently include hydrologic modeling results for the Proposed Projects in combination with the proposed Yuba River VA, which would affect New Bullards Bar Reservoir storage conditions and downstream flows. SB-8

   State Water Board staff request that YCWA consider including in the final EIR hydrologic modeling results for the Proposed Projects in combination with the proposed Yuba River VA, including a quantitative assessment of the effects of the Proposed Projects with the proposed Yuba River VA and potential environmental impacts on surface water quality, aquatic biological resources, and other considerations. Modeling results for the Proposed Project in combination with the proposed Yuba River VA should also be integrated into Appendix 4B, *Summary of Changes in Modeled Riverine Flows and Water Temperatures*, and Appendix 4C, *Hydrologic and Water Temperature Data Products*.

5. In Section 3.6.3.2 *CDFW [California Department of Fish and Wildlife]-FWS-FWN [Foothills Water Network] Floodplain and FPA [Federal Power Act] Section 10(j) Flow Recommendations Alternative*, in reference to the CDFW/USFWS 10(j) recommendation to lower 340 acres of floodplain, YCWA states "Because the recommended habitat improvement measures cannot change the fundamental SB-9

reshaping of the geomorphic and riparian conditions in the lower Yuba as a result of [hydraulic mining, dam building by the federal government, and flood control channelization], any improvements would be transitory at best." State Water Board staff request that YCWA provide support for its statement that floodplain habitat restoration is transitory at best. State Water Board staff note that YCWA has contributed to several actions related to habitat (including floodplain) improvement and restoration in the lower Yuba River. Though the lower Yuba River has been historically altered by factors outside of the Projects' control (e.g., hydraulic mining), those impacts are part of the environmental baseline from the context of the CEQA analysis. The Projects' operations are the predominate flow controlling action in the lower Yuba River and affect the availability of riparian and floodplain habitat in the lower Yuba River. SB-9 cont.

6. In Section 3.6.4.1 *Implement Fish Passage into the Upper Yuba River Watershed*, YCWA states that it did not analyze any alternatives that would provide upstream or downstream fish passage for the Proposed Projects, in part because "An alternative involving fish passage into the upper watershed could require Yuba Water to spend hundreds of millions of dollars to move anadromous fish upstream of the federal government's Englebright Dam…. Such an alternative would present a dangerous financial risk to [YCWA]." However, YCWA recently entered into the YRRI Agreement with CDFW and the National Marine Fisheries Service (NMFS), which in part includes a Reintroduction Program to collect and transport juvenile salmon from the upper North Yuba River to the lower Yuba River, and adult salmon from the lower Yuba River to the upper North Yuba River. Under the YRRI Agreement, YCWA's financial contribution for the YRRI's Reintroduction Program is likely to be an annual contribution of $750,000, with a 2% increase per year. YCWA's actions associated with the YRRI and its draft EIR statement appear to be inconsistent. SB-10

Additionally, the YRRI requests that the State Water Board adopt YCWA's proposed water quality certification conditions for the Projects without material modification. YCWA has included these proposed certification conditions as part of its CEQA Proposed Projects, though YCWA has not included its YRRI commitments for anadromous fish reintroduction or the nature-like fishway at Daguerre Point Dam as part of the Proposed Projects. Analyzing proposed YRRI certification conditions without implementation of the YRRI as part of the Proposed Projects appears to be inconsistent. Please note, as part of its certification action on the Projects, the State Water Board will consider the Projects' impacts to anadromous fish and potential actions to protect beneficial uses and water quality objectives.

7. Section 4.3.1.2 *Narrows Project* states that the geographic area that could be affected by the Narrows Project is the "Lower Yuba River to the confluence with the Feather River." Flows through the Narrows Project contribute to water surface elevation in Englebright Reservoir, which YCWA's Narrows Project Proposed Condition 5 – Water Surface Elevation in Englebright Reservoir SB-11

acknowledges. Additionally, operations of the Narrows Project can affect the water temperature of Englebright Reservoir. Board staff request that the geographic scope of analysis for the Narrows Project be expanded to include Englebright Reservoir. SB-11 cont.

8. Indirect Impact SW-FAlt1-1: *Potential Water Supply Shortages for NID [Nevada Irrigation District] and PG&E [Pacific Gas and Electric Company] Customers from Alternative 1 YB/DS Operations*: The draft EIR analysis states that Alternative 1 (YCWA's "Offer of Settlement" in which NID and PG&E would contribute additional water supply to the Yuba River for temperature management below Englebright Dam) water releases by NID and PG&E would have a less than significant impact on water supplies. The rationale provided for this analysis is that despite an average reduction of 2.6 TAF and a maximum of 10.5 TAF under Alternative 1 flows, "various water management measures" are available to avoid significant water supply reductions. The draft EIR states that the reduction in supply may be avoided by purchasing additional water, groundwater pumping, or conservation. In its March 2023 response to FERC's March 8, 2021 Additional Information Request, NID indicated that additional releases from the Yuba-Bear Project to the Yuba River consistent with YCWA's "Offer of Settlement" could cause water supply shortages to its customers. Board staff request the final EIR include additional information on YCWA's proposed measures of purchasing additional water, increased groundwater pumping, and potential conservation measures along with an analysis of the associated environmental effects of such actions. SB-12

9. In Section 8.2.2 *Yuba River Watershed*, the draft EIR characterizes water quality of Project Area waterbodies as "high", citing turbidity, dissolved oxygen, alkalinity, pH, fecal coliform bacteria, nitrogen, orthophosphate, and total phosphorus. However, YCWA's 2017 YRDP Amended Final License Application (2017 AFLA) stated that (1) total coliform concentrations exceeded the United States Environmental Protection Agency (USEPA) benchmark at five of six sites over the 2012 Independence Day sampling interval, and six of six sites over the 2012 Labor Day sampling interval, (2) several dissolved oxygen measurements were below the Central Valley Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan) objective of 7.0 milligrams per liter (mg/L), in New Bullards Bar Reservoir and Englebright Reservoir, (3) YCWA's analysis indicates that several dissolved metal concentrations (copper, nickel, and silver) exceeded the sample-specific USEPA 2000 California Toxics Rule criteria, and (4) fish tissue mercury concentrations exceeded standards within several of the Projects' waterbodies. SB-13

   Under the final CEQA Conclusion section of the comparison to Existing Condition analysis, the draft EIR (p. 8-55) states "construction and O&M [operation and maintenance] of the YRDP Relicensing Project would have **no impact** on the implementation of a water quality control plan (i.e., Basin Plan), nor would the project conflict with a water quality control plan (i.e., Basin Plan)." As

summarized above from YCWA's 2017 AFLA, water quality within some YRDP waterbodies already conflicts with Basin Plan objectives. While the draft EIR determines that water quality will not substantially change under new construction and continued O&M of the YRDP, the water quality issues identified in the 2017 AFLA remain and should be appropriately described in the final EIR. Please also note that the Bay-Delta Plan is a water quality control plan for the San Francisco Bay/Sacramento-San Joaquin Delta watershed that contains water quality objectives for the reasonable protection of beneficial uses in the Bay-Delta watershed, which is impacted by operation of the Projects. SB-13 cont.

10. Section 9.2.5.1 *Areas Upstream of Englebright Dam*: While there are no Endangered Species Act (ESA) or California Endangered Species Act (CESA) listed fish species upstream of Englebright Dam, Board staff note that NMFS has designated, and CDFW began introducing, a nonessential experimental population of Central Valley spring-run Chinook salmon in the Upper Yuba River upstream of New Bullards Bar Reservoir in October 2024. This population was introduced prior to publication of the NOP, therefore it must be considered as part of baseline environmental conditions for the Proposed Projects. The nonessential experimental population is subject to some protections as discussed by NMFS in 87 Federal Register 79808 (Dec. 28, 2022). SB-14

11. Section 9.6.1.2 *Cumulative Impacts on Fisheries Resulting from Operations* describes the YRRI as only including the construction of a nature-like fishway at Daguerre Point Dam. This description and resultant Cumulative Impact analyses should also include the YRRI's proposed Reintroduction Program. SB-15

12. Section 11.5.1 *Construction or Expansion of Recreational Facilities*: The draft EIR notes that construction and operation of YRDP recreation facilities that could result in erosion or loss of topsoil would be subject to the Recreation Facilities Plan and Erosion and Sediment Control Plan. The Recreation Facilities Plan specifies that YCWA will create a Site Development and Construction Plan for improved/rehabilitated recreation sites. The Erosion and Sediment Control Plan specifies that YCWA will develop a stormwater pollution prevention plan (SWPPP) for new recreation sites if they are larger than one acre. SWPPPs are required for projects that disturb one or more acres of soil or projects that disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. Since existing and new recreation facilities would be part of a new YRDP FERC license, State Water Board staff consider them part of a larger common plan of development and YCWA should develop a SWPPP(s) for all recreation facility construction. SB-16

SB-1 The comment discusses the WQC process for the Proposed Projects and does not address the contents, analysis, or conclusions of the DEIR. The comment is noted.

SB-2 The comment summarizes some of the SWRCB's comments on the NOP for the DEIR and does not address the contents, analysis, or conclusions of the DEIR. The comment is noted.

SB-3 The comment acknowledges that the Proposed Projects include the YRRI proposed WQC conditions and states that the SWRCB will consider Yuba Water's proposed conditions and all other relevant information when it acts on the WQC for the Proposed Projects. The comment does not otherwise address the contents, analysis, or conclusions of the DEIR. The comment is noted.

SB-4 The comment acknowledges that the DEIR includes an analysis of the Bay-Delta regulatory pathway as requested by the SWRCB, but states that the DEIR does not include an analysis of the voluntary agreement (VA) pathway for Bay-Delta Plan compliance, also called Healthy Rivers and Landscapes (HR&L). The comment does not otherwise address the contents, analysis, or conclusions of the DEIR. Yuba Water notes that the DEIR included Yuba Water's HR&L proposal in the cumulative analysis (see DEIR, p. 4-37). See also Responses to Comments SB-7 and SB-8 below.

SB-5 The comment acknowledges that the Proposed YRDP Relicensing Project includes the use of both intakes at New Bullards Bar as requested by the SWRCB. The comment does not otherwise address the contents, analysis, or conclusions of the DEIR. The comment is noted.

SB-6 The comment correctly notes that the DEIR eliminated the proposed Narrows 1 or Narrows 2 intake extension alternative due to cost, potential mobilization or mercury, and potential limited temperature benefits. The comment does not otherwise address the contents, analysis, or conclusions of the DEIR. See also Response to Comment NID-13.

SB-7 The comment notes the SWRCB's appreciation that the DEIR includes an analysis of the Bay-Delta regulatory pathway as Alternative 2 as requested by the SWRCB. As explained in the DEIR, Yuba Water included Alternative 2 "for the sole purpose of providing additional information requested by the SWRCB," and does not consider Alternative 2 to be an alternative that would either feasibly attain the project objectives or avoid or substantially lessen the environmental impacts of the Proposed Projects.

The comment further notes that the DEIR's characterization and analysis of Alternative 2 appears to be consistent with the regulatory pathway for the proposed Bay-Delta Plan amendments as described in October 2024 draft Bay-Delta Plan. The comment then notes that SWRCB staff identified proposed

modifications to the possible regulatory pathway for the Sacramento/Delta updates to the Bay-Delta Plan in July 2025 in a revised draft Bay-Delta Plan (July 2025 revised draft Bay-Delta Plan) that it notes do not appear to be included in Alternative 2. The July 2025 revised draft Bay-Delta Plan is not evaluated in the DEIR because it was released after the preparation of the DEIR.

Yuba Water reiterates that the Bay-Delta Plan Update is a separate project from the Proposed YRDP and Narrows Project Relicensings, and that a comprehensive analysis of various alternative pathways for the Bay-Delta Plan Update is beyond the scope of this EIR, and do not reflect alternatives to Yuba Water's Proposed Projects. In response to this comment, however, Yuba Water completed additional modeling to represent the Proposed Projects' operations in combination with the updated regulatory pathway identified in the July 2025 revised draft Bay-Delta Plan, which is included and discussed in Appendix 1 to the FEIR. As demonstrated therein, the updated regulatory pathway would have less severe environmental impacts than Alternative 2, but would still have adverse water temperature, surface water supply, and power generation impacts.

Yuba Water is committed to continuing to consult with the SWRCB regarding the potential impacts to the watershed associated with the Bay-Delta Plan update as the SWRCB continues to refine and evaluate potential approaches to that process, including exploring additional strategies for further reducing the adverse impacts that would result from the regulatory pathway identified in the October 2024 draft Bay-Delta Plan. For example, Yuba Water ran a second iteration of the July 2025 regulatory pathway to demonstrate how a different implementation of the carryover storage requirement could further reduce impacts to lower Yuba River water temperatures, water supplies, and YRDP power generation. In Appendix 1, Yuba Water provides a July 2025 regulatory pathway scenario applying its standard 440/400 TAF approach for determining the carryover storage requirement rather than the 600 TAF carryover storage target in non-drought years.

Evaluation of the application of a lower carryover storage requirement (Appendix 1) demonstrates that water temperatures overall would be similar, although slightly cooler during the summer, and notably cooler during July and August of Below Normal and Dry water years, than those resulting from implementing a higher (600 TAF) carryover storage requirement. Moreover, the lower carryover storage requirement results in significantly less water supply shortages and somewhat higher summertime energy generation.

The response to the SWRCB comment does not change the DEIR analyses or impact conclusions for the Proposed Projects or the alternatives, and the additional modeling and evaluation is provided only to respond to the SWRCB's request.

SB-8 The comment states that the October 2024 draft and July 2025 revised draft Bay-Delta Plan contemplate a possible VA pathway that may apply as a potential

alternative to the regulatory pathway. The comment notes the SWRCB's appreciation that the DEIR considered the HR&L pathway, but states that it is unclear why this pathway was included only in the DEIR's cumulative analysis. As explained in response to SB-7, the Bay-Delta Plan Update is a separate project from the Proposed YRDP and Narrows Project Relicensings, and a comprehensive analysis of the various alternative pathways for the Bay-Delta Plan is beyond the scope of this EIR. Yuba Water's HR&L proposal is not part of the Proposed Projects, nor is it an alternative to the Proposed Projects.

The comment requests that Yuba Water consider including in the FEIR hydrologic modeling results for the Proposed Projects in combination with Yuba Water's HR&L proposal. In response to this comment, Yuba Water completed additional modeling to represent the Proposed Projects' operations in combination with the HR&L proposal, which is included and discussed in Appendix 1 to the FEIR. As demonstrated therein, the HR&L proposal would have less severe environmental impacts than Alternative 2 or the updated regulatory pathway identified in the July 2025 revised draft Bay-Delta Plan. The response to the SWRCB comment does not change the DEIR analyses or impact conclusions for the Proposed Projects or the alternatives, and the additional modeling and evaluation is provided only to respond to the SWRCB's request.

SB-9

The SWRCB makes the comment that in reference to Yuba Water's response to the CDFW/USFWS 10(j) recommendation to lower 340 acres of floodplain, Yuba Water states "Because the recommended habitat improvement measures cannot change the fundamental reshaping of the geomorphic and riparian conditions in the lower Yuba as a result of [hydraulic mining, dam building by the federal government, and flood control channelization], any improvements would be transitory at best." SWRCB staff requested that Yuba Water provide support for its statement that floodplain habitat restoration is "transitory at best."

The fundamental factors that dictate Yuba River and floodplain geomorphology include valley wall width, levee and training wall alignment, thalweg slope, the presence of massive quantities of unconsolidated alluvium and hydraulic mining debris, a lack of fines due to sediment entrapment by the USACE's Englebright Dam, and peak flood flow frequency and magnitude. The proposed measure to lower the floodplain to implement physical habitat improvement projects would not change any of these fundamental factors, so it is logical to expect the river to re-establish a geomorphic equilibrium within a few years of implementation of these measures.

State Water Board staff comment that Yuba Water has contributed to several actions related to habitat (including floodplain) improvement and restoration in the lower Yuba River. Although not required activities conducted for the purpose of mitigating impacts, Yuba Water's past and continued support for

voluntarily improving aquatic habitat and fisheries conditions on the lower Yuba River is part of the agency's mission.[1]

It is recognized that there can be relatively short-term (several years) direct benefits of habitat enhancement. However, it must also be recognized that fluvial geomorphologic dynamism[2] occurs, and it is widely recognized that habitat enhancement projects change from their original design over time. Despite the fact that fluvial geomorphologic dynamism likely will cause riverine habitat enhancements to change over time, when allowed to operate within a state of dynamic equilibrium, the concept is such that conditions will produce a constantly self-adjusting river system that provides numerous ecological benefits. Instead of remaining static, a river in dynamic equilibrium continuously alters its channel, slope, and form in response to fluctuating water flow and sediment load, resulting in a healthy, resilient ecosystem.

Yuba Water notes that the DEIR rejected the proposed CDFW-FWS-FWN flow recommendations alternative for several reasons, including its substantial cost, limited benefits, substantial power generation and water supply effects, and failure to meet the project objectives (see DEIR, pp. 3-19 to 3-23). See Response to Comment FWN-9.

The comment also acknowledges that the lower Yuba River has been historically altered by external baseline factors (e.g., hydraulic mining) but states that the Projects' operations are the predominate flow controlling action in the lower Yuba River and affect the availability of riparian and floodplain habitat in the lower Yuba River. Yuba Water notes that the Projects' existing operations are also part of the baseline for the purposes of CEQA review. To the extent that operational changes under the Proposed Projects or an alternative would affect lower Yuba River riparian and floodplain habitat, those effects are evaluated in the DEIR (see Chapter 10, Non-fisheries Biological Resources).

[1] As described on Yuba Water's website (https://www.yubawater.org/175/About-Yuba-Water-Agency#:~:text=Established%20by%20a%20special%20act,at%20New%20Bullards%20Bar%20Reservoir), the agency's primary missions are flood risk reduction, water supply reliability, fish habitat protection and enhancement, hydroelectric generation and recreation at New Bullards Bar Reservoir.

[2] Refers to the dynamic, ever-changing nature of river landforms and their processes, driven by the interplay of flowing water and the materials they transport. This dynamism involves ongoing cycles of erosion and deposition, which shape features like meanders, sandbars, deltas, and channel beds over various timescales.

SB-10 The comment states that the DEIR's statement that "an alternative involving fish passage into the upper watershed could require Yuba Water to spend hundreds of millions of dollars" and "present a dangerous financial risk" to Yuba Water is inconsistent with Yuba Water's "actions associated with the YRRI" because Yuba Water's financial contribution for the YRRI's reintroduction program "is likely to be an annual contribution of $750,000, with a 2% increase per year." Yuba Water notes that implementing a standalone fish passage alternative, rather than contributing financially to fish passage efforts that are being jointly undertaken in coordination with state and federal agencies, involve financial considerations that are inherently different, such that the two statements noted in the comment are not inconsistent. In any event, the DEIR eliminated this alternative from further consideration for multiple reasons including, but not limited to, financial considerations. Among other things, a fish passage alternative would not avoid or substantially lessen any environmental impacts caused by the Proposed Projects.

The comment also states that the Proposed Projects include proposed WQC conditions identified in the YRRI, and that analyzing these conditions "without implementation of the YRRI as part of the Proposed Projects appears to be inconsistent." Yuba Water has not taken an inconsistent position regarding whether the DEIR should include an alternative for the nature-like fishway for fish passage upstream or downstream of the Proposed Projects. The provisions of the YRRI make clear why the pilot Reintroduction Program for fish passage to the upper Yuba River watershed is being pursued as an "off-license" agreement rather than as an alternative to the Proposed Projects for FERC relicensings. For example, section 3.3 of the YRRI states:

> This Agreement is entered into based on the Parties' [i.e., Yuba Water, CDFW and NMFS] determination that the provisions of this Agreement are outside of FERC's jurisdiction for the New YRDP FERC License, based on the following factors, among others:
>
> A. The U.S. Army Corps of Engineers owns Daguerre Point Dam and Englebright Dam on the Lower Yuba River.
>
> B. Daguerre Point Dam impairs Fish Passage on the lower Yuba River. Englebright Dam is the barrier to Fish Passage to the upper Yuba River.
>
> C. The Narrows Project and the Narrows 2 Development (which is part of the YRDP) are both owned and operated by YWA at Englebright Dam, and do not block passage into the upper Yuba River Watershed. Englebright Dam is not part of the Narrows Project or the Narrows 2 Development Project.
>
> D. Fish Passage around Daguerre Point Dam or Englebright Dam is not a project purpose of the YRDP, Fish Passage was not proposed or

contemplated by FERC or YWA during the relicensing for the YRDP, and Fish Passage was not included as an alternative in the FEIS.

Moreover, a dispute resolution panel in the FERC relicensing process unanimously determined that there was no nexus between the operation of the YRDP and blockage of fish passage at Englebright Dam, a federal facility. Accordingly, in a December 28, 2011 letter, FERC determined that Yuba Water's license application did not require a study of fish passage alternatives (FERC 2011).

Including Yuba Water's YRRI commitments for anadromous fish reintroduction or the nature-like fishway at Daguerre Point as part of the Proposed Projects is not warranted or required under CEQA because these habitat enhancement measures are being undertaken under an off-license agreement, rather than as elements or conditions of the relicensing of the Proposed Projects. Accordingly, these are separate projects that are subject to separate CEQA review (with Yuba Water serving as the CEQA lead agency for the nature-like fishway and CDFW serving as the CEQA lead agency for the pilot reintroduction program). Yuba Water notes that the nature-like fishway and the reintroduction program were included in the DEIR's cumulative analysis.

SB-11 The comment states that Narrows Project operations can affect water temperatures and water surface elevation in Englebright Reservoir, but that the DEIR does not include Englebright Reservoir in the geographic scope of analysis for the Narrows Project. The DEIR's analysis of both the Proposed YRDP Relicensing and the Proposed Narrows Project Relicensing considered the potential effects on Englebright Reservoir; however, the DEIR explains that changes in Englebright Reservoir are primarily a factor of YRDP operations (e.g., Chapter 5, Surface Water Resources). In response to this comment, Chapter 4, Framework for the Environmental Analysis, has been revised to clarify that the geographic scope of analysis for the Narrows Project includes Englebright Reservoir.

SB-12 The comment notes that NID previously submitted information to FERC suggesting that Yuba Water's Offer of Settlement could result in water supply shortages to NID's customers. As explained in the DEIR and in Response to Comment NID-21, the DEIR discloses that YB/DS operations under Alternative 1 could result in reductions in water supply deliveries to NID and PCWA customers in some years, but concludes that reductions of this magnitude and frequency would not be a significant environmental impact because there are existing management measures that NID and PG&E may implement to avoid substantial reductions, and because there are various alternative water supplies available to make up for any remaining shortages.

The comment requests that the FEIR include additional information on available measures by which the upstream projects could avoid and/or manage water

shortages under Alternative 1. As an initial matter, Yuba Water notes that any additional releases by the upstream projects reflected in the DEIR's characterization and analysis of Alternative 1 will ultimately be the responsibility of non-Yuba Water entities, and the timing and manner of those releases would be subject to consultation between NID, PG&E, FERC, USFS, CDFW, and any other responsible agencies. The DEIR includes reasonable assumptions about how these non-Yuba Water operations would occur, but Yuba Water does not have authority over the upstream operations and cannot precisely forecast how they would occur. Thus, a project-level analysis of impacts that would occur upstream of Yuba Water's projects due to other entities' operations is beyond the scope of this EIR. See Responses to Comments NID-3 and NID-6. While Yuba Water does not have any discretionary authority over how the upstream projects operate, additional general information about NID's strategies for avoiding or responding to water supply shortages is provided below.

For example, NID's 2020 Urban Water Management Plan (UWMP) (NID 2020) states, "[t]here are numerous management and operational efforts available to NID to address supply shortfall during drought periods," including "[d]emand reductions, carryover storage strategies, system operational strategies, supplemental supplies, increased storage, and other … options." The UWMP also explains that NID "maintains a water conservation program that is ongoing, even during periods of normal water supply," which NID "has found … to be effective in reducing overall water consumption and managing demands during periods of normal water supply and water shortage conditions." Moreover, the UWMP includes a contingency plan that "identifies drought action levels, appropriate agency responses, water demand reduction goals, and … demand management measures to assist customers in water conservation." During "Stage 1" (i.e., the least severe) shortages, which could occur in years in which the upstream projects would provide 15,600 acre-feet of additional releases, NID's drought contingency plan recommends voluntary actions by water users to reduce demands, as well as actions by NID to prioritize projects to minimize existing wasteful uses of water and increase drought and conservation awareness.

Recent years provide a real-world example of NID and PCWA's flexibility in the face of water supply shortages from the Yuba River watershed. As a result of emergency equipment failures at Lake Spaulding in February 2024, NID and PCWA water supplies from the Yuba River were severely curtailed in the spring and early summer in both 2024 and 2025. NID responded to this outage by implementing mandatory conservation, including restrictions on landscape watering, and increasing reliance on Bear River and Deer Creek water supply facilities (NID 2024) PCWA responded by implementing voluntary water conservation measures, reducing deliveries to untreated water customers, and increasing pumping from the American River (PCWA 2025). The agencies'

responses have demonstrated they have multiple tools available to manage short-term shortages when they arise.

SB-13 The comment states that the DEIR characterizes water quality in the watershed as high, but points to specific issues relating to total coliform, dissolved oxygen, dissolved metals, and mercury discussed in Yuba Water's 2017 AFLA for the YRDP. Yuba Water notes that the DEIR cites and incorporates by reference the 2017 AFLA and other supporting and relevant documents in its description of the environmental setting. In response to this comment, Chapter 8, Surface Water Quality, of the DEIR has been revised to clarify that notwithstanding the specific issues cited in the comment, the totality of the water quality data for all monitored constituents, seasons, and locations within each waterbody support the DEIR's determination that, "[i]n general, water quality of Project Area waterbodies in the Yuba River watershed is high within and between seasons" (emphasis added). The water quality conditions for the constituent issues raised in this comment are addressed further below.

1. Total Coliform. The portion of the comment regarding total coliform does not consider other relevant information from the 2017 AFLA documentation regarding the presence of other indicator bacteria relative to applicable water quality criteria, specifically that *E. coli* counts were below recommended numeric criteria in all samples associated with each holiday sampling event at the monitored sites—four sites at New Bullards Bar Reservoir, one site at the Our House Diversion Dam Impoundment, and one site at the Log Cabin Diversion Dam impoundment. *E. coli* counts are a subset of total coliform counts and are better indicators of human impacts. The U.S. Environmental Protection Agency's (EPA) current water quality criteria for protection of primary contact recreation are based, in part, on the use of *E. coli* as an indicator of fecal contamination. In its 2012 criteria document, EPA states, "Scientific advancements in microbiological, statistical, and epidemiological methods have demonstrated that culturable enterococci and *E. coli* are better indicators of fecal contamination than the previously used general indicators, total coliforms and fecal coliforms." (U.S. Environmental Protection Agency 2012, p. 2) In 2019, the State Water Resources Control Board adopted new statewide bacteria objectives to protect contact recreation uses based on EPA's recommended criteria. For *E. coli*, the objective is 100 colony forming units per 100 milliliters (cfu/100 mL), expressed as a six-week rolling geometric mean, and a statistical threshold value of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month (State Water Resources Control Board 2019, p. 3). The *E. coli* data in the 2017 AFLA documentation are expressed as Most Probable Number (MPN), which measures growth statistically, rather than cfu, which is a direct count of visible colonies. Nevertheless, the data are informative for assessing whether *E. coli* concentrations may exceed the statewide objectives. The six-week geometric mean *E. coli*

concentration ranged from non-detect (report limiting = 1.1 MPN) to 22.2 MPN/100 mL, and the maximum concentration was 53.8 MPN/100 mL across all sites and events, well below the statewide water quality objective. Finally, none of the Project Area waterbodies are included on the State Water Resources Control Board's Clean Water Act Section 303(d) list of impaired waterbodies due to *E. coli* levels exceeding water quality objectives based on data compiled and reviewed by the agency (State Water Resources Control Board 2024). Therefore, the water quality conditions in Project Area waterbodies for indicator bacteria are suitable for protection of beneficial uses.

2. Dissolved Oxygen. The 2017 AFLA documentation reported dissolved oxygen levels measured in New Bullards Bar Reservoir and Englebright Reservoir in the spring and summer of 2012. During the spring monitoring event, only two out of 31 dissolved oxygen measurements were less than 7.0 milligrams per liter (mg/L) and barely so; one was 6.90 mg/L in the hypolimnion, and the other was 6.96 mg/L at the surface (Yuba County Water Agency 2013, p. 39). During the summer 2012 monitoring event, only three out of 31 measurements were less than 7.0 mg/L (Yuba County Water Agency 2013, p. 39). The measurements were 5.14 and 6.16 mg/L in the New Bullards Bar Reservoir hypolimnion, and 6.79 mg/L in the Englebright Reservoir hypolimnion (Yuba County Water Agency 2013, p. 39). These results are consistent with deep reservoirs that form strong thermoclines in the summer, and not indicative of adverse conditions for beneficial uses, especially given that the dissolved oxygen levels were above 5.0 mg/L and not approaching anoxic conditions. Dissolved oxygen profiles collected in New Bullards Bar Reservoir and Englebright Reservoir in November 2010 through August 2012 show that both reservoirs are well oxygenated with minimum dissolved oxygen concentrations typically greater than 8 mg/L (Yuba County Water Agency 2013, pp. 39–41). Finally, the reservoirs are not included on the State Water Resources Control Board's Clean Water Act Section 303(d) list of impaired waterbodies due to low dissolved oxygen based on data compiled and reviewed by the agency (State Water Resources Control Board 2024). Therefore, the water quality conditions in Project Area waterbodies for dissolved oxygen are suitable for protection of beneficial uses.

3. Trace Metals. The 2017 AFLA documentation reported trace metal concentrations measured in Project Area waterbodies in the spring and summer of 2012, and in the North Yuba River below New Bullards Bar Dam in fall 2012. Concerns in the 2017 AFLA documentation regarding copper, nickel, and silver were identified based on conservative application of California Toxics Rule (CTR) criteria promulgated by EPA (U.S. Environmental Protection Agency 2000). The CTR criteria for copper, nickel, and silver are for protection of freshwater aquatic life. The criteria are equations that are a function of water hardness to reflect

empirical data showing that toxicity of these metals decreases as hardness increases. Other constituents, such as dissolved organic carbon, sulfate, sodium, alkalinity, and pH, are also known to affect bioavailability of these metals, thus toxicity. To account for the effects of these other constituents on bioavailability and promulgate water quality criteria appropriate for the conditions under which they are applied, the CTR criteria equations include a multiplier called a "water-effect ratio" (WER). Absent site-specific information, the CTR set the default value for the WER equal to 1. The conditions in Project Area waterbodies for copper, nickel, and silver relative to the CTR criteria are addressed below. Because the criteria are dependent on ambient hardness, information regarding reported hardness is presented first.

- Hardness. Hardness data for Project Area waterbodies was collected concurrently with trace metals data. In the spring 2012 samples, hardness ranged from 25 to 46 mg/L as calcium carbonate ($CaCO_3$) across all sample locations (Yuba County Water Agency 2013, Attachment 2-3C, Table 2.3C-1). In the summer, 2012 samples, hardness ranged from 26 to 81 mg/L as $CaCO_3$ across all sample locations (Yuba County Water Agency 2013, Attachment 2-3C, Table 2.3C-4). In the fall 2012 sample, hardness in the North Yuba River was 32 mg/L as $CaCO_3$ (Yuba County Water Agency 2013, Attachment 2-3C, Table 2.3C-5). The minimum reported hardness across all waterbodies and seasons was 25 mg/L as $CaCO_3$.

  Of note is that 2017 AFLA Volume 2, Exhibit E, Environmental Report Section 3.3.2 (Water Resources) identifies a low hardness of 2.4 mg/L as $CaCO_3$, with no location for this result specified (page E3.3.2-25). The source of this statement is Technical Memorandum 2-3, Water Quality, Section 4.8, which also states hardness was as low as 2.4 mg/L as $CaCO_3$ (Yuba County Water Agency 2013, p. 37). However, none of the data tables in Technical Memorandum 2-3, Section 3.0, Results, cite a minimum hardness of 2.4 mg/L as $CaCO_3$. And no hardness of 2.4 mg/L as $CaCO_3$ is reported in the Technical Memorandum 2-3 Attachment 2-3C, which contains the individual sample results for the spring, summer, and fall 2012 sampling events. However, the document compares monitoring results for trace metals to CTR criteria calculated using a hardness of 2.4 mg/L as $CaCO_3$, resulting in very conservative analysis.

- Copper. A review of the copper data in the 2017 AFLA documentation was conducted to further understand the basis for copper concentrations in Project Area waterbodies being described as occasionally exceeding CTR criteria. Dissolved copper data was collected across Project Area waterbodies in the

spring and summer of 2012, and for the North Yuba River below New Bullards Bar Dam in the fall of 2012 (Yuba County Water Agency 2013). For the lowest measured hardness of 25 mg/L as $CaCO_3$, the CTR criteria for dissolved copper are 2.7 micrograms per liter (µg/L) for the chronic criterion and 3.6 µg/L for the acute criterion, when the WER is set equal to 1. The maximum concentration of dissolved copper across all sample locations in the spring and fall was 1.61 µg/L (Yuba County Water Agency 2013, Attachment 2-3C, Tables 2.3C-1 and 2.3C-5), less than the CTR criterion of 2.7 µg/L derived from the lowest hardness of 25 mg/L as $CaCO_3$ and a WER equal to 1. In the summer, dissolved copper concentrations across Project Area waterbodies were 0.68 µg/L or less, except for samples collected at the bottom of New Bullards Bar Reservoir and Englebright Reservoir. Dissolved copper concentrations in samples from the bottom of the reservoirs range from 3.84 to 9.13 µg/L. Notably, reservoir surface concentrations were about 10 to 20 times lower. The table below presents the dissolved copper concentrations in the reservoir samples, the concurrent hardness, and the calculated CTR acute and chronic criteria from the concurrent hardness using the default WER of 1.

Selected Water Quality Data from the Monitoring Completed in						
Location	Hardness (mg/L as $CaCO_3$)	Dissolved Copper (µg/L)	CTR criterion:	CTR criterion: chronic (µg/L)	pH	Dissolved Organic Carbon
Samples from Surface of Reservoirs						
New Bullards Bar Reservoir Near Madrone Cove	38	0.39	5.4	3.9	8.49	5.6
New Bullards Bar Reservoir Mid-Reservoir	32	0.42	4.6	3.4	8.37	5.1
New Bullards Bar Reservoir Near Dam	34	0.43	4.9	3.6	8.39	5.2
Englebright Reservoir Upper Reservoir	33	0.49	4.7	3.5	7.96	4.6
Englebright Reservoir Mid-reservoir	31	0.46	4.5	3.3	7.98	4.6
Englebright Reservoir Near Dam	30	0.50	4.3	3.2	7.96	4.4
Englebright Reservoir Near Dam (duplicate)	30	0.55	4.3	3.2	--	4.9

Samples from Bottom of Reservoirs						
New Bullards Bar Reservoir Near Madrone Cove	26	9.13	3.8	2.8	6.97	5.1
New Bullards Bar Reservoir Mid-Reservoir	27	5.86	3.9	2.9	7.07	5.1
New Bullards Bar Reservoir Near Dam	29	5.01	4.2	3.1	6.75	5.0
Englebright Reservoir Upper Reservoir	33	5.32	4.7	3.5	7.55	4.7
Englebright Reservoir Mid-reservoir	28	7.57	4.1	3.0	7.09	5.0
Englebright Reservoir Near Dam	29	3.84	4.2	3.1	7.16	4.7

Source: Yuba County Water Agency 2013, Attachment 2-3C, Table 2.3C-4

For copper, many waters having pH above 6.5 and dissolved organic carbon concentrations above 1 mg/L have a WER greater than 1, meaning that the applicable CTR copper criteria should actually be greater than that calculated using the default WER equal to 1. As shown in the above table, pH at the bottom of the reservoirs is greater than 6.5 and dissolved organic carbon concentrations are about 5 mg/L. A site-specific WER for New Bullards Bar Reservoir equal to 3.3 would change the criteria in the above table to be at least 9.2 µg/L, greater than the concentrations at the reservoir bottom. Similarly, a site-specific WER for Englebright Reservoir equal to 2.6 would change the criteria above to be at least 7.8 µg/L, greater than the copper concentrations at the reservoir bottom.

Only when the site-specific WER is determined and applied to the CTR copper criterion equation do we know the criterion for the site that provides the level of protection to aquatic life intended by EPA. Notably, EPA published an updated water quality criteria for copper for the protection of freshwater aquatic life, in 2007, to be a "biotic ligand model" to directly account for the effect of various site-specific water quality conditions on copper bioavailability (U.S. Environmental Protection Agency 2007). This is also described in the DEIR, Section 8.5, Environmental Impact Analysis, in YRDP Impact WQ-PP-3.

Thus, based on the above data and considerations when applying CTR copper criteria, the water quality conditions in Project Area

waterbodies for copper are suitable for protection of beneficial uses.

- Nickel. A review of the nickel data in the 2017 AFLA documentation was conducted to further understand the basis for nickel concentrations in Project Area waterbodies being described as occasionally exceeding CTR criteria. Dissolved nickel data was collected across Project Area waterbodies in the spring and summer of 2012, and for the North Yuba River below New Bullards Bar Dam in the fall of 2012 (Yuba County Water Agency 2013). For the lowest measured hardness of 25 mg/L as $CaCO_3$ and WER equal to 1, the CTR criteria for dissolved nickel at this hardness and a WER equal to 1 are 16 µg/L for the chronic criterion and 145 µg/L for the acute criterion. The concentrations of dissolved nickel across all sample locations were 3.55 µg/L or less, except for one sample location in Englebright Reservoir in the spring (Yuba County Water Agency 2013, Attachment 2-3C, Tables 2.3C-1, 2.3C-4, and 2.3C-5). A dissolved nickel concentration of 27.7 µg/L was reported for a sample collected at the surface in the upper part of the reservoir. The concurrent total nickel concentration for the sample was reported to be 0.7 µg/L. Since the dissolved concentration is a fraction of the total concentration, the 27.7 µg/L result is suspect. Furthermore, the five other spring and seven summer samples collected in the reservoir had concentrations of 0.98 µg/L or less, further making the 27.7 µg/L result suspect or otherwise not representative of typical conditions in the reservoir. Therefore, dissolved nickel concentrations within Project Area waterbodies are considered to be in compliance with CTR criteria and not impairing beneficial uses.

- Silver. Review of the silver data in the 2017 AFLA documentation indicates that dissolved silver concentrations in Project Area waterbodies have not been greater than CTR criteria. Dissolved silver data was collected across Project Area waterbodies in the spring and summer of 2012, and for the North Yuba River below New Bullards Bar Dam in the fall of 2012 (Yuba County Water Agency 2013). For the lowest measured hardness of 25 mg/L as $CaCO_3$, the CTR acute criterion for dissolved silver is 0.32 µg/L; there is no chronic criterion. The maximum concentration of dissolved silver across all sample locations was 0.062 µg/L (Yuba County Water Agency 2013, Attachment 2-3C, Tables 2.3C-1, 2.3C-4 and 2.3-5). Therefore, dissolved silver concentrations have not exceeded CTR criteria in Project Area waterbodies.

4. Mercury. Mercury-related impairments in Project Area waterbodies due to concentrations exceeding sport fish objectives are acknowledged in the DEIR in Section 8.2.2, Table 8.2-2, and Section 8.2.3. In addition, Section 8.5 provides additional details regarding mercury concentrations in Project Area waterbodies as needed to support the impact analysis and conclusions.

Thus, these four constituent issues raised in the comment do not materially change or undermine the DEIR's description of the water quality for Project Area waterbodies in the Yuba River watershed.

As the comment notes, the DEIR determined that water quality will not substantially change under the Proposed Projects. In fact, the Proposed Projects (and the project alternatives) would be subject to permits that implement applicable Basin Plan objectives and associated programs of implementation to achieve the objectives. Thus, the DEIR concluded that the Proposed Projects would not result in impacts related to consistency with water quality control plans. The DEIR's analysis appropriately evaluated the significance of the Proposed Projects' potential impacts relative to baseline conditions, as CEQA requires. (CEQA Guidelines § 15125, subd. (a)).

Finally, the comment states that "the Bay-Delta Plan is a water quality control plan for the San Francisco Bay/Sacramento-San Joaquin Delta watershed that contains water quality objectives for the reasonable protection of beneficial uses in the Bay-Delta watershed, which is impacted by operation of the Projects." The Bay-Delta Plan contains numeric objectives for dissolved oxygen, chloride, and electrical conductivity at specified Delta locations, a Delta outflow objective, Delta export limits, and flow objectives for the Sacramento River at Rio Vista and San Joaquin River and eastside tributaries. The current Bay-Delta Plan has no numeric water quality objectives applicable to the Project Area waterbodies in the Yuba River watershed. Furthermore, as explained in Chapter 4, Framework for the Environmental Analysis, of the DEIR, Yuba Water conducted a sensitivity analysis confirming that the Proposed Projects would not have any measurable effects downstream of the confluence of the lower Yuba River and the Feather River.

SB-14 The comment states that a new nonessential experimental population (NEP) of Central Valley spring-run Chinook salmon was introduced in the Upper Yuba River upstream of New Bullards Bar Reservoir in October 2024 and is therefore part of the baseline for the DEIR's evaluation of the Proposed Projects.

As an initial matter, Yuba Water makes the following clarifications in response to the comment:

- CDFW's release of a NEP of spring-run Chinook salmon occurred in the North Yuba River, a considerable distance upstream of New Bullards Bar Reservoir.

- CDFW initiated release of the spring-run Chinook salmon NEP on October 28 and 29, 2024 (CDFW 2025a). The NOP was published on October 28, 2024. Technically, the release did not occur prior to the publication of the NOP.

Regardless, whether or not CDFW initiated release of the NEP before the NOP was published, the baseline environmental conditions do not include an established NEP in the North Yuba River upstream of New Bullards Bar Reservoir. The release was part of a pilot program designed to evaluate the feasibility of a reintroduction program in the North Yuba River, not actually part of a defined reintroduction program. As explained in the DEIR (p. 25-73), the reintroduction program presently represents a framework for conducting pilot studies to inform development of a possible comprehensive full-scale reintroduction program and plan for spring-run Chinook salmon into the North Yuba River upstream of New Bullards Bar Reservoir.[3] The purpose of the current egg injection pilot study is to investigate the feasibility of one component to inform future development of a reintroduction program. Although a pilot study is underway, an actual reintroduction program is yet to be developed and therefore the NEP was not included as part of the existing condition environmental baseline.

Moreover, the Proposed Projects are not likely to affect the NEP. As the first step in the pilot study program, fertilized spring-run Chinook salmon eggs from the Feather River Fish Hatchery were hydraulically injected into the gravel riverbed over a 12-mile reach of the North Yuba River along Highway 49 just east of Downieville, California (CDFW 2025b). The lowermost egg injection site was located approximately 15 miles upstream of the ordinary high-water mark of New Bullards Bar Reservoir. Consequently, the initial pilot reintroduction effort occurred well upstream of the area where the YRDP or Narrows Project relicensings could possibly result in potential impacts. As described in the DEIR (pages 9-3 and 9-4), the geographic scope for the YRDP environmental setting and fisheries analysis included the North Yuba River from the confluence with Slate Creek downstream to approximately 0.1 miles of the ordinary highwater mark of New Bullards Bar Reservoir. However, because there were no changes in modeled flows and water temperatures under the Proposed Projects or alternative scenarios relative to the bases of comparison, this section of the North Yuba River was not addressed further in the DEIR.

The comment correctly identifies that a nonessential experimental population (or NEP) designation provides some regulatory protection, which is fully

[3] CEQA compliance for the reintroduction pilot studies will be conducted separately as specific studies are identified and will be addressed by CDFW as the CEQA lead agency for the reintroduction program (DEIR, p. 25-73).

described in NMFS' Final Rule (87 Federal Register 79808, December 28, 2022). Under ESA Section 10(j), NMFS has authority to designate reintroduced populations as "nonessential, experimental populations" that do not carry the same protections as fully listed populations. This allows for the exemption of ESA restrictions on lawful activities in these watersheds. For spring-run Chinook salmon that are part of the NEP Area in the Yuba River Watershed, individuals or entities engaged in lawful activities that may incidentally take spring-run Chinook salmon in the NEP Area would not be required to obtain an incidental take permit from NMFS.

Spring-run Chinook salmon released into the North Yuba River as part of the NEP will be geographically separated from the extant ESU of Central Valley spring-run Chinook salmon while in the NEP Area, but will intermingle with other Chinook salmon populations as they are transported downstream of the NEP Area. The ''experimental'' population designation is geographically based and does not travel with the fish outside the NEP Area (87 FR 79813, December 28, 2022).

Outside of the NEP Area (e.g., downstream of Englebright Dam), these fish would be considered part of the extant spring-run Chinook salmon Evolutionarily Significant Unit (ESU) that is currently listed under the ESA and have the same protections as individuals in the extant ESU (87 FR 79814, December 28, 2022). Appropriately, potential impacts resulting from the Proposed Projects on ESA-listed spring-run Chinook salmon and their designated critical habitat in the lower Yuba River were evaluated in Chapter 9 of the DEIR.

SB-15 The comment states that the YRRI's proposed Reintroduction Program should be considered in the cumulative impact analysis of the Proposed Projects and alternatives. As explained in the DEIR (p. 25-73), the reintroduction program presently represents a framework for conducting pilot studies to inform the eventual development of a possible plan for the full-scale reintroduction of spring-run Chinook salmon into the North Yuba River upstream of New Bullards Bar Reservoir. Although a pilot study is underway, an actual reintroduction plan is yet to be developed, and thus, the timing and manner of its implementation, along with any potential associated environmental effects, are speculative. Accordingly, the proposed Reintroduction Program component of the YRRI was not included in the DEIR's cumulative analyses. Yuba Water notes, however, that the Reintroduction Program is eventually intended to provide benefits to fisheries resources, and therefore Yuba Water does not anticipate that the reintroduction program would ultimately result in adverse environmental impacts to fisheries resources that would combine with related impacts of the Proposed Projects to create a significant cumulative impact.

SB-16 Yuba Water will develop a SWPPP or SWPPPs to address all recreation facility construction associated with the new license for the YRDP, in compliance with the conditions set forth in the Construction General Permit to be issued by

SWRCB for this construction. In response to this comment, Chapter 11 of the DEIR has been revised to reflect this change. The revision is available in FEIR Chapter 3.

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Yuba River Development Project
&
Narrows Joint EIR

Appendix 1

Supplemental Bay-Delta Plan Update Analyses

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ATTACHMENTS

Attachment 1A - Hydrologic and Water Temperature Data Products

Attachment 1B - Fisheries Data Products

INTRODUCTION

The SWRCB requested that Yuba Water consider its Proposed Projects operations in combination with the regulatory pathway as described in the July 2025 revised draft Bay-Delta Plan. SWRCB staff further requested that Yuba Water consider including in the final EIR hydrologic modeling results for the Proposed Projects in combination with the proposed Yuba River VA (also referred to as the HR&L program). Those comments were identified as comments SB-7 and SB-8 in the bracketed comment letter, and this analysis, which is provided for informational purposes only, pertains to both of those comments.

Pursuant to the SWRCB's request, Yuba Water utilized the July 2025 revised Draft Bay-Delta Plan Update to develop a model scenario to represent the Proposed Projects in combination with the July 2025 regulatory pathway (referred to herein as "55 w/WSA"). Similarly, the Proposed Projects combined with the Yuba River HR&L (referred to as "HRL") model scenario was developed based upon the description provided by Yuba Water for the Bay-Delta Plan Update process. These scenarios were modeled using the Yuba River Development Project models to produce flow and water temperatures at various locations, over the period extending from 1970-2021, consistent with the Draft EIR's modeling for the Proposed Project and alternatives. (Appendix 4C, Hydrologic and Water Temperature Data Products). The approach Yuba Water used to model these scenarios is described under 'Model Scenario Characterizations", below. The Draft EIR presented flow and water temperature outputs in the form of comparisons of scenarios.

Yuba Water evaluated the Proposed Projects in combination with a 55% unimpaired flow (UIF) scenario[1] as Alternative 2 in the Draft EIR to provide additional information requested by the SWRCB in their comments on the NOP for the Draft EIR.

Subsequent to the preparation of the Draft EIR, SWRCB staff identified proposed modifications to the possible regulatory pathway for the Bay-Delta Plan Update process during July 2025. The WSA scenario based on the July 2025 update represents an alternative implementation of the 55% UIF scenario evaluated in the Draft EIR as Alternative 2. Similarly, the HRL scenario represents an alternative to either regulatory pathway (55% UIF or WSA).

For this analysis, scenario comparisons include average monthly differences in flow and water temperatures at various locations for the following.

- 55 w/WSA vs Future Baseline
- HRL vs Future Baseline

Additionally, monthly flow and water temperature exceedance figures are provided for the following scenario comparisons.

- 55 w/WSA vs HRL vs Alternative 2 vs Future Baseline

The flow and water temperature data product results for these scenario comparisons are presented in Attachment 1A of this appendix.

[1] The Alternative 2 characterization of 55% UIF scenario represented the regulatory pathway for the proposed Bay-Delta Plan amendments as described in the SWRCB October 2024 Draft Sacramento/Delta updates to the Bay-Delta Plan (October 2024 Draft Bay-Delta Plan).

MODEL SCENARIO CHARACTERIZATIONS

Yuba Water presently operates New Bullards Bar Reservoir for end-of-September storage in two ways: (1) If forecasted operations to meet minimum flow requirements downstream from New Bullards Bar Reservoir would result in an end-of-September storage greater than 650 TAF, Yuba Water will release additional water to reach an end-of-September storage of 650 TAF. These additional releases can occur at any time, but generally occur after New Bullards Bar Reservoir has reached its peak storage in May or June. Operations to meet the end-of-September storage target result in flows in the lower Yuba River greater than flow requirements. (2) If forecasted operations to meet minimum flow requirements in the lower Yuba River would result in an end-of-September storage lower than its target carryover storage (440 TAF in the first year of a drought and 400 TAF in subsequent drought years), Yuba Water would impose shortages on agricultural water supply deliveries up to 50% (shortages greater than 50% are assumed to impact pre-1914 water right holders) to provide 400 TAF at the end of September. If a 50% shortage was insufficient to provide 400 TAF at the end of September, New Bullards Bar Reservoir storage would be reduced below 400 TAF while providing 50% deliveries and meeting downstream flow requirements.

55 w/WSA Scenario

Pursuant to the SWRCB's request (SWRCB comment SB-7), and consistent with the July 2025 Bay-Delta Plan updates, the 55 w/WSA scenario represents operations for an unimpaired flow requirement including a Water Supply Adjustment (WSA) where the requirement would vary based on a wetness index[2] to require 55% of unimpaired flow in the wettest one third of years, 35% of unimpaired flow in the driest third of years, and 45% of unimpaired flow in the middle third of years. For the 55% w/WSA scenario, Yuba Water evaluated historical unimpaired flows for the Sacramento River at Bend Bridge, Feather River at Oroville, Yuba River at Smartsville, and American River at Folsom from the California Department of Water Resources (DWR) California Data Exchange Center (CDEC), and computed the applicable four river index for the period of record for application of the WSA.

The July 2025 Bay-Delta Plan update indicates the unimpaired flow requirement would be based on a 7-day running average; Yuba Water has provided comments to the SWRCB that a 7-day running average would not be practical due to operational and capacity limitations, and that a 21-day (or longer) running average would be more implementable. Consistent with Yuba Water's comments, modeling of the 55 w/WSA scenario for this analysis assumed a 21-day average for determining the flow requirement at Marysville.

Yuba Water used its Mini-Model similar to the approach previously used for Alternative 2 to compute flows on the Middle Yuba and South Yuba rivers from the Nevada Irrigation District (NID) Yuba-Bear Project and Pacific Gas & Electric Company's (PG&E) Drum-Spaulding

[2] The July 2025 Bay-Delta Update describes the index to determine the appropriate percent of unimpaired flow as follows: "*Watershed-wide WSAs: apply based on the best available estimate of the cumulative sum of the prior 12 months of the Sacramento Valley Four River Index (four river index). Under the watershed-wide WSAs 55% of unimpaired flow is required in the wettest 1/3 of years, 45 percent of unimpaired flow in the middle 1/3 of years, and 35 percent of unimpaired flow in the dryest 1/3 of years based on specified rounded thresholds for the last 30 years of the four river index, with these indices subject to update through the periodic review process. During October through May, when the 12-month four river index is below 20,200,000 acre-feet, the flow requirement is reduced to 45 percent of unimpaired flow watershed-wide and when the 12-month four river index is below 13,200,000 acre-feet, the flow requirement is reduced to 35 percent of unimpaired flow watershed-wide. The requirement for May applies for June through September.*"

Project. Yuba Water assumed flows through the Lohman Ridge and Camptonville tunnels would be fully curtailed before requiring additional flow from the Yuba-Bear Project to meet the unimpaired flow requirement at the mouth of the Middle Yuba River. Flows from Bowman and Spaulding reservoirs were used to meet the unimpaired flow requirement at the mouth of the South Yuba River. Yuba Water assumed NID and PG&E's respective 4(e) flow requirements were in place, in addition to the unimpaired flow requirements at the downstream mouths of each tributary.

The Bay-Delta Plan indicates Yuba Water should include an end-of-September carryover storage target of 400 to 600 TAF in all years, including drought years. Although the SWRCB did not specify what to use as an end-of-September carryover storage requirement, to model the 55 w/WSA scenario, Yuba Water assumed every year would have a 600 TAF requirement except for a dry or critical year following a dry or critical year, in which case a 400 TAF requirement was assumed. For example, in the recent drought sequence of 2013 (dry year), 2014 (critical year) and 2015 (critical year), Yuba Water assumed a 600 TAF carryover requirement in 2013 and 400 TAF in 2014 and 2015 using the Sacramento Valley Index (SVI) to determine the year type. Similar to under existing practices, Yuba Water would impose shortages on agricultural water supply deliveries up to 50% to provide the applicable carryover storage requirement. Additionally, modeling of the 55 w/WSA scenario assumed that Yuba Water would reduce diversions for water users up to 50% of their demand to meet the unimpaired flow requirement in Marysville if release capacity at New Bullards Bar Reservoir or Englebright Dam limited the flow availability. The 55 w/WSA scenario also included Proposed Project flow-related requirements, including minimum flow requirements, recreational and sediment transport operations, ramping rates, tunnel closures, and flow fluctuation limitations.

HRL Scenario

Yuba Water's HRL proposal primarily includes the release of 50 TAF from New Bullards Bar Reservoir between March and June in SVI Above Normal, Below Normal, and Dry years. Yuba Water would make these releases by operating to an end-of-September New Bullards Bar Reservoir storage target of 600 TAF rather than its normal 650 TAF, but storage releases would be made in the spring rather than in the summer. If operations for flow requirements would have resulted in an end-of-September storage lower than 600 TAF, then Yuba Water would not be providing any HRL water in that year.

Modeling of the HRL scenario used identical assumptions as the Proposed Project Future Conditions with the exception of a revised target operating line for New Bullards Bar Reservoir that would result in operations to provide the HRL water in the spring and operations for an end-of-September storage of 600 TAF.

OVERALL COMPARISONS OF FLOWS AND WATER TEMPERATURES

Alternative 2

Relative to the Future Baseline, Alternative 2 results in higher flows during late fall through spring and lower flows during summer and fall, with similar or slightly cooler water temperatures during late fall through early spring, but warmer temperatures during summer through early fall throughout most of the lower Yuba River.

Over the entire simulation period, monthly average flows in the lower Yuba River under Alternative 2 relative to the Future Baseline are generally higher at most locations during

November through June, particularly during April and May (by about 15-25%), and are substantially lower (by about 10-20%) during July through September. Relative to the Future Baseline, average monthly flows by WYT under Alternative 2 exhibit substantially higher (by about 10-70%) flows during December through May, particularly during Below Normal, Dry and Critical WYs (especially during March through May of Dry and Critical WYs), and substantially lower (by about 10-30%) flows during July through September of most WYTs.

Monthly average water temperatures in the lower Yuba River are similar or slightly cooler (typically by less than 1°F) under Alternative 2 compared to the Future Baseline during November through April, and warmer during May through October (with increases of up to 2-3°F during July and August) at most locations. The greatest increases (2-5°F) in water temperature occur during June through September of Below Normal, Dry and Critical WYs throughout the lower Yuba River. Water temperatures by WYT become progressively warmer from wetter to drier WYTs during June through September. The greatest water temperature reductions (1-3°F) occur under Alternative 2 during March-May of drier WYs in the lowermost reaches.

55 w/WSA

By comparison, the 55 w/WSA scenario follows the same general trends in flow and water temperature changes as Alternative 2, but with flow and water temperature changes of lower magnitude and during fewer months of the year. Relative to the Future Baseline, the 55 w/WSA scenario results in generally higher flows but only during November, December, April and May (Tables 1A-1 through 1A-4 and Figures 1A-1 through 1A-12 in **Attachment 1A**) by contrast to Alternative 2, which exhibited consistently higher flows during November through May relative to the Future Baseline. As with Alternative 2, flows under the 55 w/WSA scenario are lower than those under the Future Baseline during July through September, and substantially lower during August and September at most locations.

Compared to Alternative 2, water temperatures under the 55 w/WSA scenario are cooler (by up to 0.6-1.0°F) during July through September, particularly during Below Normal, Dry, and Critical WYTs, but are still warmer (typically by up to 0.6-1.5°F) than the Future Baseline during the late spring through early fall. Relative to the Future Baseline, water temperatures under the 55 w/WSA scenario are warmer during May through September (particularly during July and August when water temperatures are warmer under the 55 w/WSA scenario by up to 1.5°F) (Tables 1A-27 through 1A-31 and Figures 1A-49 through 1A-60). As with Alternative 2, water temperatures under the 55 w/WSA scenario become progressively warmer from wetter to drier WYTs during June through September at most locations, with the greatest increases in water temperature relative to the Future Baseline occur in July during Critical WYTs upstream of DPD (1.9-2.1°F), and during July and August of Below Normal and Dry (2.0-2.2°F) WYTs downstream of DPD. Water temperatures under the 55 w/WSA scenario relative to the Future Baseline are similar or slightly cooler (typically by less than about 0.5°F) during October through April.

HRL

The HRL scenario results in different flow changes relative to the Future Baseline than those demonstrated by either Alternative 2 or the 55 w/WSA scenario. Specifically, the HRL scenario exhibits higher flows during April and May, and generally similar flows the rest of year throughout the lower Yuba River relative to the Future Baseline. These changes occur during Above Normal, Below Normal, and Dry WYTs. By contrast, Alternative 2 exhibits flow increases during

November through June and flow decreases during July through September (as described above). Relative to the Future Baseline, the HRL scenario results in increased flows during April (7-8%) and May (4-5%) throughout the lower Yuba River (Tables 1A-14 through 1A-17 and Figures 1A-1 through 1A-12), although these increases in flow are of lower magnitude than would occur under Alternative 2 or the 55 w/WSA scenario. The HRL scenario results in lower flows (6-13%) during August downstream of DPD, and generally similar flows at all locations during the rest of the year relative to the Future Baseline.

Compared to Alternative 2, water temperatures under the HRL scenario are cooler (by up to 1.5-2.5°F) during July through September, particularly during Above Normal, Below Normal, and Dry, and are cooler by up to about 2-4°F throughout the lower Yuba River during Critical WYTs. Under the HRL scenario relative to the Future Baseline, water temperatures are similar or slightly warmer during March through September (by less than 0.5°F) (Tables 1A-27 through 1A-31 and Figures 1A-49 through 1A-60). The greatest increases (by up to about 0.5-1°F) in water temperature under the HRL scenario relative to the Future Baseline occur in May and June during Dry and Critical WYTs throughout the lower Yuba River. Nonetheless, relative to Alternative 2, water temperatures under the HRL scenario are cooler (by up to about 0.5-1.5°F) during May and June of Critical WYTs upstream of DPD, and cooler by up to about 2°F during June of Critical WYTs downstream of DPD.

FISHERIES EVALUATION

Because the newly developed scenarios in response to SWRCB's request represent alternatives to the regulatory pathway, fisheries-related analyses of these scenarios focus on water temperature-related effects relative to Alternative 2 and to each other, particularly for species and lifestage-specific time periods for which adverse effects (i.e., less suitable thermal conditions) were identified associated with Alternative 2 relative to the Future Baseline condition in the Draft EIR. Because those adverse effects were primarily associated with elevated water temperatures during the summer and fall (primarily June – September) in the lower Yuba River, the fisheries-related analyses provided in response to the SWRCB's request focus on the species and lifestages occurring during those periods at specific locations in the lower Yuba River. Under the 55 w/WSA scenario relative to Alternative 2, water temperature-related adverse effects to target fish species are generally alleviated for some lifestages either completely, or due to reduced magnitude of effect. The HRL scenario further reduces adverse effects identified under Alternative 2.

Water temperature-related results are summarized below by species and lifestage for the relevant locations, based on seasonal and lifestage-specific results presented in **Attachment 1B**. Evaluations of the species and lifestage-specific water temperature suitabilities under the 55 w/WSA and HRL scenarios relative to Alternative 2 and the Future Baseline are presented as percentage exceedance of the water temperature index (WTI) values (upper tolerable (UT) or upper optimal (UO) for salmonids, and a single value representing the upper value of the suitability range for green sturgeon and lamprey) used in the Draft EIR.

Spring-Run Chinook Salmon

Overall, in consideration of all flow and water temperature-related impact indicators, as well as peak lifestage-specific temporal considerations, habitat conditions for spring-run Chinook salmon are expected to be substantially less suitable under Alternative 2 relative to the Future Baseline primarily due to substantially decreased water temperature suitabilities for the adult immigration,

adult holding, spawning and embryo incubation, and juvenile rearing lifestages during the summer and fall. Particularly adverse water temperature impacts would occur under Alternative 2 by providing essentially no thermally optimal habitat in the spring-run Chinook salmon spawning reaches during the entire month of September (of the September through mid-October spring-run Chinook salmon spawning period) of Dry and Critical WYs. Alternative 2 also severely restricts the amount of even thermally tolerable spawning water temperatures, by providing only 1-2 miles of thermally tolerable habitat (up to 4 miles less than the Future Baseline) during the September portion of the September through mid-October spawning season of Dry and Critical WYs.

Water temperatures for the spring-run Chinook salmon adult immigration, adult holding, spawning and embryo incubation, and juvenile rearing lifestages during the summer and fall are somewhat improved under the 55 w/WSA scenario and further improved under the HRL scenario relative to Alternative 2, although the 55 w/WSA scenario is still less suitable than the Future Baseline, and the HRL scenario is generally similar or only slightly less suitable relative to the Future Baseline.

<u>Adult Immigration</u>

- June – August
  - DPD
    - The 55 w/WSA scenario is more suitable (8% less exceedance of the UT WTI (68°F)) than Alternative 2, and similarly suitable to the Future Baseline relative to the UT WTI (Figure 1B-1 in Attachment 1B).
    - The HRL scenario is more suitable (7% less UT exceedance, and 14% less exceedance of the UO WTI (64°F)) than Alternative 2, and exhibits essentially the same suitability as the Future Baseline (Figure 1B-1).
  - Marysville
    - The 55 w/WSA scenario is more suitable (6% less exceedance of the UT WTI (68°F)) than Alternative 2, and less suitable (8% more UT exceedance) than the Future Baseline relative to the UT WTI (Figure 1B-2).
    - The HRL scenario is more suitable (12% less UT exceedance, and 9% less UO exceedance) than Alternative 2, and exhibits similar suitability to the Future Baseline (Figure 1B-2).
- September
  - DPD
    - The 55 w/WSA scenario is similarly suitable relative to UT, but more suitable relative to UO (10% less UO exceedance) than Alternative 2, and similarly suitable to the Future Baseline relative to both WTIs (Figure 1B-3).
    - The HRL scenario is similarly suitable relative to UT, but more suitable relative to UO (12% less UO exceedance) than Alternative 2, and similarly suitable to the Future Baseline relative to both WTIs (Figure 1B-3).
  - Marysville
    - The 55 w/WSA scenario is more suitable than Alternative 2 with 8% less exceedance of both WTI values, but less suitable (19% more UO exceedance) than the Future Baseline (Figure 1B-4).

- The HRL scenario is more suitable (9% less UT exceedance, and 23% less UO exceedance) than Alternative 2, and exhibits similar suitability to the Future Baseline (Figure 1B-4).

Adult Holding (and Juvenile Rearing)

- June – August
  - Smartsville
    - Water temperatures are more suitable under both the 55 w/WSA and HRL scenarios relative to Alternative 2, particularly relative to the UO WTI (61°F), and both scenarios are essentially equivalent relative to the Future Baseline (Figure 1B-5 for adult holding, Figure 1B-13 for juvenile rearing).
  - DPD
    - The 55 w/WSA scenario is more suitable (9% less UT (65°F) exceedance) than Alternative 2, and less suitable (6% more UT exceedance and 23% more UO exceedance) than the Future Baseline (Figure 1B-6 for adult holding, Figure 1B-14 for juvenile rearing).
    - The HRL scenario is substantially more suitable (15% less UT exceedance and 20% less UO exceedance) than Alternative 2, and similarly suitable compared to the Future Baseline (Figure 1B-6 for adult holding, Figure 1B-14 for juvenile rearing).
- September
  - Smartsville
    - Water temperatures under both the 55 w/WSA and HRL scenarios are similar (UT) and slightly improved (UO) relative to Alternative 2, and both scenarios are essentially equivalent relative to the Future Baseline (Figure 1B-7 for adult holding, Figure 1B-15 for juvenile rearing).
  - DPD
    - The 55 w/WSA scenario is more suitable (8% less UT exceedance) than Alternative 2, and less suitable (23% more UO exceedance) than the Future Baseline (Figure 1B-8 for adult holding, Figure 1B-16 for juvenile rearing).
    - The HRL scenario is more suitable (9% less UT exceedance and 25% less UO exceedance) than Alternative 2, and slightly less suitable (5% more UO exceedance) than the Future Baseline (Figure 1B-8 for adult holding, Figure 1B-16 for juvenile rearing).

Spawning and Embryo Incubation

- September – mid-October
  - Smartsville
    - The 55 w/WSA scenario is more suitable (13% less UT (58°F) exceedance) than Alternative 2, and less suitable (8% more UT exceedance and 19% more UO (56°F) exceedance) than the Future Baseline (Figure 1B-9).
    - The HRL scenario is substantially more suitable (18% less exceedance of both WTI values) than Alternative 2, and slightly less suitable (6% more UO exceedance) than the Future Baseline (Figure 1B-9).

- Parks Bar
  - The 55 w/WSA scenario is slightly more suitable (6% less UT exceedance) than Alternative 2, and less suitable (20% more UT exceedance and 8% more UO exceedance) than the Future Baseline (Figure 1B-10).
  - The HRL scenario is substantially more suitable (21% less UT exceedance and 8% less UO exceedance) than Alternative 2, and slightly less suitable (6% more UT exceedance) compared to the Future Baseline (Figure 1B-10).

- Longitudinal Extent of Thermally Suitable Spawning Habitat
  - The 55 w/WSA scenario results in a nominal improvement (about 1 mile more) in the length of thermally tolerable spawning habitat during September of Dry and Critical WYTs relative to Alternative 2 (which provides about 1 mile), but still provides about 3 fewer miles of thermally tolerable spawning habitat relative to the Future Baseline. Differences in the length of thermally tolerable spawning habitat between the 55 w/WSA scenario and Future Baseline diminish toward the middle to end of October, when both scenarios provide over 11 miles of thermally tolerable spawning habitat (Figure 1B-12).
  - The HRL scenario represents a marked improvement over Alternative 2 during September through mid-October, providing up to about 3-4 more miles of thermally tolerable spawning habitat during Dry and Critical WYTs. The HRL scenario provides generally similar amounts (i.e., generally about 0.5-1 fewer miles) of thermally tolerable spawning habitat compared to the Future Baseline (Figure 1B-12).

Fall-Run Chinook Salmon

Overall, habitat conditions for fall-run Chinook salmon are expected to be slightly less suitable under Alternative 2 relative to the Future Baseline due to less suitable water temperatures for adult immigration and staging during the summer at DPD and Marysville. Water temperatures for the fall-run Chinook salmon adult immigration and staging lifestage during the summer are somewhat improved under the 55 w/WSA scenario and further improved under the HRL scenario relative to Alternative 2, although the 55 w/WSA scenario is still less suitable than the Future Baseline, and the HRL scenario is generally similar relative to the Future Baseline.

The 55 w/WSA scenario results in more suitable (9% less exceedance of the UT (68°F) WTI value) water temperatures at DPD relative to Alternative 2, and similar suitability at DPD relative to the Future Baseline (Figure 1B-17). At Marysville, the 55 w/WSA scenario is more suitable (8% less UT exceedance) than Alternative 2, but substantially less suitable (10% more UT exceedance and 22% more UO (64°F) exceedance) relative to the Future Baseline (Figure 1B-18). Relative to Alternative 2, the HRL scenario is more suitable (8% less UT exceedance and 18% less UO exceedance) at DPD (Figure 1B-17), and substantially more suitable (16-17% less WTI value exceedance) at Marysville (Figure 1B-18). The HRL scenario is generally similar or essentially equivalent to the Future Baseline at both locations.

Steelhead

Overall, habitat conditions for steelhead juvenile downstream movement under Alternative 2 relative to the Future Baseline would be less suitable due to increased or substantially increased probabilities of exceeding the WTI values during June and July at DPD (6-11% more often) and

Marysville (12-13% more often). Water temperatures for the steelhead juvenile downstream movement lifestage during the summer are somewhat improved under the 55 w/WSA scenario and further improved under the HRL scenario relative to Alternative 2, although the 55 w/WSA scenario is still somewhat less suitable than the Future Baseline, and the HRL scenario is generally similar or only slightly less suitable relative to the Future Baseline.

The 55 w/WSA scenario results in slightly more suitable (7% less exceedance of the UT (68°F) WTI value) water temperatures at DPD during June and July relative to Alternative 2 (Figure 1B-19), and generally similar suitability at DPD relative to the Future Baseline. At Marysville, the 55 w/WSA scenario is generally similar to Alternative 2, but less suitable (8% more UT exceedance and 13% more UO (65°F) exceedance) relative to the Future Baseline (Figure 1B-20). Relative to Alternative 2, the HRL scenario is more suitable (6% less UT exceedance and 11% less UO exceedance) at DPD (Figure 1B-19), and more suitable (9% less UT exceedance and 6% less UO exceedance) at Marysville (Figure 1B-20). The HRL scenario is generally similar or slightly less suitable to the Future Baseline at both locations.

Green Sturgeon

Overall, water temperatures are less suitable for green sturgeon under Alternative 2 relative to the Future Baseline due to decreased (or substantially decreased) water temperature suitabilities during the summer for the spawning, embryo incubation, adult post-spawn holding, and juvenile rearing and emigration lifestages. Water temperatures for these green sturgeon lifestages during the summer are somewhat improved under the 55 w/WSA scenario and further improved under the HRL scenario relative to Alternative 2, although the 55 w/WSA scenario is still less suitable than the Future Baseline, and the HRL scenario is generally similar relative to the Future Baseline.

<u>Spawning and Embryo Incubation</u>

- June – July
  - The 55 w/WSA scenario exceeds the WTI value with similar frequency relative to Alternative 2, but is less suitable at both DPD (11% more exceedance of the WTI value; Figure 1B-21) and Marysville (8% more WTI exceedance; Figure 1B-22) than the Future Baseline.
  - The HRL scenario is more suitable (10% less WTI exceedance) at DPD (Figure 1B-21) and similarly suitable at Marysville (Figure 1B-22) relative to Alternative 2. Relative to the Future Baseline, the HRL scenario is similar or slightly less suitable at both DPD and Marysville.

<u>Post-Spawning Holding</u>

- June – August
  - The 55 w/WSA scenario exceeds the WTI value with similar frequency relative to Alternative 2, but is less suitable at both DPD (18% more exceedance of the WTI value; Figure 1B-23) and Marysville (9% more WTI exceedance; Figure 1B-24) than the Future Baseline.
  - The HRL scenario is more suitable at DPD (12% less WTI exceedance; Figure 1B-23) and Marysville (8% less WTI exceedance; Figure 1B-24) relative to Alternative 2. Relative to the Future Baseline, the HRL scenario is similar or slightly less suitable at both DPD and Marysville.

Juvenile Rearing and Emigration

- June – August
  - The 55 w/WSA scenario is more suitable at DPD (9% less WTI exceedance; Figure 1B-25) and similar at Marysville relative to Alternative 2, and is similarly suitable at DPD but less suitable (13% more WTI exceedance; Figure 1B-26) at Marysville relative to the Future Baseline.
  - The HRL scenario is more suitable at both DPD (10% less WTI exceedance; Figure 1B-25) and Marysville (11% less WTI exceedance; Figure 1B-26) relative to Alternative 2, and similar or slightly less suitable at both locations relative to the Future Baseline.

Lamprey

Overall, habitat conditions for lamprey would be less suitable under Alternative 2 relative to the Future Baseline due to substantially less suitable water temperatures for spawning and embryo incubation during June through August at DPD. Water temperatures for the lamprey spawning and embryo incubation lifestages during the summer are somewhat improved under the 55 w/WSA scenario and further improved under the HRL scenario relative to Alternative 2, although the 55 w/WSA scenario is still less suitable than the Future Baseline, and the HRL scenario is generally similar relative to the Future Baseline.

Under the 55 w/WSA scenario, water temperature suitability during June through August would be generally similar at Smartsville (Figure 1B-27) and slightly improved at DPD (6% less WTI exceedance; Figure 1B-28) relative to Alternative 2, and would be essentially equivalent at Smartsville but less suitable (9% more WTI exceedance) at DPD compared to the Future Baseline. The HRL scenario results in more suitable water temperatures with a 14% lower WTI exceedance at DPD (Figure 1B-27) relative to Alternative 2, and is similar at both Smartsville (Figure 1B-28) and DPD relative to the Future Baseline.

SURFACE WATER SUPPLY AND POWER GENERATION EVALUATION

The following section provides a narrative discussion of operations of the Proposed Projects for the 55 w/WSA and HRL scenarios, and related effects on water supply and hydropower generation. Results from modeling for the scenarios are compared against those from the Future Baseline scenario. Hydrologic effects are evaluated using a similar methodology, and using similar indicators as described in Chapters 5 and 7 of the Draft EIR.

55 w/WSA

Under operations for the 55 w/WSA scenario iteration, the unimpaired flow requirement would require increased flows in the lower Yuba River in the winter and spring of most years. Summer flows would continue to be driven by the Proposed Project's flow requirements at Marysville and agricultural water supply deliveries.

New Bullards Bar Reservoir would not fill as often under the 55 w/WSA scenario relative to the Future Baseline scenario, and operations would not be limited by the top-of-conservation as often as the Future Baseline. The 600 TAF carryover storage requirement in 55 w/WSA would result in increased end-of-September storage in many years relative to the Future Baseline.

Deliveries to Yuba Water member units would be curtailed in many years. While the Future Baseline had water supply shortages in four years over the 52-year period of record, operations

under the 55 w/WSA scenario would result in shortages in 44 years out of the 52-year period of record. However, during many of those years (approximately 15 years) shortages occur during the spring as a result of New Bullards Bar and Englebright reservoirs' release capacity limitations, rather than operations to meet the carryover storage target. **Table 1** shows a comparison of water supply shortages under 55 w/WSA relative to the Future Baseline.

Table 1. Comparison of Annual Surface Water Supply Shortages for 55 w/WSA Relative to the Future Baseline.

Calendar Year	Volume of Shortage (AF)		Change in Volume of Shortage from Basis of Comparison (AF)
	Future Baseline	55 w/WSA	
1970	0	115,413	115,413
1971	0	2,227	2,227
1973	0	4,272	4,272
1974	0	6,952	6,952
1975	0	5,582	5,582
1976	0	126,384	126,384
1977	139,644	130,876	-8,769
1978	0	3,682	3,682
1979	0	699	699
1980	0	1,695	1,695
1981	0	73,478	73,478
1982	0	9,191	9,191
1983	0	3,537	3,537
1984	0	6,306	6,306
1985	0	15,848	15,848
1986	0	2,641	2,641
1987	0	128,206	128,206
1988	0	2,109	2,109
1994	0	132,445	132,445
1995	0	10,767	10,767
1996	0	15,618	15,618
1997	0	129,889	129,889
1998	0	11,248	11,248
1999	0	11,587	11,587
2000	0	38,141	38,141
2001	0	123,661	123,661
2002	0	2,822	2,822
2004	0	35,882	35,882
2005	0	9,358	9,358
2006	0	8,765	8,765
2007	0	121,034	121,034
2008	0	681	681
2010	0	2,495	2,495
2011	0	1,716	1,716
2012	0	9,918	9,918
2013	0	110,784	110,784
2014	59,548	18,012	-41,536
2015	29,185	132,094	102,908
2016	0	32,460	32,460
2017	0	6,428	6,428
2018	0	93,668	93,668
2019	0	7,134	7,134
2020	0	30,078	30,078
2021	4,673	38,468	33,795

Key: AF = Acre-feet

The average annual increase in water supply shortages under the 55 w/WSA scenario would be around 30 TAF relative to the Future Baseline. Eliminating the capacity-based shortages would reduce the average annual increase in shortages by approximately 3 TAF. This increase in agricultural water supply shortages relative to the Future Baseline, while less than under Alternative 2 would still require an increased volume of groundwater pumping.

Power generation under the 55 w/WSA scenario would be reduced relative to the Future Baseline, particularly during the summer. While there would be some increase in generation in April, all other months would experience a reduction in generation, primarily due to reduced New Bullards Bar Reservoir storage levels relative to the Future Baseline. **Table 2** shows a comparison of combined generation from the YRDP powerhouses for 55 w/WSA relative to the Future Baseline.

Table 2. Comparison of Average Monthly YRDP Generation for 55 w/WSA Relative to Future Baseline.

Month	YRDP Generation (GWh)		Change in YRDP Generation from Basis of Comparison	
	Future Baseline	55 w/WSA	(GWh)	(%)
October	50.3	46.6	-3.7	-7%
November	48.3	47.5	-0.9	-2%
December	64.9	67.0	2.1	3%
January	85.7	83.8	-1.9	-2%
February	99.7	95.7	-4.0	-4%
March	157.2	142.6	-14.6	-9%
April	134.0	143.2	9.2	7%
May	175.1	174.7	-0.4	0%
June	175.7	161.6	-14.1	-8%
July	158.2	135.3	-22.9	-14%
August	137.4	108.4	-29.0	-21%
September	62.2	51.5	-10.7	-17%

Key: MW = Megawatt

Generation capacity would similarly be reduced under the 55 w/WSA scenario due to reduced New Bullards Bar Reservoir storage, relative to the Future Baseline. **Table 3** shows a comparison of generation capacity from the New Colgate and Narrows 2 powerhouses for 55 w/WSA scenario relative to the Future Baseline.

Table 3. Comparison of Average Monthly YRDP Generation Capacity for 55 w/WSA Relative to Future Baseline.

Month	Generation Capacity (MW)		Change in YRDP Generation Capacity	
	Future Baseline	55 w/WSA	(MW)	(%)
October	301	297	-3	-1%
November	290	287	-3	-1%
December	285	284	0	0%
January	280	285	-5	-2%
February	291	295	-7	-2%
March	323	324	-14	-4%
April	340	351	-20	-5%
May	359	360	-26	-7%
June	359	351	-42	-11%
July	342	339	-35	-9%
August	328	320	-28	-8%
September	308	304	-20	-6%

Key: MW = Megawatt

In addition to the reduction in overall power generation, the shift to higher releases during the spring and lower releases during the summer would reduce annual generation revenue; energy prices tend to be lower during spring and higher during summer months. **Table 4** shows a comparison of the average annual generation revenue for the 55 w/WSA scenario relative to the Future Baseline.

Table 4. Comparison of Average Annual YRDP Generation Revenue for 55 w/WSA Relative to Future Baseline.

	Generation Revenue ($1M)		Change in YRDP Revenue	
	Future Baseline	55 w/WSA	(1M$)	(%)
New Colgate PH	59.4	55.4	-4.0	-7%
Narrows 2 PH	5.9	6.1	0.2	3%
Total YRDP	65.3	61.6	-3.8	-6%

Key: $1M = Millions of Dollars

The 55 w/ WSA scenario would also reduce Narrows Project generation during summer relative to the Future Baseline. Decreases in summer generation are a result of higher spring flows pushing the regularly-scheduled Narrows 1 outage from June into July. **Table 5** shows a comparison of monthly generation for the Narrows 1 Powerhouse for the 55 w/WSA scenario relative to the Future Baseline scenario.

Table 5. Comparison of Average Monthly Generation for the Narrows Project for 55 w/WSA with WSA Relative to Future Baseline.

Month	Narrows Project Generation (GWh)		Change in Narrows Project Generation from Basis of Comparison	
	Future Baseline	55 w/WSA	(GWh)	(%)
July	8.3	4.5	-3.8	-46%
August	7.9	8.2	0.3	4%
September	7.2	7.8	0.5	7%
October	8.2	8.3	0.1	1%

Key: MW = Megawatt

Changes to the Narrows 1 Powerhouse's generation capacity is limited because its capacity is based on planned flows and there are few changes in planned flows. As described for the reduction in July generation, July capacity under the 55 w/WSA scenario is reduced relative to the Future Baseline due to the required delay of the Narrows 1 Powerhouse outage resulting from higher spring flows. **Table 6** shows a comparison of average monthly generation capacity for the Narrows 1 Powerhouse for the 55 w/WSA scenario and the Future Baseline.

Table 6. Comparison of Average Monthly Narrows Project Generation Capacity for 55 w/WSA Relative to Future Baseline.

Month	Generation Capacity (MW)		Change in Narrows Project Generation Capacity	
	Future Baseline	55 w/WSA	(MW)	(%)
October	11.0	10.9	0.0	0%
November	11.0	11.0	0.0	0%
December	11.3	11.2	-0.1	-1%
January	11.3	11.4	0.0	0%
February	11.4	11.4	0.0	0%
March	11.5	11.4	0.0	0%
April	11.3	11.5	0.2	2%
May	11.5	11.5	0.1	1%
June	7.9	11.5	3.6	45%
July	10.0	6.5	-3.5	-35%
August	11.1	10.9	-0.2	-2%
September	10.5	10.9	0.4	4%

Key: MW = Megawatt

Narrows 1 Powerhouse generation revenue would be slightly affected relative to the Future Baseline. **Table 7** shows a comparison of Narrows Project generation revenue for the 55 w/WSA relative to the Future Baseline.

Table 7. Comparison of Average Annual Narrows Project Generation Revenue for 55 w/WSA Relative to Future Baseline.

	Generation Revenue ($1M)		Change in Narrows Project Revenue	
	Future Baseline	55 w/WSA	(1M$)	(%)
Narrows 1 PH	11.2	11.2	-0.1	-1%

Key: $1M = Millions of Dollars

HRL

The HRL scenario would be very similar to the Proposed Projects (as described in the Draft EIR), but flows in the spring would be higher in HRL years, defined as SVI above normal, below normal, and dry years. Changes in non-HRL years are typically a result of operations for the reduced end-of-September storage target in a previous HRL year. While there is not an increased frequency of shortages under the HRL scenario relative to the Future Baseline, shortages in several years get more severe. **Table 8** shows annual shortages for the HRL scenario relative to the Future Baseline for the four years with shortages.

Table 8. Comparison of Simulated Annual Surface Water Supply Shortages for the HRL Scenario Relative to the Future Baseline.

Calendar Year	Volume of Shortage (AF)		Change in Volume of Shortage from Basis of Comparison (AF)
	Future Baseline	HRL	
1977	139,644	133,530	-6,114
2014	59,548	89,527	29,979
2015	29,185	50,874	21,689
2021	4,673	60,087	55,414

Key: AF = Acre-feet

Power generation for the HRL scenario would be increased during spring, when the HRL flows were released, but reduced in the summer due to the lower New Bullard Bar Reservoir storage during HRL years. **Table 9** shows a comparison of combined generation from the YRDP powerhouses for the HRL scenario relative to the Future Baseline.

Table 9. Comparison of Average Monthly YRDP Generation for the HRL Scenario Relative to Future Baseline.

Month	YRDP Generation (GWh)		Change in YRDP Generation from Basis of Comparison	
	Future Baseline	HRL	(GWh)	(%)
October	50.3	48.6	-1.7	-3%
November	48.3	45.0	-3.4	-7%
December	64.9	56.3	-8.6	-13%
January	85.7	78.5	-7.2	-8%
February	99.7	92.2	-7.5	-7%
March	157.2	148.6	-8.6	-5%
April	134.0	146.9	12.8	10%
May	175.1	179.3	4.1	2%
June	175.7	165.5	-10.2	-6%
July	158.2	147.8	-10.4	-7%
August	137.4	126.2	-11.3	-8%
September	62.2	57.5	-4.7	-8%

Key: MW = Megawatt

Generation capacity, which is related to New Bullards Bar Reservoir storage, would be reduced relative to the Future Baseline due to operations for lower storage. **Table 10** shows a comparison of generation capacity from the New Colgate and Narrows 2 powerhouses for the HRL Scenario relative to the Future Baseline.

Table 10. Comparison of Average Monthly YRDP Generation Capacity for the HRL Scenario Relative to Future Baseline.

Month	Generation Capacity (MW)		Change in YRDP Generation Capacity	
	Future Baseline	HRL	(MW)	(%)
October	301	298	-3	-1%
November	290	285	-6	-2%
December	285	275	-10	-4%
January	280	270	-10	-3%
February	291	277	-14	-5%
March	323	307	-16	-5%
April	340	348	8	2%
May	359	358	-1	0%
June	359	356	-3	-1%
July	342	338	-4	-1%
August	328	324	-4	-1%
September	308	305	-3	-1%

Key: MW = Megawatt

The increased releases during the spring, when energy prices tend to be lower than in summer months, and the decreased New Bullards Bar Reservoir storage in the summer and fall, and associated reduction in summer and fall generation would reduce annual generation revenue under the HRL relative to the Future Baseline. **Table 11** shows a comparison of the average annual generation revenue for the HRL scenario relative to the Future Baseline.

Table 11. Comparison of Average Annual YRDP Generation Revenue for the HRL Scenario Relative to Future Baseline.

	Generation Revenue ($1M)		Change in YRDP Revenue	
	Future Baseline	HRL	(1M$)	(%)
New Colgate PH	59.4	56.4	-3.0	-5%
Narrows 2 PH	5.9	5.8	-0.1	-2%
Total YRDP	65.3	62.2	-3.1	-5%

Key: $1M = Millions of Dollars

Narrows Project generation under the HRL would be similar to that under the Proposed Project (as shown in the DEIR). **Table 12** shows a comparison of monthly generation for the Narrows Project for the HRL scenario relative to the Future Baseline scenario.

Table 12. Comparison of Average Monthly Generation for the Narrows Project for the HRL Scenario Relative to Future Baseline.

Month	Narrows Project Generation (GWh)		Change in Narrows Project Generation from Basis of Comparison	
	Future Baseline	HRL	(GWh)	(%)
July	8.3	8.3	0.1	1%
August	7.9	8.0	0.1	1%
September	7.2	7.7	0.5	7%
October	8.2	8.1	0.0	-1%

Key: MW = Megawatt

Changes to the Narrows 1 Powerhouse's generation capacity is limited since its capacity is based on planned flows and there are few changes in planned flows. **Table 13** shows a comparison of average monthly generation capacity for the Narrows Project for the HRL scenario relative to the Future Baseline.

Narrows 1 Powerhouse generation revenue under HRL would minimally change relative to the Future Baseline. **Table 14** shows a comparison of Narrows Project generation revenue the HRL scenario relative to the Future Baseline.

Table 13. Comparison of Average Monthly Narrows Project Generation Capacity for the HRL Relative to Future Baseline.

Month	Generation Capacity (MW)		Change in Narrows Project Generation Capacity	
	Future Baseline	HRL	(MW)	(%)
October	11.0	10.9	-0.1	-1%
November	11.0	10.9	-0.1	-1%
December	11.3	11.2	-0.1	-1%
January	11.3	11.3	0.0	0%
February	11.4	11.3	0.0	0%
March	11.5	11.4	0.0	0%
April	11.3	11.4	0.1	1%
May	11.5	11.5	0.0	0%
June	7.9	7.8	-0.1	-1%
July	10.0	10.1	0.1	1%
August	11.1	11.1	-0.1	0%
September	10.5	10.7	0.2	2%

Key: MW = Megawatt

Table 14. Comparison of Average Annual Narrows Project Generation Revenue for the HRL Scenario Relative to Future Baseline.

	Generation Revenue ($1M)		Change in Narrows Project Revenue	
	Future Baseline	HRL	(1M$)	(%)
Narrows 1 PH	11.2	11.2	0.0	0%

Key: $1M = Millions of Dollars

JULY 2025 BAY-DELTA PLAN UPDATE REGULATORY PATHWAY CARRYOVER STORAGE CONSIDERATIONS

The revised draft Bay-Delta Plan indicates Yuba Water should include an end-of-September carryover storage target of 400 to 600 TAF. Because the July 2025 regulatory pathway did not specify how to apply the 400–600 TAF end-of-September carryover storage requirement across water year types, Yuba Water's modeling for the 55 w/WSA scenario used an end-of-September carryover storage requirement of 600 TAF in non-drought years, and 400 in Dry and Critical water years following a dry or critical year. As demonstrated above, the July 2025 updated regulatory pathway (55 w/WSA) would have less severe environmental impacts than the 55% unimpaired flow regulatory pathway (modeled as Alternative 2), but would still have adverse water temperature, surface water supply, and power generation impacts.

Consequently, Yuba Water developed a second iteration of the July 2025 regulatory pathway to demonstrate that other operational strategies could further reduce the adverse impacts that would result from the regulatory pathway identified in the October 2024 draft Bay-Delta Plan (Alternative 2). This second iteration of the July 2025 regulatory pathway is referred to herein as "55 w/WSA 400" and applies Yuba Water's existing operational 440/400 TAF approach (440 TAF in the first year of a drought and 400 TAF in subsequent drought years) for determining end-of-September carryover storage as the minimum carryover storage requirement, rather than the 600 TAF minimum carryover storage target during non-drought years specified in the July 2025 updated regulatory pathway.

MODEL SCENARIO CHARACTERIZATION FOR 55 W/WSA 400

Yuba Water ran a second iteration of the July 2025 regulatory pathway scenario using its standard 440 TAF/400 TAF approach for determining the carryover storage requirement rather than the 600 TAF carryover storage requirement used in the 55 w/WSA scenario for non-drought years.

In addition to the 440 TAF/400 TAF approach for determining the carryover storage requirement, Yuba Water made one additional refinement for the 55 w/WSA 400 scenario. Under the 55 w/WSA scenario, Yuba Water would reduce diversions for water users up to 50% of their demand to meet the unimpaired flow requirement in Marysville if release capacity at New Bullards Bar Reservoir or Englebright Dam limited the flow availability. Under the 55 w/WSA 400 scenario, Yuba Water did not impose shortages beyond those to meet the carryover storage requirement when release capacity limited flows in Marysville. The 55 w/WSA 400 scenario also included Proposed Project flow-related requirements, including minimum flow requirements, recreational and sediment transport operations, ramping rates, tunnel closures, and flow fluctuation limitations.

WATER TEMPERATURE EFFECTS OF 55 W/WSA 400

The 55 w/WSA 400 scenario follows the same general trends in water temperature changes relative to Alternative 2 and the Future Baseline, as described for the 55 w/WSA scenario above. Compared to the 55 w/WSA scenario, overall average monthly water temperatures at Parks Bar and Marysville under the 55 w/WSA 400 scenario are similar during September through May and are slightly cooler (by 0.3-0.5°F) during June through August (**Tables 15 and 16**). Average monthly water temperatures by WYT under the 55 w/WSA 400 scenario relative to the 55 w/WSA scenario exhibit similar trends, but with additional cooling (by 0.6-0.8°F) during July and August of Below Normal and Dry water years under the 55 w/WSA 400 scenario.

Monthly water temperature exceedance distributions show that water temperatures under the 55 w/WSA 400 scenario are similar to the 55 w/WSA scenario most of the time during June, but are cooler by about 0.5 to 1.5°F over about 20-25% of the time when water temperatures are relatively warm (**Figure 1**). During July, water temperatures are cooler by about 0.5 to 2°F over about 25-30% of the time under the 55 w/WSA 400 scenario relative to the 55 w/WSA scenario (**Figure 2**). During August, water temperatures are cooler by about 0.5 to 1.5°F nearly ½ of the time under the 55 w/WSA 400 scenario relative to the 55 w/WSA scenario (**Figure 3**). Water temperatures are generally similar (or very slightly cooler) during September under the 55 w/WSA 400 scenario relative to the 55 w/WSA scenario (**Figure 4**).

Although water temperatures are generally similar or cooler during July through September, water temperatures are higher under the 55 w/WSA 400 scenario relative to the 55 w/WSA scenario by up to about 2-3°F at Parks Bar and 6-7°F at Marysville about 2% of the time when water temperatures are warmest, which represents the driest year (1977) in the 52-year period of record.

Table 15. Average monthly water temperature in the lower Yuba River at Parks Bar under the 55 w/WSA 400 and 55 w/WSA scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA 400	56.3	52.1	47.5	45.1	46.0	48.8	51.3	54.0	55.6	56.8	56.9	57.9
55 w/WSA	56.2	52.0	47.3	45.0	46.0	48.7	51.3	54.1	55.8	57.2	57.2	58.0
Difference	0.1	0.2	0.2	0.1	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.4	-0.1
Water Year Types[2]												
Wet												
55 w/WSA 400	55.7	51.6	46.8	44.8	45.8	47.6	48.9	51.9	53.6	54.7	54.5	56.3
55 w/WSA	55.7	51.5	46.6	44.7	45.8	47.6	48.9	51.9	53.7	54.9	54.7	56.5
Difference	-0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.1
Above Normal												
55 w/WSA 400	56.8	52.7	47.7	45.1	45.7	48.4	50.5	53.2	54.2	55.5	55.9	57.2
55 w/WSA	56.6	52.3	47.5	45.1	45.7	48.3	50.5	53.2	54.3	55.7	56.1	57.3
Difference	0.2	0.3	0.2	0.0	0.0	0.1	0.0	0.0	-0.1	-0.2	-0.2	-0.1
Below Normal												
55 w/WSA 400	56.3	52.1	47.5	45.0	46.0	49.0	51.5	53.9	55.4	56.9	57.0	57.9
55 w/WSA	56.2	52.0	47.4	45.0	46.0	48.9	51.3	53.9	55.7	57.6	57.7	58.2
Difference	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.0	-0.3	-0.7	-0.7	-0.2
Dry												
55 w/WSA 400	56.0	51.8	47.4	44.9	46.0	49.6	53.0	55.5	56.9	58.1	58.2	58.7
55 w/WSA	56.0	51.7	47.3	44.9	45.9	49.6	53.1	55.8	57.4	58.8	58.7	58.9
Difference	0.0	0.1	0.1	0.1	0.0	0.0	-0.1	-0.2	-0.5	-0.7	-0.6	-0.1
Critical												
55 w/WSA 400	56.7	52.4	48.2	45.8	47.0	49.9	54.3	57.4	59.6	60.7	60.4	60.8
55 w/WSA	56.7	52.3	48.0	45.6	46.9	49.8	54.4	57.5	60.1	61.2	60.6	60.6
Difference	0.0	0.0	0.2	0.2	0.1	0.0	0.0	-0.2	-0.5	-0.4	-0.2	0.2

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 16. Average monthly water temperature in the lower Yuba River near Marysville under the 55 w/WSA 400 and 55 w/WSA scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA 400	59.8	53.7	48.3	46.0	47.5	50.9	54.0	57.4	60.6	63.4	63.0	63.3
55 w/WSA	59.8	53.5	48.2	46.0	47.5	50.8	54.0	57.5	60.9	63.8	63.4	63.4
Difference	0.1	0.1	0.1	0.1	0.0	0.1	0.0	-0.1	-0.3	-0.4	-0.3	0.0
Water Year Types[2]												
Wet												
55 w/WSA 400	59.1	53.1	47.6	45.6	46.8	49.2	51.0	54.3	57.0	59.5	59.3	61.3
55 w/WSA	59.2	53.0	47.4	45.5	46.7	49.2	51.0	54.4	57.1	59.8	59.6	61.4
Difference	-0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.1
Above Normal												
55 w/WSA 400	60.4	54.3	48.6	46.0	46.9	50.2	52.8	56.0	57.9	61.1	61.3	62.3
55 w/WSA	60.2	53.9	48.4	45.9	46.9	50.1	52.8	56.0	58.0	61.3	61.6	62.4
Difference	0.2	0.3	0.2	0.0	0.0	0.1	0.0	0.0	-0.1	-0.2	-0.2	-0.1
Below Normal												
55 w/WSA 400	60.0	53.7	48.4	46.1	47.7	51.1	54.0	57.2	60.7	64.0	63.5	63.5
55 w/WSA	59.9	53.6	48.3	46.0	47.6	51.0	53.8	57.2	61.0	64.7	64.3	63.6
Difference	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.0	-0.4	-0.7	-0.7	-0.1
Dry												
55 w/WSA 400	59.4	53.3	48.2	46.0	47.9	52.2	56.0	59.4	63.2	65.8	65.2	64.3
55 w/WSA	59.4	53.3	48.1	45.9	47.9	52.2	56.1	59.6	63.8	66.6	65.8	64.4
Difference	0.0	0.1	0.1	0.1	0.0	0.0	-0.1	-0.3	-0.6	-0.8	-0.6	-0.2
Critical												
55 w/WSA 400	60.3	54.0	49.0	46.9	49.0	52.9	58.4	62.4	67.8	69.7	68.4	67.1
55 w/WSA	60.3	54.0	48.8	46.7	48.8	52.8	58.4	62.6	68.2	69.6	68.1	66.6
Difference	0.0	0.0	0.2	0.2	0.1	0.1	0.0	-0.2	-0.4	0.0	0.2	0.4

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

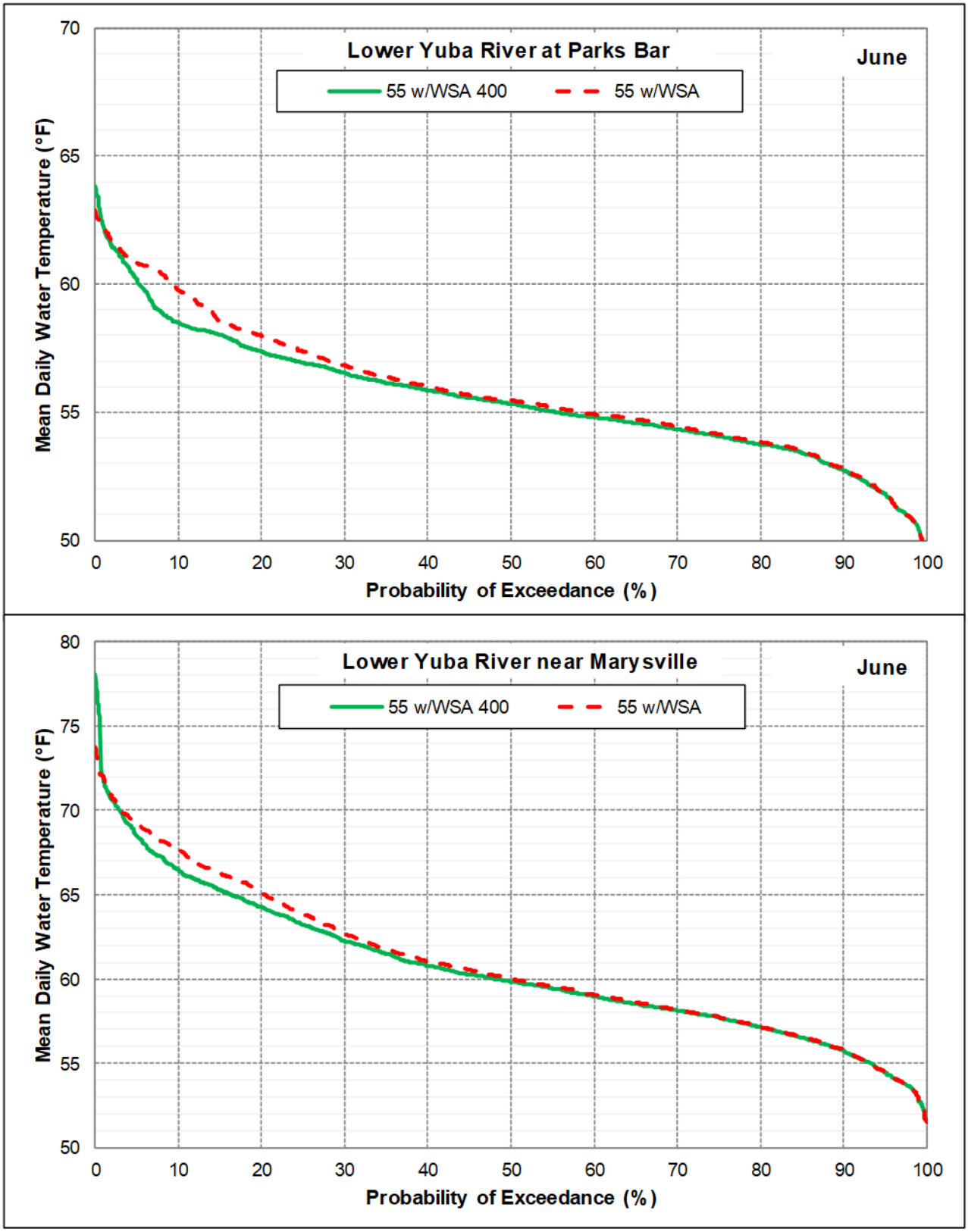

Figure 1. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA 400 and 55 w/WSA scenarios during June over the entire simulation period (WY 1970-2021).

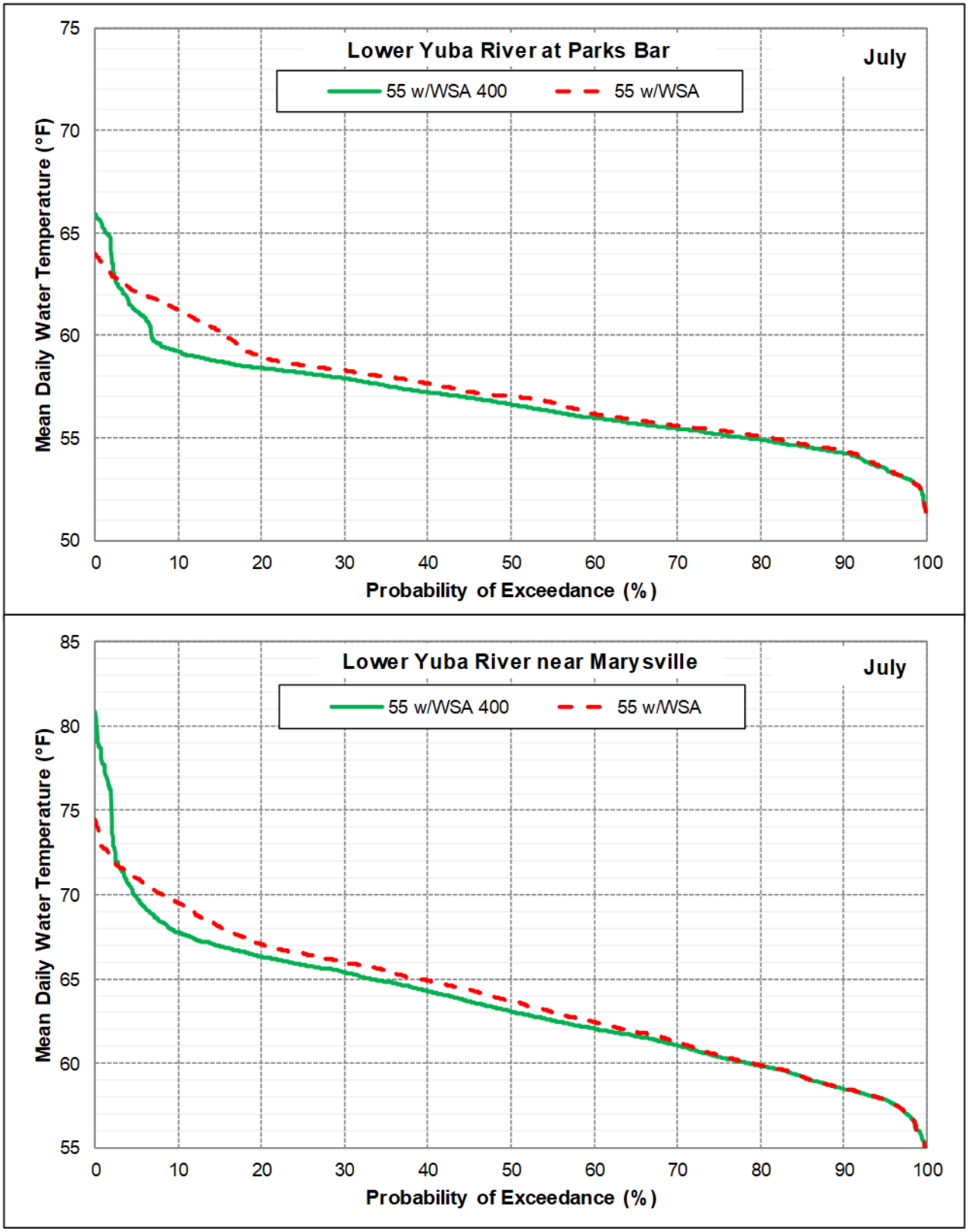

Figure 2. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA 400 and 55 w/WSA scenarios during July over the entire simulation period (WY 1970-2021).

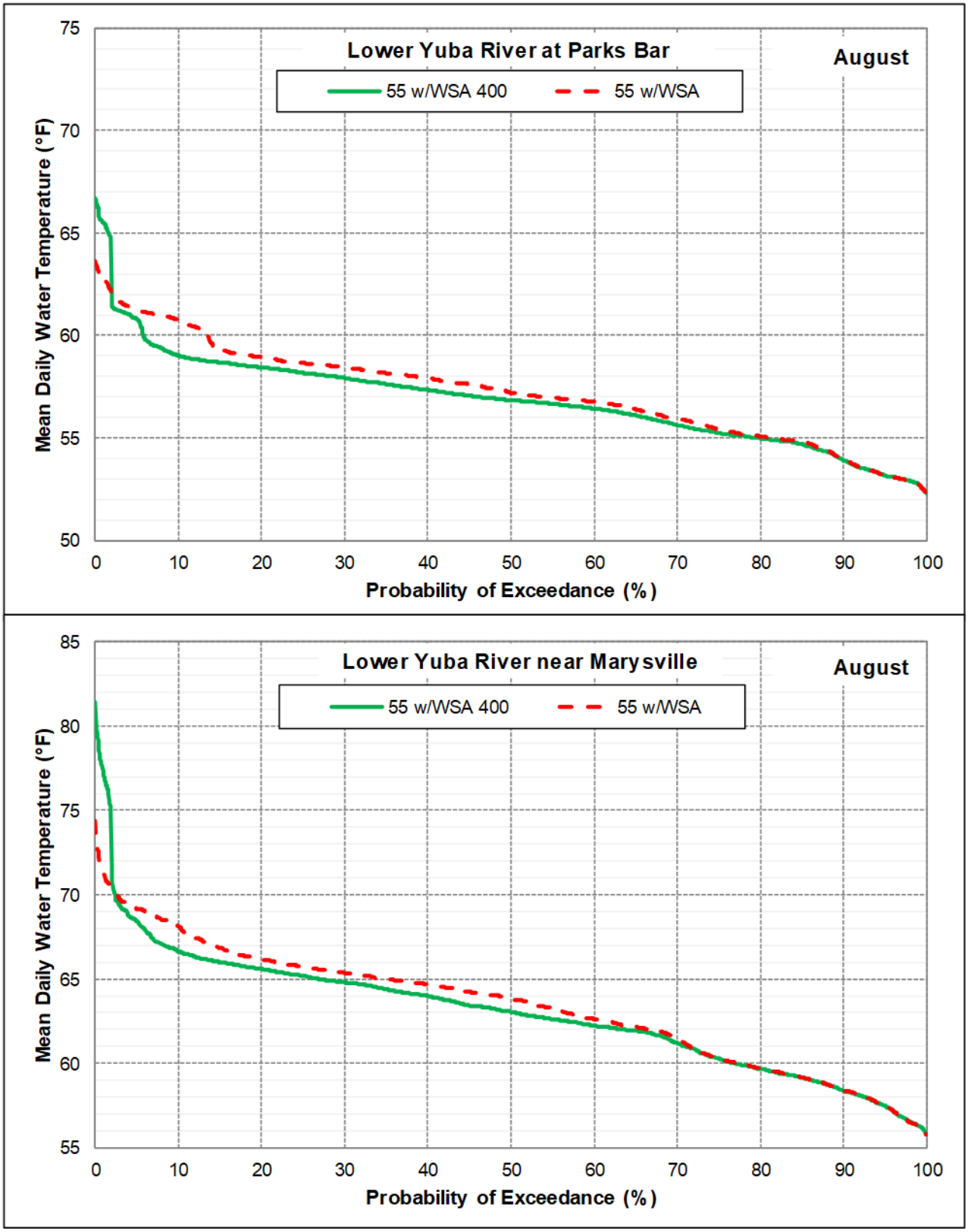

Figure 3. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA 400 and 55 w/WSA scenarios during August over the entire simulation period (WY 1970-2021).

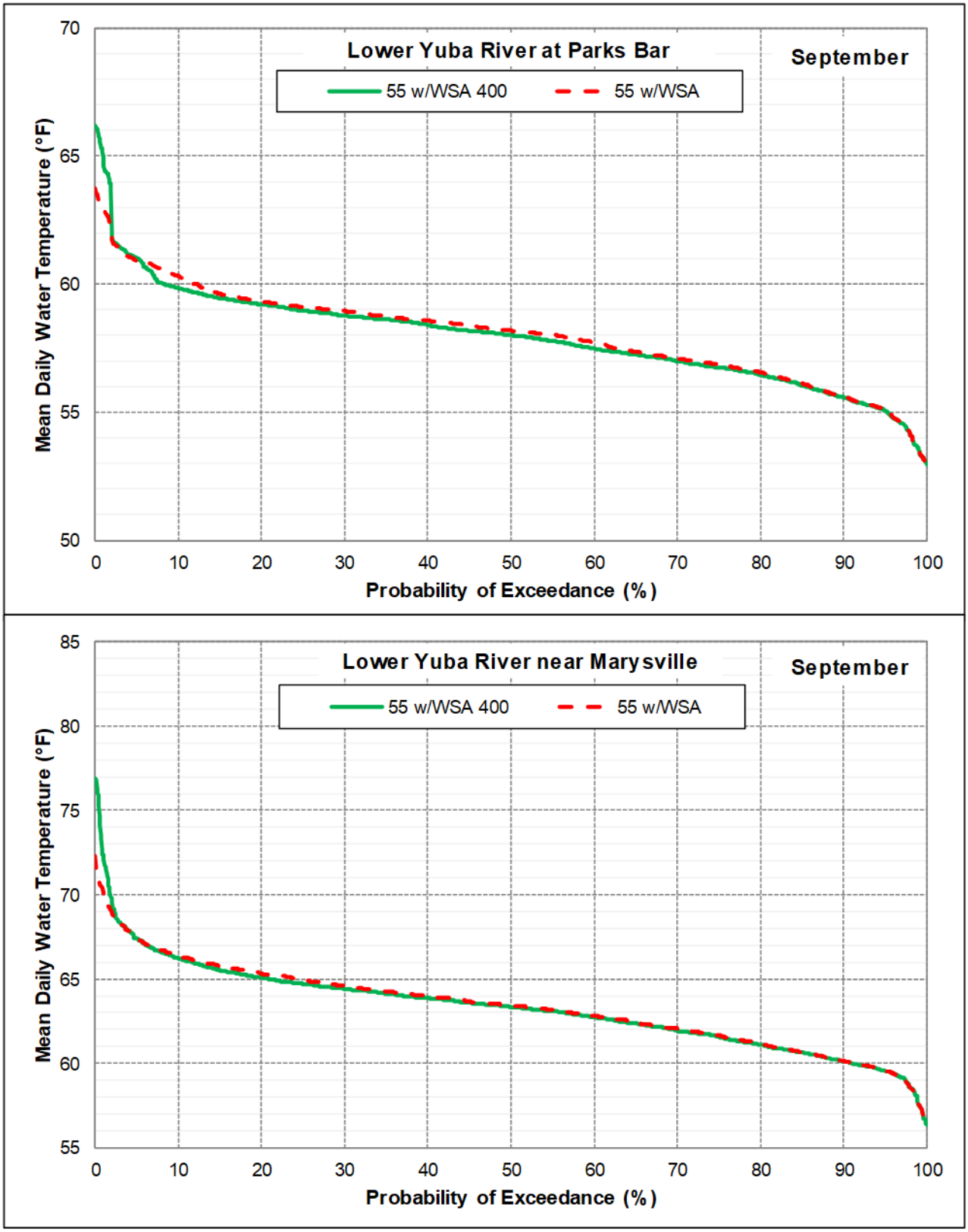

Figure 4. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA 400 and 55 w/WSA scenarios during September over the entire simulation period (WY 1970-2021).

SURFACE WATER SUPPLY AND POWER GENERATION EFFECTS OF 55 W/WSA 400

Under the 55 w/WSA 400 scenario, Yuba Water would not curtail agricultural water supply deliveries to keep storage above 600 TAF (as with the 55 w/WSA scenario) and would instead operate to meet current carryover storage volumes. The result of this operation would be a reduction in end-of-September New Bullards Bar Reservoir storage relative to the 55 w/WSA scenario, and an increase in flows in the lower Yuba River above Daguerre Point Dam, where Yuba Water provides agricultural water supply deliveries. Flows downstream from Daguerre Point Dam would not substantially change because the agricultural water supply deliveries would be diverting the increased flows provided under the 55 w/WSA 400 scenario upstream at the Daguerre Point Dam impoundment.

Agricultural water supply shortages under the 55 w/WSA 400 scenario would be higher than those under the Future Baseline, but lower than under the 55 w/WSA scenario. While there were 44 years with water supply shortages under the 55 w/WSA scenario, there are only 13 years under the 55 w/WSA 400 scenario. The average annual shortage under the Future Baseline was approximately 4.5 TAF, while the shortage under the 55 w/WSA 400 is approximately 11 TAF. In comparison, average annual shortages under the 55 w/WSA are approximately 34 TAF.

For comparative purposes, the surface water supply and power generation results below for the 55 w/WSA 400 scenario are presented in the same format as the 55 w/WSA scenario, relative to the Future Baseline.

Table 17 shows a comparison of annual shortages under the 55 w/WSA 400 scenario relative to the Future Baseline.

Table 17. Comparison of Annual Surface Water Supply Shortages for 55 w/WSA 400 Relative to the Future Baseline.

Calendar Year	Volume of Shortage (AF)		Change in Volume of Shortage from Basis of Comparison (AF)
	Future Baseline	55 w/WSA 400	
1970	0	25,881	25,881
1971	0	345	345
1977	139,644	142,983	3,339
1978	0	892	892
1987	0	33,068	33,068
1988	0	16,494	16,494
1989	0	204	204
2001	0	21,760	21,760
2002	0	560	560
2014	59,548	144,060	84,512
2015	29,185	135,732	106,547
2016	0	2,333	2,333
2021	4,673	67,222	62,549

Power generation under the 55 w/WSA 400 scenario would generally be reduced relative to the Future Baseline; operations for the spring flow requirements would reduce summer generation both due to reduced flows and reduced storage in New Bullards Bar Reservoir. However, overall summer generation under the 55 w/WSA 400 scenario would be slightly higher than under the 55 w/WSA scenario. **Table 18** shows a comparison of combined generation from the YRDP powerhouses for 55 w/WSA 400 relative to the Future Baseline.

Table 18. Comparison of Average Monthly YRDP Generation for 55 w/WSA 400 Relative to Future Baseline.

Month	YRDP Generation (GWh)		Change in YRDP Generation from Basis of Comparison	
	Future Baseline	55 w/WSA 400	(GWh)	(%)
October	50.3	47.4	-2.9	-6%
November	48.3	48.1	-0.2	0%
December	64.9	66.4	1.5	2%
January	85.7	81.6	-4.1	-5%
February	99.7	90.7	-9.0	-9%
March	157.2	134.7	-22.5	-14%
April	134.0	142.7	8.6	6%
May	175.1	176.6	1.5	1%
June	175.7	166.9	-8.8	-5%
July	158.2	141.3	-16.9	-11%
August	137.4	112.3	-25.1	-18%
September	62.2	51.3	-10.9	-17%

Key: MW = Megawatt

Generation capacity, which is directly related to New Bullards Bar Reservoir storage, would similarly be reduced. **Table 19** shows a comparison of generation capacity from the New Colgate and Narrows 2 powerhouses for 55 w/WSA 400 relative to the Future Baseline.

Table 19. Comparison of Average Monthly YRDP Generation Capacity for 55 w/WSA 400 Relative to Future Baseline.

Month	Generation Capacity (MW)		Change in YRDP Generation Capacity	
	Future Baseline	55 w/WSA 400	(MW)	(%)
October	301	294	-6	-2%
November	290	284	-6	-2%
December	285	281	-4	-1%
January	280	280	1	0%
February	291	289	-1	0%
March	323	317	-5	-2%
April	340	349	9	3%
May	359	359	0	0%
June	359	350	-9	-3%
July	342	338	-5	-1%
August	328	318	-10	-3%
September	308	301	-7	-2%

Key: MW = Megawatt

The shift to higher releases in the spring, when energy prices tend to be lower than during the summer months, would reduce annual generation revenue. **Table 20** shows a comparison of the average annual generation revenue for 55 w/WSA 400 relative to the Future Baseline.

Table 20. Comparison of Average Annual YRDP Generation Revenue for 55 w/WSA 400 Relative to Future Baseline.

	Generation Revenue ($1M)		Change in YRDP Revenue	
	Future Baseline	55 w/WSA 400	(1M$)	(%)
New Colgate PH	59.4	55.2	-4.2	-7%
Narrows 2 PH	5.9	6.2	0.3	5%
Total YRDP	65.3	61.4	-3.9	-6%

Key: $1M = Millions of Dollars

The effects of 55 w/WSA 400 on the Narrows Project generation would be similar to those under the 55 w/WSA scenario, where the primary effect on generation is a result of the higher spring flows delaying the annual June outage into July. **Table 21** shows a comparison of monthly generation for the Narrows 1 Powerhouse for 55 w/WSA 400 relative to the Future Baseline scenario.

Table 21. Comparison of Average Monthly Narrows Project Generation for 55 w/WSA 400 Relative to Future Baseline.

Month	Narrows Project Generation (GWh)		Change in Narrows Project Generation from Basis of Comparison	
	Future Baseline	55 w/WSA 400	(GWh)	(%)
July	8.3	4.5	-3.7	-45%
August	7.9	8.1	0.1	2%
September	7.2	7.6	0.4	5%
October	8.2	8.2	0.0	0%

Key: MW = Megawatt

Changes to the Narrows 1 Powerhouse's generation capacity is limited since its capacity is based on planned flows and there are few changes in planned flows. **Table 22** shows a comparison of average monthly generation capacity for the Narrows 1 Powerhouse for 55 w/WSA 400 and the Future Baseline.

Table 22. Comparison of Average Monthly Narrows Project Generation Capacity for 55 w/WSA 400 Relative to Future Baseline.

Month	Generation Capacity (MW)		Change in Narrows Project Generation Capacity	
	Future Baseline	55 w/WSA 400	(MW)	(%)
October	11.0	10.9	-0.1	-1%
November	11.0	10.8	-0.2	-2%
December	11.3	11.1	-0.2	-2%
January	11.3	11.3	0.0	0%
February	11.4	11.3	0.0	0%
March	11.5	11.4	0.0	0%
April	11.3	11.5	0.2	2%
May	11.5	11.5	0.1	1%
June	7.9	11.5	3.6	46%
July	10.0	6.6	-3.4	-34%
August	11.1	10.9	-0.2	-2%
September	10.5	10.8	0.4	3%

Key: MW = Megawatt

Narrows 1 Powerhouse generation revenue would be minimally affected under the 55 w/WSA 400 relative to the Future Baseline. **Table 23** shows a comparison of Narrows Project generation revenue for 55 w/WSA 400 relative to the Future Baseline.

Table 23. Comparison of Average Annual Narrows Project Generation Revenue for 55 w/WSA 400 Relative to Future Baseline.

	Generation Revenue ($1M)		Change in Narrows Project Revenue	
	Future Baseline	55 w/WSA 400	(1M$)	(%)
Narrows 1 PH	11.2	11.1	-0.1	-1%

Key: $1M = Millions of Dollars

Yuba River Development Project
&
Narrows Joint EIR

Attachment 1A

Hydrologic and Water Temperature Data Products

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Hydrologic and Water Temperature Data Products
Attachment 1A

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Table 1A-1. Average monthly flow in the lower Yuba River near Smartsville under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	862	1,166	2,125	3,204	3,629	4,048	3,718	4,138	3,401	2,040	1,591	918
Future Baseline	873	1,077	1,990	3,154	3,601	4,092	3,156	3,784	3,400	2,189	1,886	1,016
Difference	-11	89	136	50	29	-43	562	354	1	-148	-295	-97
Difference (%)	*-1*	*8*	*7*	*2*	*1*	*-1*	*18*	*9*	*0*	*-7*	*-16*	*-10*
Water Year Types[2]												
Wet												
55 w/WSA	932	1,716	4,614	7,312	9,263	7,818	6,618	6,956	6,181	3,427	2,465	1,145
Future Baseline	896	1,466	4,522	7,280	9,358	7,780	6,148	6,850	6,289	3,271	2,800	1,302
Difference	37	250	92	32	-95	38	470	106	-109	156	-335	-158
Difference (%)	*4*	*17*	*2*	*0*	*-1*	*0*	*8*	*2*	*-2*	*5*	*-12*	*-12*
Above Normal												
55 w/WSA	839	1,201	2,183	4,177	3,841	4,915	4,070	4,992	4,338	2,294	1,877	1,025
Future Baseline	867	1,120	1,988	4,186	3,858	5,138	3,367	4,600	4,183	2,460	2,272	1,125
Difference	-28	81	195	-9	-17	-223	703	391	155	-166	-395	-100
Difference (%)	*-3*	*7*	*10*	*0*	*0*	*-4*	*21*	*9*	*4*	*-7*	*-17*	*-9*
Below Normal												
55 w/WSA	852	982	1,322	1,354	1,489	3,392	3,455	3,611	2,515	1,587	1,256	846
Future Baseline	867	922	1,197	1,207	1,439	3,558	2,782	3,075	2,571	1,892	1,562	931
Difference	-15	61	125	147	49	-166	673	536	-56	-304	-306	-84
Difference (%)	*-2*	*7*	*10*	*12*	*3*	*-5*	*24*	*17*	*-2*	*-16*	*-20*	*-9*
Dry												
55 w/WSA	857	921	974	889	1,119	1,423	2,081	2,315	1,609	1,331	1,088	767
Future Baseline	885	895	828	817	1,027	1,417	1,513	1,727	1,514	1,578	1,290	891
Difference	-28	26	146	72	92	6	568	588	95	-248	-202	-123
Difference (%)	*-3*	*3*	*18*	*9*	*9*	*0*	*38*	*34*	*6*	*-16*	*-16*	*-14*
Critical												
55 w/WSA	820	842	891	754	1,072	1,078	1,172	1,363	987	1,015	843	667
Future Baseline	838	860	806	731	879	786	913	1,289	1,171	1,242	993	647
Difference	-19	-18	85	24	193	292	259	74	-184	-227	-149	20
Difference (%)	*-2*	*-2*	*11*	*3*	*22*	*37*	*28*	*6*	*-16*	*-18*	*-15*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-2. Average monthly flow in the lower Yuba River below Deer Creek under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	898	1,212	2,269	3,461	3,945	4,360	3,880	4,199	3,416	2,046	1,595	924
Future Baseline	908	1,123	2,133	3,412	3,916	4,403	3,318	3,845	3,415	2,194	1,890	1,021
Difference	-11	89	136	50	29	-43	562	354	1	-148	-295	-97
Difference (%)	*-1*	*8*	*6*	*1*	*1*	*-1*	*17*	*9*	*0*	*-7*	*-16*	*-10*
Water Year Types[2]												
Wet												
55 w/WSA	977	1,807	4,927	7,933	9,963	8,443	7,029	7,097	6,216	3,437	2,471	1,152
Future Baseline	941	1,557	4,835	7,901	10,058	8,404	6,560	6,991	6,325	3,281	2,805	1,310
Difference	37	250	92	32	-95	38	470	106	-109	156	-335	-158
Difference (%)	*4*	*16*	*2*	*0*	*-1*	*0*	*7*	*2*	*-2*	*5*	*-12*	*-12*
Above Normal												
55 w/WSA	871	1,257	2,350	4,498	4,251	5,282	4,225	5,063	4,354	2,300	1,882	1,033
Future Baseline	899	1,176	2,155	4,507	4,268	5,505	3,522	4,672	4,199	2,466	2,277	1,133
Difference	-28	81	195	-9	-17	-223	703	391	155	-166	-395	-100
Difference (%)	*-3*	*7*	*9*	*0*	*0*	*-4*	*20*	*8*	*4*	*-7*	*-17*	*-9*
Below Normal												
55 w/WSA	884	1,011	1,428	1,470	1,619	3,659	3,571	3,655	2,524	1,592	1,259	851
Future Baseline	899	951	1,303	1,323	1,570	3,825	2,899	3,118	2,580	1,896	1,566	935
Difference	-15	61	125	147	49	-166	673	536	-56	-304	-306	-84
Difference (%)	*-2*	*6*	*10*	*11*	*3*	*-4*	*23*	*17*	*-2*	*-16*	*-20*	*-9*
Dry												
55 w/WSA	888	944	1,007	960	1,238	1,536	2,126	2,329	1,615	1,335	1,091	771
Future Baseline	916	917	860	889	1,146	1,529	1,558	1,741	1,520	1,582	1,293	895
Difference	-28	26	146	72	92	6	568	588	95	-248	-202	-123
Difference (%)	*-3*	*3*	*17*	*8*	*8*	*0*	*36*	*34*	*6*	*-16*	*-16*	*-14*
Critical												
55 w/WSA	860	858	934	777	1,145	1,135	1,189	1,368	989	1,017	845	669
Future Baseline	878	876	849	753	952	843	930	1,294	1,173	1,244	994	649
Difference	-19	-18	85	24	193	292	259	74	-184	-227	-149	20
Difference (%)	*-2*	*-2*	*10*	*3*	*20*	*35*	*28*	*6*	*-16*	*-18*	*-15*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-3. Average monthly flow in the lower Yuba River below Dry Creek under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	906	1,220	2,308	3,642	4,176	4,678	4,017	4,219	3,424	2,053	1,602	930
Future Baseline	917	1,131	2,173	3,593	4,147	4,721	3,455	3,865	3,423	2,201	1,897	1,028
Difference	-11	89	136	50	29	-43	562	354	1	-148	-295	-97
Difference (%)	*-1*	*8*	*6*	*1*	*1*	*-1*	*16*	*9*	*0*	*-7*	*-16*	*-9*
Water Year Types[2]												
Wet												
55 w/WSA	986	1,822	4,999	8,371	10,475	9,080	7,377	7,143	6,225	3,445	2,478	1,159
Future Baseline	950	1,572	4,907	8,339	10,570	9,042	6,907	7,037	6,334	3,289	2,812	1,316
Difference	37	250	92	32	-95	38	470	106	-109	156	-335	-158
Difference (%)	*4*	*16*	*2*	*0*	*-1*	*0*	*7*	*2*	*-2*	*5*	*-12*	*-12*
Above Normal												
55 w/WSA	879	1,267	2,394	4,725	4,551	5,656	4,355	5,086	4,362	2,307	1,889	1,039
Future Baseline	907	1,186	2,199	4,733	4,568	5,879	3,652	4,695	4,207	2,473	2,284	1,139
Difference	-28	81	195	-9	-17	-223	703	391	155	-166	-395	-100
Difference (%)	*-3*	*7*	*9*	*0*	*0*	*-4*	*19*	*8*	*4*	*-7*	*-17*	*-9*
Below Normal												
55 w/WSA	892	1,017	1,460	1,552	1,715	3,931	3,670	3,669	2,531	1,599	1,266	857
Future Baseline	907	956	1,335	1,405	1,666	4,097	2,997	3,133	2,587	1,903	1,573	942
Difference	-15	61	125	147	49	-166	673	536	-56	-304	-306	-84
Difference (%)	*-2*	*6*	*9*	*10*	*3*	*-4*	*22*	*17*	*-2*	*-16*	*-19*	*-9*
Dry												
55 w/WSA	896	948	1,025	1,011	1,325	1,651	2,164	2,333	1,622	1,342	1,098	778
Future Baseline	924	922	879	939	1,234	1,645	1,596	1,745	1,527	1,589	1,300	901
Difference	-28	26	146	72	92	6	568	588	95	-248	-202	-123
Difference (%)	*-3*	*3*	*17*	*8*	*7*	*0*	*36*	*34*	*6*	*-16*	*-16*	*-14*
Critical												
55 w/WSA	868	862	955	793	1,198	1,194	1,203	1,370	996	1,024	852	676
Future Baseline	887	880	870	769	1,005	902	944	1,296	1,180	1,250	1,001	656
Difference	-19	-18	85	24	193	292	259	74	-184	-227	-149	20
Difference (%)	*-2*	*-2*	*10*	*3*	*19*	*32*	*27*	*6*	*-16*	*-18*	*-15*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-4. Average monthly flow in the lower Yuba River near Marysville under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	558	896	2,092	3,552	4,162	4,664	3,845	3,638	2,685	1,176	908	647
Future Baseline	544	776	1,944	3,498	4,133	4,707	3,259	3,208	2,577	1,220	1,123	729
Difference	14	119	148	54	29	-43	586	429	109	-44	-215	-82
Difference (%)	*3*	*15*	*8*	*2*	*1*	*-1*	*18*	*13*	*4*	*-4*	*-19*	*-11*
Water Year Types[2]												
Wet												
55 w/WSA	645	1,502	4,794	8,317	10,469	9,073	7,334	6,640	5,466	2,457	1,619	837
Future Baseline	572	1,212	4,676	8,279	10,564	9,034	6,861	6,450	5,499	2,257	1,912	984
Difference	74	290	118	38	-95	39	473	190	-33	201	-293	-147
Difference (%)	*13*	*24*	*3*	*0*	*-1*	*0*	*7*	*3*	*-1*	*9*	*-15*	*-15*
Above Normal												
55 w/WSA	533	939	2,179	4,666	4,544	5,648	4,289	4,526	3,588	1,323	1,045	721
Future Baseline	542	836	1,972	4,669	4,560	5,871	3,586	4,097	3,368	1,446	1,399	811
Difference	-9	103	207	-3	-16	-223	703	428	220	-123	-354	-90
Difference (%)	*-2*	*12*	*10*	*0*	*0*	*-4*	*20*	*10*	*7*	*-9*	*-25*	*-11*
Below Normal												
55 w/WSA	532	681	1,237	1,433	1,697	3,911	3,357	2,951	1,750	748	668	599
Future Baseline	532	600	1,106	1,279	1,646	4,077	2,661	2,390	1,701	931	885	662
Difference	0	81	131	154	50	-165	696	560	50	-183	-217	-63
Difference (%)	*0*	*13*	*12*	*12*	*3*	*-4*	*26*	*23*	*3*	*-20*	*-24*	*-10*
Dry												
55 w/WSA	541	622	804	888	1,306	1,632	1,867	1,684	860	510	510	517
Future Baseline	545	562	649	813	1,214	1,624	1,260	1,003	640	618	612	621
Difference	-4	61	155	75	92	8	607	680	220	-107	-102	-104
Difference (%)	*-1*	*11*	*24*	*9*	*8*	*0*	*48*	*68*	*34*	*-17*	*-17*	*-17*
Critical												
55 w/WSA	530	552	735	668	1,179	1,175	996	916	455	430	430	451
Future Baseline	520	531	644	647	985	882	654	655	420	410	403	412
Difference	11	21	91	21	194	293	342	261	35	20	27	39
Difference (%)	*2*	*4*	*14*	*3*	*20*	*33*	*52*	*40*	*8*	*5*	*7*	*10*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-5. Average monthly flow in the North Yuba River below NBBD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	14	14	206	578	564	378	105	133	158	56	42	32
Future Baseline	8	8	249	654	663	526	169	263	210	9	8	8
Difference	6	6	-43	-77	-99	-149	-64	-130	-52	47	34	24
Difference (%)	*78*	*79*	*-17*	*-12*	*-15*	*-28*	*-38*	*-49*	*-25*	*522*	*395*	*292*
Water Year Types[2]												
Wet												
55 w/WSA	15	15	603	1,653	2,376	1,350	431	489	443	109	42	32
Future Baseline	8	8	751	1,784	2,722	1,648	690	999	756	10	9	8
Difference	7	7	-148	-132	-346	-298	-259	-510	-314	100	33	24
Difference (%)	*85*	*84*	*-20*	*-7*	*-13*	*-18*	*-38*	*-51*	*-41*	*1,032*	*375*	*284*
Above Normal												
55 w/WSA	14	14	266	819	213	281	20	93	120	42	42	32
Future Baseline	8	8	321	1,013	321	470	36	175	161	9	9	8
Difference	6	6	-55	-194	-107	-189	-16	-82	-40	33	33	24
Difference (%)	*78*	*79*	*-17*	*-19*	*-34*	*-40*	*-44*	*-47*	*-25*	*346*	*382*	*285*
Below Normal												
55 w/WSA	14	14	14	14	15	62	31	9	62	42	42	32
Future Baseline	8	8	8	8	8	251	56	9	22	9	8	8
Difference	6	6	6	6	6	-190	-25	0	40	33	34	24
Difference (%)	*79*	*81*	*80*	*77*	*76*	*-75*	*-45*	*-3*	*176*	*370*	*396*	*290*
Dry												
55 w/WSA	14	14	14	14	14	14	9	9	62	42	42	32
Future Baseline	8	8	8	8	8	8	9	9	9	9	8	8
Difference	6	6	6	6	6	6	0	0	53	33	34	24
Difference (%)	*78*	*80*	*80*	*79*	*76*	*71*	*-2*	*-4*	*585*	*382*	*404*	*294*
Critical												
55 w/WSA	13	13	13	13	13	13	8	8	62	42	42	32
Future Baseline	8	8	8	8	8	8	8	8	8	8	8	8
Difference	5	5	5	5	5	5	0	0	54	34	34	24
Difference (%)	*67*	*69*	*70*	*70*	*69*	*65*	*-2*	*-2*	*660*	*429*	*443*	*320*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-6. Average monthly flow in Oregon Creek below LCDD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	4	10	27	68	63	53	56	46	21	7	3	3
Future Baseline	4	12	39	68	63	50	24	16	9	5	3	3
Difference	0	-2	-12	1	0	4	32	29	12	2	0	0
Difference (%)	*-3*	*-18*	*-30*	*1*	*1*	*7*	*132*	*182*	*129*	*30*	*1*	*4*
Water Year Types[2]												
Wet												
55 w/WSA	5	18	64	140	173	93	157	114	43	12	5	5
Future Baseline	5	27	112	147	190	96	70	27	10	7	5	5
Difference	0	-9	-48	-6	-16	-3	86	87	32	5	0	1
Difference (%)	*-5*	*-33*	*-43*	*-4*	*-9*	*-4*	*123*	*319*	*311*	*73*	*1*	*13*
Above Normal												
55 w/WSA	4	11	31	115	59	75	41	41	23	8	4	4
Future Baseline	4	14	42	116	59	71	13	16	11	7	4	4
Difference	0	-3	-11	-1	1	5	28	25	13	2	0	0
Difference (%)	*-3*	*-22*	*-25*	*-1*	*1*	*7*	*212*	*155*	*116*	*23*	*2*	*2*
Below Normal												
55 w/WSA	3	7	12	21	23	42	29	27	14	6	3	2
Future Baseline	3	6	10	16	15	34	13	14	9	5	3	2
Difference	0	1	2	5	8	8	16	13	5	0	0	0
Difference (%)	*-3*	*9*	*19*	*30*	*56*	*23*	*122*	*93*	*55*	*7*	*0*	*0*
Dry												
55 w/WSA	4	7	11	12	20	20	20	17	11	5	2	2
Future Baseline	4	6	8	8	14	14	10	11	8	5	2	2
Difference	0	1	3	4	6	6	9	6	3	0	0	0
Difference (%)	*-1*	*20*	*35*	*47*	*47*	*39*	*91*	*54*	*35*	*6*	*0*	*-2*
Critical												
55 w/WSA	4	6	8	10	17	13	17	14	5	2	1	2
Future Baseline	4	5	6	7	11	8	9	9	5	2	1	2
Difference	0	1	2	3	6	5	8	5	0	0	0	0
Difference (%)	*0*	*22*	*30*	*39*	*51*	*57*	*92*	*51*	*2*	*0*	*0*	*0*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-7. Average monthly flow in Oregon Creek above MYR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	5	16	43	96	94	88	79	59	25	8	4	4
Future Baseline	5	18	55	95	94	84	47	29	14	7	4	4
Difference	0	-2	-12	1	0	4	32	29	12	2	0	0
Difference (%)	*-2*	*-12*	*-21*	*1*	*0*	*4*	*68*	*101*	*86*	*24*	*1*	*4*
Water Year Types[2]												
Wet												
55 w/WSA	7	30	101	196	238	145	197	137	50	14	6	6
Future Baseline	7	39	149	202	254	149	110	50	18	9	6	6
Difference	0	-9	-48	-6	-16	-3	86	87	32	5	0	1
Difference (%)	*-4*	*-23*	*-32*	*-3*	*-6*	*-2*	*78*	*174*	*177*	*56*	*1*	*10*
Above Normal												
55 w/WSA	5	18	49	154	99	121	66	57	29	10	5	4
Future Baseline	5	21	59	155	98	116	38	31	16	8	5	4
Difference	0	-3	-11	-1	1	5	28	25	13	2	0	0
Difference (%)	*-2*	*-14*	*-18*	*0*	*1*	*4*	*74*	*80*	*76*	*19*	*2*	*2*
Below Normal												
55 w/WSA	4	9	20	36	40	73	49	38	17	7	3	3
Future Baseline	4	9	19	31	32	65	33	25	12	6	3	3
Difference	0	1	2	5	8	8	16	13	5	0	0	0
Difference (%)	*-2*	*7*	*10*	*15*	*27*	*12*	*49*	*51*	*40*	*6*	*0*	*0*
Dry												
55 w/WSA	5	10	17	20	34	38	35	24	14	6	3	3
Future Baseline	5	9	14	17	27	33	26	18	11	6	3	3
Difference	0	1	3	4	6	6	9	6	3	0	0	0
Difference (%)	*-1*	*14*	*20*	*24*	*24*	*17*	*37*	*34*	*26*	*5*	*0*	*-2*
Critical												
55 w/WSA	4	8	13	13	26	24	23	17	6	2	2	2
Future Baseline	4	7	11	10	21	20	15	12	6	2	2	2
Difference	0	1	2	3	6	5	8	5	0	0	0	0
Difference (%)	*0*	*17*	*17*	*27*	*27*	*23*	*54*	*38*	*2*	*0*	*0*	*0*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-8. Average monthly flow in the Middle Yuba River below OHDD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	53	131	283	342	348	391	415	446	275	92	50	44
Future Baseline	31	57	128	201	177	158	114	112	64	31	31	31
Difference	22	73	155	141	171	233	300	333	210	60	19	13
Difference (%)	*70*	*128*	*121*	*70*	*97*	*147*	*262*	*297*	*327*	*193*	*61*	*42*
Water Year Types[2]												
Wet												
55 w/WSA	72	236	720	804	895	720	883	918	606	177	73	62
Future Baseline	34	104	374	489	557	335	319	266	139	33	33	33
Difference	38	132	345	315	338	384	565	652	467	144	40	29
Difference (%)	*114*	*127*	*92*	*64*	*61*	*115*	*177*	*245*	*336*	*432*	*122*	*86*
Above Normal												
55 w/WSA	50	140	257	450	357	436	394	505	324	105	61	53
Future Baseline	31	57	106	279	130	151	64	102	54	33	33	33
Difference	19	83	152	171	227	285	330	403	270	72	28	20
Difference (%)	*62*	*146*	*144*	*61*	*175*	*189*	*514*	*396*	*497*	*219*	*83*	*61*
Below Normal												
55 w/WSA	44	110	168	144	145	397	362	341	168	66	43	38
Future Baseline	31	52	52	64	47	178	90	72	44	33	33	33
Difference	13	58	115	80	98	220	272	269	124	33	10	5
Difference (%)	*42*	*113*	*220*	*125*	*208*	*124*	*302*	*372*	*286*	*100*	*30*	*16*
Dry												
55 w/WSA	50	75	103	77	112	156	193	186	100	48	34	30
Future Baseline	31	32	33	32	44	44	40	49	39	30	29	28
Difference	18	43	70	45	68	112	152	137	61	18	4	2
Difference (%)	*59*	*135*	*216*	*141*	*152*	*255*	*377*	*281*	*154*	*60*	*14*	*6*
Critical												
55 w/WSA	49	55	69	63	108	113	112	104	58	30	27	25
Future Baseline	30	30	32	30	53	32	35	39	32	24	24	23
Difference	19	25	38	34	55	81	78	65	26	6	3	2
Difference (%)	*65*	*85*	*119*	*113*	*104*	*256*	*224*	*164*	*80*	*25*	*12*	*7*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-9. Average monthly flow in the Middle Yuba River below OC under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	62	163	372	514	530	575	557	540	313	104	56	49
Future Baseline	40	92	229	373	358	339	225	177	91	42	37	36
Difference	22	71	143	142	172	236	332	363	222	62	19	13
Difference (%)	*55*	*77*	*63*	*38*	*48*	*70*	*148*	*204*	*245*	*149*	*52*	*36*
Water Year Types[2]												
Wet												
55 w/WSA	84	301	925	1,156	1,312	1,011	1,193	1,119	678	197	82	70
Future Baseline	46	178	628	848	991	630	541	380	179	48	41	41
Difference	38	123	297	309	321	381	651	739	499	149	40	29
Difference (%)	*83*	*69*	*47*	*36*	*32*	*60*	*120*	*194*	*279*	*308*	*97*	*71*
Above Normal												
55 w/WSA	58	178	356	715	565	683	529	604	369	119	68	59
Future Baseline	39	98	215	545	337	393	171	176	87	45	40	39
Difference	19	80	141	170	228	290	358	428	282	74	28	20
Difference (%)	*49*	*82*	*66*	*31*	*68*	*74*	*209*	*243*	*325*	*163*	*69*	*51*
Below Normal												
55 w/WSA	51	127	213	222	232	557	467	412	194	76	48	42
Future Baseline	38	68	96	137	126	330	179	130	65	42	38	37
Difference	13	59	117	85	106	227	288	282	129	33	10	5
Difference (%)	*35*	*87*	*123*	*62*	*84*	*69*	*161*	*217*	*200*	*79*	*26*	*14*
Dry												
55 w/WSA	58	94	136	120	183	247	271	229	123	57	38	34
Future Baseline	40	49	63	71	109	129	109	86	59	38	33	32
Difference	18	44	73	49	74	117	162	143	63	18	4	2
Difference (%)	*46*	*91*	*117*	*68*	*68*	*91*	*148*	*167*	*107*	*48*	*12*	*5*
Critical												
55 w/WSA	56	67	95	84	161	170	152	130	66	34	29	28
Future Baseline	37	41	55	48	101	84	66	61	41	28	26	26
Difference	19	26	40	36	61	86	86	69	26	6	3	2
Difference (%)	*53*	*65*	*72*	*76*	*60*	*102*	*129*	*114*	*63*	*22*	*11*	*7*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-10. Average monthly flow in the Middle Yuba River above YR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	64	175	404	569	593	645	603	566	322	106	57	50
Future Baseline	42	104	261	428	421	408	271	203	100	44	38	37
Difference	22	71	143	142	172	236	332	363	222	62	19	13
Difference (%)	*52*	*69*	*55*	*33*	*41*	*58*	*123*	*178*	*223*	*140*	*50*	*35*
Water Year Types[2]												
Wet												
55 w/WSA	88	326	1,001	1,269	1,442	1,117	1,274	1,166	694	201	83	72
Future Baseline	50	203	703	960	1,121	736	622	427	195	53	43	43
Difference	38	123	297	309	321	381	651	739	499	149	40	29
Difference (%)	*76*	*61*	*42*	*32*	*29*	*52*	*105*	*173*	*256*	*282*	*93*	*68*
Above Normal												
55 w/WSA	60	192	392	794	644	774	579	635	380	122	69	61
Future Baseline	41	112	251	624	416	484	221	207	98	48	42	41
Difference	19	80	141	170	228	290	358	428	282	74	28	20
Difference (%)	*47*	*72*	*56*	*27*	*55*	*60*	*162*	*207*	*287*	*153*	*66*	*49*
Below Normal												
55 w/WSA	52	132	231	253	266	620	507	435	200	78	49	43
Future Baseline	39	73	113	168	160	392	219	153	71	45	39	38
Difference	13	59	117	85	106	227	288	282	129	33	10	5
Difference (%)	*33*	*81*	*104*	*50*	*67*	*58*	*132*	*185*	*181*	*75*	*26*	*14*
Dry												
55 w/WSA	60	99	148	137	210	285	302	243	129	59	38	35
Future Baseline	42	55	74	88	136	167	140	100	65	40	34	33
Difference	18	44	73	49	74	117	162	143	63	18	4	2
Difference (%)	*44*	*81*	*99*	*56*	*54*	*70*	*116*	*143*	*97*	*45*	*12*	*5*
Critical												
55 w/WSA	58	70	104	90	181	193	164	137	68	35	30	28
Future Baseline	39	44	64	54	120	107	79	67	43	29	27	27
Difference	19	26	40	36	61	86	86	69	26	6	3	2
Difference (%)	*50*	*60*	*62*	*68*	*50*	*80*	*109*	*103*	*60*	*21*	*11*	*7*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-11. Average monthly flow in the upper Yuba River below MYR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	78	189	610	1,147	1,157	1,022	708	699	480	163	99	82
Future Baseline	50	112	510	1,082	1,084	934	440	467	310	53	47	46
Difference	28	77	100	65	73	88	268	232	170	109	53	37
Difference (%)	*56*	*69*	*20*	*6*	*7*	*9*	*61*	*50*	*55*	*205*	*113*	*81*
Water Year Types[2]												
Wet												
55 w/WSA	103	341	1,604	2,922	3,817	2,466	1,705	1,654	1,137	311	125	104
Future Baseline	58	211	1,455	2,745	3,843	2,384	1,313	1,426	951	62	52	51
Difference	45	130	149	177	-25	82	392	229	186	248	73	53
Difference (%)	*77*	*61*	*10*	*6*	*-1*	*3*	*30*	*16*	*20*	*399*	*141*	*103*
Above Normal												
55 w/WSA	74	206	658	1,614	857	1,055	599	728	500	164	111	93
Future Baseline	49	120	572	1,638	737	954	257	382	259	58	50	49
Difference	25	87	86	-24	120	101	342	346	242	106	61	44
Difference (%)	*52*	*72*	*15*	*-1*	*16*	*11*	*133*	*91*	*93*	*184*	*121*	*89*
Below Normal												
55 w/WSA	66	146	245	267	280	681	538	444	262	120	91	75
Future Baseline	47	81	121	176	168	644	275	162	94	54	47	46
Difference	19	65	124	91	113	38	263	282	169	66	44	29
Difference (%)	*41*	*81*	*102*	*52*	*67*	*6*	*96*	*174*	*180*	*124*	*92*	*63*
Dry												
55 w/WSA	75	114	162	151	225	299	310	252	191	101	80	67
Future Baseline	50	63	82	96	145	176	149	109	75	49	43	41
Difference	25	51	80	55	80	123	162	143	116	52	38	25
Difference (%)	*49*	*81*	*97*	*58*	*56*	*70*	*109*	*131*	*156*	*105*	*89*	*62*
Critical												
55 w/WSA	71	84	117	103	194	206	172	145	130	77	72	60
Future Baseline	47	52	72	62	128	115	87	75	51	36	35	34
Difference	25	32	45	42	66	91	85	69	80	40	37	26
Difference (%)	*53*	*62*	*62*	*68*	*52*	*79*	*98*	*92*	*157*	*110*	*107*	*76*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-12. Average monthly flow in the upper Yuba River above Colgate under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	81	202	647	1,209	1,228	1,100	760	728	490	166	101	84
Future Baseline	53	125	547	1,144	1,155	1,013	492	496	320	56	48	47
Difference	28	77	100	65	73	88	268	232	170	109	53	37
Difference (%)	*53*	*62*	*18*	*6*	*6*	*9*	*55*	*47*	*53*	*194*	*110*	*79*
Water Year Types[2]												
Wet												
55 w/WSA	108	369	1,689	3,049	3,964	2,585	1,796	1,706	1,154	315	128	106
Future Baseline	63	240	1,539	2,872	3,989	2,503	1,404	1,478	969	67	54	54
Difference	45	130	149	177	-25	82	392	229	186	248	73	53
Difference (%)	*71*	*54*	*10*	*6*	*-1*	*3*	*28*	*15*	*19*	*369*	*135*	*99*
Above Normal												
55 w/WSA	76	222	699	1,703	946	1,158	655	762	513	168	113	94
Future Baseline	51	136	612	1,727	826	1,057	313	417	272	61	52	51
Difference	25	87	86	-24	120	101	342	346	242	106	61	44
Difference (%)	*50*	*64*	*14*	*-1*	*15*	*10*	*109*	*83*	*89*	*174*	*117*	*86*
Below Normal												
55 w/WSA	68	152	265	301	319	752	583	470	270	122	92	76
Future Baseline	49	86	141	211	206	714	320	188	101	56	48	47
Difference	19	65	124	91	113	38	263	282	169	66	44	29
Difference (%)	*40*	*76*	*88*	*43*	*55*	*5*	*82*	*150*	*167*	*119*	*90*	*61*
Dry												
55 w/WSA	77	120	175	170	255	342	345	268	198	103	81	68
Future Baseline	52	70	95	115	175	219	184	125	82	51	44	42
Difference	25	51	80	55	80	123	162	143	116	52	38	25
Difference (%)	*47*	*73*	*83*	*48*	*46*	*56*	*88*	*115*	*143*	*101*	*87*	*60*
Critical												
55 w/WSA	73	87	127	110	216	233	186	152	132	77	72	61
Future Baseline	49	55	82	68	150	142	101	83	53	37	35	35
Difference	25	32	45	42	66	91	85	69	80	40	37	26
Difference (%)	*51*	*58*	*55*	*61*	*44*	*64*	*85*	*84*	*150*	*107*	*105*	*75*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-13. Average monthly flow in the upper Yuba River below Colgate under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
55 w/WSA	752	880	1,494	2,226	2,474	2,779	2,436	2,699	2,447	1,782	1,497	828
Future Baseline	777	832	1,384	2,194	2,470	2,899	2,103	2,508	2,424	1,968	1,793	926
Difference	-24	48	110	32	4	-120	333	191	23	-185	-296	-98
Difference (%)	*-3*	*6*	*8*	*1*	*0*	*-4*	*16*	*8*	*1*	*-9*	*-17*	*-11*
Water Year Types[2]												
Wet												
55 w/WSA	758	1,194	3,208	5,262	6,672	5,602	4,426	4,429	3,925	2,706	2,334	1,024
Future Baseline	772	1,058	3,180	5,224	6,813	5,622	4,072	4,320	3,907	2,649	2,674	1,184
Difference	-14	136	28	38	-141	-20	354	109	17	57	-340	-160
Difference (%)	*-2*	*13*	*1*	*1*	*-2*	*0*	*9*	*3*	*0*	*2*	*-13*	*-14*
Above Normal												
55 w/WSA	740	861	1,519	2,829	2,561	3,468	2,711	3,054	3,103	2,069	1,761	915
Future Baseline	773	809	1,352	2,884	2,590	3,767	2,249	2,852	2,921	2,288	2,156	1,015
Difference	-33	52	167	-55	-29	-299	462	201	182	-219	-395	-101
Difference (%)	*-4*	*6*	*12*	*-2*	*-1*	*-8*	*21*	*7*	*6*	*-10*	*-18*	*-10*
Below Normal												
55 w/WSA	765	781	897	813	871	2,198	2,235	2,459	2,019	1,478	1,179	770
Future Baseline	786	755	786	692	846	2,468	1,837	2,117	2,108	1,790	1,486	855
Difference	-21	26	111	121	26	-270	398	341	-89	-312	-306	-84
Difference (%)	*-3*	*3*	*14*	*17*	*3*	*-11*	*22*	*16*	*-4*	*-17*	*-21*	*-10*
Dry												
55 w/WSA	764	763	743	591	644	768	1,271	1,705	1,414	1,246	1,020	700
Future Baseline	792	744	601	522	569	850	998	1,388	1,348	1,494	1,222	823
Difference	-29	19	141	68	75	-81	273	317	66	-248	-202	-123
Difference (%)	*-4*	*3*	*24*	*13*	*13*	*-10*	*27*	*23*	*5*	*-17*	*-17*	*-15*
Critical												
55 w/WSA	732	733	677	603	667	670	708	1,035	896	958	787	613
Future Baseline	754	756	600	585	501	426	674	1,130	1,084	1,185	937	593
Difference	-22	-23	77	18	166	244	34	-95	-188	-227	-149	20
Difference (%)	*-3*	*-3*	*13*	*3*	*33*	*57*	*5*	*-8*	*-17*	*-19*	*-16*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-14. Average monthly flow in the lower Yuba River near Smartsville under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	876	1,086	1,916	3,078	3,529	4,018	3,413	3,945	3,395	2,164	1,808	996
Future Baseline	873	1,077	1,990	3,154	3,601	4,092	3,156	3,784	3,400	2,189	1,886	1,016
Difference	3	9	-74	-76	-71	-74	257	160	-5	-25	-78	-20
Difference (%)	*0*	*1*	*-4*	*-2*	*-2*	*-2*	*8*	*4*	*0*	*-1*	*-4*	*-2*
Water Year Types[2]												
Wet												
HRL	907	1,437	4,252	7,112	9,227	7,776	6,307	6,810	6,268	3,350	2,741	1,244
Future Baseline	896	1,466	4,522	7,280	9,358	7,780	6,148	6,850	6,289	3,271	2,800	1,302
Difference	12	-29	-270	-168	-131	-4	158	-40	-21	79	-59	-59
Difference (%)	*1*	*-2*	*-6*	*-2*	*-1*	*0*	*3*	*-1*	*0*	*2*	*-2*	*-5*
Above Normal												
HRL	850	1,153	1,933	4,062	3,794	5,115	3,669	4,858	4,289	2,416	2,155	1,094
Future Baseline	867	1,120	1,988	4,186	3,858	5,138	3,367	4,600	4,183	2,460	2,272	1,125
Difference	-17	33	-55	-124	-65	-23	302	258	107	-44	-117	-32
Difference (%)	*-2*	*3*	*-3*	*-3*	*-2*	*0*	*9*	*6*	*3*	*-2*	*-5*	*-3*
Below Normal												
HRL	865	923	1,121	1,197	1,325	3,357	3,376	3,494	2,452	1,804	1,449	946
Future Baseline	867	922	1,197	1,207	1,439	3,558	2,782	3,075	2,571	1,892	1,562	931
Difference	-2	2	-76	-10	-115	-201	594	419	-119	-88	-113	15
Difference (%)	*0*	*0*	*-6*	*-1*	*-8*	*-6*	*21*	*14*	*-5*	*-5*	*-7*	*2*
Dry												
HRL	900	922	860	801	1,014	1,286	1,661	1,872	1,512	1,545	1,251	864
Future Baseline	885	895	828	817	1,027	1,417	1,513	1,727	1,514	1,578	1,290	891
Difference	15	27	32	-16	-14	-130	147	145	-2	-33	-39	-27
Difference (%)	*2*	*3*	*4*	*-2*	*-1*	*-9*	*10*	*8*	*0*	*-2*	*-3*	*-3*
Critical												
HRL	858	869	853	712	868	766	912	1,219	1,128	1,192	960	669
Future Baseline	838	860	806	731	879	786	913	1,289	1,171	1,242	993	647
Difference	20	9	47	-19	-11	-20	-1	-70	-43	-51	-33	22
Difference (%)	*2*	*1*	*6*	*-3*	*-1*	*-3*	*0*	*-5*	*-4*	*-4*	*-3*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-15. Average monthly flow in the lower Yuba River below Deer Creek under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	911	1,133	2,059	3,335	3,845	4,330	3,575	4,005	3,410	2,169	1,812	1,001
Future Baseline	908	1,123	2,133	3,412	3,916	4,403	3,318	3,845	3,415	2,194	1,890	1,021
Difference	3	9	-74	-76	-71	-74	257	160	-5	-25	-78	-20
Difference (%)	*0*	*1*	*-3*	*-2*	*-2*	*-2*	*8*	*4*	*0*	*-1*	*-4*	*-2*
Water Year Types[2]												
Wet												
HRL	952	1,528	4,566	7,733	9,927	8,400	6,718	6,951	6,304	3,360	2,746	1,251
Future Baseline	941	1,557	4,835	7,901	10,058	8,404	6,560	6,991	6,325	3,281	2,805	1,310
Difference	12	-29	-270	-168	-131	-4	158	-40	-21	79	-59	-59
Difference (%)	*1*	*-2*	*-6*	*-2*	*-1*	*0*	*2*	*-1*	*0*	*2*	*-2*	*-4*
Above Normal												
HRL	882	1,209	2,100	4,383	4,203	5,482	3,824	4,929	4,306	2,422	2,160	1,101
Future Baseline	899	1,176	2,155	4,507	4,268	5,505	3,522	4,672	4,199	2,466	2,277	1,133
Difference	-17	33	-55	-124	-65	-23	302	258	107	-44	-117	-32
Difference (%)	*-2*	*3*	*-3*	*-3*	*-2*	*0*	*9*	*6*	*3*	*-2*	*-5*	*-3*
Below Normal												
HRL	897	952	1,227	1,313	1,455	3,624	3,492	3,538	2,461	1,808	1,453	950
Future Baseline	899	951	1,303	1,323	1,570	3,825	2,899	3,118	2,580	1,896	1,566	935
Difference	-2	2	-76	-10	-115	-201	594	419	-119	-88	-113	15
Difference (%)	*0*	*0*	*-6*	*-1*	*-7*	*-5*	*20*	*13*	*-5*	*-5*	*-7*	*2*
Dry												
HRL	931	944	893	873	1,133	1,399	1,705	1,886	1,518	1,549	1,254	868
Future Baseline	916	917	860	889	1,146	1,529	1,558	1,741	1,520	1,582	1,293	895
Difference	15	27	32	-16	-14	-130	147	145	-2	-33	-39	-27
Difference (%)	*2*	*3*	*4*	*-2*	*-1*	*-9*	*9*	*8*	*0*	*-2*	*-3*	*-3*
Critical												
HRL	898	885	896	734	941	823	929	1,224	1,130	1,193	961	671
Future Baseline	878	876	849	753	952	843	930	1,294	1,173	1,244	994	649
Difference	20	9	47	-19	-11	-20	-1	-70	-43	-51	-33	22
Difference (%)	*2*	*1*	*6*	*-3*	*-1*	*-2*	*0*	*-5*	*-4*	*-4*	*-3*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-16. Average monthly flow in the lower Yuba River below Dry Creek under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	919	1,141	2,099	3,516	4,076	4,648	3,712	4,025	3,418	2,176	1,819	1,008
Future Baseline	917	1,131	2,173	3,593	4,147	4,721	3,455	3,865	3,423	2,201	1,897	1,028
Difference	3	9	-74	-76	-71	-74	257	160	-5	-25	-78	-20
Difference (%)	*0*	*1*	*-3*	*-2*	*-2*	*-2*	*7*	*4*	*0*	*-1*	*-4*	*-2*
Water Year Types[2]												
Wet												
HRL	961	1,543	4,637	8,171	10,439	9,038	7,065	6,997	6,313	3,368	2,753	1,258
Future Baseline	950	1,572	4,907	8,339	10,570	9,042	6,907	7,037	6,334	3,289	2,812	1,316
Difference	12	-29	-270	-168	-131	-4	158	-40	-21	79	-59	-59
Difference (%)	*1*	*-2*	*-5*	*-2*	*-1*	*0*	*2*	*-1*	*0*	*2*	*-2*	*-4*
Above Normal												
HRL	890	1,218	2,144	4,610	4,503	5,856	3,954	4,953	4,314	2,429	2,167	1,108
Future Baseline	907	1,186	2,199	4,733	4,568	5,879	3,652	4,695	4,207	2,473	2,284	1,139
Difference	-17	33	-55	-124	-65	-23	302	258	107	-44	-117	-32
Difference (%)	*-2*	*3*	*-2*	*-3*	*-1*	*0*	*8*	*5*	*3*	*-2*	*-5*	*-3*
Below Normal												
HRL	904	958	1,259	1,395	1,551	3,896	3,591	3,552	2,469	1,815	1,460	957
Future Baseline	907	956	1,335	1,405	1,666	4,097	2,997	3,133	2,587	1,903	1,573	942
Difference	-2	2	-76	-10	-115	-201	594	419	-119	-88	-113	15
Difference (%)	*0*	*0*	*-6*	*-1*	*-7*	*-5*	*20*	*13*	*-5*	*-5*	*-7*	*2*
Dry												
HRL	939	949	911	923	1,220	1,514	1,743	1,890	1,525	1,556	1,261	874
Future Baseline	924	922	879	939	1,234	1,645	1,596	1,745	1,527	1,589	1,300	901
Difference	15	27	32	-16	-14	-130	147	145	-2	-33	-39	-27
Difference (%)	*2*	*3*	*4*	*-2*	*-1*	*-8*	*9*	*8*	*0*	*-2*	*-3*	*-3*
Critical												
HRL	907	889	917	750	994	882	943	1,226	1,137	1,200	968	677
Future Baseline	887	880	870	769	1,005	902	944	1,296	1,180	1,250	1,001	656
Difference	20	9	47	-19	-11	-20	-1	-70	-43	-51	-33	22
Difference (%)	*2*	*1*	*5*	*-2*	*-1*	*-2*	*0*	*-5*	*-4*	*-4*	*-3*	*3*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-17. Average monthly flow in the lower Yuba River near Marysville under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	548	788	1,871	3,422	4,062	4,633	3,518	3,372	2,576	1,200	1,050	708
Future Baseline	544	776	1,944	3,498	4,133	4,707	3,259	3,208	2,577	1,220	1,123	729
Difference	4	11	-73	-76	-71	-74	258	164	0	-20	-73	-21
Difference (%)	*1*	*1*	*-4*	*-2*	*-2*	*-2*	*8*	*5*	*0*	*-2*	*-7*	*-3*
Water Year Types[2]												
Wet												
HRL	583	1,183	4,406	8,111	10,433	9,030	7,020	6,410	5,478	2,336	1,853	926
Future Baseline	572	1,212	4,676	8,279	10,564	9,034	6,861	6,450	5,499	2,257	1,912	984
Difference	12	-29	-270	-168	-131	-4	158	-40	-21	79	-59	-59
Difference (%)	*2*	*-2*	*-6*	*-2*	*-1*	*0*	*2*	*-1*	*0*	*4*	*-3*	*-6*
Above Normal												
HRL	525	871	1,919	4,545	4,495	5,848	3,888	4,355	3,475	1,402	1,282	780
Future Baseline	542	836	1,972	4,669	4,560	5,871	3,586	4,097	3,368	1,446	1,399	811
Difference	-17	35	-53	-124	-65	-23	302	258	107	-44	-117	-32
Difference (%)	*-3*	*4*	*-3*	*-3*	*-1*	*0*	*8*	*6*	*3*	*-3*	*-8*	*-4*
Below Normal												
HRL	532	604	1,031	1,269	1,531	3,875	3,255	2,810	1,582	843	772	677
Future Baseline	532	600	1,106	1,279	1,646	4,077	2,661	2,390	1,701	931	885	662
Difference	0	4	-76	-10	-115	-201	594	419	-119	-88	-113	15
Difference (%)	*0*	*1*	*-7*	*-1*	*-7*	*-5*	*22*	*18*	*-7*	*-9*	*-13*	*2*
Dry												
HRL	560	589	681	798	1,200	1,494	1,407	1,148	638	585	573	595
Future Baseline	545	562	649	813	1,214	1,624	1,260	1,003	640	618	612	621
Difference	15	27	32	-16	-14	-130	147	145	-2	-33	-39	-27
Difference (%)	*3*	*5*	*5*	*-2*	*-1*	*-8*	*12*	*14*	*0*	*-5*	*-6*	*-4*
Critical												
HRL	545	546	692	630	975	862	663	614	409	401	401	428
Future Baseline	520	531	644	647	985	882	654	655	420	410	403	412
Difference	25	15	48	-17	-11	-20	9	-41	-10	-9	-1	16
Difference (%)	*5*	*3*	*7*	*-3*	*-1*	*-2*	*1*	*-6*	*-2*	*-2*	*0*	*4*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-18. Average monthly flow in the North Yuba River below NBBD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	14	14	207	626	645	505	120	163	189	43	42	32
Future Baseline	8	8	249	654	663	526	169	263	210	9	8	8
Difference	6	6	-42	-29	-18	-21	-50	-101	-22	34	34	24
Difference (%)	*78*	*79*	*-17*	*-4*	*-3*	*-4*	*-29*	*-38*	*-10*	*376*	*395*	*292*
Water Year Types[2]												
Wet												
HRL	15	15	603	1,727	2,638	1,608	471	616	495	47	42	32
Future Baseline	8	8	751	1,784	2,722	1,648	690	999	756	10	9	8
Difference	7	7	-149	-57	-84	-40	-219	-383	-261	37	33	24
Difference (%)	*85*	*84*	*-20*	*-3*	*-3*	*-2*	*-32*	*-38*	*-35*	*385*	*375*	*284*
Above Normal												
HRL	14	14	270	941	308	428	29	103	192	42	42	32
Future Baseline	8	8	321	1,013	321	470	36	175	161	9	9	8
Difference	6	6	-51	-73	-13	-41	-7	-72	31	33	33	24
Difference (%)	*78*	*79*	*-16*	*-7*	*-4*	*-9*	*-20*	*-41*	*19*	*346*	*382*	*285*
Below Normal												
HRL	14	14	14	14	15	234	48	9	62	42	42	32
Future Baseline	8	8	8	8	8	251	56	9	22	9	8	8
Difference	6	6	6	6	6	-17	-8	0	40	33	34	24
Difference (%)	*79*	*81*	*80*	*77*	*76*	*-7*	*-14*	*-4*	*176*	*370*	*396*	*290*
Dry												
HRL	14	14	14	14	14	14	9	9	62	42	42	32
Future Baseline	8	8	8	8	8	8	9	9	9	9	8	8
Difference	6	6	6	6	6	6	0	0	53	33	34	24
Difference (%)	*78*	*80*	*80*	*79*	*76*	*71*	*-1*	*-2*	*585*	*382*	*404*	*294*
Critical												
HRL	13	13	13	13	13	13	8	8	62	42	42	32
Future Baseline	8	8	8	8	8	8	8	8	8	8	8	8
Difference	5	5	5	5	5	5	0	0	54	34	34	24
Difference (%)	*67*	*69*	*70*	*70*	*69*	*65*	*-1*	*-1*	*660*	*429*	*443*	*320*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-19. Average monthly flow in Oregon Creek below LCDD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	4	12	34	71	68	59	58	46	21	7	3	3
Future Baseline	4	12	39	68	63	50	24	16	9	5	3	3
Difference	0	0	-5	3	6	9	34	29	12	2	0	0
Difference (%)	*-3*	*-3*	*-14*	*5*	*9*	*18*	*140*	*181*	*136*	*30*	*1*	*4*
Water Year Types[2]												
Wet												
HRL	5	26	90	149	195	110	166	115	46	12	5	5
Future Baseline	5	27	112	147	190	96	70	27	10	7	5	5
Difference	0	-1	-22	3	5	14	96	88	35	5	0	1
Difference (%)	*-5*	*-3*	*-20*	*2*	*3*	*14*	*137*	*323*	*340*	*73*	*1*	*13*
Above Normal												
HRL	4	11	33	118	63	81	41	40	23	8	4	4
Future Baseline	4	14	42	116	59	71	13	16	11	7	4	4
Difference	0	-3	-8	2	4	10	27	24	13	2	0	0
Difference (%)	*-3*	*-22*	*-20*	*2*	*7*	*14*	*208*	*148*	*116*	*23*	*2*	*2*
Below Normal												
HRL	3	7	13	21	23	42	29	27	14	6	3	2
Future Baseline	3	6	10	16	15	34	13	14	9	5	3	2
Difference	0	1	3	5	8	8	16	13	5	0	0	0
Difference (%)	*-3*	*14*	*34*	*30*	*56*	*25*	*122*	*93*	*55*	*7*	*0*	*0*
Dry												
HRL	4	7	11	12	20	20	20	17	11	5	2	2
Future Baseline	4	6	8	8	14	14	10	11	8	5	2	2
Difference	0	1	3	4	6	6	9	6	3	0	0	0
Difference (%)	*-1*	*20*	*35*	*47*	*47*	*39*	*91*	*54*	*35*	*6*	*0*	*-2*
Critical												
HRL	4	6	8	10	17	13	17	14	5	2	1	2
Future Baseline	4	5	6	7	11	8	9	9	5	2	1	2
Difference	0	1	2	3	6	5	8	5	0	0	0	0
Difference (%)	*0*	*22*	*30*	*39*	*51*	*57*	*92*	*51*	*2*	*0*	*0*	*0*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-20. Average monthly flow in Oregon Creek above MYR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	5	18	50	98	100	93	80	58	26	8	4	4
Future Baseline	5	18	55	95	94	84	47	29	14	7	4	4
Difference	0	0	-5	3	6	9	34	29	12	2	0	0
Difference (%)	*-2*	*-2*	*-10*	*3*	*6*	*11*	*72*	*101*	*91*	*24*	*1*	*4*
Water Year Types[2]												
Wet												
HRL	7	39	127	205	259	162	206	138	53	14	6	6
Future Baseline	7	39	149	202	254	149	110	50	18	9	6	6
Difference	0	-1	-22	3	5	14	96	88	35	5	0	1
Difference (%)	*-4*	*-2*	*-15*	*1*	*2*	*9*	*87*	*176*	*194*	*56*	*1*	*10*
Above Normal												
HRL	5	18	51	157	102	126	65	55	29	10	5	4
Future Baseline	5	21	59	155	98	116	38	31	16	8	5	4
Difference	0	-3	-8	2	4	10	27	24	13	2	0	0
Difference (%)	*-2*	*-14*	*-14*	*2*	*4*	*9*	*73*	*76*	*76*	*19*	*2*	*2*
Below Normal												
HRL	4	10	22	36	40	73	49	38	17	7	3	3
Future Baseline	4	9	19	31	32	65	33	25	12	6	3	3
Difference	0	1	3	5	8	8	16	13	5	0	0	0
Difference (%)	*-2*	*10*	*18*	*15*	*27*	*13*	*49*	*51*	*40*	*6*	*0*	*0*
Dry												
HRL	5	10	17	20	34	38	35	24	14	6	3	3
Future Baseline	5	9	14	17	27	33	26	18	11	6	3	3
Difference	0	1	3	4	6	6	9	6	3	0	0	0
Difference (%)	*-1*	*14*	*20*	*24*	*24*	*17*	*37*	*34*	*26*	*5*	*0*	*-2*
Critical												
HRL	4	8	13	13	26	24	23	17	6	2	2	2
Future Baseline	4	7	11	10	21	20	15	12	6	2	2	2
Difference	0	1	2	3	6	5	8	5	0	0	0	0
Difference (%)	*0*	*17*	*17*	*27*	*27*	*23*	*54*	*38*	*2*	*0*	*0*	*0*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-21. Average monthly flow in the Middle Yuba River below OHDD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	48	110	215	245	225	208	244	280	197	83	50	44
Future Baseline	31	57	128	201	177	158	114	112	64	31	31	31
Difference	17	53	87	44	48	49	130	168	133	51	19	13
Difference (%)	*53*	*92*	*68*	*22*	*27*	*31*	*113*	*149*	*207*	*164*	*61*	*42*
Water Year Types[2]												
Wet												
HRL	58	173	541	543	610	384	736	872	589	171	73	62
Future Baseline	34	104	374	489	557	335	319	266	139	33	33	33
Difference	24	69	167	54	53	48	417	606	450	138	40	29
Difference (%)	*73*	*67*	*45*	*11*	*10*	*14*	*131*	*228*	*324*	*415*	*122*	*86*
Above Normal												
HRL	46	126	207	334	193	207	126	168	125	80	60	53
Future Baseline	31	57	106	279	130	151	64	102	54	33	33	33
Difference	15	69	101	54	63	57	62	66	70	47	27	20
Difference (%)	*50*	*120*	*96*	*19*	*49*	*38*	*96*	*65*	*130*	*141*	*82*	*61*
Below Normal												
HRL	44	98	101	105	91	239	160	141	92	61	43	38
Future Baseline	31	52	52	64	47	178	90	72	44	33	33	33
Difference	12	46	49	41	44	61	70	68	49	28	10	5
Difference (%)	*39*	*89*	*93*	*64*	*94*	*34*	*77*	*94*	*112*	*85*	*30*	*16*
Dry												
HRL	45	72	93	67	81	85	75	74	70	48	34	30
Future Baseline	31	32	33	32	44	44	40	49	39	30	29	28
Difference	14	40	61	35	36	41	35	25	31	18	4	2
Difference (%)	*43*	*124*	*187*	*109*	*81*	*94*	*86*	*50*	*79*	*59*	*14*	*6*
Critical												
HRL	49	54	57	56	85	62	70	67	56	30	27	25
Future Baseline	30	30	32	30	53	32	35	39	32	24	24	23
Difference	19	25	25	27	32	30	35	28	24	6	3	2
Difference (%)	*63*	*83*	*78*	*90*	*60*	*95*	*102*	*70*	*74*	*25*	*12*	*7*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-22. Average monthly flow in the Middle Yuba River below OC under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	57	144	310	420	412	397	388	375	236	95	56	49
Future Baseline	40	92	229	373	358	339	225	177	91	42	37	36
Difference	17	52	81	47	54	58	163	197	145	53	19	13
Difference (%)	*42*	*57*	*36*	*13*	*15*	*17*	*73*	*111*	*160*	*127*	*51*	*36*
Water Year Types[2]												
Wet												
HRL	70	247	773	905	1,049	693	1,055	1,075	665	191	82	70
Future Baseline	46	178	628	848	991	630	541	380	179	48	41	41
Difference	24	68	145	57	58	62	513	694	486	143	40	29
Difference (%)	*52*	*38*	*23*	*7*	*6*	*10*	*95*	*182*	*271*	*296*	*97*	*71*
Above Normal												
HRL	54	163	308	601	404	460	260	266	170	93	67	59
Future Baseline	39	98	215	545	337	393	171	176	87	45	40	39
Difference	15	66	93	57	67	67	89	90	83	48	27	20
Difference (%)	*40*	*67*	*43*	*10*	*20*	*17*	*52*	*51*	*96*	*106*	*68*	*51*
Below Normal												
HRL	50	115	148	183	178	399	264	211	118	71	48	42
Future Baseline	38	68	96	137	126	330	179	130	65	42	38	37
Difference	12	47	52	46	53	69	86	81	54	28	10	5
Difference (%)	*32*	*69*	*55*	*33*	*42*	*21*	*48*	*63*	*83*	*67*	*26*	*14*
Dry												
HRL	53	90	126	110	152	176	153	117	93	57	38	34
Future Baseline	40	49	63	71	109	129	109	86	59	38	33	32
Difference	14	41	64	39	43	47	44	31	34	18	4	2
Difference (%)	*34*	*84*	*102*	*54*	*39*	*36*	*41*	*36*	*57*	*47*	*12*	*5*
Critical												
HRL	56	67	82	77	138	119	110	93	65	34	29	28
Future Baseline	37	41	55	48	101	84	66	61	41	28	26	26
Difference	19	26	27	29	37	35	43	32	24	6	3	2
Difference (%)	*51*	*63*	*48*	*61*	*37*	*41*	*65*	*53*	*59*	*22*	*11*	*7*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-23. Average monthly flow in the Middle Yuba River above YR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	59	156	343	475	475	466	434	401	245	97	57	50
Future Baseline	42	104	261	428	421	408	271	203	100	44	38	37
Difference	17	52	81	47	54	58	163	197	145	53	19	13
Difference (%)	*40*	*51*	*31*	*11*	*13*	*14*	*60*	*97*	*146*	*119*	*50*	*35*
Water Year Types[2]												
Wet												
HRL	74	272	848	1,017	1,179	798	1,136	1,121	680	196	83	72
Future Baseline	50	203	703	960	1,121	736	622	427	195	53	43	43
Difference	24	68	145	57	58	62	513	694	486	143	40	29
Difference (%)	*48*	*34*	*21*	*6*	*5*	*8*	*82*	*163*	*249*	*272*	*93*	*68*
Above Normal												
HRL	56	177	344	681	483	551	310	297	181	96	69	61
Future Baseline	41	112	251	624	416	484	221	207	98	48	42	41
Difference	15	66	93	57	67	67	89	90	83	48	27	20
Difference (%)	*38*	*59*	*37*	*9*	*16*	*14*	*41*	*44*	*84*	*100*	*65*	*49*
Below Normal												
HRL	51	120	166	214	212	462	304	234	125	73	49	43
Future Baseline	39	73	113	168	160	392	219	153	71	45	39	38
Difference	12	47	52	46	53	69	86	81	54	28	10	5
Difference (%)	*31*	*64*	*46*	*27*	*33*	*18*	*39*	*53*	*75*	*64*	*26*	*14*
Dry												
HRL	56	96	138	127	179	214	184	131	99	58	38	35
Future Baseline	42	55	74	88	136	167	140	100	65	40	34	33
Difference	14	41	64	39	43	47	44	31	34	18	4	2
Difference (%)	*32*	*75*	*86*	*44*	*31*	*28*	*32*	*31*	*52*	*45*	*12*	*5*
Critical												
HRL	57	70	91	83	158	142	122	100	67	35	30	28
Future Baseline	39	44	64	54	120	107	79	67	43	29	27	27
Difference	19	26	27	29	37	35	43	32	24	6	3	2
Difference (%)	*49*	*59*	*41*	*55*	*31*	*32*	*55*	*48*	*56*	*21*	*11*	*7*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-24. Average monthly flow in the upper Yuba River below MYR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Entire Simulation Period[1]												
HRL	73	170	550	1,101	1,120	972	554	563	433	140	99	82
Future Baseline	50	112	510	1,082	1,084	934	440	467	310	53	47	46
Difference	23	59	40	19	36	37	114	97	123	87	52	37
Difference (%)	*46*	*53*	*8*	*2*	*3*	*4*	*26*	*21*	*40*	*163*	*113*	*81*
Water Year Types[2]												
Wet												
HRL	89	287	1,451	2,744	3,817	2,406	1,607	1,737	1,176	242	125	104
Future Baseline	58	211	1,455	2,745	3,843	2,384	1,313	1,426	951	62	52	51
Difference	31	75	-4	0	-26	23	294	311	225	180	73	53
Difference (%)	*53*	*36*	*0*	*0*	*-1*	*1*	*22*	*22*	*24*	*289*	*141*	*103*
Above Normal												
HRL	70	191	614	1,621	791	979	339	400	373	138	111	93
Future Baseline	49	120	572	1,638	737	954	257	382	259	58	50	49
Difference	21	72	42	-16	54	25	82	18	114	81	61	44
Difference (%)	*44*	*60*	*7*	*-1*	*7*	*3*	*32*	*5*	*44*	*140*	*120*	*89*
Below Normal												
HRL	66	134	180	228	227	696	353	243	187	115	91	75
Future Baseline	47	81	121	176	168	644	275	162	94	54	47	46
Difference	19	53	59	52	59	52	78	81	93	61	44	29
Difference (%)	*39*	*66*	*48*	*30*	*35*	*8*	*28*	*50*	*100*	*115*	*92*	*63*
Dry												
HRL	70	110	152	141	193	229	193	140	161	100	80	67
Future Baseline	50	63	82	96	145	176	149	109	75	49	43	41
Difference	20	47	70	45	49	53	44	31	87	51	38	25
Difference (%)	*40*	*75*	*85*	*47*	*34*	*30*	*30*	*28*	*116*	*105*	*89*	*62*
Critical												
HRL	71	83	104	96	171	155	130	108	129	77	72	60
Future Baseline	47	52	72	62	128	115	87	75	51	36	35	34
Difference	24	31	32	35	43	40	43	32	78	40	37	26
Difference (%)	*52*	*60*	*44*	*57*	*33*	*35*	*50*	*43*	*153*	*110*	*107*	*76*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-25. Average monthly flow in the upper Yuba River above Colgate under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	76	184	587	1,163	1,191	1,050	605	593	444	143	100	84
Future Baseline	53	125	547	1,144	1,155	1,013	492	496	320	56	48	47
Difference	23	59	40	19	36	37	114	97	123	87	52	37
Difference (%)	*43*	*47*	*7*	*2*	*3*	*4*	*23*	*19*	*38*	*154*	*109*	*79*
Water Year Types[2]												
Wet												
HRL	94	315	1,535	2,872	3,963	2,525	1,698	1,789	1,193	247	128	106
Future Baseline	63	240	1,539	2,872	3,989	2,503	1,404	1,478	969	67	54	54
Difference	31	75	-4	0	-26	23	294	311	225	180	73	53
Difference (%)	*49*	*31*	*0*	*0*	*-1*	*1*	*21*	*21*	*23*	*268*	*135*	*99*
Above Normal												
HRL	72	207	654	1,711	880	1,082	395	435	386	142	113	94
Future Baseline	51	136	612	1,727	826	1,057	313	417	272	61	52	51
Difference	21	72	42	-16	54	25	82	18	114	81	61	44
Difference (%)	*42*	*53*	*7*	*-1*	*7*	*2*	*26*	*4*	*42*	*132*	*116*	*86*
Below Normal												
HRL	67	140	200	263	265	767	398	269	194	117	92	76
Future Baseline	49	86	141	211	206	714	320	188	101	56	48	47
Difference	19	53	59	52	59	52	78	81	93	61	44	29
Difference (%)	*38*	*62*	*42*	*25*	*29*	*7*	*24*	*43*	*92*	*110*	*90*	*61*
Dry												
HRL	72	117	166	160	224	272	228	155	168	103	81	68
Future Baseline	52	70	95	115	175	219	184	125	82	51	44	42
Difference	20	47	70	45	49	53	44	31	87	51	38	25
Difference (%)	*38*	*68*	*73*	*39*	*28*	*24*	*24*	*24*	*106*	*101*	*87*	*60*
Critical												
HRL	73	87	114	103	193	182	144	115	131	77	72	61
Future Baseline	49	55	82	68	150	142	101	83	53	37	35	35
Difference	24	31	32	35	43	40	43	32	78	40	37	26
Difference (%)	*50*	*56*	*39*	*51*	*28*	*28*	*43*	*39*	*147*	*107*	*105*	*75*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-26. Average monthly flow in the upper Yuba River below Colgate under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Flow (cfs)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	779	840	1,310	2,118	2,399	2,825	2,370	2,662	2,420	1,939	1,715	906
Future Baseline	777	832	1,384	2,194	2,470	2,899	2,103	2,508	2,424	1,968	1,793	926
Difference	3	8	-74	-76	-72	-74	267	153	-3	-29	-78	-20
Difference (%)	*0*	*1*	*-5*	*-3*	*-3*	*-3*	*13*	*6*	*0*	*-1*	*-4*	*-2*
Water Year Types[2]												
Wet												
HRL	784	1,021	2,912	5,060	6,685	5,618	4,240	4,272	3,893	2,721	2,615	1,125
Future Baseline	772	1,058	3,180	5,224	6,813	5,622	4,072	4,320	3,907	2,649	2,674	1,184
Difference	12	-37	-269	-165	-128	-4	167	-48	-14	72	-59	-59
Difference (%)	*2*	*-4*	*-8*	*-3*	*-2*	*0*	*4*	*-1*	*0*	*3*	*-2*	*-5*
Above Normal												
HRL	756	844	1,295	2,760	2,523	3,745	2,578	3,086	3,033	2,237	2,039	984
Future Baseline	773	809	1,352	2,884	2,590	3,767	2,249	2,852	2,921	2,288	2,156	1,015
Difference	-17	35	-57	-124	-67	-22	329	234	113	-51	-117	-32
Difference (%)	*-2*	*4*	*-4*	*-4*	*-3*	*-1*	*15*	*8*	*4*	*-2*	*-5*	*-3*
Below Normal												
HRL	784	757	710	683	728	2,269	2,431	2,546	1,981	1,701	1,373	870
Future Baseline	786	755	786	692	846	2,468	1,837	2,117	2,108	1,790	1,486	855
Difference	-2	2	-76	-10	-117	-199	594	428	-128	-89	-113	15
Difference (%)	*0*	*0*	*-10*	*-1*	*-14*	*-8*	*32*	*20*	*-6*	*-5*	*-8*	*2*
Dry												
HRL	807	771	633	507	555	715	1,150	1,533	1,347	1,461	1,183	796
Future Baseline	792	744	601	522	569	850	998	1,388	1,348	1,494	1,222	823
Difference	15	27	32	-16	-14	-134	152	145	-2	-33	-39	-27
Difference (%)	*2*	*4*	*5*	*-3*	*-2*	*-16*	*15*	*10*	*0*	*-2*	*-3*	*-3*
Critical												
HRL	774	765	647	566	490	406	673	1,060	1,041	1,134	904	614
Future Baseline	754	756	600	585	501	426	674	1,130	1,084	1,185	937	593
Difference	20	9	47	-19	-11	-20	-1	-70	-43	-51	-33	22
Difference (%)	*3*	*1*	*8*	*-3*	*-2*	*-5*	*0*	*-6*	*-4*	*-4*	*-4*	*4*

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-27. Average monthly water temperature in the lower Yuba River near Smartsville under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	55.4	51.7	47.3	44.8	45.5	48.0	50.5	53.3	54.6	55.6	55.6	56.5
Future Baseline	55.2	52.0	47.8	45.2	45.8	47.8	50.2	52.5	54.0	54.4	54.7	55.9
Difference	0.2	-0.3	-0.6	-0.4	-0.2	0.2	0.2	0.8	0.6	1.2	1.0	0.6
Water Year Types[2]												
Wet												
55 w/WSA	54.9	51.2	46.5	44.5	45.5	47.0	48.1	51.3	52.9	53.7	53.5	55.0
Future Baseline	54.8	51.7	47.2	44.8	45.6	46.8	47.8	50.6	52.4	52.8	52.9	54.8
Difference	0.1	-0.5	-0.7	-0.4	-0.1	0.2	0.3	0.7	0.5	0.9	0.6	0.2
Above Normal												
55 w/WSA	55.7	52.0	47.5	44.8	45.4	47.7	49.7	52.5	53.4	54.3	54.8	55.9
Future Baseline	55.6	52.3	47.9	45.1	45.5	47.4	49.5	51.8	53.1	53.5	53.8	55.2
Difference	0.1	-0.3	-0.5	-0.3	-0.2	0.3	0.2	0.8	0.3	0.8	0.9	0.6
Below Normal												
55 w/WSA	55.3	51.7	47.4	44.7	45.5	48.2	50.5	53.1	54.4	55.8	56.0	56.6
Future Baseline	55.2	52.0	48.0	45.1	45.7	47.9	50.3	52.6	53.6	54.5	54.8	55.8
Difference	0.1	-0.3	-0.6	-0.5	-0.3	0.3	0.3	0.6	0.8	1.3	1.2	0.8
Dry												
55 w/WSA	55.2	51.4	47.3	44.6	45.3	48.7	52.2	54.8	55.8	57.0	56.9	57.2
Future Baseline	54.8	51.8	47.8	45.0	45.6	48.6	52.0	54.1	55.3	55.7	55.8	56.3
Difference	0.3	-0.4	-0.5	-0.4	-0.3	0.1	0.2	0.7	0.5	1.4	1.1	1.0
Critical												
55 w/WSA	55.8	52.0	48.0	45.4	46.3	48.9	53.2	56.2	58.1	59.1	58.5	58.9
Future Baseline	55.5	52.3	48.5	46.0	46.7	49.1	52.9	54.8	56.5	57.2	57.3	58.4
Difference	0.3	-0.3	-0.5	-0.6	-0.4	-0.3	0.3	1.4	1.6	1.9	1.2	0.5

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-28. Average monthly water temperature in the lower Yuba River at Parks Bar under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	56.2	52.0	47.3	45.0	46.0	48.7	51.3	54.1	55.8	57.2	57.2	58.0
Future Baseline	56.1	52.3	47.8	45.4	46.2	48.6	51.3	53.5	55.2	56.0	56.1	57.3
Difference	0.2	-0.3	-0.5	-0.4	-0.2	0.1	0.1	0.7	0.6	1.3	1.1	0.7
Water Year Types[2]												
Wet												
55 w/WSA	55.7	51.5	46.6	44.7	45.8	47.6	48.9	51.9	53.7	54.9	54.7	56.5
Future Baseline	55.6	52.0	47.3	45.1	45.9	47.4	48.8	51.3	53.2	54.0	54.0	56.1
Difference	0.1	-0.5	-0.7	-0.3	-0.1	0.2	0.2	0.6	0.5	0.9	0.7	0.4
Above Normal												
55 w/WSA	56.6	52.3	47.5	45.1	45.7	48.3	50.5	53.2	54.3	55.7	56.1	57.3
Future Baseline	56.5	52.6	47.9	45.4	45.9	48.0	50.5	52.5	54.1	54.8	55.1	56.6
Difference	0.1	-0.3	-0.4	-0.3	-0.2	0.3	0.0	0.7	0.2	0.9	1.1	0.7
Below Normal												
55 w/WSA	56.2	52.0	47.4	45.0	46.0	48.9	51.3	53.9	55.7	57.6	57.7	58.2
Future Baseline	56.1	52.3	47.9	45.4	46.2	48.7	51.2	53.5	54.9	56.1	56.3	57.3
Difference	0.1	-0.3	-0.5	-0.4	-0.3	0.2	0.1	0.4	0.8	1.5	1.4	0.9
Dry												
55 w/WSA	56.0	51.7	47.3	44.9	45.9	49.6	53.1	55.8	57.4	58.8	58.7	58.9
Future Baseline	55.7	52.1	47.8	45.3	46.2	49.6	53.1	55.2	56.9	57.3	57.4	57.8
Difference	0.3	-0.3	-0.5	-0.4	-0.3	0.1	0.0	0.5	0.5	1.5	1.3	1.1
Critical												
55 w/WSA	56.7	52.3	48.0	45.6	46.9	49.8	54.4	57.5	60.1	61.2	60.6	60.6
Future Baseline	56.4	52.6	48.5	46.2	47.3	50.2	54.3	56.2	58.4	59.1	59.3	60.3
Difference	0.3	-0.2	-0.5	-0.6	-0.5	-0.4	0.0	1.3	1.7	2.1	1.3	0.3

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-29. Average monthly water temperature in the lower Yuba River below DPD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	58.0	52.6	47.7	45.5	46.8	50.0	52.8	55.8	58.3	60.3	60.2	60.7
Future Baseline	57.8	52.9	48.2	45.9	47.0	49.9	53.0	55.3	57.7	58.9	58.8	60.0
Difference	0.2	-0.3	-0.5	-0.4	-0.3	0.1	-0.2	0.5	0.6	1.4	1.3	0.8
Water Year Types[2]												
Wet												
55 w/WSA	57.5	52.1	47.0	45.2	46.3	48.5	50.2	53.2	55.4	57.3	57.2	59.0
Future Baseline	57.4	52.6	47.7	45.5	46.4	48.4	50.1	52.7	54.9	56.4	56.2	58.4
Difference	0.1	-0.5	-0.7	-0.3	-0.1	0.1	0.0	0.5	0.5	0.9	0.9	0.6
Above Normal												
55 w/WSA	58.3	53.0	47.9	45.5	46.4	49.3	51.7	54.6	56.2	58.4	58.8	59.9
Future Baseline	58.2	53.2	48.4	45.8	46.6	49.0	51.9	54.1	56.0	57.5	57.5	59.0
Difference	0.2	-0.3	-0.4	-0.3	-0.2	0.3	-0.2	0.5	0.1	1.0	1.3	0.8
Below Normal												
55 w/WSA	58.0	52.6	47.8	45.5	46.9	50.1	52.6	55.6	58.4	60.9	60.8	60.9
Future Baseline	57.9	52.9	48.3	45.9	47.2	49.9	52.8	55.4	57.5	59.2	59.2	60.0
Difference	0.1	-0.3	-0.5	-0.4	-0.3	0.2	-0.2	0.2	0.8	1.7	1.6	0.9
Dry												
55 w/WSA	57.7	52.4	47.6	45.4	47.0	51.1	54.7	57.7	60.4	62.3	62.0	61.6
Future Baseline	57.3	52.7	48.1	45.8	47.3	51.2	55.0	57.6	60.0	60.6	60.5	60.4
Difference	0.3	-0.3	-0.5	-0.4	-0.3	0.0	-0.3	0.2	0.5	1.7	1.5	1.2
Critical												
55 w/WSA	58.4	53.0	48.3	46.1	47.9	51.5	56.5	60.0	63.8	64.9	64.1	63.6
Future Baseline	58.2	53.2	48.8	46.7	48.4	52.1	56.8	58.9	62.0	62.8	62.8	63.5
Difference	0.3	-0.2	-0.5	-0.6	-0.5	-0.6	-0.3	1.1	1.8	2.1	1.3	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-30. Average monthly water temperature in the lower Yuba River near Marysville under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	59.8	53.5	48.2	46.0	47.5	50.8	54.0	57.5	60.9	63.8	63.4	63.4
Future Baseline	59.6	53.9	48.7	46.3	47.7	50.8	54.4	57.2	60.4	62.3	61.9	62.5
Difference	0.2	-0.3	-0.5	-0.4	-0.3	0.0	-0.4	0.2	0.5	1.5	1.5	0.8
Water Year Types[2]												
Wet												
55 w/WSA	59.2	53.0	47.4	45.5	46.7	49.2	51.0	54.4	57.1	59.8	59.6	61.4
Future Baseline	59.1	53.6	48.1	45.8	46.8	49.0	51.1	53.9	56.6	58.8	58.4	60.6
Difference	0.1	-0.6	-0.7	-0.3	-0.1	0.1	0.0	0.5	0.4	0.9	1.2	0.8
Above Normal												
55 w/WSA	60.2	53.9	48.4	45.9	46.9	50.1	52.8	56.0	58.0	61.3	61.6	62.4
Future Baseline	60.0	54.2	48.9	46.2	47.1	49.7	53.0	55.5	58.0	60.2	59.9	61.3
Difference	0.2	-0.3	-0.5	-0.3	-0.2	0.3	-0.3	0.5	0.1	1.1	1.7	1.0
Below Normal												
55 w/WSA	59.9	53.6	48.3	46.0	47.6	51.0	53.8	57.2	61.0	64.7	64.3	63.6
Future Baseline	59.8	53.9	48.8	46.5	47.9	50.8	54.2	57.2	60.3	62.5	62.2	62.5
Difference	0.1	-0.3	-0.5	-0.5	-0.3	0.2	-0.3	0.1	0.8	2.2	2.0	1.0
Dry												
55 w/WSA	59.4	53.3	48.1	45.9	47.9	52.2	56.1	59.6	63.8	66.6	65.8	64.4
Future Baseline	59.1	53.6	48.6	46.3	48.2	52.3	56.8	60.0	63.7	64.6	64.1	63.0
Difference	0.4	-0.3	-0.5	-0.4	-0.3	-0.1	-0.7	-0.3	0.1	2.0	1.8	1.4
Critical												
55 w/WSA	60.3	54.0	48.8	46.7	48.8	52.8	58.4	62.6	68.2	69.6	68.1	66.6
Future Baseline	60.0	54.2	49.3	47.3	49.4	53.5	59.2	62.1	66.8	68.5	67.7	67.3
Difference	0.3	-0.2	-0.5	-0.5	-0.6	-0.7	-0.8	0.5	1.4	1.2	0.4	-0.6

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-31. Average monthly water temperature in the lower Yuba River above the Feather River under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	62.8	55.1	48.9	46.6	48.3	51.9	55.5	59.6	64.5	68.9	68.2	67.5
Future Baseline	62.6	55.5	49.5	47.0	48.7	52.0	56.3	59.7	64.2	67.2	66.3	66.5
Difference	0.2	-0.4	-0.6	-0.4	-0.3	0.0	-0.7	-0.2	0.3	1.7	1.9	1.1
Water Year Types[2]												
Wet												
55 w/WSA	62.0	54.3	47.9	45.9	47.2	49.8	52.0	55.7	59.0	62.9	62.8	65.1
Future Baseline	62.0	55.1	48.7	46.2	47.4	49.7	52.2	55.4	58.6	61.8	61.2	63.7
Difference	0.0	-0.8	-0.8	-0.3	-0.1	0.1	-0.1	0.3	0.4	1.0	1.6	1.3
Above Normal												
55 w/WSA	63.3	55.5	49.1	46.4	47.6	50.9	54.0	57.6	60.3	65.1	65.6	66.2
Future Baseline	63.0	55.8	49.7	46.8	47.8	50.6	54.4	57.3	60.3	63.7	63.1	64.7
Difference	0.2	-0.4	-0.5	-0.3	-0.3	0.3	-0.4	0.3	0.0	1.5	2.5	1.4
Below Normal												
55 w/WSA	63.0	55.2	49.0	46.7	48.6	52.0	55.3	59.3	64.6	70.6	69.6	67.9
Future Baseline	62.9	55.6	49.6	47.2	49.0	51.8	55.9	59.4	63.8	67.4	66.7	66.5
Difference	0.1	-0.3	-0.6	-0.5	-0.4	0.2	-0.6	-0.2	0.8	3.1	3.0	1.3
Dry												
55 w/WSA	62.3	54.8	48.8	46.7	49.1	53.7	57.9	62.1	68.9	73.4	71.9	69.0
Future Baseline	61.9	55.2	49.4	47.1	49.4	53.9	59.2	63.3	69.3	70.8	69.6	67.1
Difference	0.4	-0.4	-0.6	-0.5	-0.3	-0.2	-1.4	-1.2	-0.5	2.7	2.3	1.9
Critical												
55 w/WSA	63.3	55.5	49.6	47.6	50.1	54.6	61.1	66.3	75.1	77.1	74.5	71.7
Future Baseline	63.0	55.8	50.1	48.2	50.8	55.6	62.8	66.8	74.2	77.2	75.3	73.3
Difference	0.3	-0.2	-0.6	-0.6	-0.7	-1.0	-1.7	-0.6	0.8	-0.1	-0.8	-1.6

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-32. Average monthly water temperature in the North Yuba River below NBBD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	46.5	45.9	45.6	45.6	45.7	46.1	49.0	50.6	46.5	46.8	46.4	46.3
Future Baseline	48.7	46.7	45.6	45.7	46.4	47.5	49.0	50.7	52.3	53.1	52.4	50.9
Difference	-2.1	-0.8	0.0	-0.1	-0.7	-1.4	0.0	0.0	-5.8	-6.3	-6.0	-4.6
Water Year Types[2]												
Wet												
55 w/WSA	46.1	45.6	45.4	45.1	45.1	45.4	47.3	49.0	46.4	47.0	45.5	45.4
Future Baseline	48.4	46.5	45.3	45.0	45.3	45.9	46.7	48.8	50.9	51.9	51.5	50.1
Difference	-2.3	-0.8	0.1	0.0	-0.3	-0.5	0.6	0.2	-4.5	-4.9	-6.0	-4.6
Above Normal												
55 w/WSA	46.7	46.0	45.8	45.7	45.6	45.8	48.9	50.4	46.3	46.3	46.2	46.2
Future Baseline	48.8	46.8	45.7	45.7	46.2	47.2	48.9	50.4	51.9	52.7	52.1	50.8
Difference	-2.1	-0.7	0.0	0.0	-0.6	-1.4	0.0	0.0	-5.7	-6.3	-5.9	-4.6
Below Normal												
55 w/WSA	46.4	45.7	45.5	45.6	45.7	46.2	49.3	51.0	46.4	46.7	46.6	46.5
Future Baseline	48.6	46.5	45.4	45.7	46.6	47.8	49.5	51.1	52.5	53.3	52.6	51.1
Difference	-2.3	-0.8	0.0	-0.2	-0.9	-1.6	-0.2	-0.1	-6.1	-6.6	-6.0	-4.5
Dry												
55 w/WSA	46.5	45.9	45.6	45.7	46.0	46.4	49.7	51.3	46.6	46.9	46.8	46.8
Future Baseline	48.5	46.6	45.6	45.8	47.0	48.3	49.9	51.4	52.8	53.6	52.9	51.3
Difference	-2.1	-0.7	0.0	-0.1	-0.9	-1.9	-0.2	-0.1	-6.3	-6.7	-6.1	-4.5
Critical												
55 w/WSA	47.2	46.3	46.0	46.0	46.5	47.1	50.3	52.0	47.0	47.3	47.3	47.3
Future Baseline	49.1	47.1	46.1	46.3	47.5	48.8	50.6	52.2	53.9	54.5	53.5	52.0
Difference	-1.9	-0.7	-0.1	-0.3	-0.9	-1.7	-0.3	-0.2	-6.9	-7.2	-6.3	-4.8

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-33. Average monthly water temperature in the North Yuba River above YR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	51.4	47.6	45.7	45.9	47.6	49.9	56.8	61.2	51.0	53.4	52.3	51.7
Future Baseline	54.9	48.9	45.7	46.1	48.6	51.6	56.4	60.6	64.3	67.8	65.7	61.4
Difference	-3.5	-1.2	0.0	-0.1	-1.0	-1.7	0.4	0.6	-13.3	-14.4	-13.4	-9.7
Water Year Types[2]												
Wet												
55 w/WSA	50.7	47.3	45.6	45.5	46.4	48.3	54.0	57.6	50.2	53.1	51.7	50.9
Future Baseline	54.3	48.7	45.6	45.5	46.7	48.0	52.1	55.5	59.8	66.6	65.2	60.7
Difference	-3.7	-1.3	0.0	0.0	-0.3	0.3	1.8	2.1	-9.6	-13.5	-13.5	-9.8
Above Normal												
55 w/WSA	51.7	47.8	45.9	46.1	47.4	49.6	56.7	61.2	50.8	53.1	52.2	51.5
Future Baseline	55.1	49.0	45.9	46.2	48.3	51.4	56.5	60.6	63.4	67.2	65.3	61.2
Difference	-3.4	-1.2	0.0	-0.1	-0.9	-1.8	0.2	0.5	-12.5	-14.1	-13.2	-9.6
Below Normal												
55 w/WSA	51.4	47.4	45.4	45.9	47.7	50.4	57.3	62.2	51.2	53.5	52.5	51.8
Future Baseline	55.0	48.7	45.4	46.1	49.2	52.5	57.4	62.2	65.8	68.0	65.7	61.4
Difference	-3.6	-1.3	0.0	-0.2	-1.4	-2.0	-0.1	0.1	-14.6	-14.5	-13.3	-9.5
Dry												
55 w/WSA	51.2	47.6	45.6	45.9	48.1	50.6	58.0	62.7	51.3	53.6	52.7	51.9
Future Baseline	54.5	48.8	45.5	45.9	49.6	53.5	58.2	62.6	66.4	68.3	66.2	61.4
Difference	-3.3	-1.2	0.1	-0.1	-1.4	-2.9	-0.1	0.1	-15.1	-14.7	-13.5	-9.5
Critical												
55 w/WSA	52.3	48.1	46.0	46.4	48.9	51.5	59.0	63.5	51.8	54.0	53.0	52.5
Future Baseline	55.4	49.3	46.1	46.7	50.2	54.1	59.2	63.6	68.2	69.6	66.8	62.6
Difference	-3.1	-1.1	-0.1	-0.4	-1.4	-2.6	-0.2	-0.1	-16.4	-15.6	-13.8	-10.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-34. Average monthly water temperature in Oregon Creek below LCDD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	53.4	45.6	40.2	40.4	42.3	44.9	47.9	54.0	60.9	67.0	66.4	61.9
Future Baseline	54.6	45.8	40.2	40.4	42.3	45.1	48.4	53.8	61.3	69.4	68.9	63.8
Difference	-1.1	-0.2	0.1	0.1	-0.1	-0.2	-0.5	0.3	-0.4	-2.5	-2.5	-1.9
Water Year Types[2]												
Wet												
55 w/WSA	53.0	45.9	41.3	41.7	43.4	45.1	45.4	52.6	59.7	66.2	66.3	61.6
Future Baseline	54.2	46.1	41.4	41.7	43.5	45.2	46.1	51.3	57.6	67.1	69.0	64.2
Difference	-1.2	-0.2	0.0	0.0	0.0	-0.2	-0.7	1.3	2.0	-0.9	-2.7	-2.6
Above Normal												
55 w/WSA	53.7	45.8	40.5	41.2	42.6	45.1	47.2	52.6	59.5	66.7	66.2	61.6
Future Baseline	54.8	46.0	40.4	41.1	42.7	45.3	47.6	52.1	59.0	68.8	69.1	64.2
Difference	-1.1	-0.1	0.0	0.0	-0.1	-0.2	-0.4	0.4	0.5	-2.1	-2.9	-2.6
Below Normal												
55 w/WSA	53.6	45.3	39.7	40.1	41.8	45.0	48.0	53.7	61.3	67.2	66.2	61.8
Future Baseline	54.7	45.5	39.7	40.1	41.9	45.1	48.3	53.7	62.1	70.4	69.3	64.0
Difference	-1.1	-0.2	0.0	0.0	-0.1	-0.2	-0.3	0.0	-0.8	-3.2	-3.1	-2.2
Dry												
55 w/WSA	53.1	45.4	39.5	39.3	41.5	44.8	49.0	55.6	62.0	67.1	66.5	61.9
Future Baseline	54.1	45.5	39.4	39.2	41.6	44.9	49.3	55.7	63.6	70.5	68.6	62.8
Difference	-1.0	-0.1	0.1	0.1	0.0	-0.1	-0.3	-0.1	-1.7	-3.5	-2.1	-0.8
Critical												
55 w/WSA	53.8	45.7	39.7	39.0	41.7	44.5	51.5	57.6	63.6	68.2	66.7	62.8
Future Baseline	55.1	45.8	39.4	38.8	41.7	44.8	52.4	58.4	67.0	71.3	68.0	63.6
Difference	-1.3	-0.1	0.3	0.2	0.0	-0.3	-0.9	-0.8	-3.4	-3.0	-1.2	-0.7

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-35. Average monthly water temperature in Oregon Creek above MYR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	53.6	45.6	40.0	40.4	42.7	45.8	49.2	55.8	63.1	68.6	67.2	62.2
Future Baseline	54.0	45.7	40.0	40.3	42.7	46.1	49.9	56.2	63.5	69.5	67.9	62.7
Difference	-0.4	-0.1	0.0	0.1	-0.1	-0.2	-0.7	-0.4	-0.4	-0.9	-0.7	-0.5
Water Year Types[2]												
Wet												
55 w/WSA	53.3	45.9	41.1	41.6	43.8	45.7	46.3	53.9	61.6	68.1	67.7	62.4
Future Baseline	53.7	46.1	41.2	41.6	43.8	46.0	47.5	54.0	61.1	68.7	68.8	63.3
Difference	-0.4	-0.1	0.0	0.0	0.0	-0.3	-1.2	-0.2	0.5	-0.5	-1.1	-0.9
Above Normal												
55 w/WSA	53.9	45.8	40.3	41.1	42.9	45.9	48.4	54.4	61.9	68.6	67.3	62.2
Future Baseline	54.3	45.9	40.3	41.0	43.0	46.2	49.2	54.9	62.0	69.6	68.2	62.9
Difference	-0.4	-0.1	0.0	0.0	-0.1	-0.3	-0.8	-0.5	-0.2	-1.0	-0.9	-0.7
Below Normal												
55 w/WSA	53.7	45.2	39.5	40.0	42.2	45.9	49.4	55.7	63.7	69.0	67.0	62.1
Future Baseline	54.0	45.3	39.5	40.0	42.3	46.1	50.0	56.1	64.3	70.2	67.7	62.5
Difference	-0.3	-0.1	0.0	0.0	-0.1	-0.2	-0.6	-0.4	-0.6	-1.2	-0.7	-0.4
Dry												
55 w/WSA	53.3	45.3	39.3	39.2	42.0	45.8	50.5	57.6	64.1	68.7	67.1	61.9
Future Baseline	53.6	45.4	39.3	39.1	42.1	46.0	50.9	57.9	65.0	69.9	67.5	62.1
Difference	-0.4	-0.1	0.1	0.1	-0.1	-0.2	-0.4	-0.3	-0.9	-1.2	-0.4	-0.2
Critical												
55 w/WSA	54.0	45.5	39.5	39.1	42.2	45.7	52.9	59.4	65.4	68.8	66.5	62.5
Future Baseline	54.4	45.6	39.4	39.0	42.2	45.9	53.4	59.8	66.5	69.3	66.7	62.6
Difference	-0.4	0.0	0.1	0.1	0.0	-0.2	-0.5	-0.4	-1.1	-0.5	-0.2	-0.2

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-36. Average monthly water temperature in the Middle Yuba River below OHDD under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	55.4	45.7	39.9	40.1	42.2	45.0	48.5	53.6	61.3	70.3	70.5	65.7
Future Baseline	55.4	45.7	39.9	40.1	42.2	45.1	48.6	53.7	61.4	70.3	70.5	65.7
Difference	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0
Water Year Types[2]												
Wet												
55 w/WSA	54.8	46.1	41.2	41.3	43.1	45.1	46.2	50.9	57.1	67.0	69.5	64.8
Future Baseline	54.8	46.1	41.1	41.3	43.2	45.1	46.2	51.0	57.3	67.2	69.6	64.8
Difference	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.2	0.0	0.0
Above Normal												
55 w/WSA	55.7	45.9	40.2	40.9	42.5	45.2	47.6	51.8	58.6	69.1	69.7	64.9
Future Baseline	55.7	45.9	40.2	40.9	42.5	45.2	47.7	51.9	58.8	69.2	69.7	64.9
Difference	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.1	0.0	0.0
Below Normal												
55 w/WSA	55.6	45.5	39.5	39.9	41.8	45.1	48.3	53.5	62.2	71.2	70.7	65.8
Future Baseline	55.6	45.5	39.5	39.9	41.8	45.1	48.4	53.5	62.2	71.2	70.7	65.8
Difference	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
Dry												
55 w/WSA	55.0	45.5	39.2	38.9	41.4	44.9	49.5	55.6	64.1	71.9	71.5	66.5
Future Baseline	55.0	45.5	39.2	38.9	41.4	45.0	49.5	55.7	64.1	71.9	71.6	66.5
Difference	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0
Critical												
55 w/WSA	55.8	45.7	39.0	38.5	41.6	44.8	52.9	58.7	67.9	74.0	71.9	67.6
Future Baseline	55.8	45.7	39.0	38.5	41.6	44.8	52.9	58.8	67.9	74.0	71.9	67.6
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-37. Average monthly water temperature in the Middle Yuba River below OC under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	56.0	45.9	39.7	40.0	42.6	45.8	49.5	55.1	63.4	72.3	72.2	66.7
Future Baseline	56.1	45.9	39.6	40.0	42.8	46.4	50.6	56.9	65.1	73.2	72.4	66.8
Difference	0.0	0.0	0.1	0.0	-0.2	-0.6	-1.1	-1.7	-1.8	-0.9	-0.2	-0.1
Water Year Types[2]												
Wet												
55 w/WSA	55.4	46.1	41.0	41.3	43.4	45.5	46.7	51.9	58.9	69.2	71.5	66.1
Future Baseline	55.5	46.2	40.9	41.2	43.6	46.1	47.8	53.8	61.4	71.2	72.0	66.3
Difference	0.0	0.0	0.1	0.1	-0.2	-0.6	-1.1	-1.9	-2.5	-2.0	-0.6	-0.2
Above Normal												
55 w/WSA	56.4	46.0	40.0	40.8	42.8	45.8	48.5	53.1	60.6	71.3	71.5	66.1
Future Baseline	56.4	46.0	39.9	40.7	42.9	46.5	49.8	55.3	63.2	72.5	71.9	66.3
Difference	-0.1	0.0	0.1	0.0	-0.2	-0.7	-1.3	-2.2	-2.6	-1.2	-0.3	-0.1
Below Normal												
55 w/WSA	56.3	45.5	39.2	39.8	42.2	45.8	49.4	55.1	64.4	73.3	72.3	66.8
Future Baseline	56.3	45.5	39.1	39.7	42.4	46.5	50.7	56.9	66.1	73.9	72.4	66.8
Difference	0.0	0.0	0.1	0.1	-0.2	-0.7	-1.2	-1.8	-1.6	-0.5	-0.1	0.0
Dry												
55 w/WSA	55.6	45.6	39.0	38.8	42.0	45.9	50.8	57.6	66.4	73.9	73.0	67.2
Future Baseline	55.7	45.6	38.9	38.8	42.2	46.5	51.9	59.0	67.3	74.1	73.0	67.2
Difference	0.0	0.0	0.1	0.0	-0.2	-0.6	-1.0	-1.4	-0.9	-0.2	0.0	0.0
Critical												
55 w/WSA	56.5	45.9	39.0	38.6	42.2	46.0	54.2	60.7	70.2	75.7	73.1	68.0
Future Baseline	56.5	45.9	38.9	38.7	42.5	46.6	54.9	61.6	70.5	75.6	73.1	68.0
Difference	0.0	0.0	0.0	0.0	-0.2	-0.6	-0.7	-0.9	-0.3	0.1	0.0	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-38. Average monthly water temperature in the Middle Yuba River above YR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	56.4	45.9	39.6	40.0	42.7	46.1	50.0	55.9	64.4	73.5	73.1	67.4
Future Baseline	56.5	46.0	39.5	39.9	43.0	46.9	51.5	58.2	66.7	74.6	73.4	67.5
Difference	-0.1	0.0	0.1	0.1	-0.3	-0.8	-1.4	-2.3	-2.3	-1.2	-0.3	-0.1
Water Year Types[2]												
Wet												
55 w/WSA	55.8	46.2	40.9	41.2	43.5	45.7	47.0	52.4	59.7	70.4	72.5	66.9
Future Baseline	55.9	46.3	40.8	41.1	43.8	46.4	48.5	54.9	63.0	72.9	73.3	67.1
Difference	-0.1	-0.1	0.1	0.1	-0.3	-0.7	-1.4	-2.5	-3.3	-2.6	-0.7	-0.3
Above Normal												
55 w/WSA	56.8	46.1	39.9	40.7	42.8	46.1	49.0	53.8	61.5	72.5	72.6	66.9
Future Baseline	56.9	46.1	39.8	40.6	43.1	46.9	50.6	56.7	64.9	74.1	73.0	67.1
Difference	-0.1	0.0	0.1	0.0	-0.2	-0.8	-1.6	-2.9	-3.4	-1.6	-0.4	-0.2
Below Normal												
55 w/WSA	56.7	45.6	39.1	39.7	42.4	46.1	49.9	55.8	65.6	74.5	73.3	67.5
Future Baseline	56.8	45.6	38.9	39.6	42.6	47.0	51.5	58.2	67.8	75.2	73.4	67.5
Difference	-0.1	0.0	0.2	0.1	-0.3	-0.8	-1.6	-2.4	-2.2	-0.7	-0.1	0.0
Dry												
55 w/WSA	56.0	45.7	38.8	38.7	42.2	46.3	51.5	58.5	67.6	75.1	73.9	67.7
Future Baseline	56.1	45.7	38.7	38.7	42.5	47.0	52.8	60.4	68.8	75.4	73.9	67.7
Difference	-0.1	0.0	0.1	0.1	-0.2	-0.7	-1.3	-1.9	-1.2	-0.3	0.0	0.0
Critical												
55 w/WSA	56.9	46.0	38.9	38.6	42.5	46.5	55.0	61.7	71.5	76.7	73.8	68.5
Future Baseline	57.0	46.0	38.8	38.7	42.8	47.2	55.9	62.9	71.9	76.6	73.8	68.5
Difference	-0.1	0.0	0.0	0.0	-0.3	-0.7	-1.0	-1.2	-0.4	0.1	0.0	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-39. Average monthly water temperature in the upper Yuba River below MYR under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	55.3	46.2	40.3	40.5	43.0	46.3	50.2	56.0	60.2	66.2	64.0	61.0
Future Baseline	56.2	46.3	40.1	40.4	43.4	47.1	51.7	58.1	65.8	73.4	71.9	66.3
Difference	-0.9	-0.1	0.2	0.1	-0.3	-0.8	-1.5	-2.1	-5.6	-7.2	-7.9	-5.3
Water Year Types[2]												
Wet												
55 w/WSA	54.8	46.3	41.1	41.3	43.5	45.7	47.0	52.1	57.6	65.7	65.5	61.8
Future Baseline	55.6	46.5	41.1	41.3	43.8	46.1	48.2	53.7	60.8	71.9	71.8	66.0
Difference	-0.8	-0.2	0.1	0.1	-0.3	-0.4	-1.2	-1.5	-3.2	-6.2	-6.4	-4.2
Above Normal												
55 w/WSA	55.6	46.3	40.5	41.0	43.0	46.1	49.2	53.9	59.4	67.1	64.9	61.6
Future Baseline	56.5	46.5	40.4	40.9	43.3	47.0	51.0	56.8	64.1	72.9	71.6	66.0
Difference	-0.9	-0.1	0.1	0.0	-0.3	-0.9	-1.8	-2.9	-4.6	-5.8	-6.7	-4.4
Below Normal												
55 w/WSA	55.5	45.9	39.8	40.2	42.8	46.3	50.1	56.1	61.5	66.9	63.7	60.9
Future Baseline	56.4	46.0	39.6	40.1	43.1	47.2	51.9	58.6	67.4	73.9	71.9	66.3
Difference	-0.9	-0.1	0.2	0.1	-0.3	-0.9	-1.7	-2.5	-5.9	-7.0	-8.2	-5.5
Dry												
55 w/WSA	54.9	46.0	39.7	39.6	42.8	46.6	51.7	58.7	61.7	66.0	62.9	60.1
Future Baseline	55.8	46.1	39.5	39.4	43.1	47.5	53.2	60.7	68.4	74.0	72.3	66.3
Difference	-0.9	-0.1	0.2	0.2	-0.3	-0.9	-1.5	-1.9	-6.7	-8.0	-9.3	-6.3
Critical												
55 w/WSA	55.9	46.3	40.0	39.7	43.2	47.0	55.2	61.9	62.0	64.3	61.7	60.0
Future Baseline	56.6	46.4	39.8	39.7	43.6	47.9	56.3	63.0	71.2	74.9	72.1	67.0
Difference	-0.8	-0.1	0.2	0.0	-0.4	-0.9	-1.1	-1.2	-9.2	-10.6	-10.4	-7.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-40. Average monthly water temperature in the upper Yuba River above Colgate under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	57.0	46.3	39.3	39.5	43.3	47.5	52.2	58.4	64.3	70.6	69.5	65.1
Future Baseline	57.6	46.5	39.0	39.0	43.5	48.5	54.4	61.4	67.8	73.0	71.5	66.5
Difference	-0.7	-0.2	0.3	0.4	-0.2	-1.0	-2.3	-3.1	-3.6	-2.5	-2.0	-1.5
Water Year Types[2]												
Wet												
55 w/WSA	56.3	46.3	40.5	40.8	43.7	46.3	48.3	53.9	60.2	68.8	69.9	65.1
Future Baseline	56.9	46.4	40.1	40.4	43.9	46.9	50.2	56.5	63.4	72.5	72.2	66.8
Difference	-0.6	-0.1	0.4	0.4	-0.3	-0.6	-2.0	-2.6	-3.2	-3.6	-2.3	-1.7
Above Normal												
55 w/WSA	57.4	46.5	39.7	40.2	43.1	47.1	51.0	56.4	62.6	70.7	69.6	64.9
Future Baseline	58.1	46.6	39.4	39.8	43.4	48.2	53.8	60.8	66.9	73.2	71.7	66.4
Difference	-0.7	-0.1	0.3	0.3	-0.3	-1.1	-2.8	-4.4	-4.2	-2.5	-2.1	-1.5
Below Normal												
55 w/WSA	57.3	46.1	38.7	39.2	43.1	47.5	52.2	58.7	65.7	71.3	69.4	64.9
Future Baseline	57.9	46.2	38.3	38.7	43.4	48.6	54.8	62.2	69.6	73.4	71.3	66.3
Difference	-0.6	-0.1	0.4	0.5	-0.3	-1.1	-2.6	-3.6	-3.9	-2.1	-1.9	-1.4
Dry												
55 w/WSA	56.5	46.2	38.5	38.1	43.2	48.3	54.2	61.6	66.6	71.1	69.4	65.1
Future Baseline	57.2	46.3	38.1	37.5	43.3	49.4	56.4	64.1	69.9	73.0	71.2	66.4
Difference	-0.6	-0.2	0.4	0.5	-0.1	-1.1	-2.1	-2.5	-3.3	-1.9	-1.7	-1.4
Critical												
55 w/WSA	57.4	46.8	38.8	38.4	43.8	49.0	57.5	64.3	68.6	71.5	69.2	65.6
Future Baseline	58.0	47.0	38.5	37.9	44.0	50.1	58.9	65.6	71.4	73.1	70.8	66.8
Difference	-0.6	-0.2	0.2	0.5	-0.2	-1.1	-1.4	-1.3	-2.8	-1.7	-1.6	-1.2

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-41. Average monthly water temperature in the upper Yuba River below Colgate under the 55 w/WSA and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
55 w/WSA	49.9	48.9	46.4	44.7	45.1	47.0	48.5	49.6	49.0	48.9	49.3	50.4
Future Baseline	50.5	49.8	47.3	45.2	45.6	46.7	47.7	47.8	48.1	48.2	49.1	50.4
Difference	-0.6	-1.0	-0.9	-0.6	-0.4	0.3	0.8	1.8	0.9	0.6	0.2	0.0
Water Year Types[2]												
Wet												
55 w/WSA	49.6	48.2	45.6	44.4	44.8	45.7	46.3	48.1	47.8	47.8	48.4	50.6
Future Baseline	50.3	49.4	46.7	44.9	45.0	45.3	45.7	46.5	46.9	46.9	48.5	50.5
Difference	-0.7	-1.1	-1.1	-0.5	-0.2	0.4	0.6	1.6	0.9	0.8	-0.1	0.1
Above Normal												
55 w/WSA	50.1	49.1	46.3	44.0	44.6	46.5	47.6	49.1	48.1	48.4	49.0	50.5
Future Baseline	50.7	49.9	47.2	44.5	44.8	45.9	46.9	47.2	47.5	47.9	48.9	50.5
Difference	-0.6	-0.8	-0.8	-0.4	-0.2	0.6	0.7	1.9	0.6	0.5	0.1	0.0
Below Normal												
55 w/WSA	49.9	49.1	46.2	44.5	45.1	47.1	48.6	49.6	49.0	49.0	49.2	49.7
Future Baseline	50.5	50.1	47.2	44.8	45.8	46.6	47.8	48.0	48.1	48.4	49.0	49.9
Difference	-0.6	-1.0	-1.0	-0.3	-0.6	0.5	0.8	1.6	0.9	0.5	0.2	-0.2
Dry												
55 w/WSA	49.6	48.7	46.6	44.8	45.5	48.2	50.0	50.9	49.8	49.4	49.7	50.0
Future Baseline	50.3	49.7	47.5	45.4	46.0	48.0	49.2	48.7	48.9	48.8	49.3	49.9
Difference	-0.7	-1.0	-0.9	-0.7	-0.5	0.2	0.8	2.1	0.9	0.6	0.3	0.1
Critical												
55 w/WSA	50.2	49.4	47.5	46.3	46.3	48.4	51.2	51.2	51.4	50.5	51.1	51.3
Future Baseline	50.7	50.3	48.4	47.4	47.0	48.8	49.9	49.4	49.7	49.8	50.5	51.6
Difference	-0.5	-0.8	-0.9	-1.1	-0.7	-0.3	1.2	1.8	1.7	0.7	0.5	-0.3

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-42. Average monthly water temperature in the lower Yuba River near Smartsville under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	55.2	51.8	47.5	44.8	45.5	48.0	50.5	53.1	54.5	54.9	54.9	56.0
Future Baseline	55.2	52.0	47.8	45.2	45.8	47.8	50.2	52.5	54.0	54.4	54.7	55.9
Difference	0.0	-0.2	-0.4	-0.4	-0.2	0.2	0.3	0.6	0.5	0.4	0.2	0.1
Water Year Types[2]												
Wet												
HRL	54.9	51.5	46.8	44.6	45.6	46.9	48.1	51.4	53.0	53.1	52.6	54.4
Future Baseline	54.8	51.7	47.2	44.8	45.6	46.8	47.8	50.6	52.4	52.8	52.9	54.8
Difference	0.1	-0.2	-0.4	-0.3	-0.1	0.2	0.3	0.8	0.6	0.3	-0.3	-0.4
Above Normal												
HRL	55.6	52.1	47.6	44.8	45.4	47.6	49.7	52.1	53.2	53.7	54.2	55.7
Future Baseline	55.6	52.3	47.9	45.1	45.5	47.4	49.5	51.8	53.1	53.5	53.8	55.2
Difference	0.0	-0.2	-0.4	-0.3	-0.1	0.2	0.2	0.3	0.0	0.2	0.4	0.4
Below Normal												
HRL	55.4	51.9	47.6	44.8	45.4	48.2	50.4	52.7	54.0	55.1	55.1	55.9
Future Baseline	55.2	52.0	48.0	45.1	45.7	47.9	50.3	52.6	53.6	54.5	54.8	55.8
Difference	0.1	-0.1	-0.4	-0.4	-0.3	0.3	0.1	0.1	0.4	0.6	0.3	0.2
Dry												
HRL	54.9	51.5	47.4	44.6	45.3	48.7	52.5	54.9	56.0	56.1	56.0	56.5
Future Baseline	54.8	51.8	47.8	45.0	45.6	48.6	52.0	54.1	55.3	55.7	55.8	56.3
Difference	0.0	-0.3	-0.4	-0.5	-0.3	0.2	0.5	0.8	0.7	0.4	0.2	0.2
Critical												
HRL	55.5	52.0	48.2	45.6	46.4	49.1	53.3	55.8	57.7	57.9	57.8	58.5
Future Baseline	55.5	52.3	48.5	46.0	46.7	49.1	52.9	54.8	56.5	57.2	57.3	58.4
Difference	0.0	-0.3	-0.3	-0.3	-0.3	0.0	0.4	1.0	1.1	0.8	0.5	0.1

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-43. Average monthly water temperature in the lower Yuba River at Parks Bar under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	56.1	52.1	47.5	45.1	46.0	48.8	51.5	54.0	55.7	56.4	56.3	57.5
Future Baseline	56.1	52.3	47.8	45.4	46.2	48.6	51.3	53.5	55.2	56.0	56.1	57.3
Difference	0.0	-0.2	-0.4	-0.3	-0.2	0.2	0.2	0.5	0.5	0.4	0.2	0.1
Water Year Types[2]												
Wet												
HRL	55.7	51.8	46.9	44.8	45.8	47.6	49.0	52.0	53.8	54.3	53.7	55.8
Future Baseline	55.6	52.0	47.3	45.1	45.9	47.4	48.8	51.3	53.2	54.0	54.0	56.1
Difference	0.1	-0.2	-0.4	-0.2	-0.1	0.2	0.2	0.8	0.6	0.3	-0.3	-0.3
Above Normal												
HRL	56.4	52.4	47.6	45.1	45.7	48.2	50.6	52.8	54.1	55.0	55.5	57.0
Future Baseline	56.5	52.6	47.9	45.4	45.9	48.0	50.5	52.5	54.1	54.8	55.1	56.6
Difference	0.0	-0.2	-0.4	-0.3	-0.1	0.2	0.1	0.3	0.0	0.2	0.4	0.5
Below Normal												
HRL	56.2	52.2	47.6	45.1	46.0	49.0	51.2	53.5	55.4	56.7	56.7	57.4
Future Baseline	56.1	52.3	47.9	45.4	46.2	48.7	51.2	53.5	54.9	56.1	56.3	57.3
Difference	0.1	-0.1	-0.3	-0.4	-0.3	0.3	0.0	0.0	0.5	0.6	0.4	0.1
Dry												
HRL	55.7	51.8	47.4	44.9	46.0	49.8	53.6	56.0	57.6	57.8	57.7	58.0
Future Baseline	55.7	52.1	47.8	45.3	46.2	49.6	53.1	55.2	56.9	57.3	57.4	57.8
Difference	0.0	-0.2	-0.4	-0.4	-0.3	0.2	0.4	0.7	0.7	0.4	0.2	0.2
Critical												
HRL	56.4	52.3	48.2	45.9	47.1	50.3	54.7	57.2	59.5	59.9	59.7	60.3
Future Baseline	56.4	52.6	48.5	46.2	47.3	50.2	54.3	56.2	58.4	59.1	59.3	60.3
Difference	0.0	-0.3	-0.3	-0.3	-0.3	0.0	0.4	1.0	1.1	0.8	0.4	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-44. Average monthly water temperature in the lower Yuba River below DPD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	57.8	52.7	47.9	45.6	46.9	50.1	53.1	55.8	58.2	59.3	59.1	60.1
Future Baseline	57.8	52.9	48.2	45.9	47.0	49.9	53.0	55.3	57.7	58.9	58.8	60.0
Difference	0.0	-0.2	-0.3	-0.3	-0.1	0.2	0.1	0.4	0.5	0.4	0.3	0.1
Water Year Types[2]												
Wet												
HRL	57.4	52.4	47.3	45.3	46.3	48.6	50.3	53.4	55.5	56.7	56.0	58.3
Future Baseline	57.4	52.6	47.7	45.5	46.4	48.4	50.1	52.7	54.9	56.4	56.2	58.4
Difference	0.1	-0.2	-0.3	-0.2	-0.1	0.1	0.2	0.7	0.6	0.2	-0.2	-0.1
Above Normal												
HRL	58.2	53.0	48.1	45.6	46.5	49.2	52.0	54.3	56.0	57.7	57.9	59.6
Future Baseline	58.2	53.2	48.4	45.8	46.6	49.0	51.9	54.1	56.0	57.5	57.5	59.0
Difference	0.0	-0.2	-0.3	-0.3	-0.1	0.2	0.0	0.2	0.0	0.2	0.5	0.5
Below Normal												
HRL	58.0	52.8	48.0	45.6	47.0	50.3	52.6	55.3	58.1	59.8	59.7	60.1
Future Baseline	57.9	52.9	48.3	45.9	47.2	49.9	52.8	55.4	57.5	59.2	59.2	60.0
Difference	0.1	-0.1	-0.3	-0.3	-0.2	0.4	-0.2	-0.1	0.6	0.7	0.5	0.1
Dry												
HRL	57.3	52.4	47.7	45.4	47.1	51.4	55.4	58.2	60.7	61.0	60.8	60.7
Future Baseline	57.3	52.7	48.1	45.8	47.3	51.2	55.0	57.6	60.0	60.6	60.5	60.4
Difference	0.0	-0.2	-0.4	-0.4	-0.2	0.2	0.3	0.6	0.7	0.4	0.3	0.3
Critical												
HRL	58.1	53.0	48.5	46.4	48.2	52.1	57.1	60.0	63.1	63.5	63.2	63.2
Future Baseline	58.2	53.2	48.8	46.7	48.4	52.1	56.8	58.9	62.0	62.8	62.8	63.5
Difference	-0.1	-0.3	-0.3	-0.3	-0.2	0.1	0.3	1.0	1.1	0.7	0.4	-0.3

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-45. Average monthly water temperature in the lower Yuba River near Marysville under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	59.6	53.7	48.4	46.1	47.6	51.0	54.4	57.6	61.0	62.8	62.2	62.7
Future Baseline	59.6	53.9	48.7	46.3	47.7	50.8	54.4	57.2	60.4	62.3	61.9	62.5
Difference	0.0	-0.2	-0.3	-0.3	-0.1	0.2	0.1	0.4	0.5	0.4	0.3	0.1
Water Year Types[2]												
Wet												
HRL	59.2	53.4	47.8	45.6	46.8	49.2	51.2	54.6	57.2	59.1	58.3	60.6
Future Baseline	59.1	53.6	48.1	45.8	46.8	49.0	51.1	53.9	56.6	58.8	58.4	60.6
Difference	0.1	-0.2	-0.3	-0.2	-0.1	0.1	0.2	0.7	0.6	0.2	-0.1	0.0
Above Normal												
HRL	60.1	54.0	48.6	46.0	47.0	49.9	53.1	55.7	57.9	60.5	60.5	61.9
Future Baseline	60.0	54.2	48.9	46.2	47.1	49.7	53.0	55.5	58.0	60.2	59.9	61.3
Difference	0.0	-0.2	-0.3	-0.3	-0.1	0.2	0.0	0.1	0.0	0.3	0.6	0.6
Below Normal												
HRL	59.9	53.8	48.5	46.2	47.8	51.2	53.8	57.0	61.0	63.4	62.9	62.6
Future Baseline	59.8	53.9	48.8	46.5	47.9	50.8	54.2	57.2	60.3	62.5	62.2	62.5
Difference	0.1	-0.1	-0.3	-0.3	-0.1	0.4	-0.4	-0.2	0.8	0.9	0.7	0.1
Dry												
HRL	59.1	53.4	48.2	45.9	48.0	52.6	57.1	60.5	64.4	65.1	64.5	63.3
Future Baseline	59.1	53.6	48.6	46.3	48.2	52.3	56.8	60.0	63.7	64.6	64.1	63.0
Difference	0.0	-0.2	-0.4	-0.4	-0.2	0.3	0.3	0.6	0.7	0.5	0.4	0.3
Critical												
HRL	59.9	53.9	49.0	47.0	49.2	53.6	59.4	63.2	68.0	68.8	67.7	66.5
Future Baseline	60.0	54.2	49.3	47.3	49.4	53.5	59.2	62.1	66.8	68.5	67.7	67.3
Difference	-0.1	-0.3	-0.3	-0.3	-0.2	0.1	0.2	1.1	1.1	0.3	0.0	-0.7

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-46. Average monthly water temperature in the lower Yuba River above the Feather River under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	62.6	55.3	49.1	46.7	48.6	52.2	56.2	60.1	64.9	67.7	66.7	66.6
Future Baseline	62.6	55.5	49.5	47.0	48.7	52.0	56.3	59.7	64.2	67.2	66.3	66.5
Difference	0.0	-0.2	-0.3	-0.3	-0.1	0.3	0.0	0.4	0.7	0.5	0.4	0.2
Water Year Types[2]												
Wet												
HRL	62.1	54.9	48.4	46.1	47.3	49.9	52.3	56.0	59.2	62.1	61.1	64.1
Future Baseline	62.0	55.1	48.7	46.2	47.4	49.7	52.2	55.4	58.6	61.8	61.2	63.7
Difference	0.1	-0.2	-0.3	-0.1	-0.1	0.1	0.1	0.7	0.6	0.2	-0.1	0.3
Above Normal												
HRL	63.1	55.6	49.4	46.5	47.7	50.8	54.4	57.4	60.2	64.1	63.9	65.5
Future Baseline	63.0	55.8	49.7	46.8	47.8	50.6	54.4	57.3	60.3	63.7	63.1	64.7
Difference	0.1	-0.2	-0.3	-0.2	-0.1	0.2	0.0	0.1	-0.1	0.4	0.8	0.8
Below Normal												
HRL	63.0	55.5	49.3	46.9	48.9	52.3	55.3	59.1	65.1	68.7	67.8	66.5
Future Baseline	62.9	55.6	49.6	47.2	49.0	51.8	55.9	59.4	63.8	67.4	66.7	66.5
Difference	0.1	-0.1	-0.3	-0.3	-0.1	0.5	-0.6	-0.4	1.3	1.3	1.1	0.0
Dry												
HRL	61.9	54.9	49.0	46.8	49.2	54.2	59.4	63.8	70.1	71.5	70.2	67.5
Future Baseline	61.9	55.2	49.4	47.1	49.4	53.9	59.2	63.3	69.3	70.8	69.6	67.1
Difference	-0.1	-0.3	-0.4	-0.4	-0.2	0.3	0.2	0.5	0.8	0.7	0.6	0.4
Critical												
HRL	62.9	55.5	49.7	47.9	50.7	55.8	63.0	68.0	75.4	76.8	74.6	71.8
Future Baseline	63.0	55.8	50.1	48.2	50.8	55.6	62.8	66.8	74.2	77.2	75.3	73.3
Difference	-0.2	-0.3	-0.4	-0.3	-0.1	0.2	0.1	1.2	1.2	-0.3	-0.7	-1.4

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-47. Average monthly water temperature in the North Yuba River below NBBD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	46.6	46.0	45.7	45.6	45.7	46.1	49.0	50.7	46.7	46.6	46.5	46.4
Future Baseline	48.7	46.7	45.6	45.7	46.4	47.5	49.0	50.7	52.3	53.1	52.4	50.9
Difference	-2.1	-0.7	0.1	-0.1	-0.7	-1.3	0.0	0.0	-5.6	-6.5	-6.0	-4.5
Water Year Types[2]												
Wet												
HRL	46.2	45.7	45.5	45.0	44.9	45.3	47.2	48.9	46.5	45.7	45.5	45.4
Future Baseline	48.4	46.5	45.3	45.0	45.3	45.9	46.7	48.8	50.9	51.9	51.5	50.1
Difference	-2.2	-0.7	0.1	-0.1	-0.4	-0.6	0.5	0.1	-4.4	-6.2	-6.0	-4.6
Above Normal												
HRL	46.8	46.1	45.8	45.7	45.5	45.8	48.9	50.5	46.8	46.4	46.3	46.2
Future Baseline	48.8	46.8	45.7	45.7	46.2	47.2	48.9	50.4	51.9	52.7	52.1	50.8
Difference	-2.1	-0.7	0.1	-0.1	-0.6	-1.4	0.0	0.0	-5.1	-6.3	-5.8	-4.5
Below Normal												
HRL	46.4	45.8	45.5	45.7	45.8	46.2	49.4	51.1	46.5	46.8	46.7	46.6
Future Baseline	48.6	46.5	45.4	45.7	46.6	47.8	49.5	51.1	52.5	53.3	52.6	51.1
Difference	-2.2	-0.7	0.1	-0.1	-0.8	-1.6	-0.1	0.0	-6.0	-6.5	-5.9	-4.5
Dry												
HRL	46.5	45.9	45.7	45.8	46.1	46.5	49.8	51.4	46.7	47.0	46.9	46.9
Future Baseline	48.5	46.6	45.6	45.8	47.0	48.3	49.9	51.4	52.8	53.6	52.9	51.3
Difference	-2.0	-0.7	0.1	0.0	-0.8	-1.8	-0.1	-0.1	-6.1	-6.6	-6.0	-4.4
Critical												
HRL	47.4	46.5	46.1	46.1	46.7	47.3	50.5	52.1	47.1	47.5	47.4	47.4
Future Baseline	49.1	47.1	46.1	46.3	47.5	48.8	50.6	52.2	53.9	54.5	53.5	52.0
Difference	-1.8	-0.6	0.1	-0.2	-0.8	-1.5	-0.1	-0.1	-6.8	-7.0	-6.1	-4.6

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-48. Average monthly water temperature in the North Yuba River above YR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	51.5	47.7	45.8	45.9	47.5	49.6	56.7	61.1	51.1	53.4	52.4	51.7
Future Baseline	54.9	48.9	45.7	46.1	48.6	51.6	56.4	60.6	64.3	67.8	65.7	61.4
Difference	-3.4	-1.2	0.1	-0.1	-1.1	-2.0	0.3	0.4	-13.2	-14.4	-13.3	-9.6
Water Year Types[2]												
Wet												
HRL	50.7	47.4	45.7	45.4	46.1	47.3	53.6	57.3	50.2	52.6	51.7	50.9
Future Baseline	54.3	48.7	45.6	45.5	46.7	48.0	52.1	55.5	59.8	66.6	65.2	60.7
Difference	-3.6	-1.3	0.1	-0.1	-0.6	-0.6	1.5	1.8	-9.7	-14.0	-13.5	-9.8
Above Normal												
HRL	51.7	47.8	46.0	46.1	47.3	49.4	56.5	60.7	51.1	53.2	52.2	51.6
Future Baseline	55.1	49.0	45.9	46.2	48.3	51.4	56.5	60.6	63.4	67.2	65.3	61.2
Difference	-3.4	-1.2	0.1	-0.1	-1.0	-2.0	0.0	0.1	-12.3	-14.0	-13.1	-9.6
Below Normal												
HRL	51.5	47.4	45.5	46.0	47.8	50.1	57.3	62.3	51.3	53.6	52.5	51.9
Future Baseline	55.0	48.7	45.4	46.1	49.2	52.5	57.4	62.2	65.8	68.0	65.7	61.4
Difference	-3.6	-1.2	0.1	-0.1	-1.3	-2.4	-0.1	0.2	-14.5	-14.5	-13.2	-9.5
Dry												
HRL	51.2	47.6	45.6	45.9	48.2	50.7	58.0	62.6	51.4	53.7	52.8	52.0
Future Baseline	54.5	48.8	45.5	45.9	49.6	53.5	58.2	62.6	66.4	68.3	66.2	61.4
Difference	-3.3	-1.2	0.1	0.0	-1.4	-2.8	-0.1	0.0	-15.0	-14.6	-13.4	-9.4
Critical												
HRL	52.5	48.3	46.2	46.5	49.0	51.6	59.1	63.6	51.9	54.2	53.1	52.7
Future Baseline	55.4	49.3	46.1	46.7	50.2	54.1	59.2	63.6	68.2	69.6	66.8	62.6
Difference	-2.9	-1.0	0.1	-0.3	-1.2	-2.4	-0.1	0.0	-16.2	-15.4	-13.7	-9.9

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-49. Average monthly water temperature in Oregon Creek below LCDD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	53.5	45.7	40.2	40.4	42.4	45.1	48.2	54.0	60.9	67.2	66.4	61.9
Future Baseline	54.6	45.8	40.2	40.4	42.3	45.1	48.4	53.8	61.3	69.4	68.9	63.8
Difference	-1.1	-0.1	0.1	0.1	0.0	0.0	-0.2	0.2	-0.4	-2.2	-2.5	-1.9
Water Year Types[2]												
Wet												
HRL	53.0	46.0	41.4	41.7	43.5	45.2	45.6	52.5	59.7	66.3	66.3	61.6
Future Baseline	54.2	46.1	41.4	41.7	43.5	45.2	46.1	51.3	57.6	67.1	69.0	64.2
Difference	-1.2	-0.1	0.0	0.0	0.0	0.0	-0.4	1.3	2.0	-0.7	-2.7	-2.6
Above Normal												
HRL	53.8	45.8	40.5	41.2	42.7	45.3	47.5	52.1	58.9	67.2	66.2	61.6
Future Baseline	54.8	46.0	40.4	41.1	42.7	45.3	47.6	52.1	59.0	68.8	69.1	64.2
Difference	-1.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-1.6	-2.9	-2.6
Below Normal												
HRL	53.6	45.3	39.8	40.1	41.9	45.1	48.3	53.6	61.4	67.4	66.2	61.8
Future Baseline	54.7	45.5	39.7	40.1	41.9	45.1	48.3	53.7	62.1	70.4	69.3	64.0
Difference	-1.1	-0.2	0.1	0.0	0.0	0.0	0.0	0.0	-0.7	-3.0	-3.1	-2.2
Dry												
HRL	53.1	45.4	39.5	39.3	41.6	44.9	49.3	55.6	62.4	67.1	66.5	61.9
Future Baseline	54.1	45.5	39.4	39.2	41.6	44.9	49.3	55.7	63.6	70.5	68.6	62.8
Difference	-1.0	-0.1	0.1	0.1	0.0	0.0	0.0	-0.1	-1.2	-3.5	-2.1	-0.8
Critical												
HRL	53.8	45.6	39.7	39.0	41.7	44.7	51.6	57.9	63.7	68.2	66.7	62.8
Future Baseline	55.1	45.8	39.4	38.8	41.7	44.8	52.4	58.4	67.0	71.3	68.0	63.6
Difference	-1.2	-0.1	0.3	0.2	0.1	-0.1	-0.7	-0.4	-3.3	-3.0	-1.2	-0.7

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-50. Average monthly water temperature in Oregon Creek above MYR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	53.6	45.6	40.0	40.4	42.7	45.9	49.4	55.7	63.0	68.8	67.2	62.2
Future Baseline	54.0	45.7	40.0	40.3	42.7	46.1	49.9	56.2	63.5	69.5	67.9	62.7
Difference	-0.3	-0.1	0.0	0.1	0.0	-0.1	-0.5	-0.4	-0.4	-0.8	-0.7	-0.5
Water Year Types[2]												
Wet												
HRL	53.3	46.0	41.2	41.6	43.7	45.8	46.4	53.8	61.6	68.2	67.7	62.4
Future Baseline	53.7	46.1	41.2	41.6	43.8	46.0	47.5	54.0	61.1	68.7	68.8	63.3
Difference	-0.4	-0.1	0.0	0.0	0.0	-0.2	-1.0	-0.2	0.5	-0.4	-1.1	-0.9
Above Normal												
HRL	53.9	45.8	40.3	41.1	43.0	46.0	48.7	54.0	61.4	68.9	67.3	62.2
Future Baseline	54.3	45.9	40.3	41.0	43.0	46.2	49.2	54.9	62.0	69.6	68.2	62.9
Difference	-0.4	-0.1	0.0	0.0	0.0	-0.2	-0.5	-0.8	-0.6	-0.7	-0.9	-0.7
Below Normal												
HRL	53.7	45.2	39.5	40.0	42.3	46.0	49.7	55.7	63.8	69.1	67.0	62.1
Future Baseline	54.0	45.3	39.5	40.0	42.3	46.1	50.0	56.1	64.3	70.2	67.7	62.5
Difference	-0.3	-0.1	0.0	0.0	0.0	-0.1	-0.3	-0.5	-0.5	-1.1	-0.7	-0.4
Dry												
HRL	53.3	45.4	39.3	39.2	42.1	45.9	50.7	57.7	64.4	68.7	67.1	61.9
Future Baseline	53.6	45.4	39.3	39.1	42.1	46.0	50.9	57.9	65.0	69.9	67.5	62.1
Difference	-0.3	-0.1	0.1	0.1	0.0	-0.1	-0.2	-0.2	-0.6	-1.2	-0.4	-0.2
Critical												
HRL	54.0	45.5	39.5	39.1	42.3	45.8	53.0	59.6	65.5	68.8	66.5	62.5
Future Baseline	54.4	45.6	39.4	39.0	42.2	45.9	53.4	59.8	66.5	69.3	66.7	62.6
Difference	-0.4	-0.1	0.1	0.1	0.0	0.0	-0.4	-0.2	-1.0	-0.5	-0.2	-0.2

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-51. Average monthly water temperature in the Middle Yuba River below OHDD under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	55.4	45.7	39.9	40.1	42.2	45.1	48.5	53.6	61.3	70.3	70.5	65.7
Future Baseline	55.4	45.7	39.9	40.1	42.2	45.1	48.6	53.7	61.4	70.3	70.5	65.7
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Water Year Types[2]												
Wet												
HRL	54.8	46.1	41.1	41.3	43.2	45.1	46.2	50.9	57.2	67.1	69.5	64.8
Future Baseline	54.8	46.1	41.1	41.3	43.2	45.1	46.2	51.0	57.3	67.2	69.6	64.8
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0
Above Normal												
HRL	55.7	45.9	40.2	40.9	42.5	45.2	47.6	51.8	58.7	69.1	69.7	64.9
Future Baseline	55.7	45.9	40.2	40.9	42.5	45.2	47.7	51.9	58.8	69.2	69.7	64.9
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0
Below Normal												
HRL	55.6	45.5	39.5	39.9	41.8	45.1	48.4	53.5	62.2	71.2	70.7	65.8
Future Baseline	55.6	45.5	39.5	39.9	41.8	45.1	48.4	53.5	62.2	71.2	70.7	65.8
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Dry												
HRL	55.0	45.5	39.2	38.9	41.4	44.9	49.5	55.7	64.1	71.9	71.5	66.5
Future Baseline	55.0	45.5	39.2	38.9	41.4	45.0	49.5	55.7	64.1	71.9	71.6	66.5
Difference	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												
HRL	55.8	45.7	39.0	38.5	41.6	44.8	52.9	58.7	67.9	74.0	71.9	67.6
Future Baseline	55.8	45.7	39.0	38.5	41.6	44.8	52.9	58.8	67.9	74.0	71.9	67.6
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-52. Average monthly water temperature in the Middle Yuba River below OC under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	56.0	45.9	39.7	40.0	42.7	46.1	50.0	55.9	63.9	72.5	72.2	66.7
Future Baseline	56.1	45.9	39.6	40.0	42.8	46.4	50.6	56.9	65.1	73.2	72.4	66.8
Difference	0.0	0.0	0.1	0.0	-0.1	-0.3	-0.6	-1.0	-1.2	-0.8	-0.2	-0.1
Water Year Types[2]												
Wet												
HRL	55.4	46.2	41.0	41.3	43.5	45.9	46.9	52.1	59.0	69.3	71.5	66.1
Future Baseline	55.5	46.2	40.9	41.2	43.6	46.1	47.8	53.8	61.4	71.2	72.0	66.3
Difference	0.0	0.0	0.1	0.0	-0.1	-0.3	-0.9	-1.7	-2.4	-1.9	-0.6	-0.2
Above Normal												
HRL	56.4	46.0	40.0	40.8	42.9	46.1	49.2	54.3	61.7	71.6	71.5	66.1
Future Baseline	56.4	46.0	39.9	40.7	42.9	46.5	49.8	55.3	63.2	72.5	71.9	66.3
Difference	0.0	0.0	0.1	0.0	-0.1	-0.3	-0.6	-1.0	-1.4	-0.9	-0.3	-0.1
Below Normal												
HRL	56.3	45.5	39.2	39.8	42.3	46.2	50.0	56.0	65.0	73.4	72.3	66.8
Future Baseline	56.3	45.5	39.1	39.7	42.4	46.5	50.7	56.9	66.1	73.9	72.4	66.8
Difference	0.0	0.0	0.1	0.0	-0.1	-0.3	-0.6	-0.9	-1.0	-0.5	-0.1	0.0
Dry												
HRL	55.6	45.6	39.0	38.8	42.1	46.2	51.4	58.5	66.7	73.9	73.0	67.2
Future Baseline	55.7	45.6	38.9	38.8	42.2	46.5	51.9	59.0	67.3	74.1	73.0	67.2
Difference	0.0	0.0	0.1	0.0	-0.1	-0.3	-0.5	-0.5	-0.6	-0.2	0.0	0.0
Critical												
HRL	56.5	45.9	38.9	38.6	42.3	46.3	54.5	61.1	70.2	75.7	73.1	68.0
Future Baseline	56.5	45.9	38.9	38.7	42.5	46.6	54.9	61.6	70.5	75.6	73.1	68.0
Difference	0.0	0.0	0.0	0.0	-0.1	-0.3	-0.4	-0.5	-0.3	0.1	0.0	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-53. Average monthly water temperature in the Middle Yuba River above YR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	56.5	45.9	39.6	39.9	42.8	46.5	50.7	56.9	65.1	73.6	73.1	67.4
Future Baseline	56.5	46.0	39.5	39.9	43.0	46.9	51.5	58.2	66.7	74.6	73.4	67.5
Difference	-0.1	0.0	0.1	0.0	-0.1	-0.4	-0.8	-1.3	-1.6	-1.0	-0.3	-0.1
Water Year Types[2]												
Wet												
HRL	55.8	46.2	40.9	41.2	43.7	46.1	47.3	52.6	59.8	70.5	72.5	66.9
Future Baseline	55.9	46.3	40.8	41.1	43.8	46.4	48.5	54.9	63.0	72.9	73.3	67.1
Difference	-0.1	0.0	0.1	0.1	-0.1	-0.3	-1.2	-2.3	-3.2	-2.5	-0.7	-0.3
Above Normal												
HRL	56.8	46.1	39.9	40.7	43.0	46.5	49.8	55.4	63.1	72.9	72.6	66.9
Future Baseline	56.9	46.1	39.8	40.6	43.1	46.9	50.6	56.7	64.9	74.1	73.0	67.1
Difference	-0.1	0.0	0.1	0.0	-0.1	-0.4	-0.8	-1.3	-1.9	-1.2	-0.4	-0.2
Below Normal												
HRL	56.7	45.6	39.0	39.7	42.5	46.6	50.7	57.1	66.4	74.6	73.3	67.5
Future Baseline	56.8	45.6	38.9	39.6	42.6	47.0	51.5	58.2	67.8	75.2	73.4	67.5
Difference	0.0	0.0	0.1	0.1	-0.2	-0.4	-0.8	-1.1	-1.3	-0.6	-0.1	0.0
Dry												
HRL	56.0	45.7	38.8	38.7	42.3	46.7	52.2	59.8	68.0	75.1	73.9	67.7
Future Baseline	56.1	45.7	38.7	38.7	42.5	47.0	52.8	60.4	68.8	75.4	73.9	67.7
Difference	-0.1	0.0	0.1	0.1	-0.2	-0.3	-0.6	-0.6	-0.8	-0.3	0.0	0.0
Critical												
HRL	56.9	46.0	38.9	38.6	42.6	46.9	55.4	62.3	71.5	76.7	73.8	68.5
Future Baseline	57.0	46.0	38.8	38.7	42.8	47.2	55.9	62.9	71.9	76.6	73.8	68.5
Difference	0.0	0.0	0.0	0.0	-0.2	-0.4	-0.6	-0.6	-0.4	0.1	0.0	0.0

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-54. Average monthly water temperature in the upper Yuba River below MYR under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	55.3	46.2	40.3	40.5	43.2	46.7	50.9	57.0	60.1	66.2	64.0	61.0
Future Baseline	56.2	46.3	40.1	40.4	43.4	47.1	51.7	58.1	65.8	73.4	71.9	66.3
Difference	-0.9	-0.1	0.2	0.1	-0.1	-0.4	-0.8	-1.0	-5.7	-7.1	-7.9	-5.2
Water Year Types[2]												
Wet												
HRL	54.8	46.4	41.2	41.4	43.7	45.9	47.3	52.3	57.5	66.1	65.5	61.8
Future Baseline	55.6	46.5	41.1	41.3	43.8	46.1	48.2	53.7	60.8	71.9	71.8	66.0
Difference	-0.8	-0.1	0.1	0.1	-0.1	-0.2	-1.0	-1.4	-3.3	-5.8	-6.4	-4.2
Above Normal												
HRL	55.6	46.3	40.5	41.0	43.2	46.6	50.1	55.6	59.3	66.9	64.9	61.6
Future Baseline	56.5	46.5	40.4	40.9	43.3	47.0	51.0	56.8	64.1	72.9	71.6	66.0
Difference	-0.9	-0.1	0.2	0.1	-0.1	-0.4	-0.9	-1.2	-4.8	-6.0	-6.7	-4.4
Below Normal												
HRL	55.5	45.9	39.9	40.3	42.9	46.8	51.0	57.5	61.4	66.9	63.8	60.9
Future Baseline	56.4	46.0	39.6	40.1	43.1	47.2	51.9	58.6	67.4	73.9	71.9	66.3
Difference	-0.9	-0.1	0.3	0.2	-0.2	-0.4	-0.8	-1.1	-6.0	-7.0	-8.2	-5.4
Dry												
HRL	54.9	46.0	39.8	39.6	42.9	47.0	52.6	60.0	61.5	66.1	63.0	60.1
Future Baseline	55.8	46.1	39.5	39.4	43.1	47.5	53.2	60.7	68.4	74.0	72.3	66.3
Difference	-0.9	-0.1	0.3	0.2	-0.2	-0.4	-0.6	-0.6	-6.9	-7.9	-9.3	-6.2
Critical												
HRL	55.9	46.3	40.0	39.8	43.4	47.4	55.7	62.4	62.0	64.4	61.7	60.1
Future Baseline	56.6	46.4	39.8	39.7	43.6	47.9	56.3	63.0	71.2	74.9	72.1	67.0
Difference	-0.7	-0.1	0.2	0.1	-0.2	-0.5	-0.6	-0.6	-9.2	-10.5	-10.3	-6.9

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-55. Average monthly water temperature in the upper Yuba River above Colgate under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	57.0	46.4	39.2	39.4	43.5	48.1	53.3	60.1	64.9	70.8	69.5	65.1
Future Baseline	57.6	46.5	39.0	39.0	43.5	48.5	54.4	61.4	67.8	73.0	71.5	66.5
Difference	-0.6	-0.2	0.3	0.4	0.0	-0.4	-1.1	-1.4	-3.0	-2.3	-2.0	-1.4
Water Year Types[2]												
Wet												
HRL	56.3	46.3	40.3	40.7	43.9	46.7	48.7	54.1	60.2	69.4	69.9	65.1
Future Baseline	56.9	46.4	40.1	40.4	43.9	46.9	50.2	56.5	63.4	72.5	72.2	66.8
Difference	-0.6	-0.1	0.2	0.2	-0.1	-0.2	-1.5	-2.3	-3.2	-3.0	-2.3	-1.7
Above Normal												
HRL	57.4	46.5	39.6	40.1	43.3	47.8	52.7	59.3	63.9	70.9	69.6	64.9
Future Baseline	58.1	46.6	39.4	39.8	43.4	48.2	53.8	60.8	66.9	73.2	71.7	66.4
Difference	-0.7	-0.1	0.2	0.3	-0.1	-0.5	-1.2	-1.5	-3.0	-2.4	-2.1	-1.5
Below Normal												
HRL	57.3	46.1	38.6	39.1	43.3	48.1	53.7	60.9	66.5	71.3	69.4	64.9
Future Baseline	57.9	46.2	38.3	38.7	43.4	48.6	54.8	62.2	69.6	73.4	71.3	66.3
Difference	-0.6	-0.2	0.3	0.4	-0.1	-0.5	-1.1	-1.4	-3.0	-2.1	-1.9	-1.4
Dry												
HRL	56.6	46.2	38.5	38.1	43.3	48.9	55.6	63.4	67.0	71.1	69.5	65.1
Future Baseline	57.2	46.3	38.1	37.5	43.3	49.4	56.4	64.1	69.9	73.0	71.2	66.4
Difference	-0.6	-0.2	0.4	0.5	0.0	-0.5	-0.8	-0.6	-2.9	-1.9	-1.7	-1.4
Critical												
HRL	57.4	46.8	38.7	38.4	43.9	49.6	58.1	65.0	68.7	71.5	69.2	65.6
Future Baseline	58.0	47.0	38.5	37.9	44.0	50.1	58.9	65.6	71.4	73.1	70.8	66.8
Difference	-0.6	-0.2	0.2	0.4	0.0	-0.5	-0.7	-0.6	-2.7	-1.6	-1.6	-1.2

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

Table 1A-56. Average monthly water temperature in the upper Yuba River below Colgate under the HRL and Future Baseline scenarios over the entire simulation period and by water year type.

	Average Monthly Water Temperature (°F)											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Entire Simulation Period[1]												
HRL	50.2	49.3	46.5	44.6	45.2	47.2	48.3	49.2	48.7	48.5	49.2	50.5
Future Baseline	50.5	49.8	47.3	45.2	45.6	46.7	47.7	47.8	48.1	48.2	49.1	50.4
Difference	-0.3	-0.6	-0.8	-0.6	-0.3	0.5	0.6	1.4	0.6	0.3	0.1	0.1
Water Year Types[2]												
Wet												
HRL	50.1	48.9	45.8	44.6	44.9	45.7	46.3	48.3	47.8	47.4	48.0	50.5
Future Baseline	50.3	49.4	46.7	44.9	45.0	45.3	45.7	46.5	46.9	46.9	48.5	50.5
Difference	-0.2	-0.5	-0.9	-0.3	-0.1	0.4	0.7	1.9	0.9	0.4	-0.4	0.0
Above Normal												
HRL	50.3	49.3	46.3	43.8	44.6	46.4	47.4	48.3	47.6	48.2	49.1	51.1
Future Baseline	50.7	49.9	47.2	44.5	44.8	45.9	46.9	47.2	47.5	47.9	48.9	50.5
Difference	-0.4	-0.6	-0.9	-0.6	-0.3	0.5	0.5	1.1	0.1	0.3	0.3	0.6
Below Normal												
HRL	50.3	49.6	46.5	44.1	45.2	47.4	48.1	49.0	48.6	48.6	49.1	49.9
Future Baseline	50.5	50.1	47.2	44.8	45.8	46.6	47.8	48.0	48.1	48.4	49.0	49.9
Difference	-0.2	-0.5	-0.7	-0.8	-0.5	0.8	0.3	1.0	0.5	0.2	0.1	0.0
Dry												
HRL	49.9	49.2	46.6	44.7	45.5	48.5	50.1	50.5	49.6	49.0	49.4	49.9
Future Baseline	50.3	49.7	47.5	45.4	46.0	48.0	49.2	48.7	48.9	48.8	49.3	49.9
Difference	-0.4	-0.5	-1.0	-0.8	-0.4	0.5	0.9	1.8	0.7	0.2	0.1	0.0
Critical												
HRL	50.4	49.7	47.8	46.7	46.6	49.1	50.9	50.8	51.0	50.3	50.9	51.4
Future Baseline	50.7	50.3	48.4	47.4	47.0	48.8	49.9	49.4	49.7	49.8	50.5	51.6
Difference	-0.3	-0.6	-0.7	-0.7	-0.4	0.3	1.0	1.4	1.3	0.5	0.4	-0.2

[1] Based on the 52-year simulation period (WY 1970-2021).

[2] As defined by the Smartsville Index water year type classification.

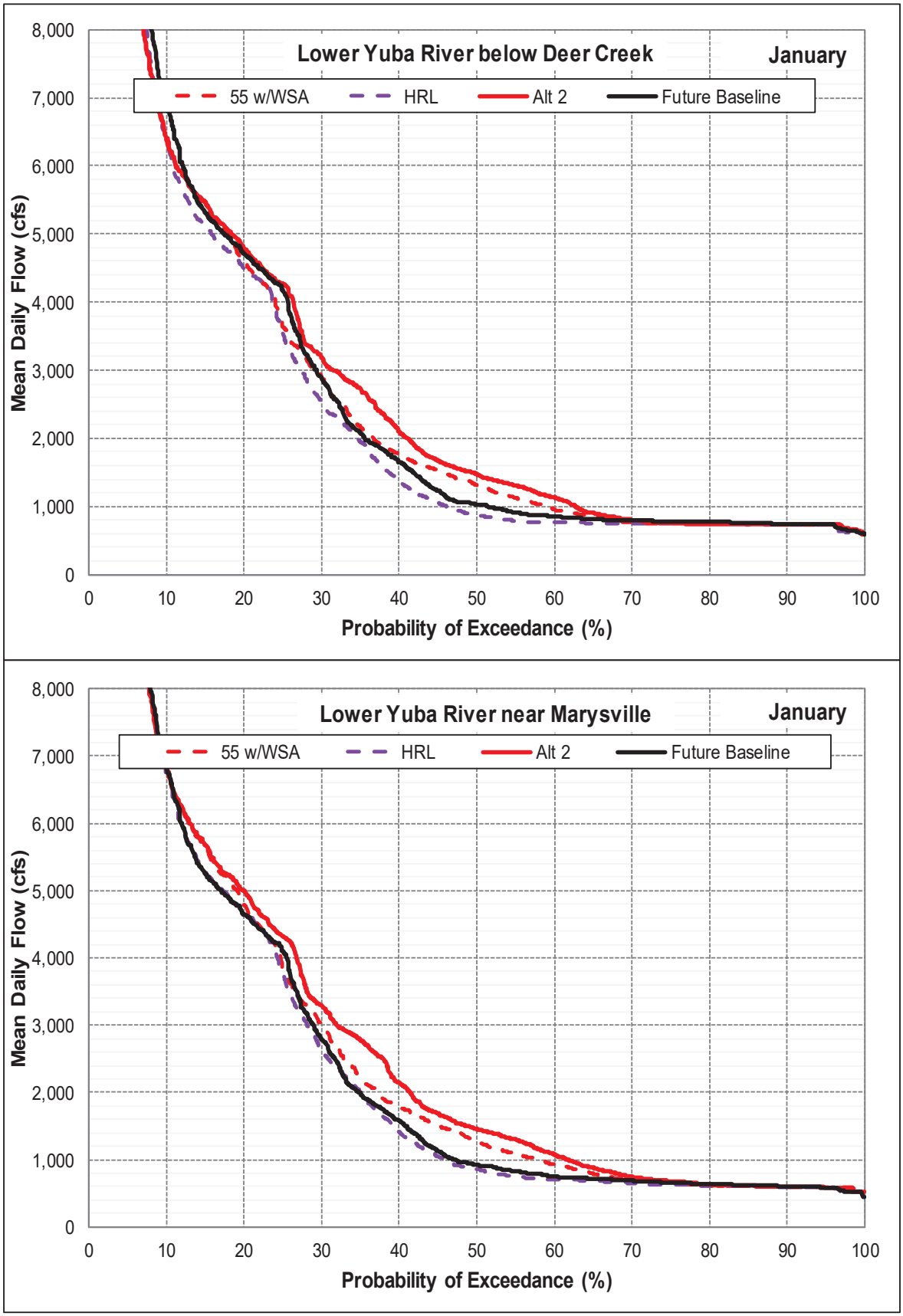


Figure 1A-1. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).

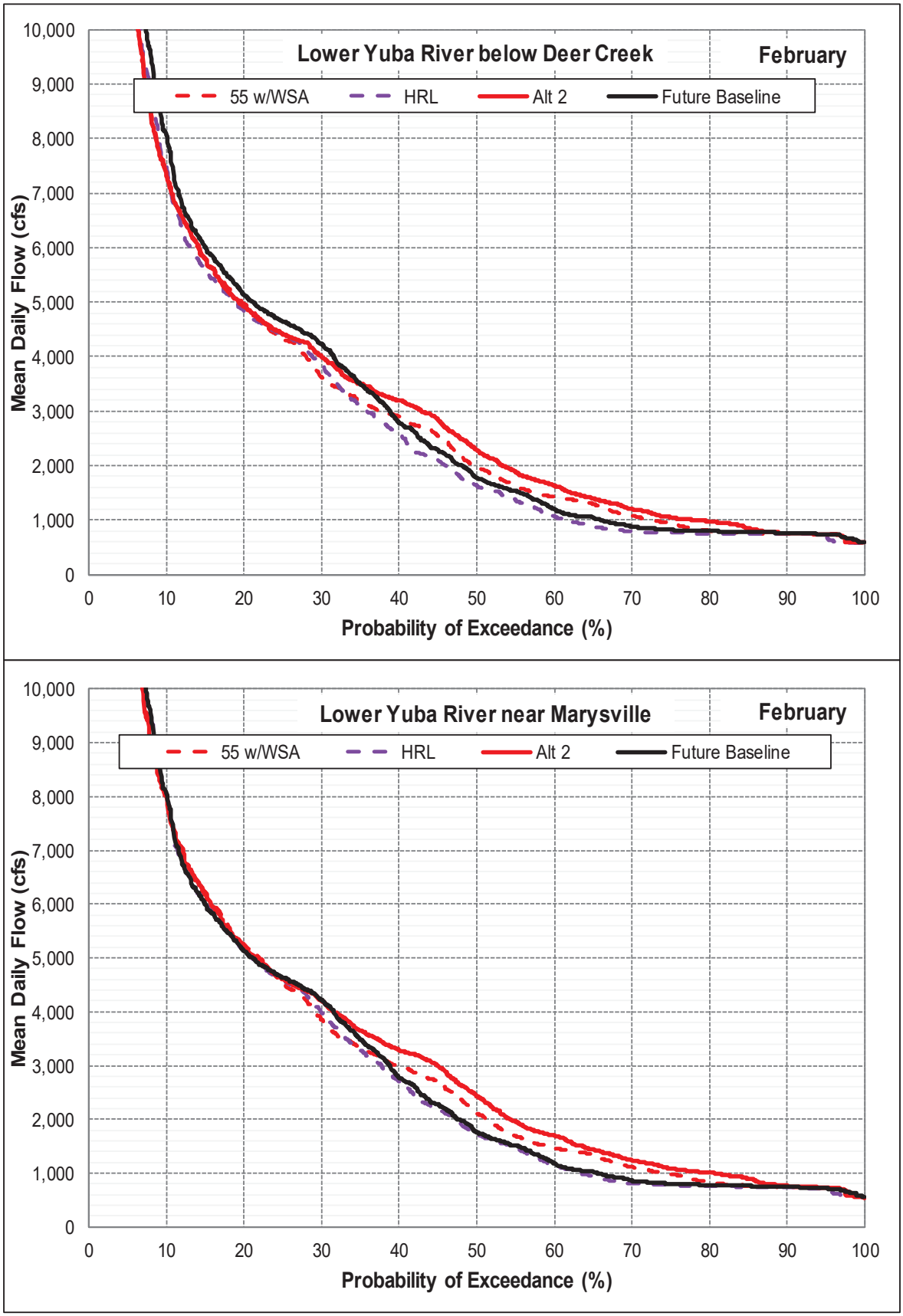


Figure 1A-2. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).

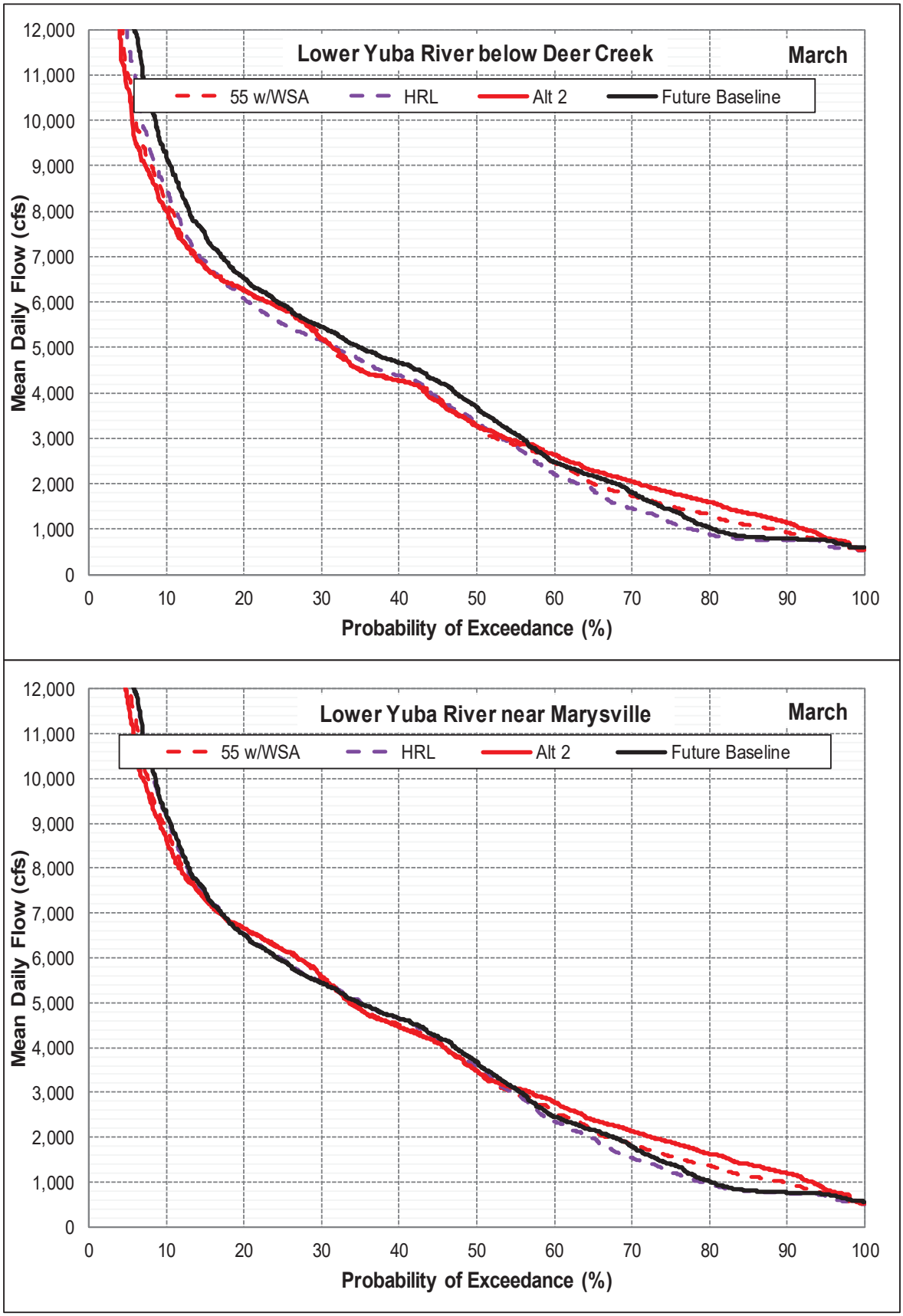


Figure 1A-3. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

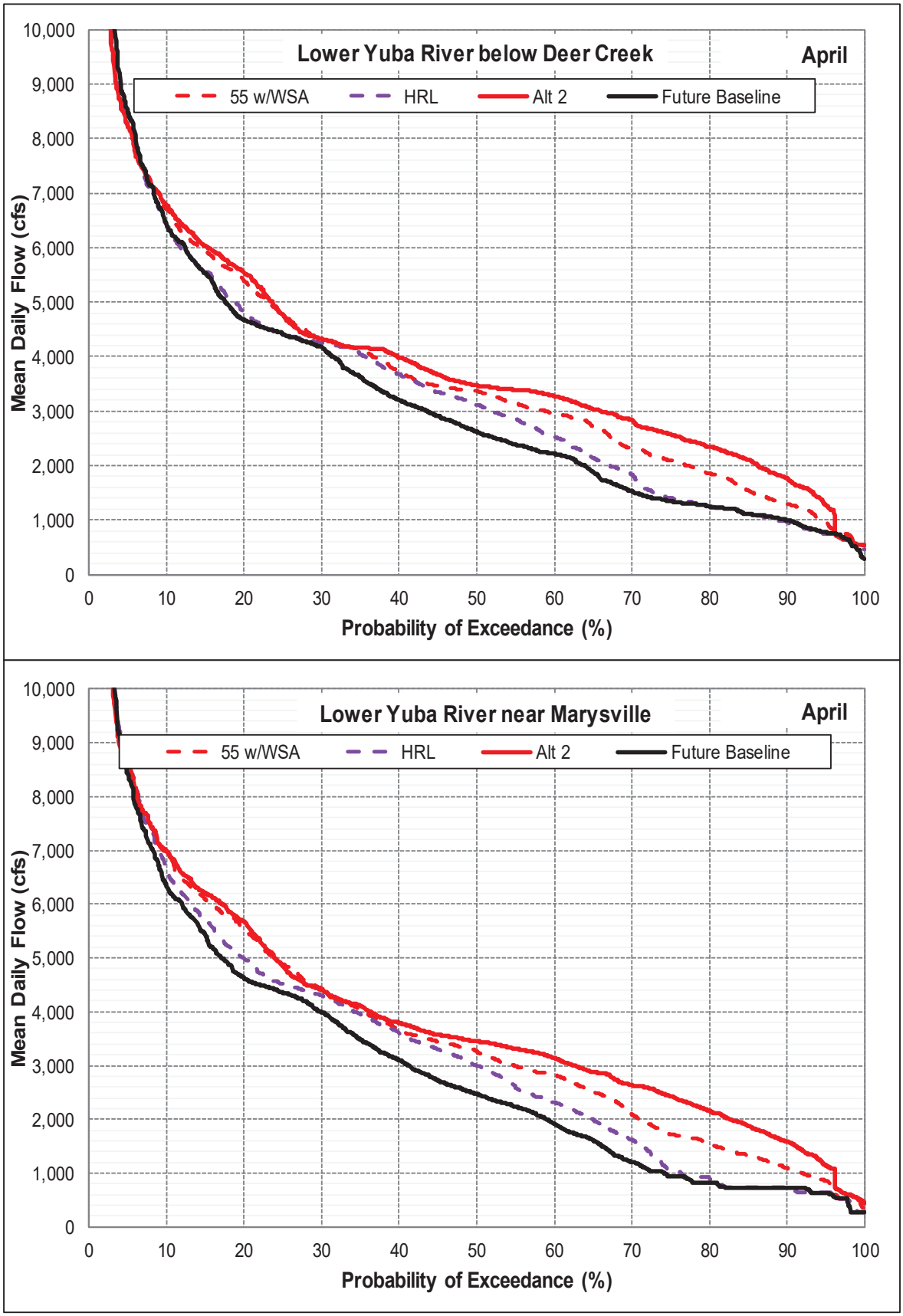


Figure 1A-4. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).

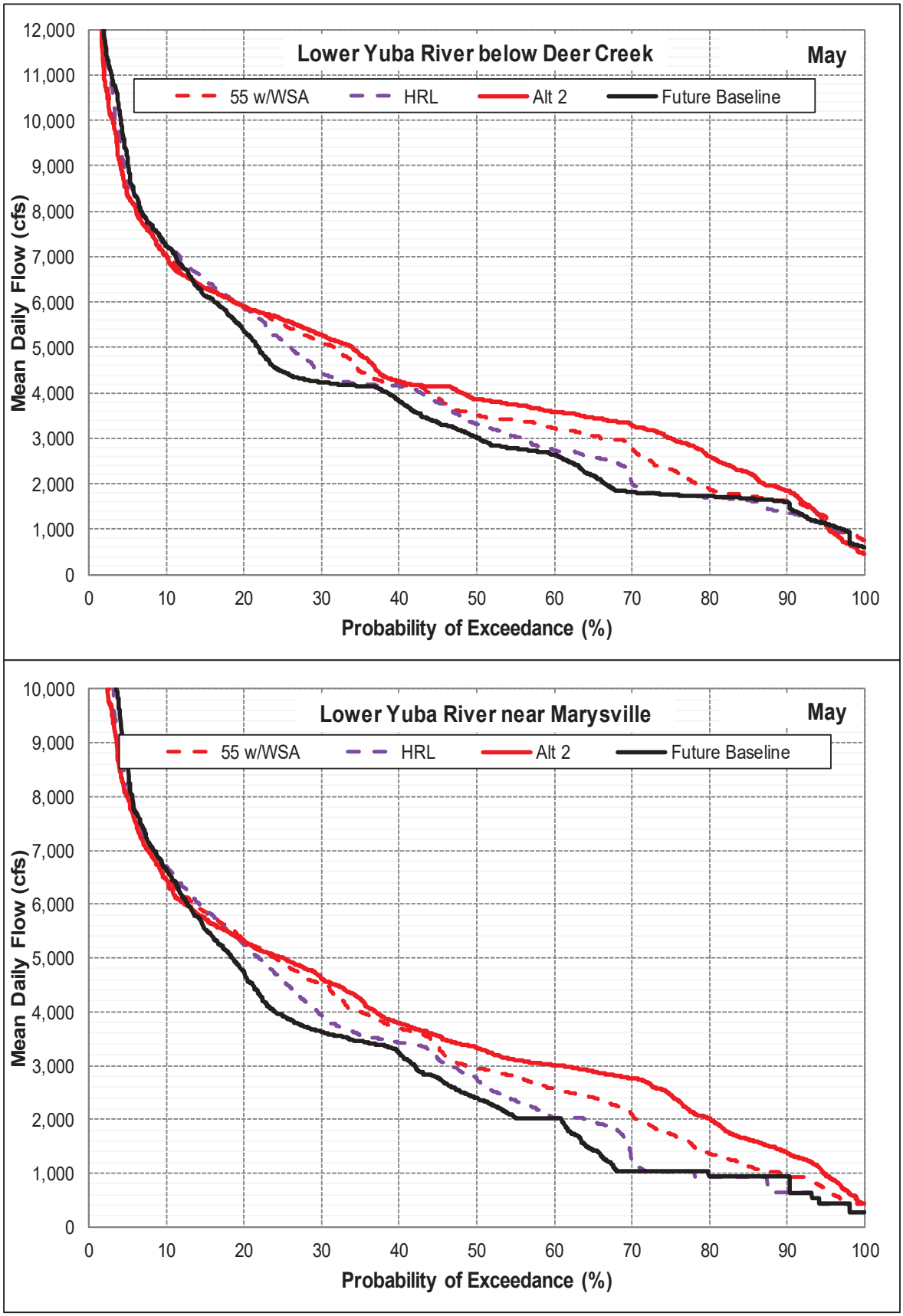


Figure 1A-5. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).

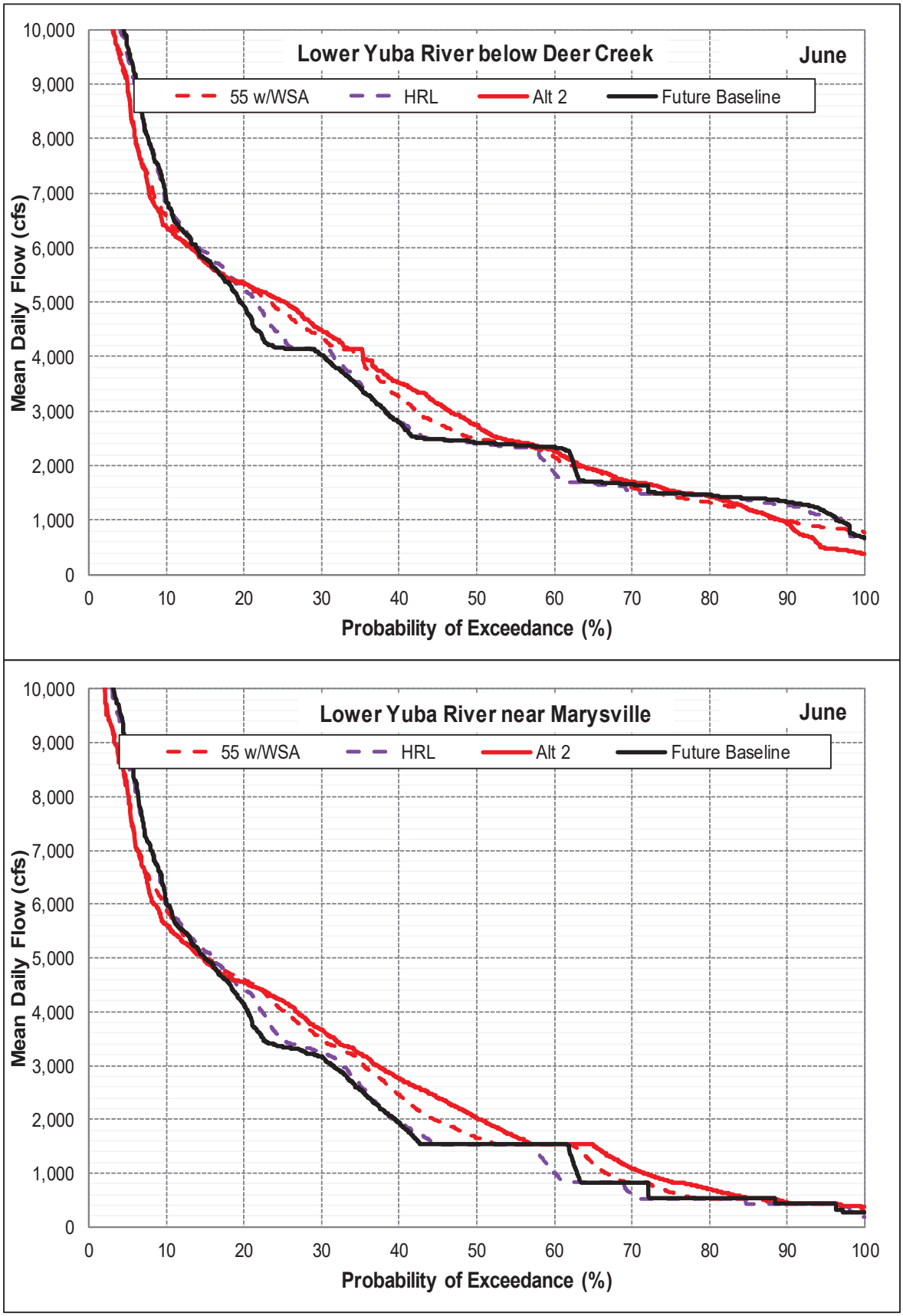


Figure 1A-6. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

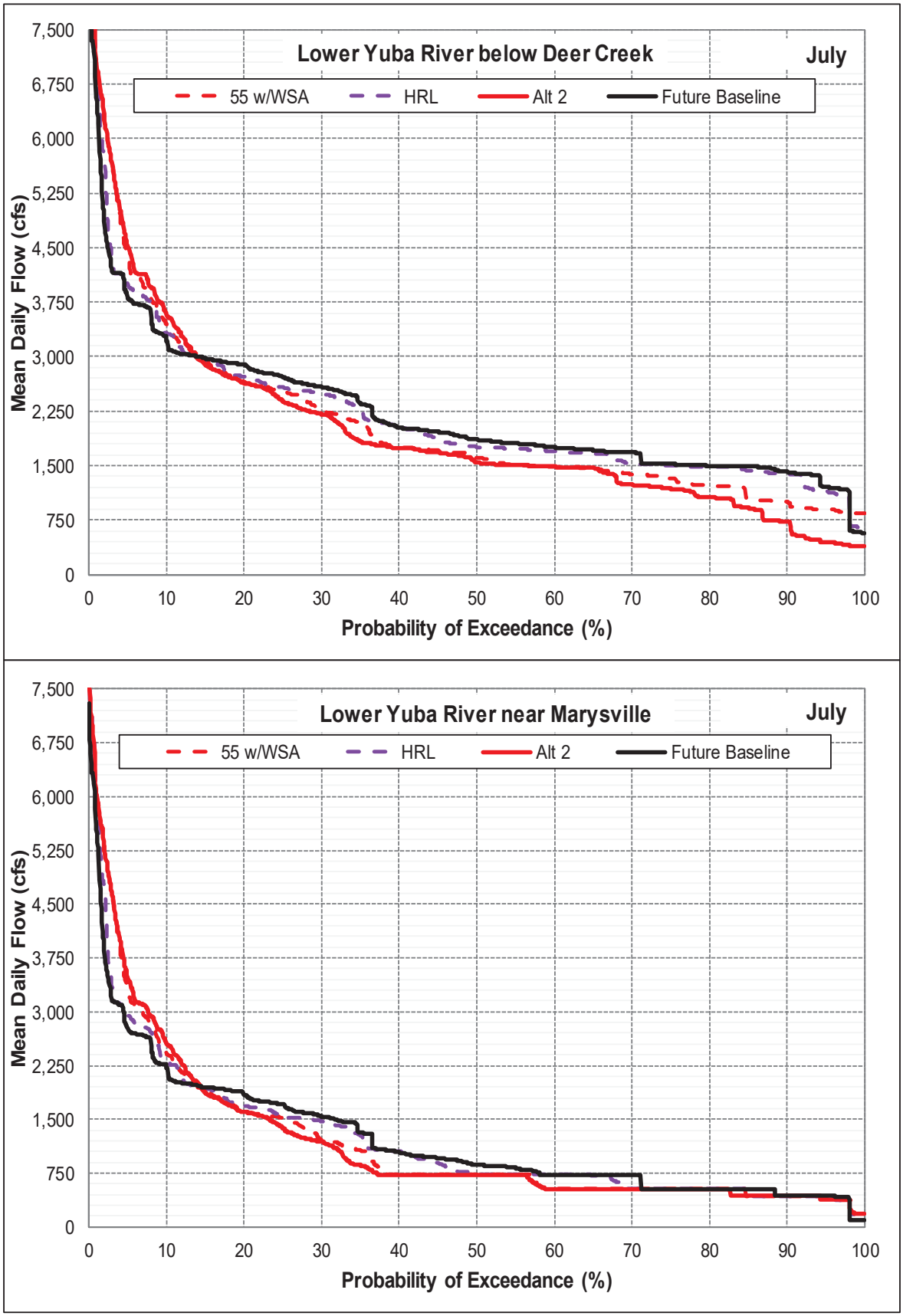


Figure 1A-7. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).

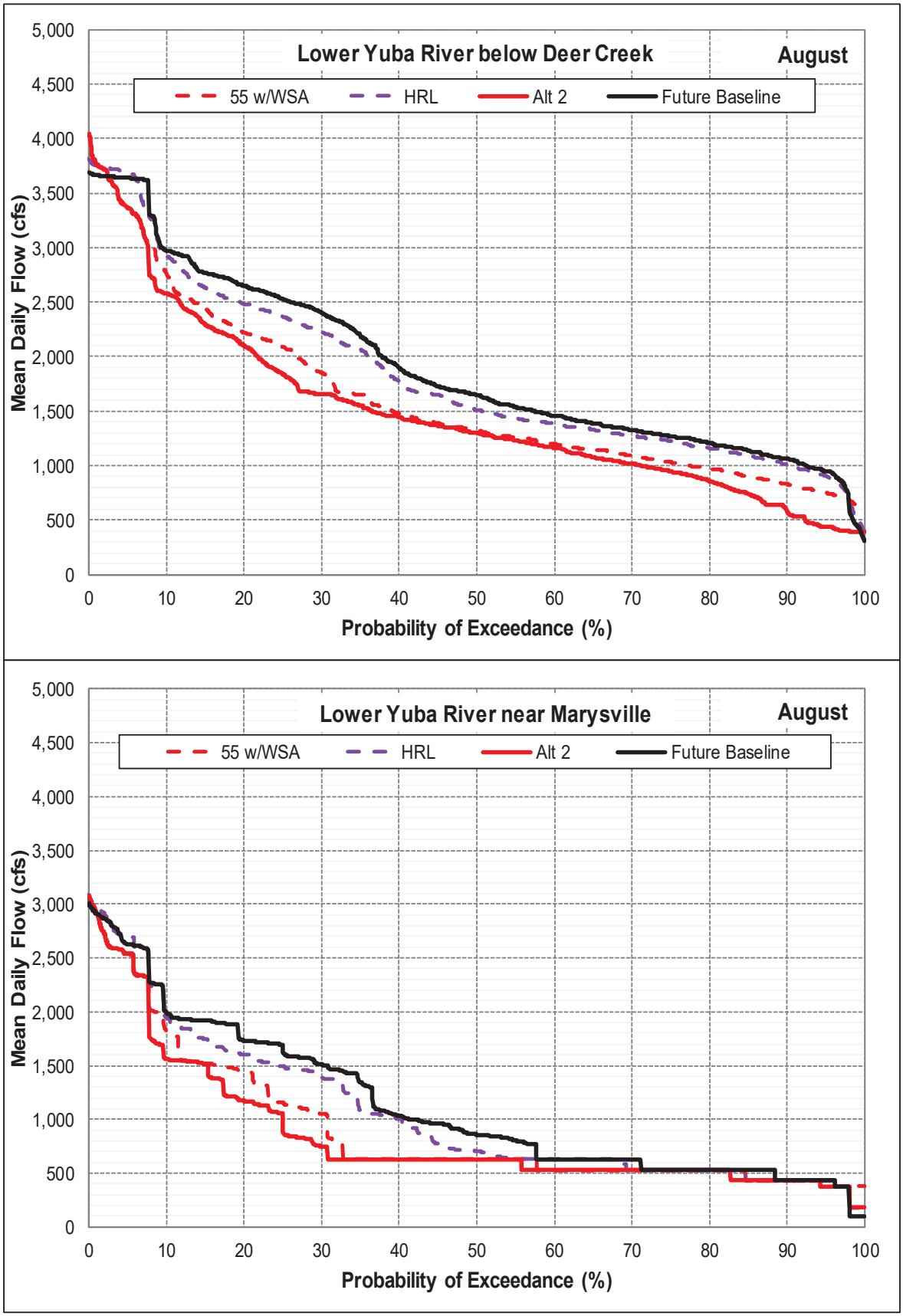


Figure 1A-8. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

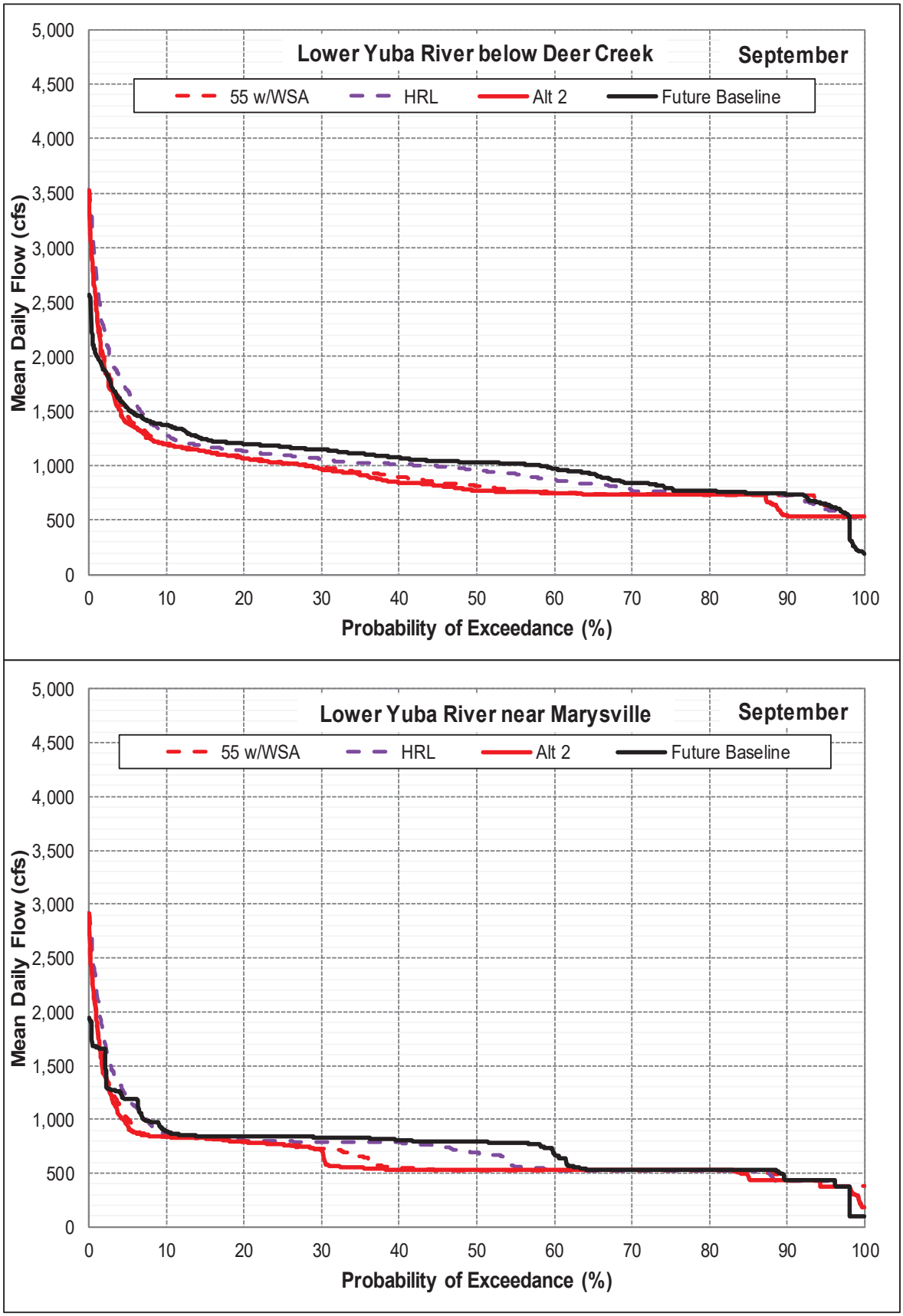


Figure 1A-9. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

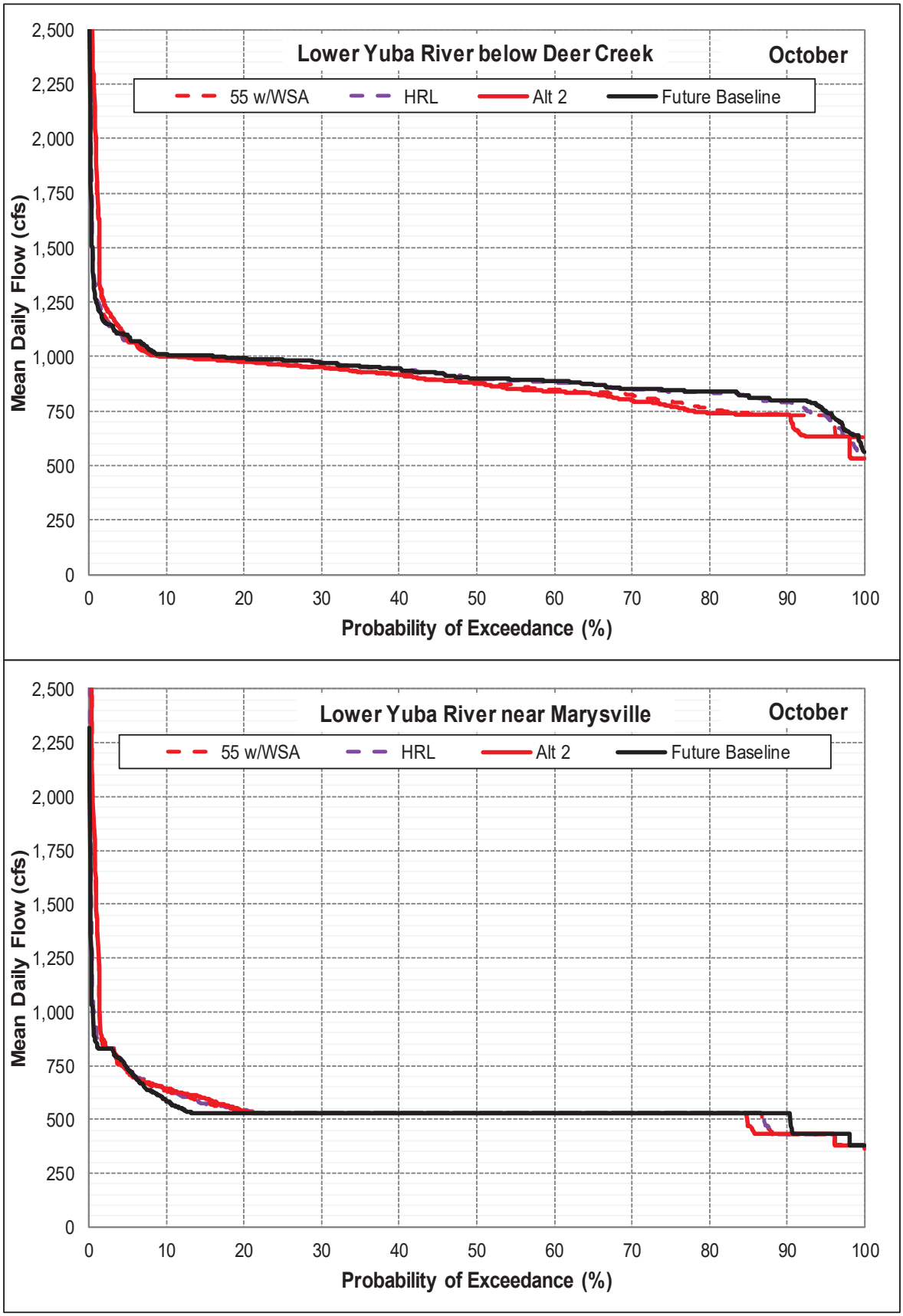


Figure 1A-10. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

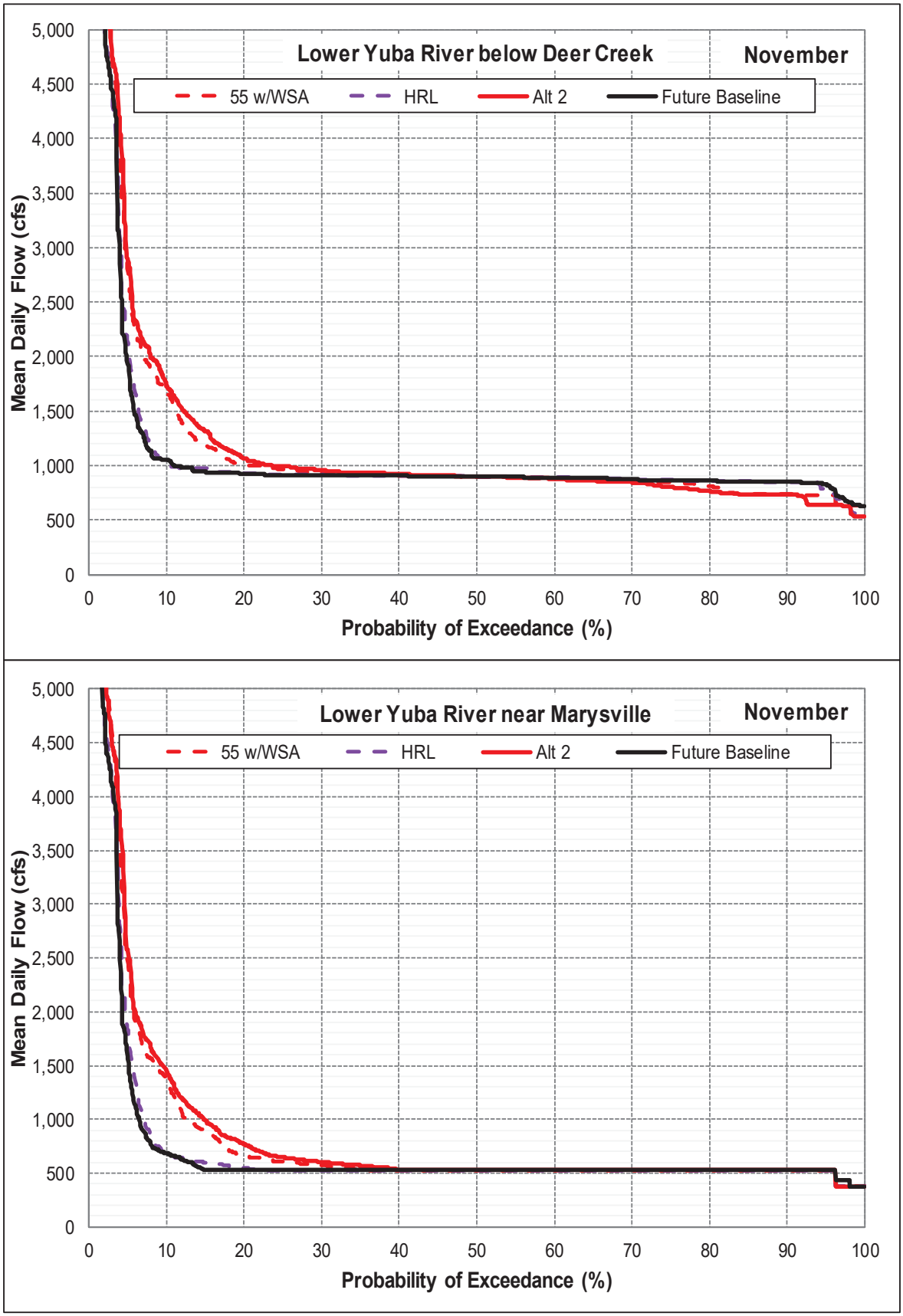


Figure 1A-11. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

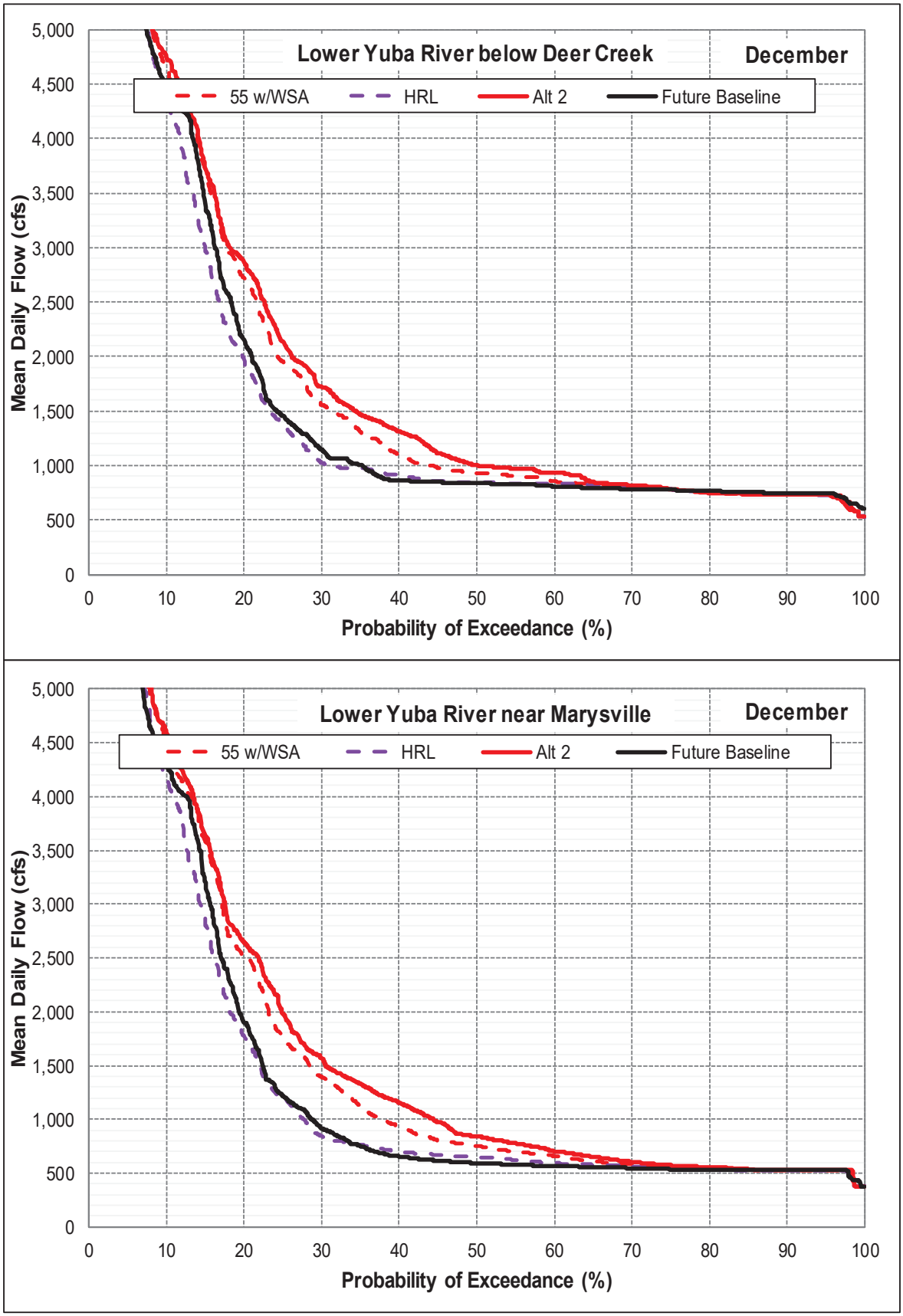


Figure 1A-12. Simulated flow exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

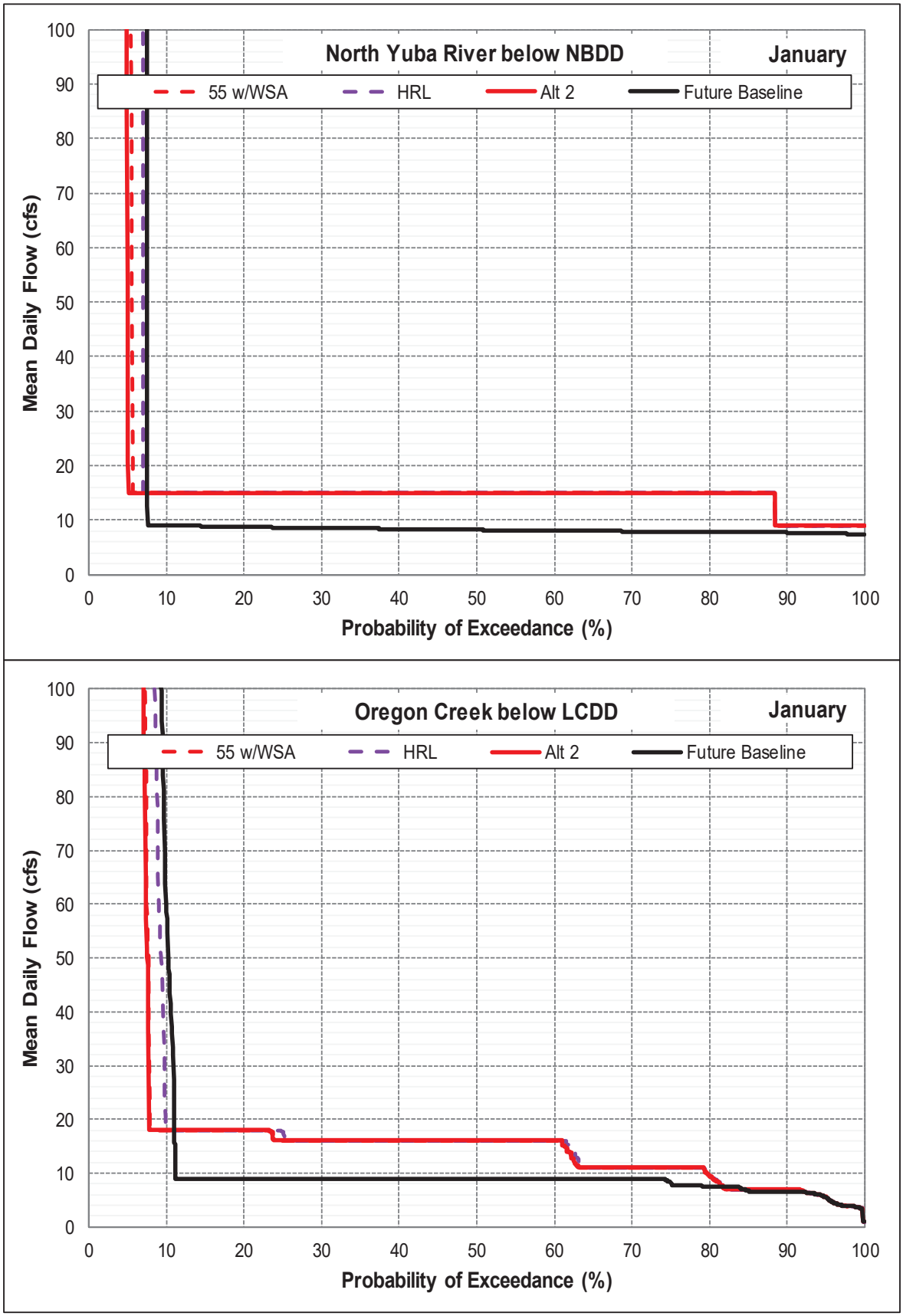


Figure 1A-13. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).

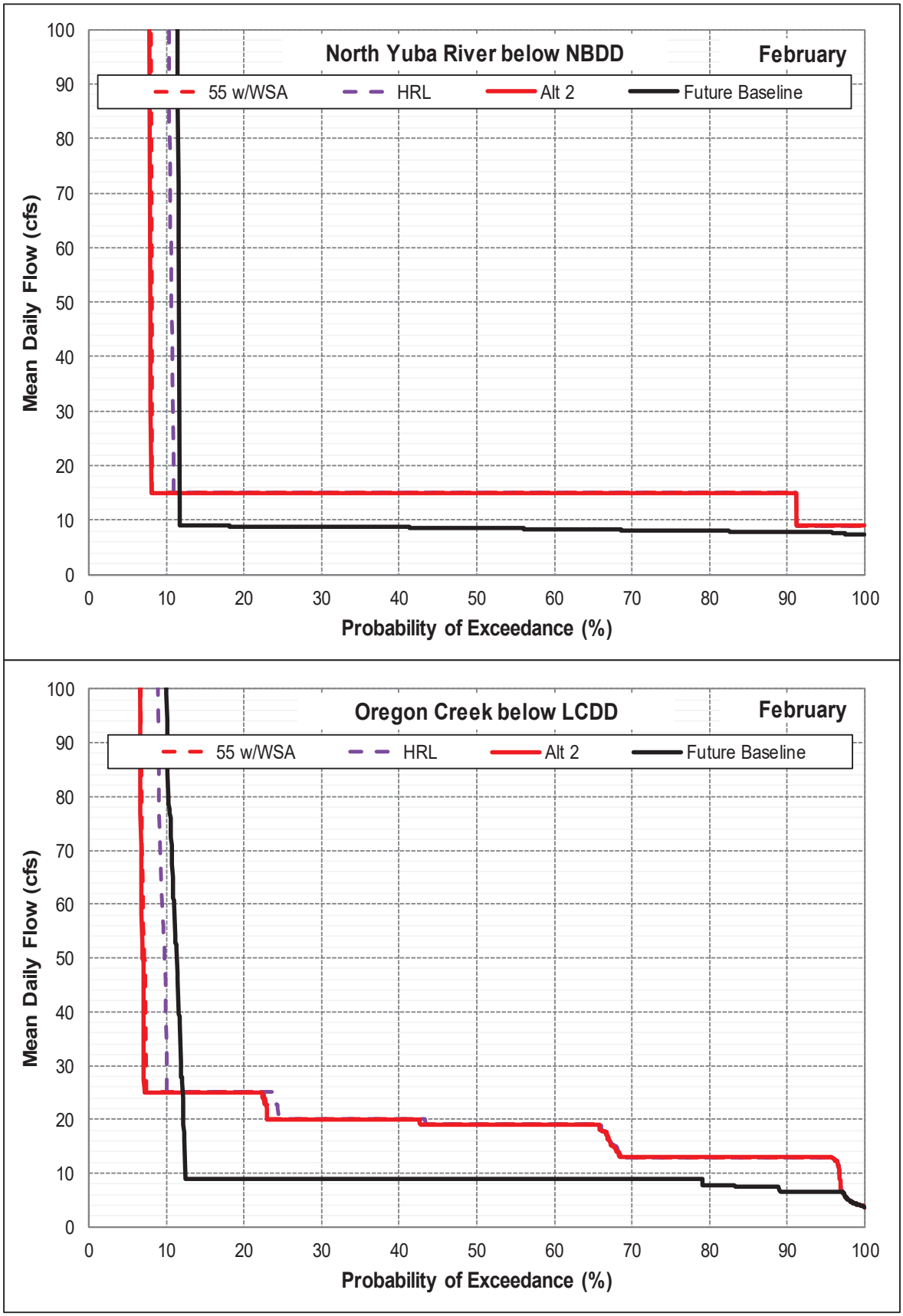


Figure 1A-14. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).

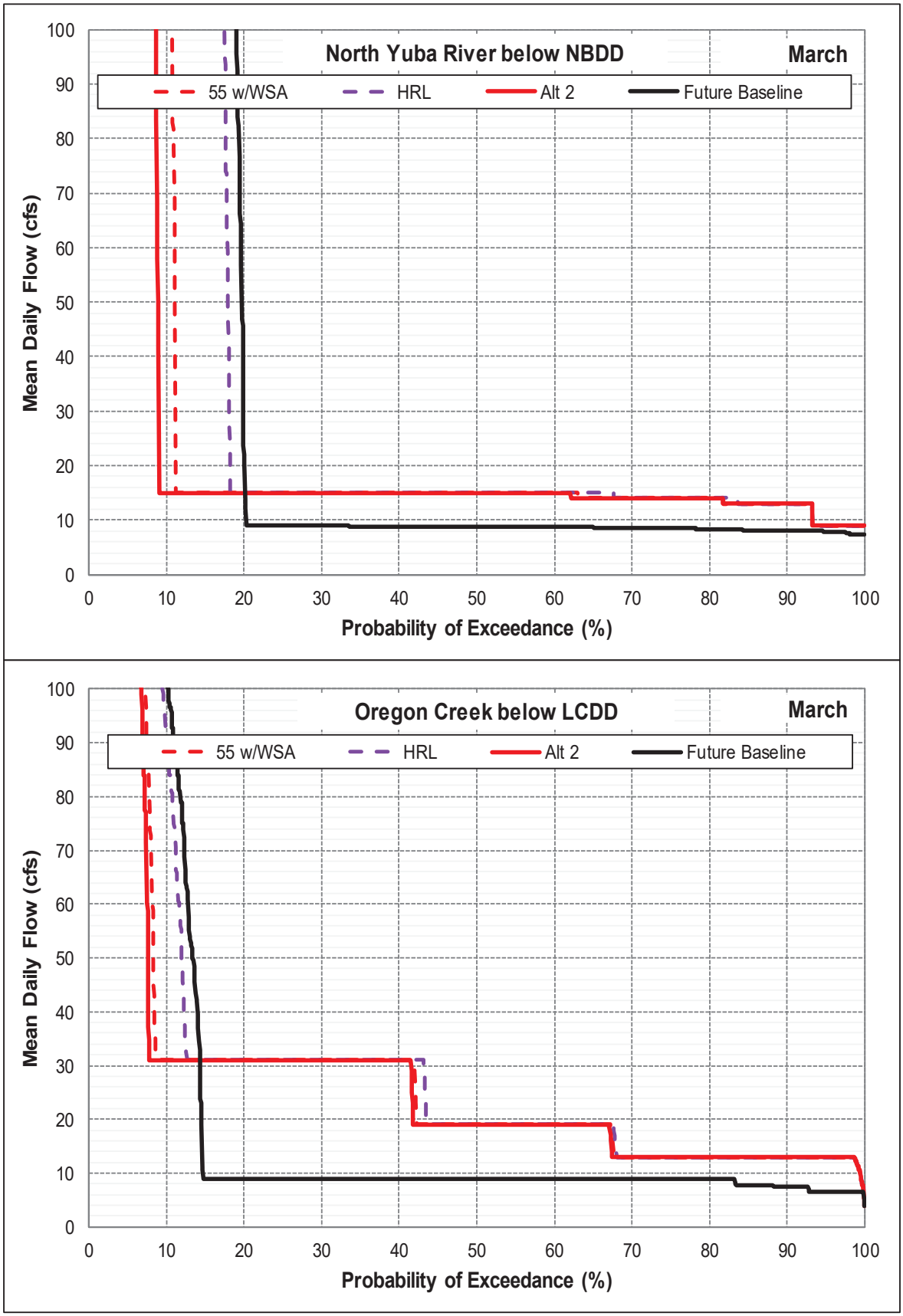


Figure 1A-15. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

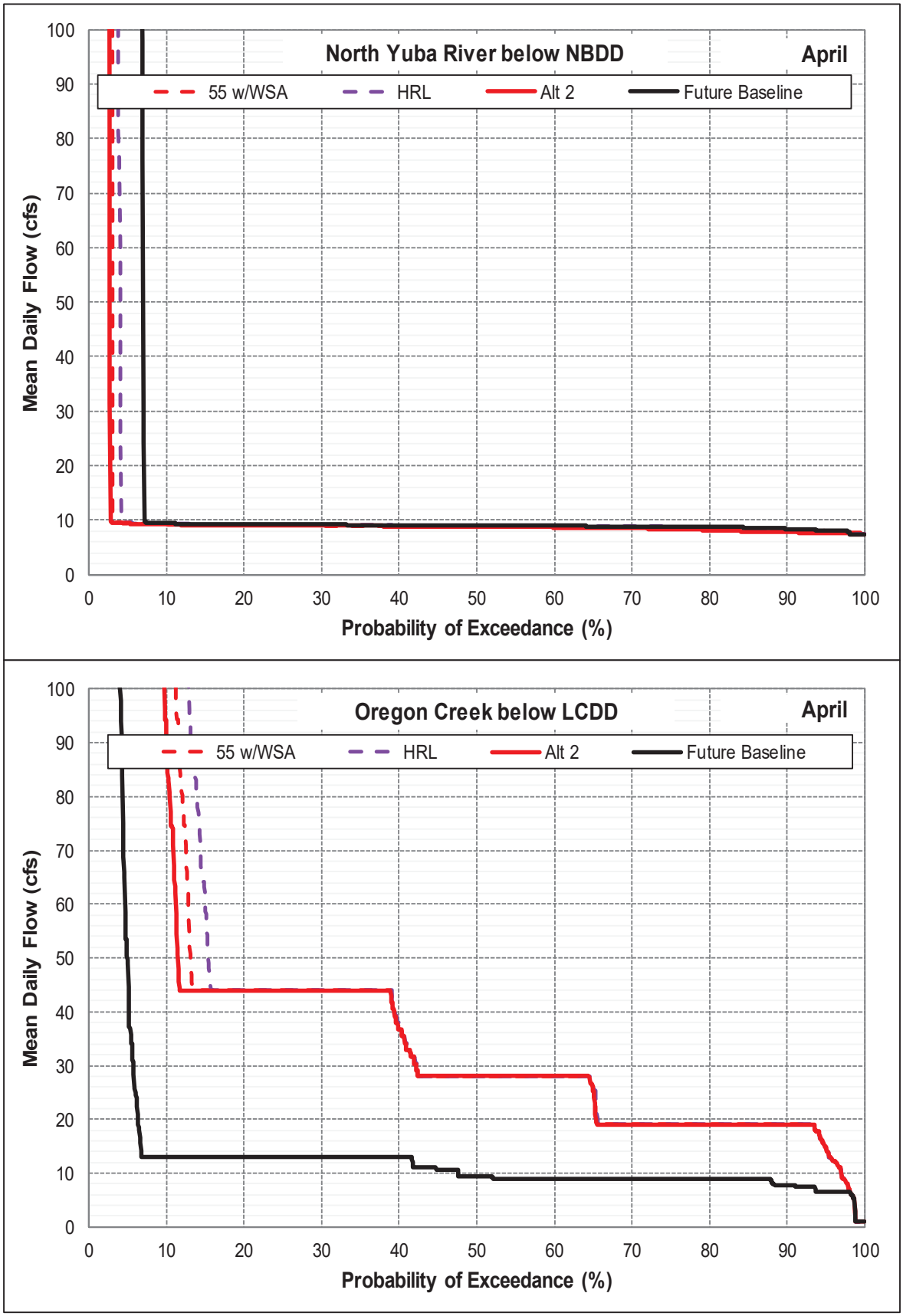


Figure 1A-16. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).

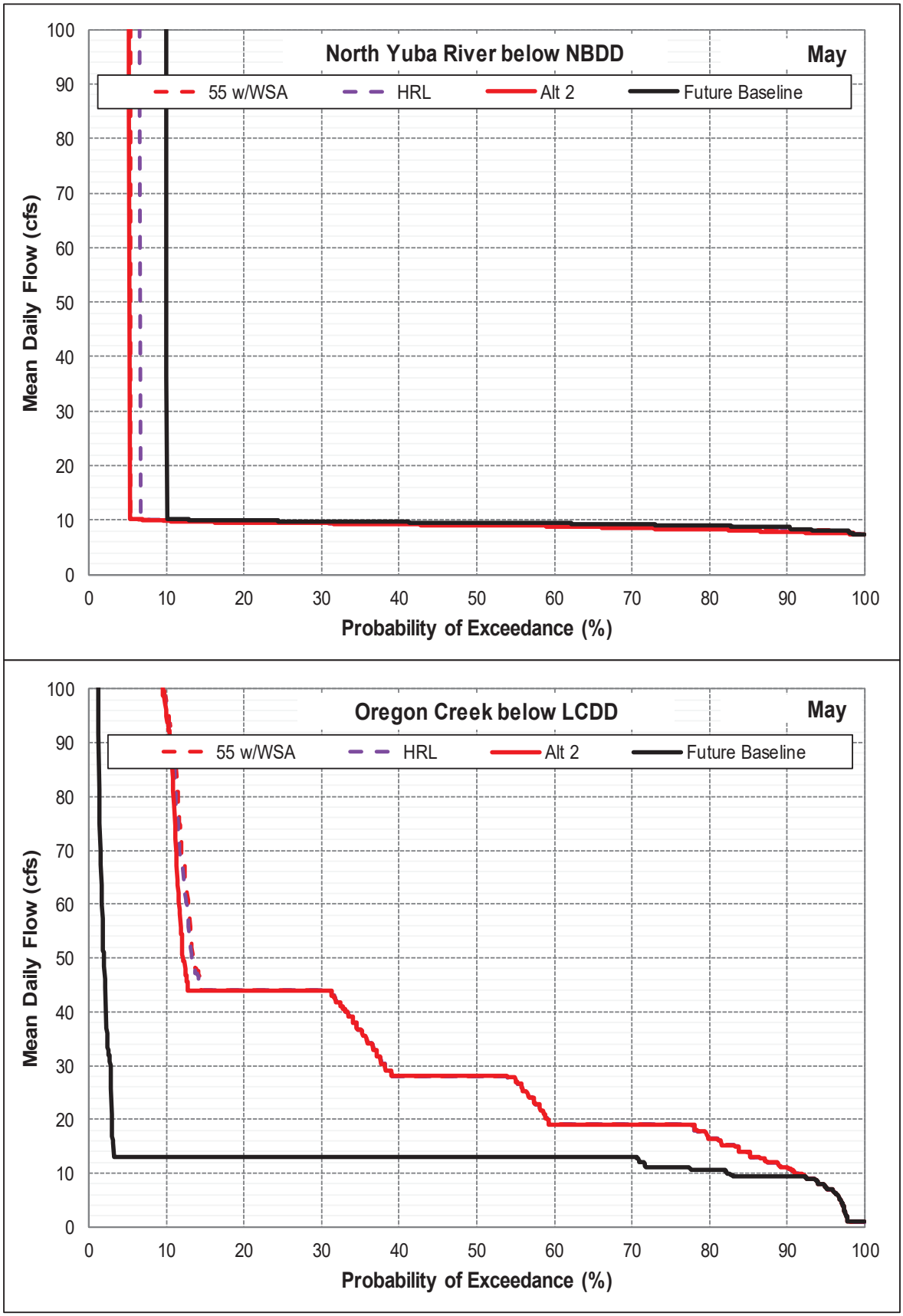


Figure 1A-17. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).

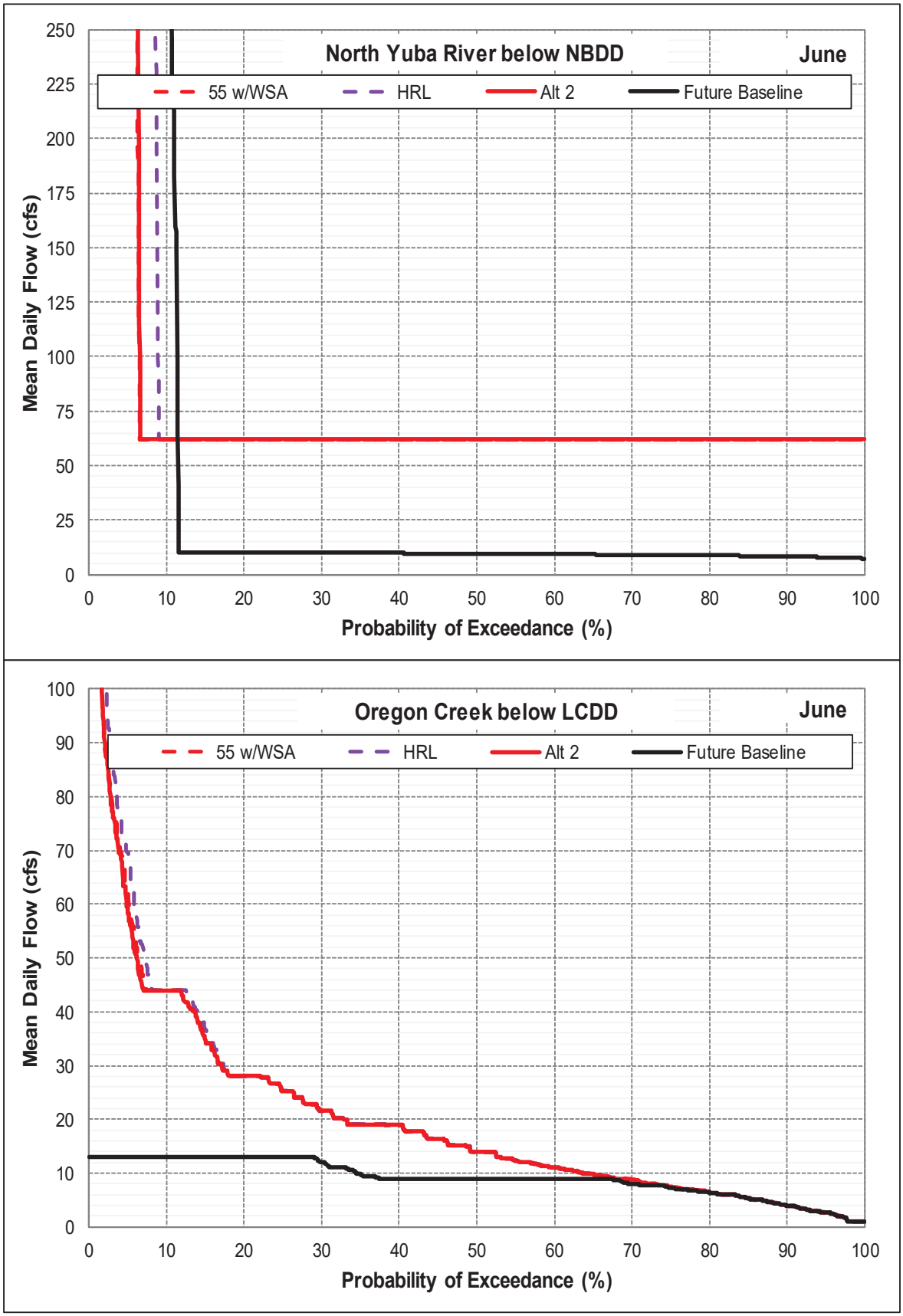


Figure 1A-18. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

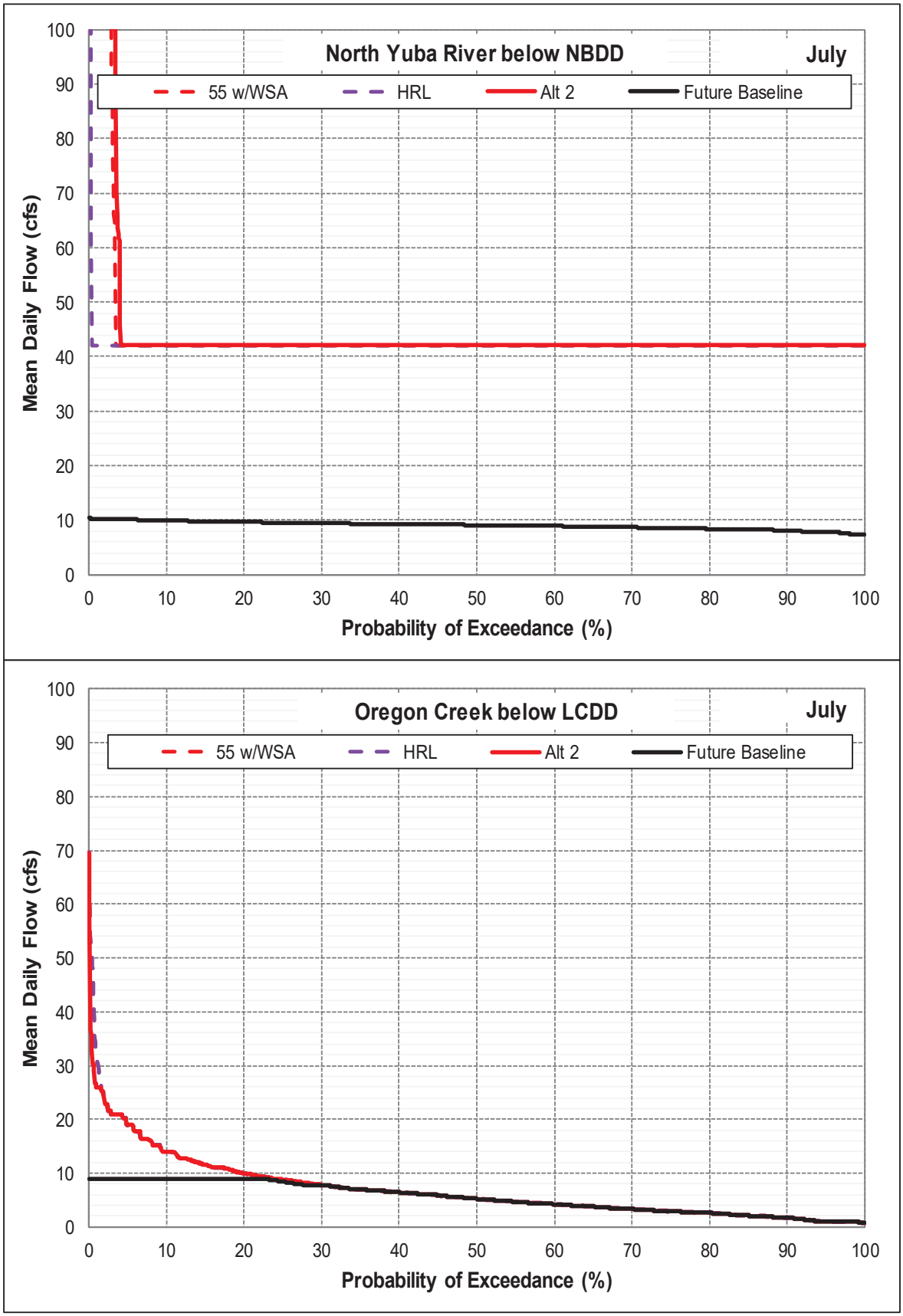


Figure 1A-19. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).

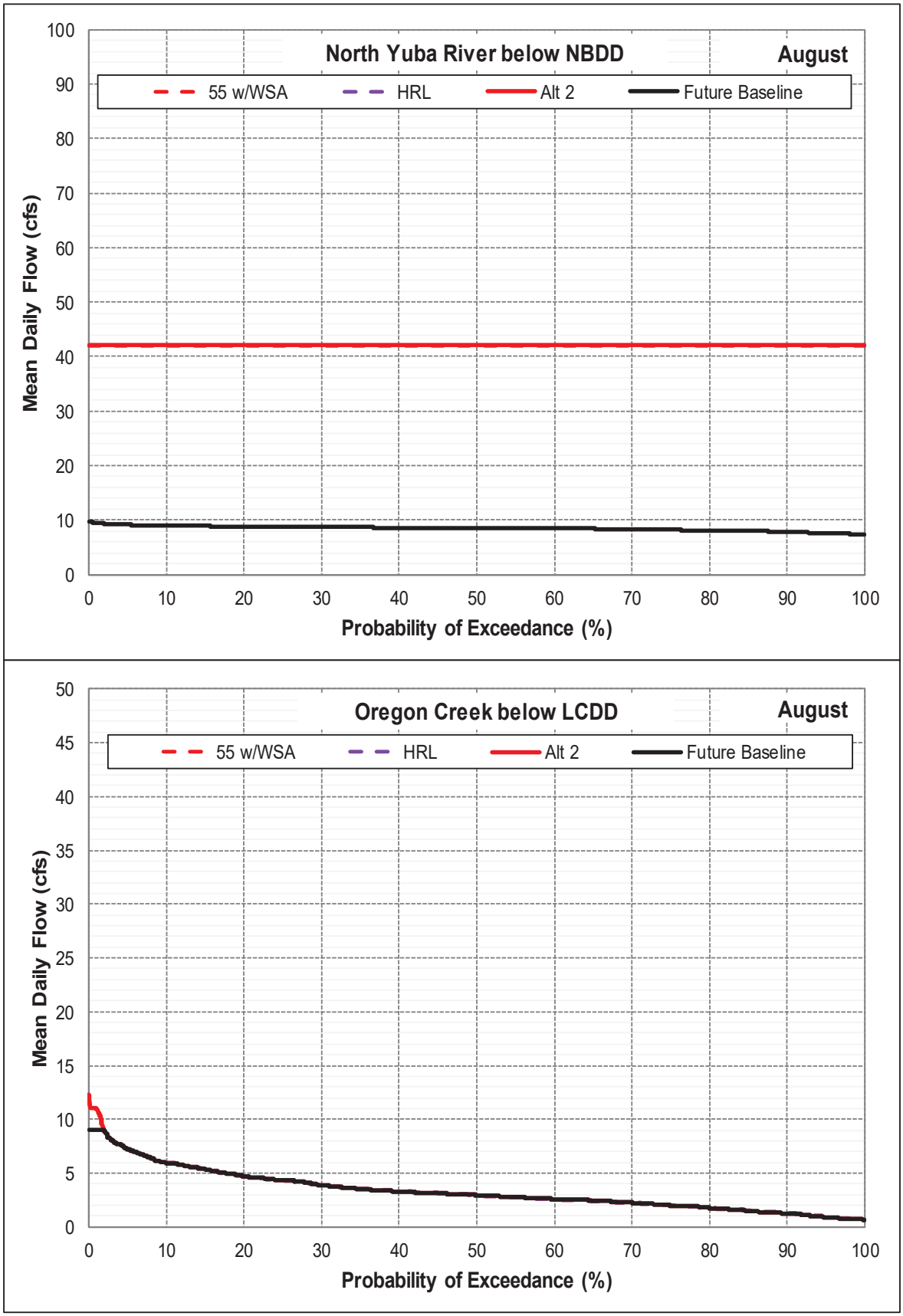


Figure 1A-20. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

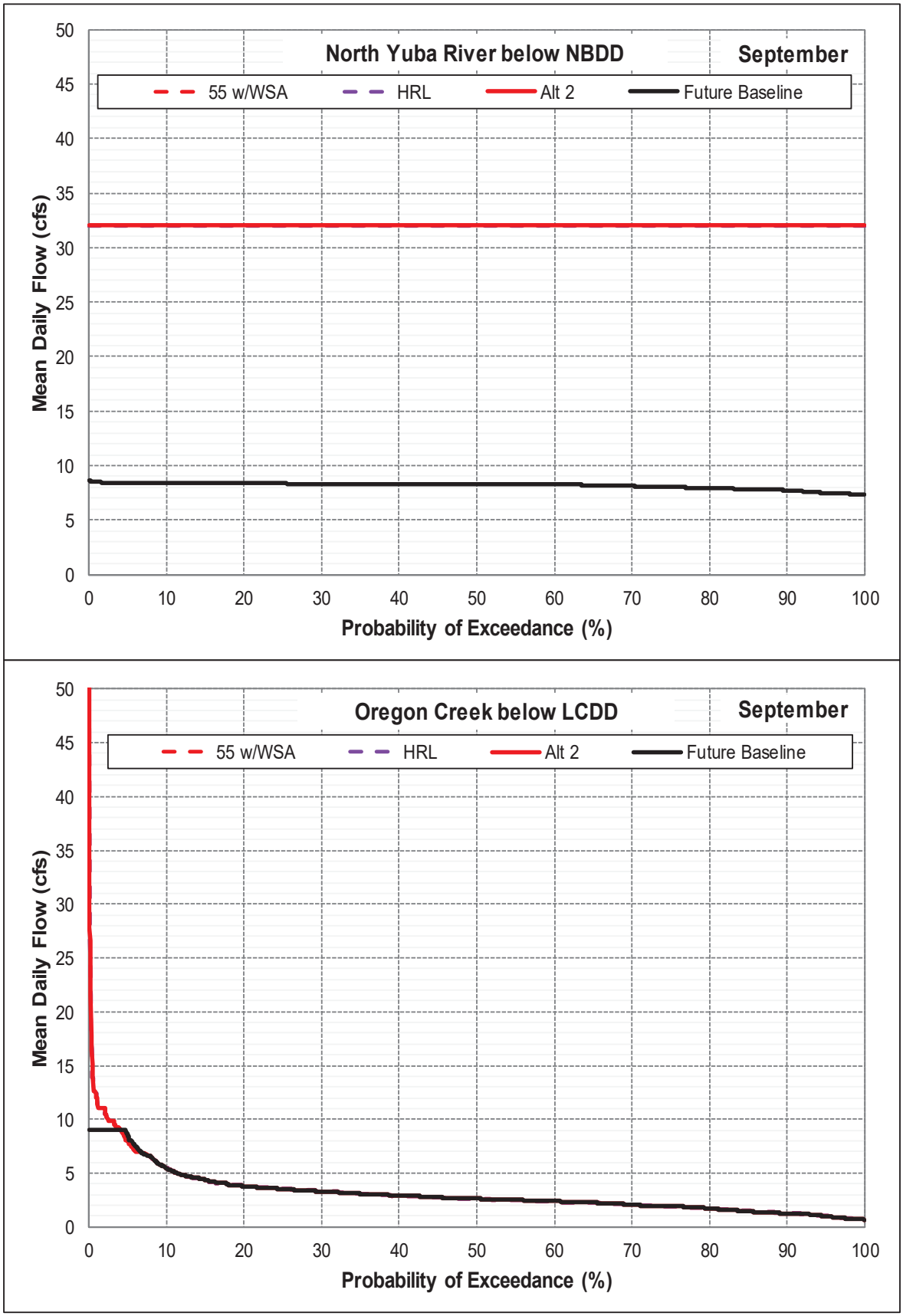


Figure 1A-21. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

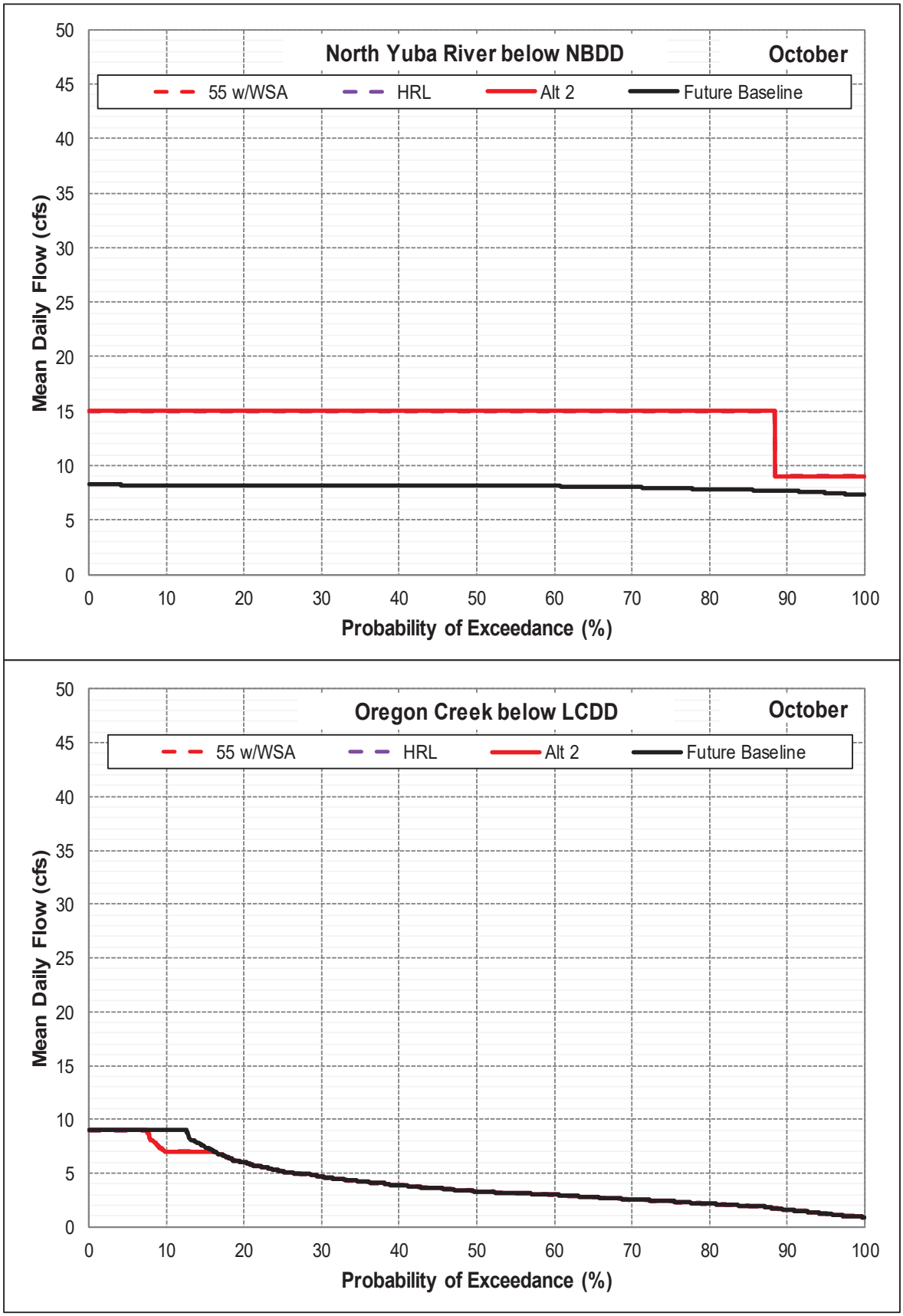


Figure 1A-22. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

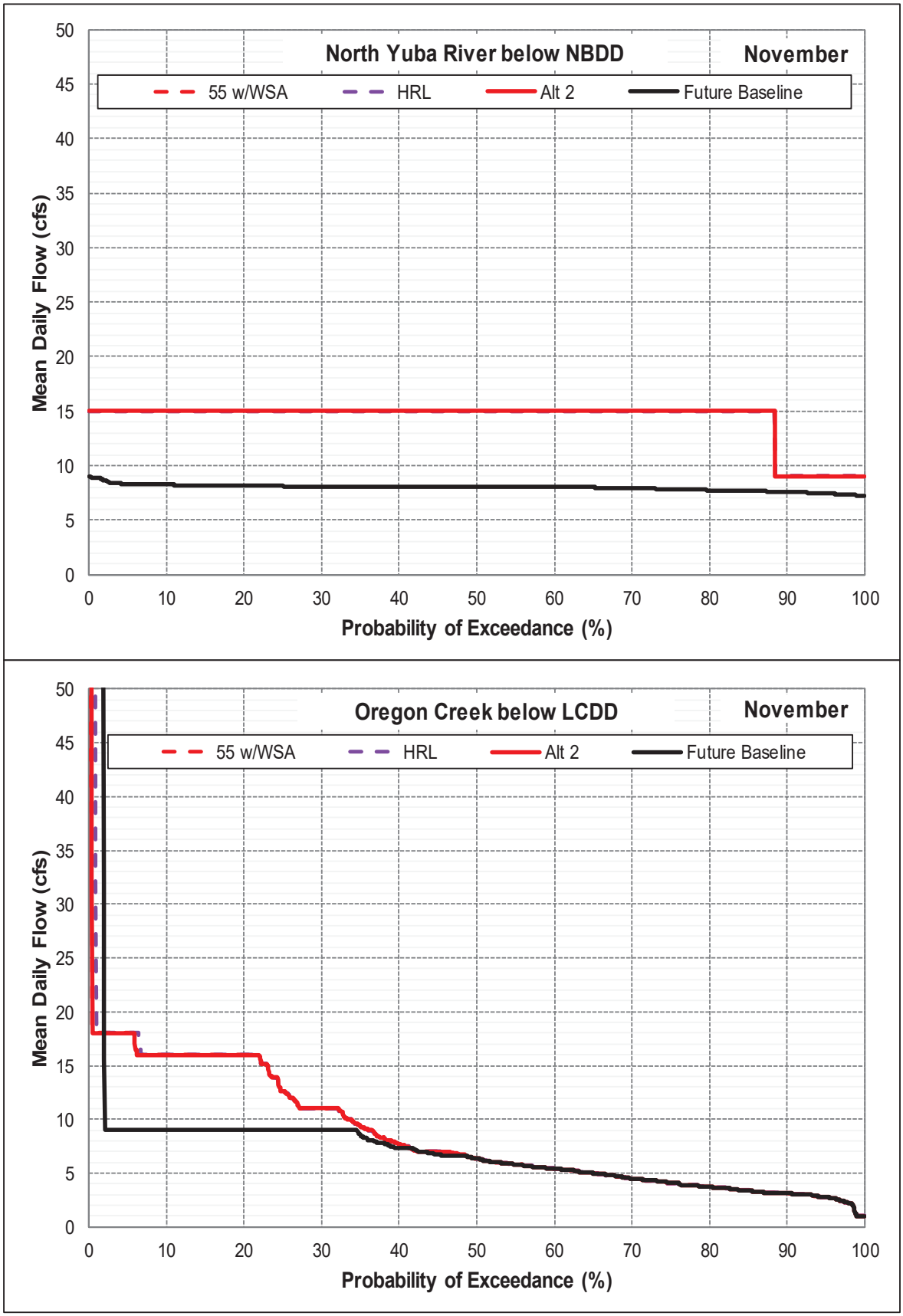


Figure 1A-23. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

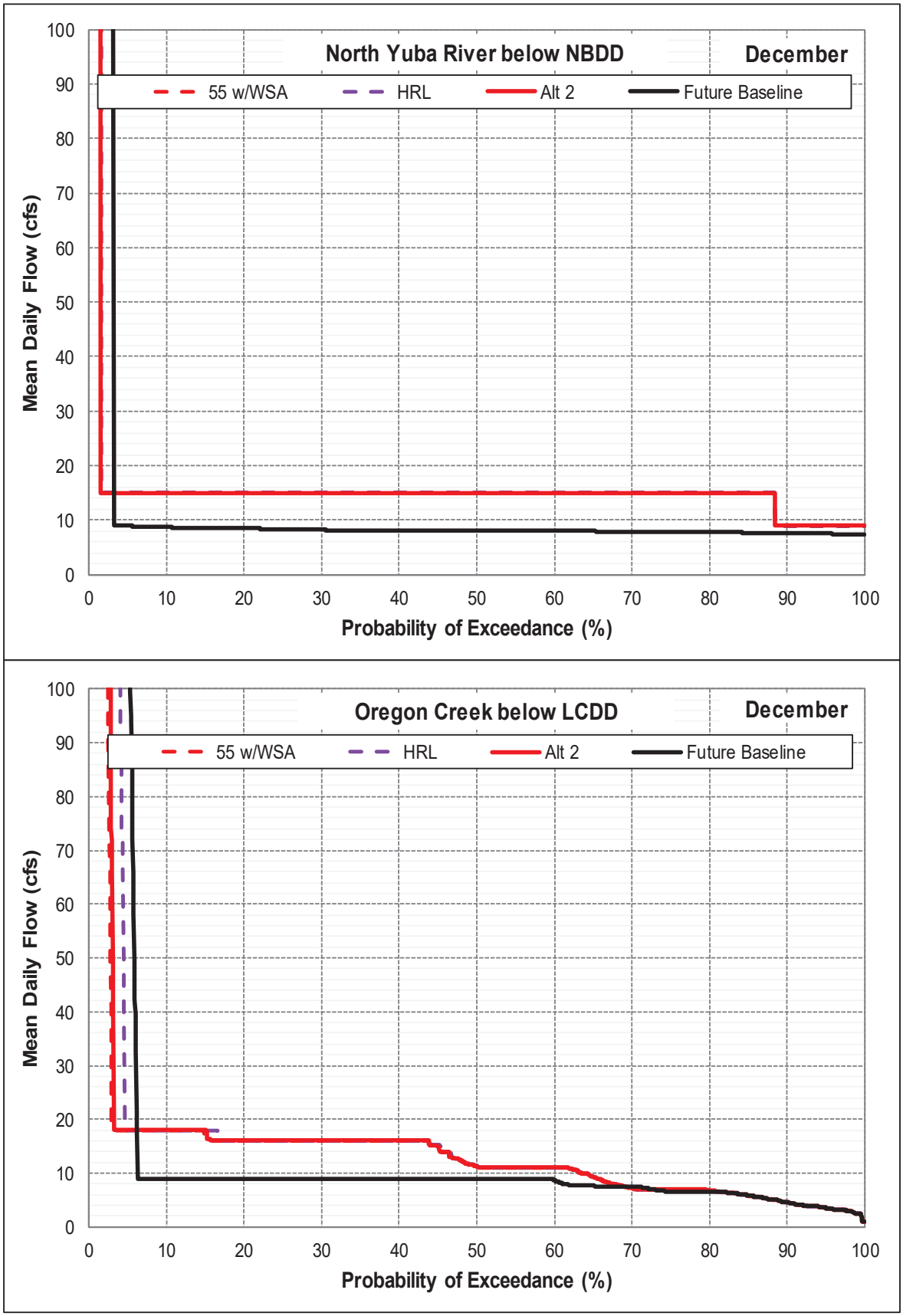


Figure 1A-24. Simulated flow exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

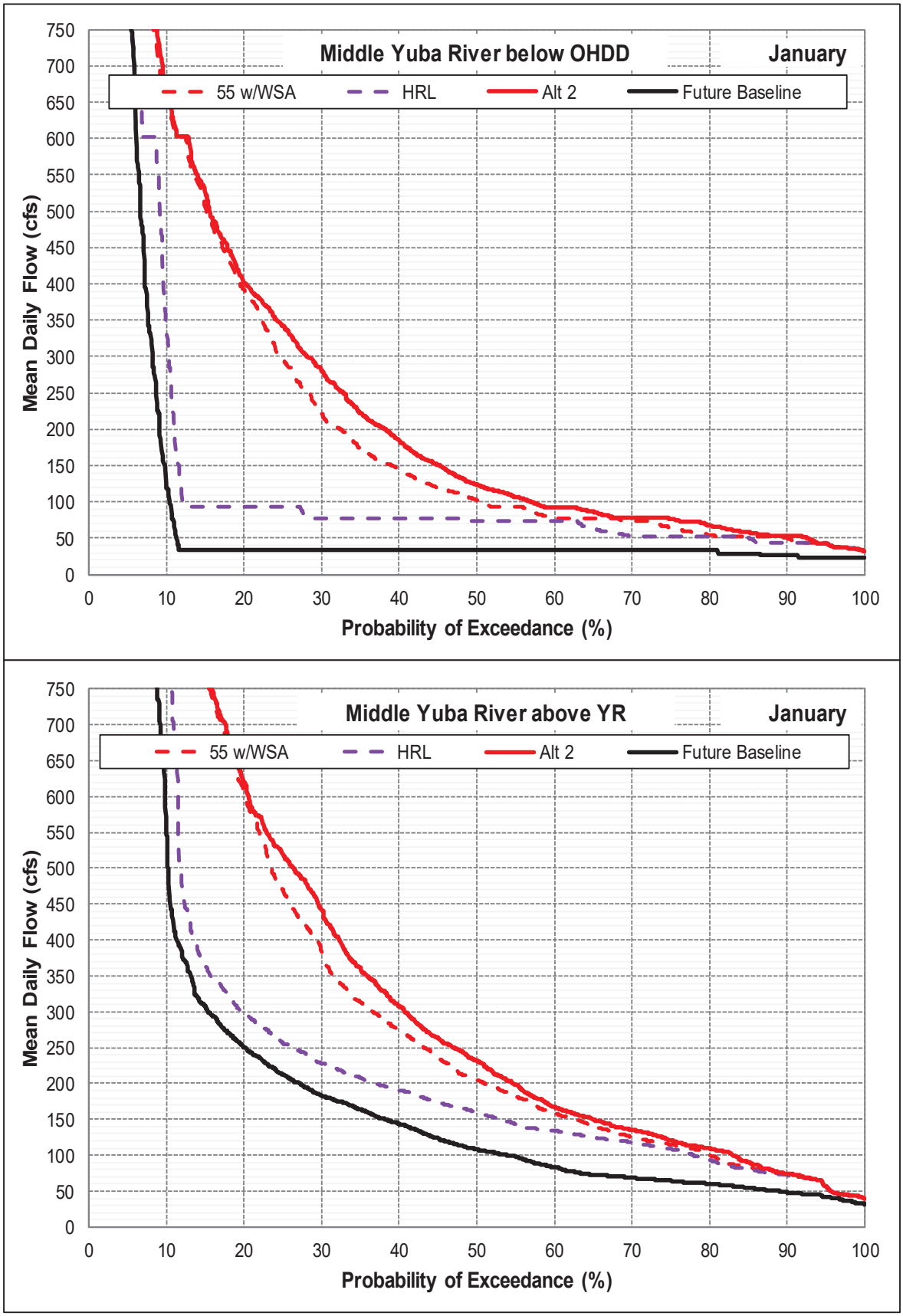


Figure 1A-25. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).

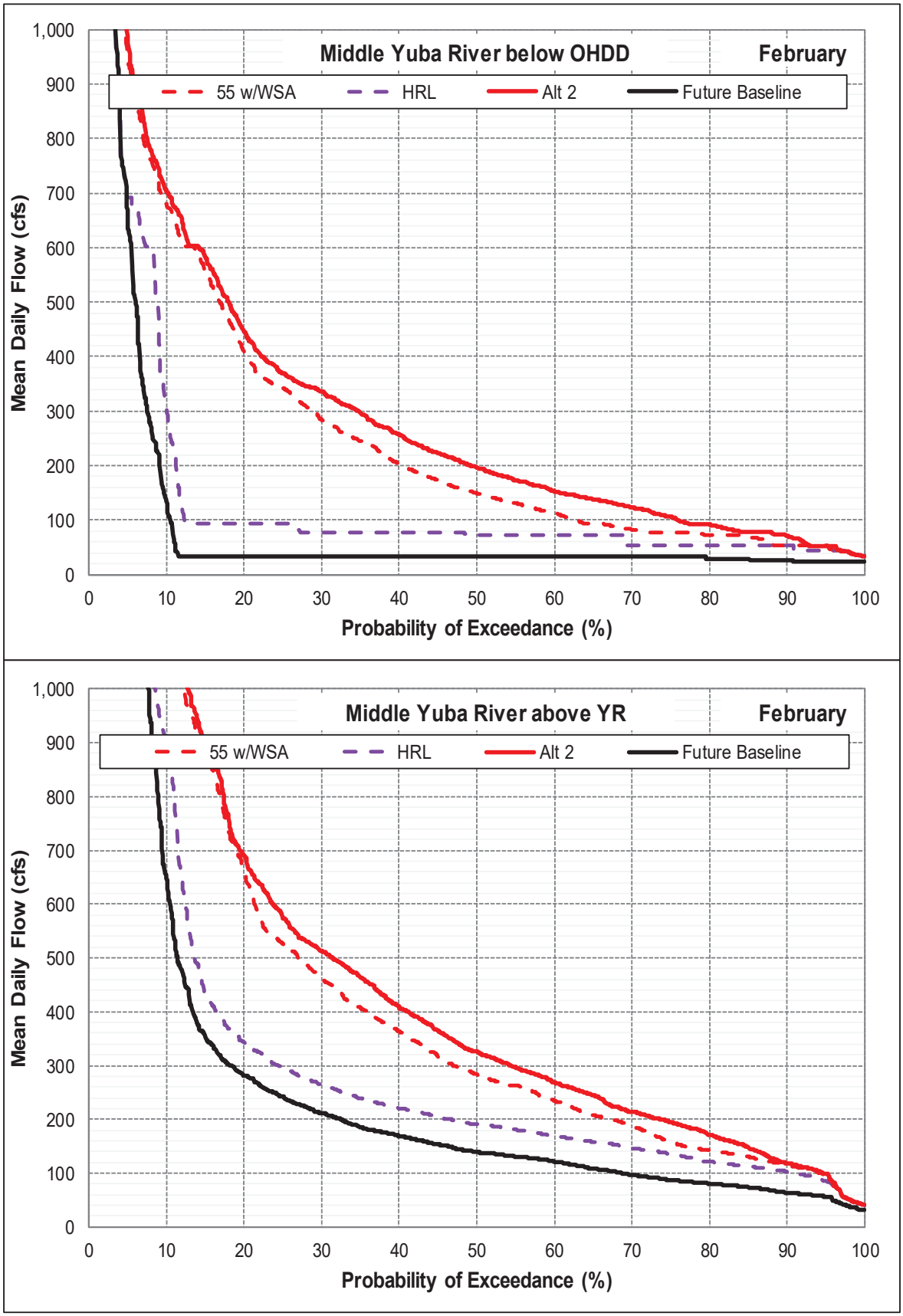


Figure 1A-26. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).

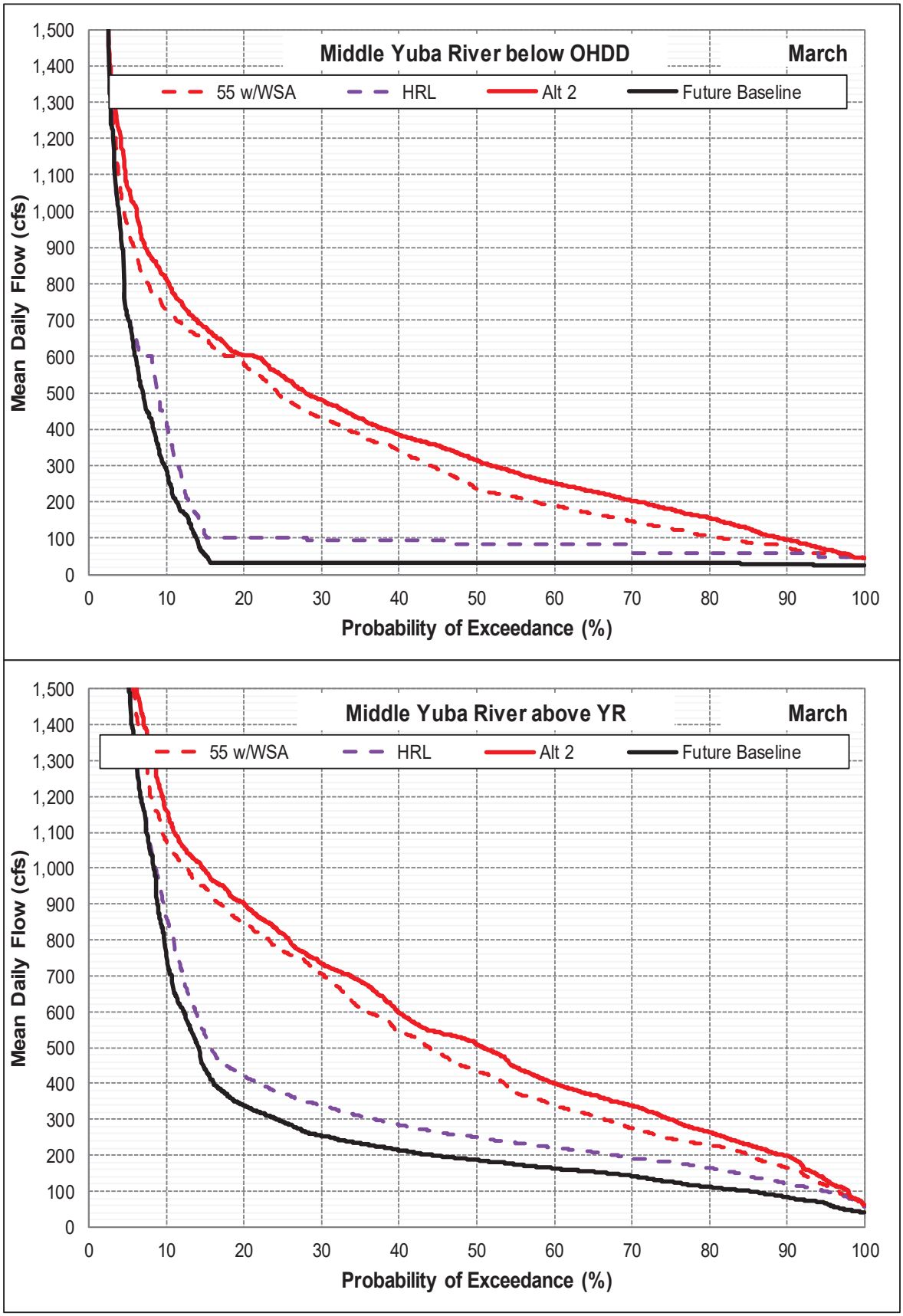


Figure 1A-27. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

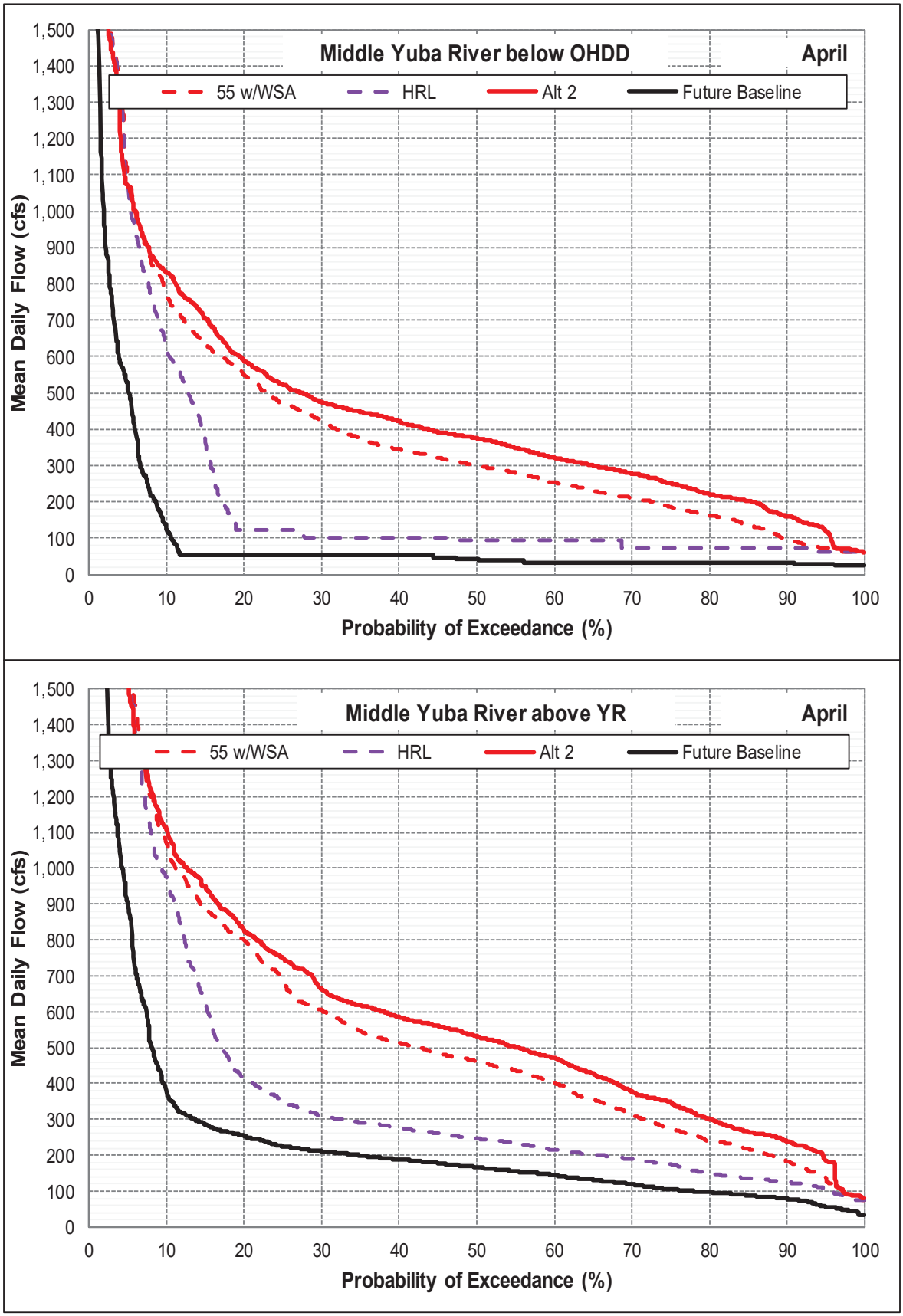


Figure 1A-28. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).

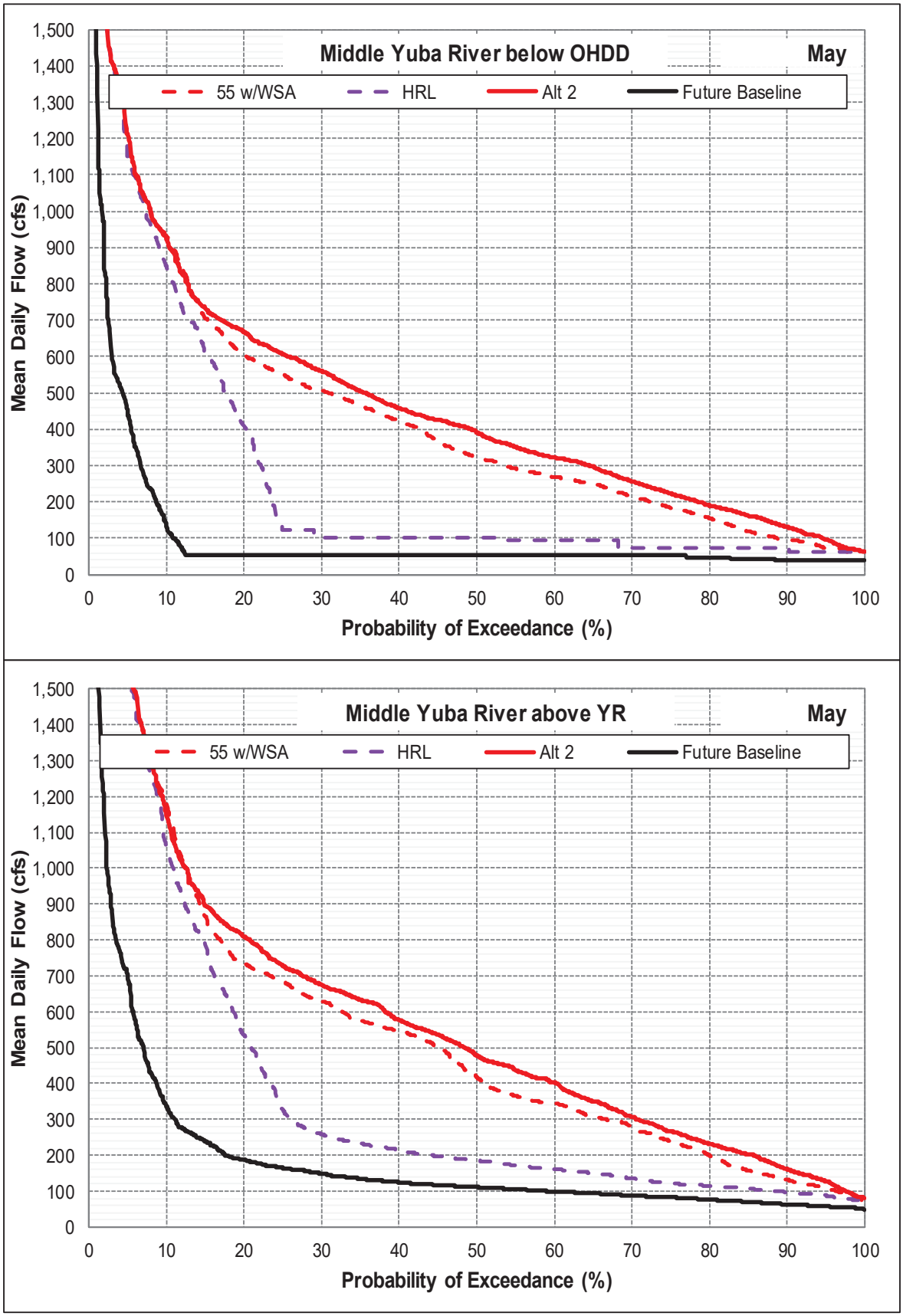


Figure 1A-29. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).

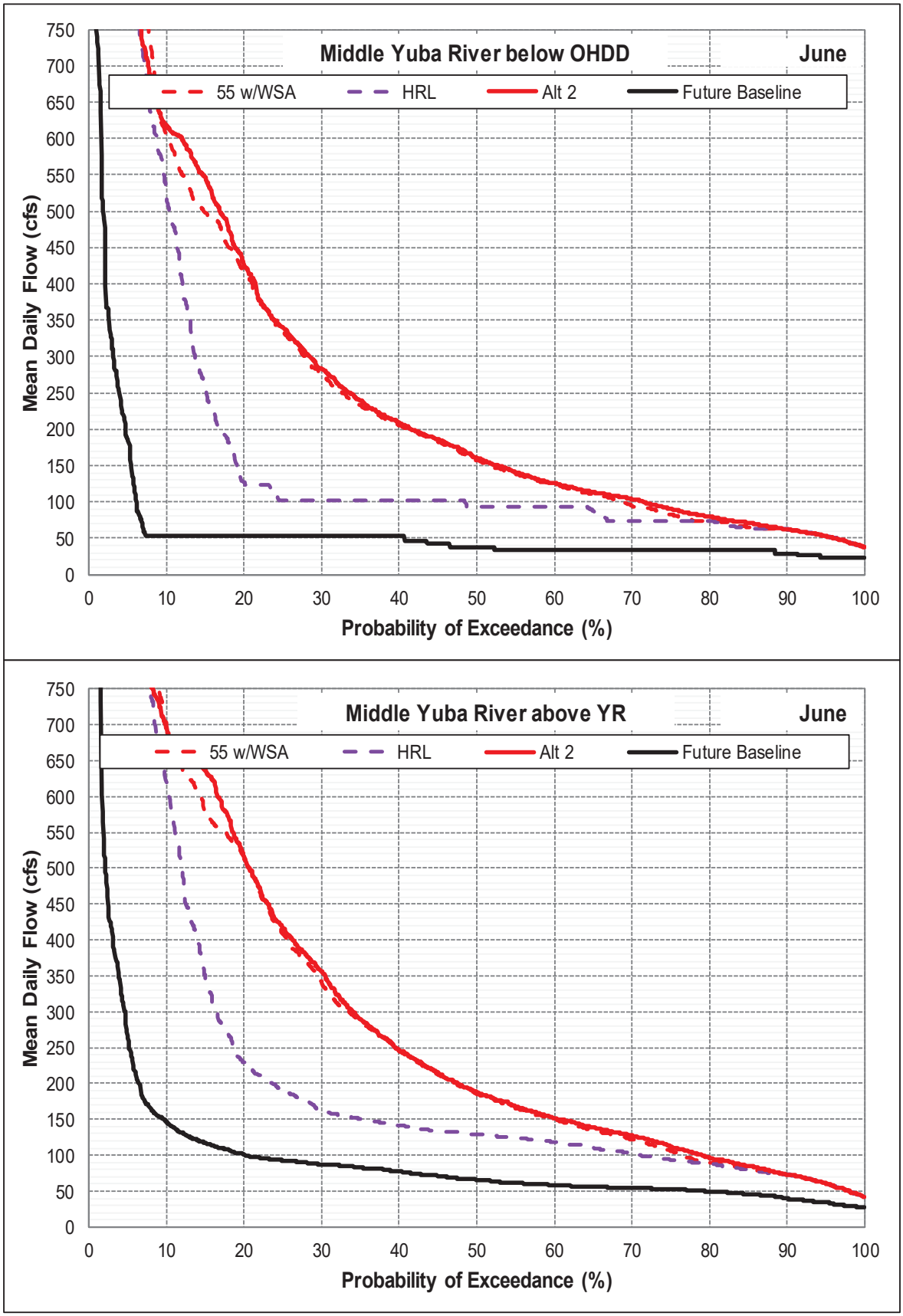


Figure 1A-30. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

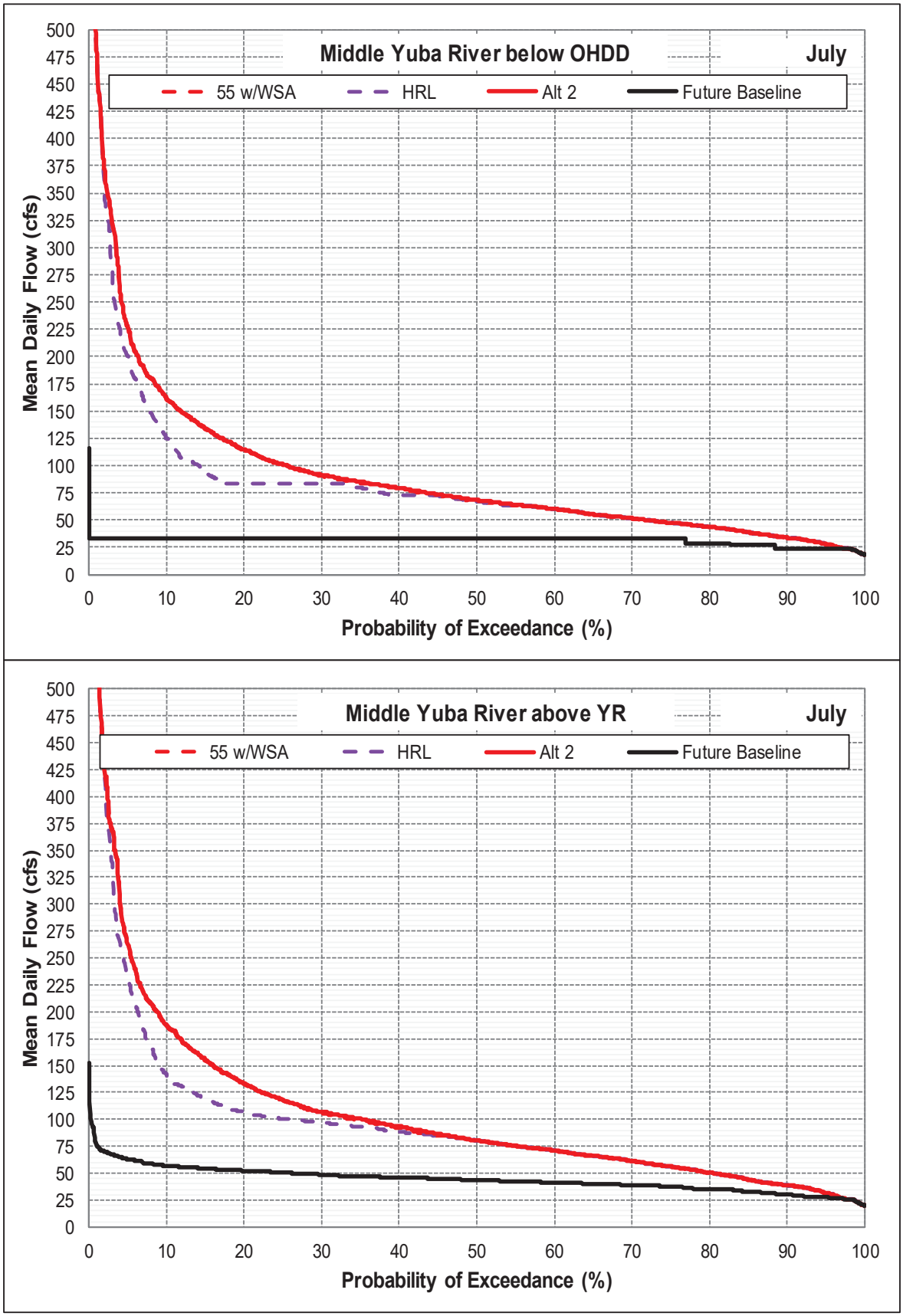


Figure 1A-31. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).

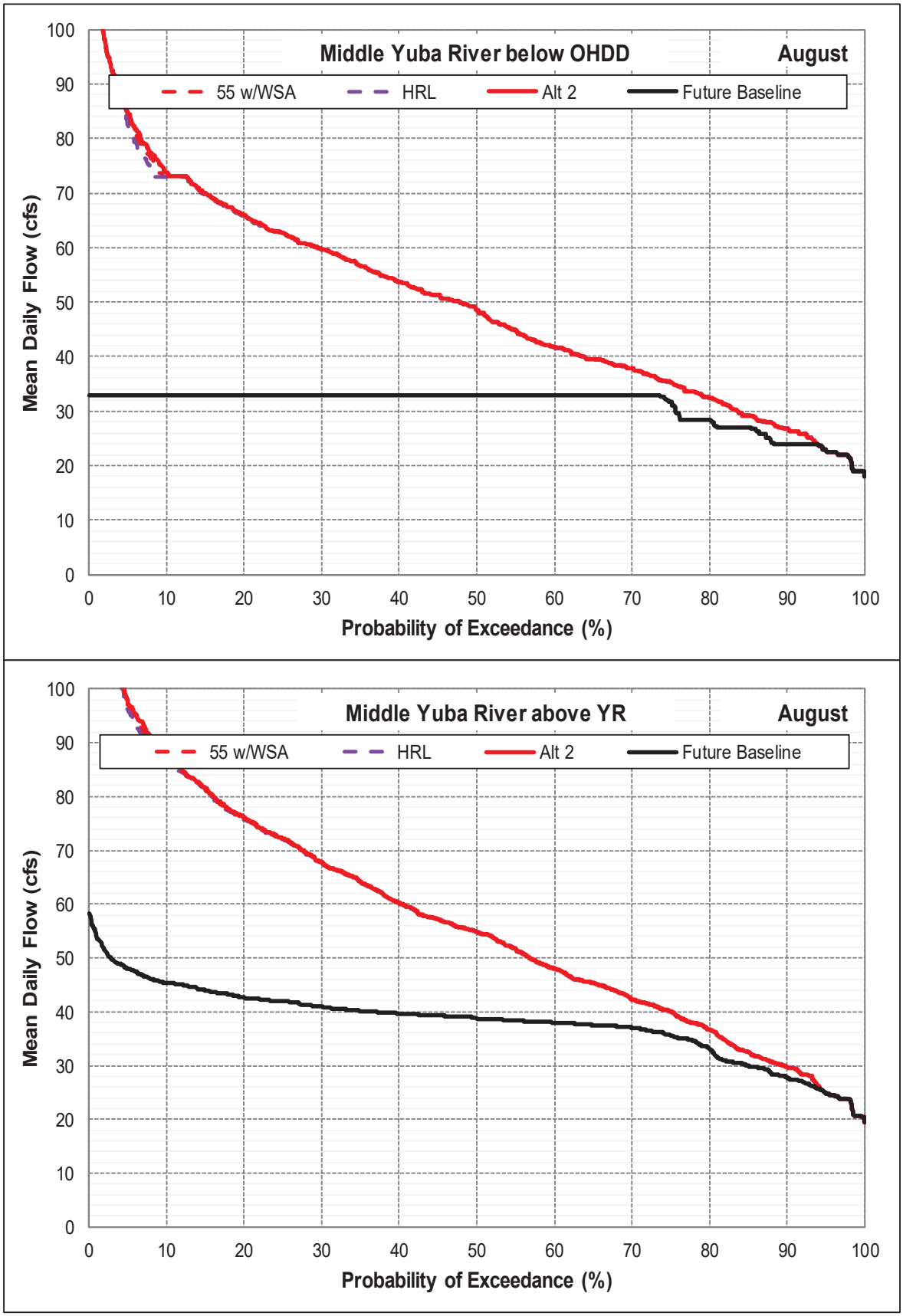


Figure 1A-32. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

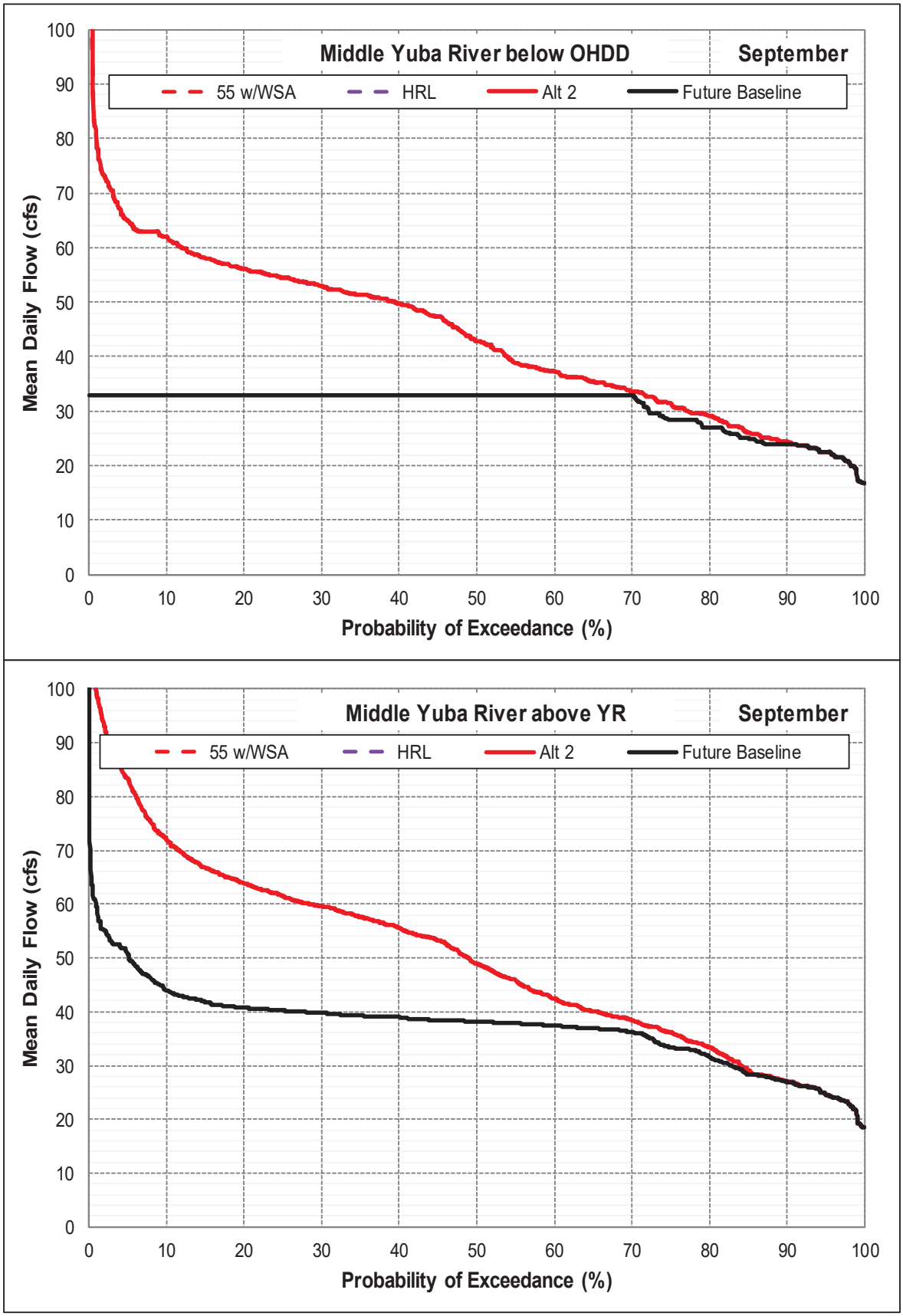


Figure 1A-33. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

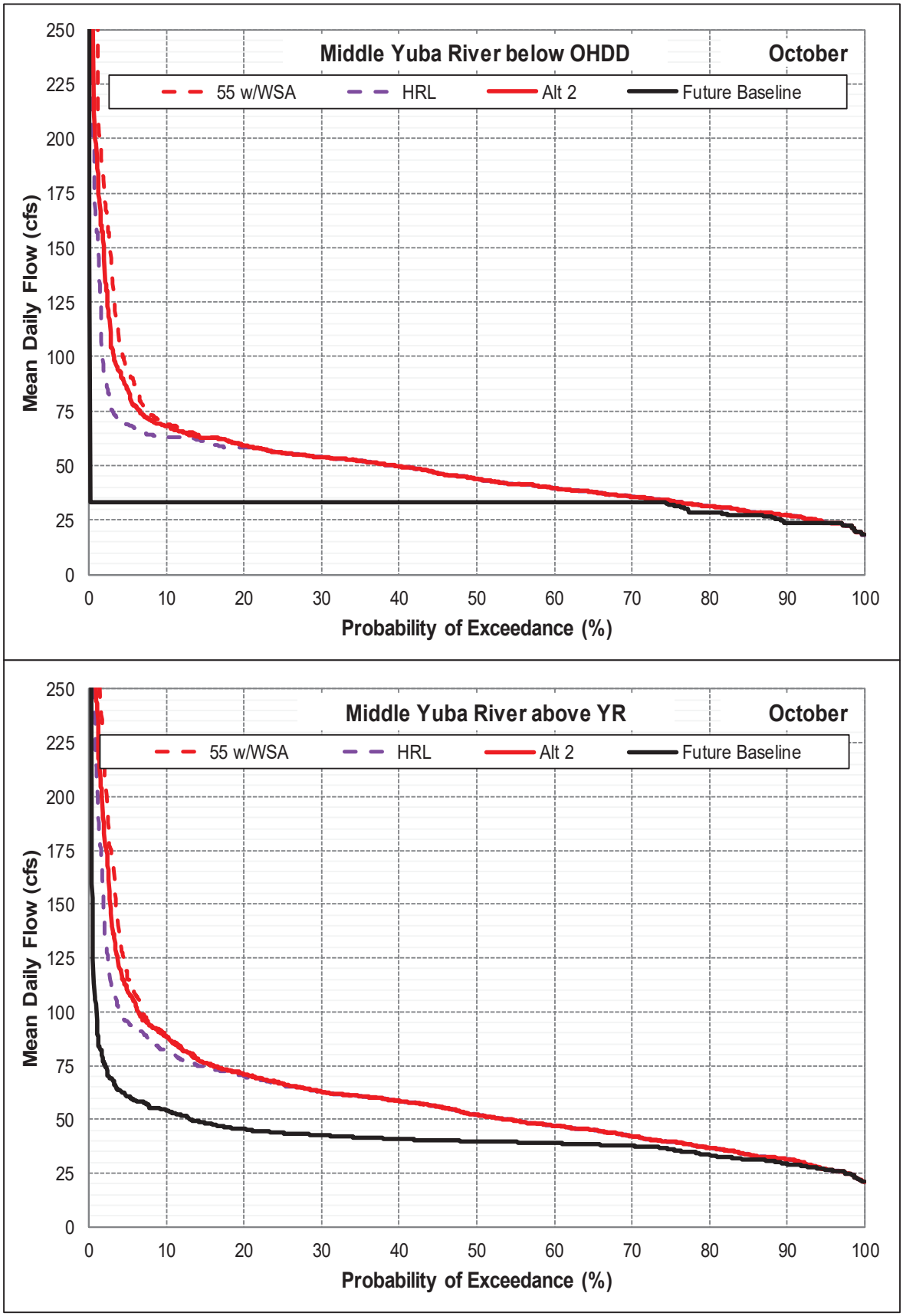


Figure 1A-34. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

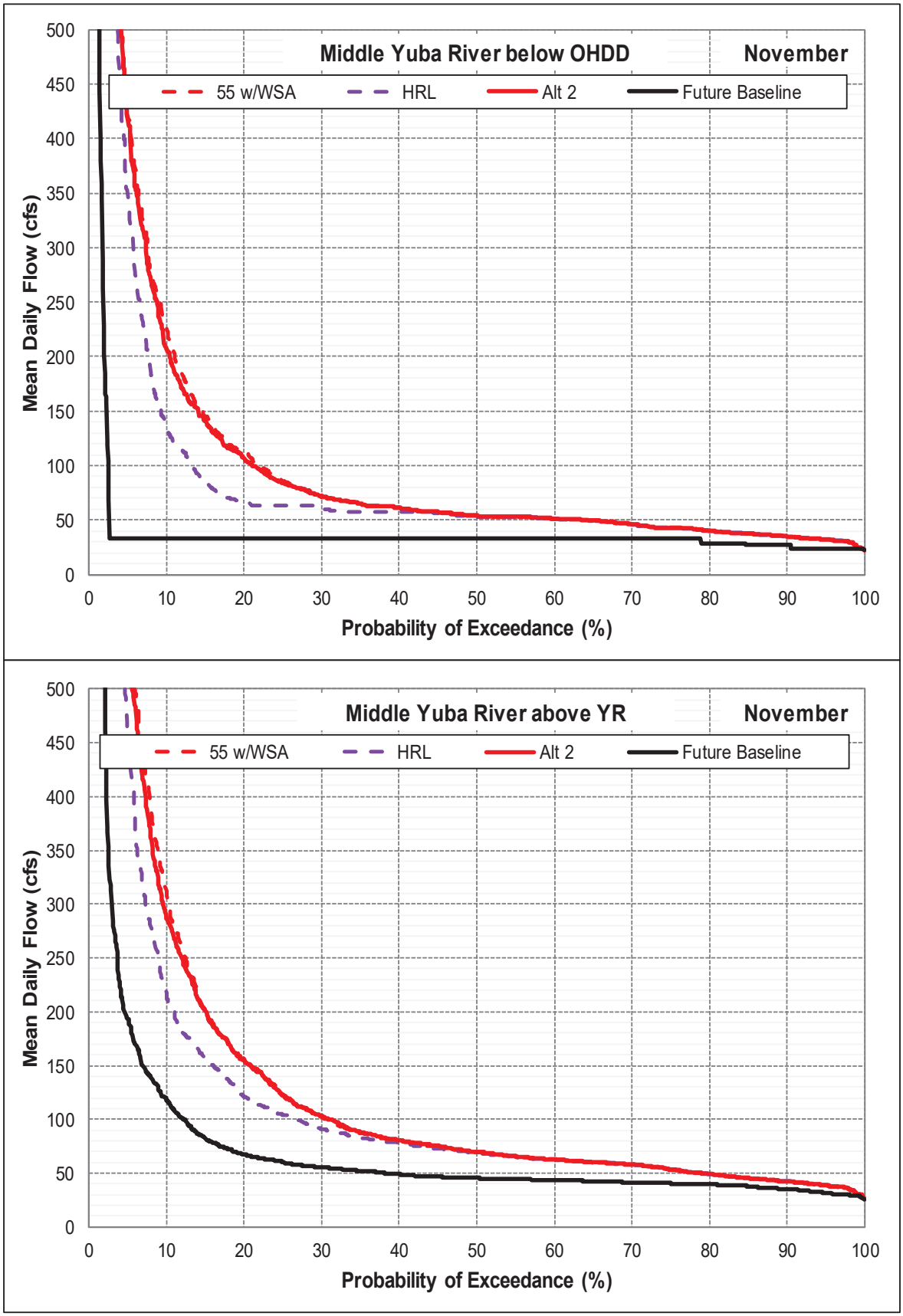


Figure 1A-35. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

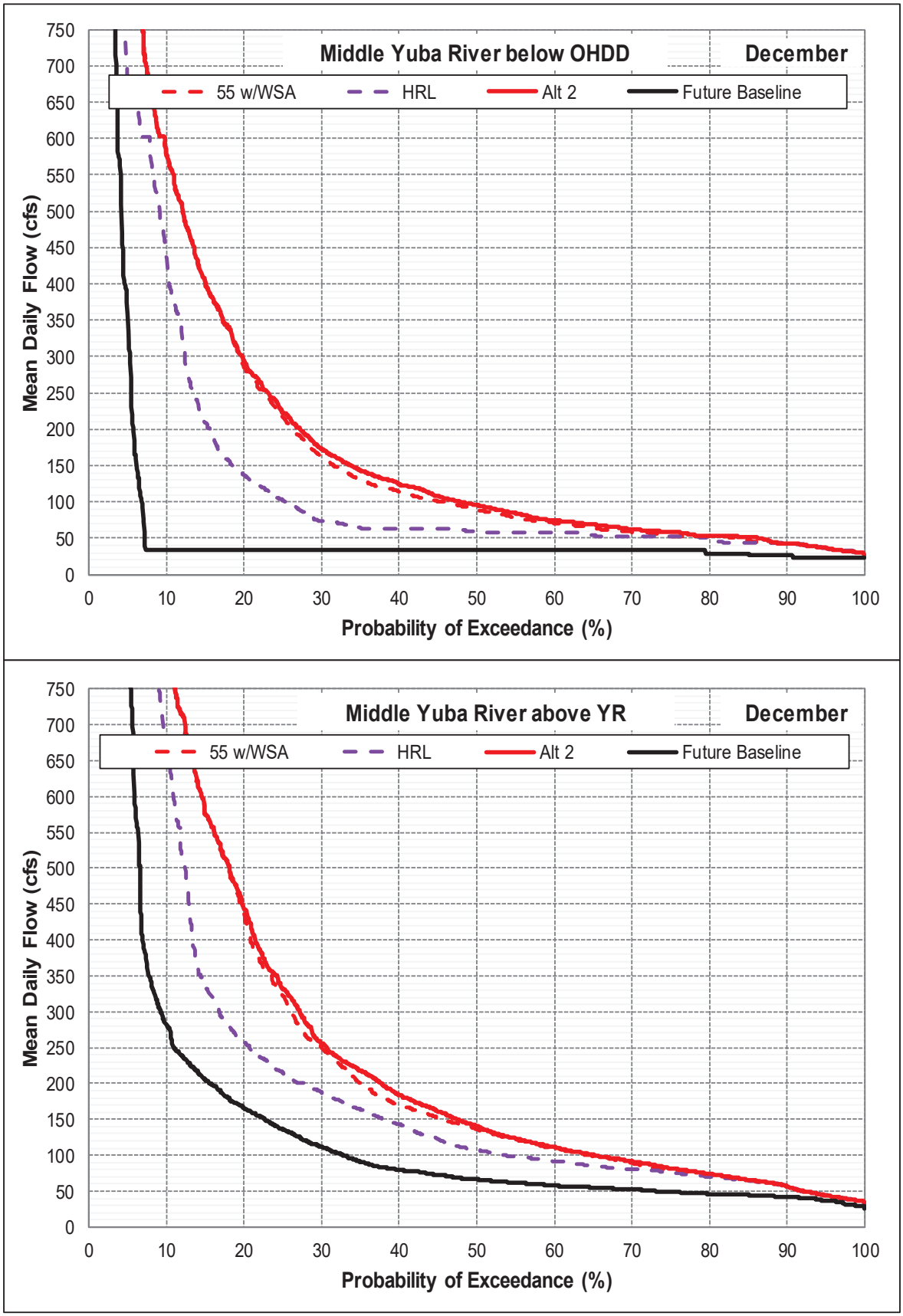


Figure 1A-36. Simulated flow exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

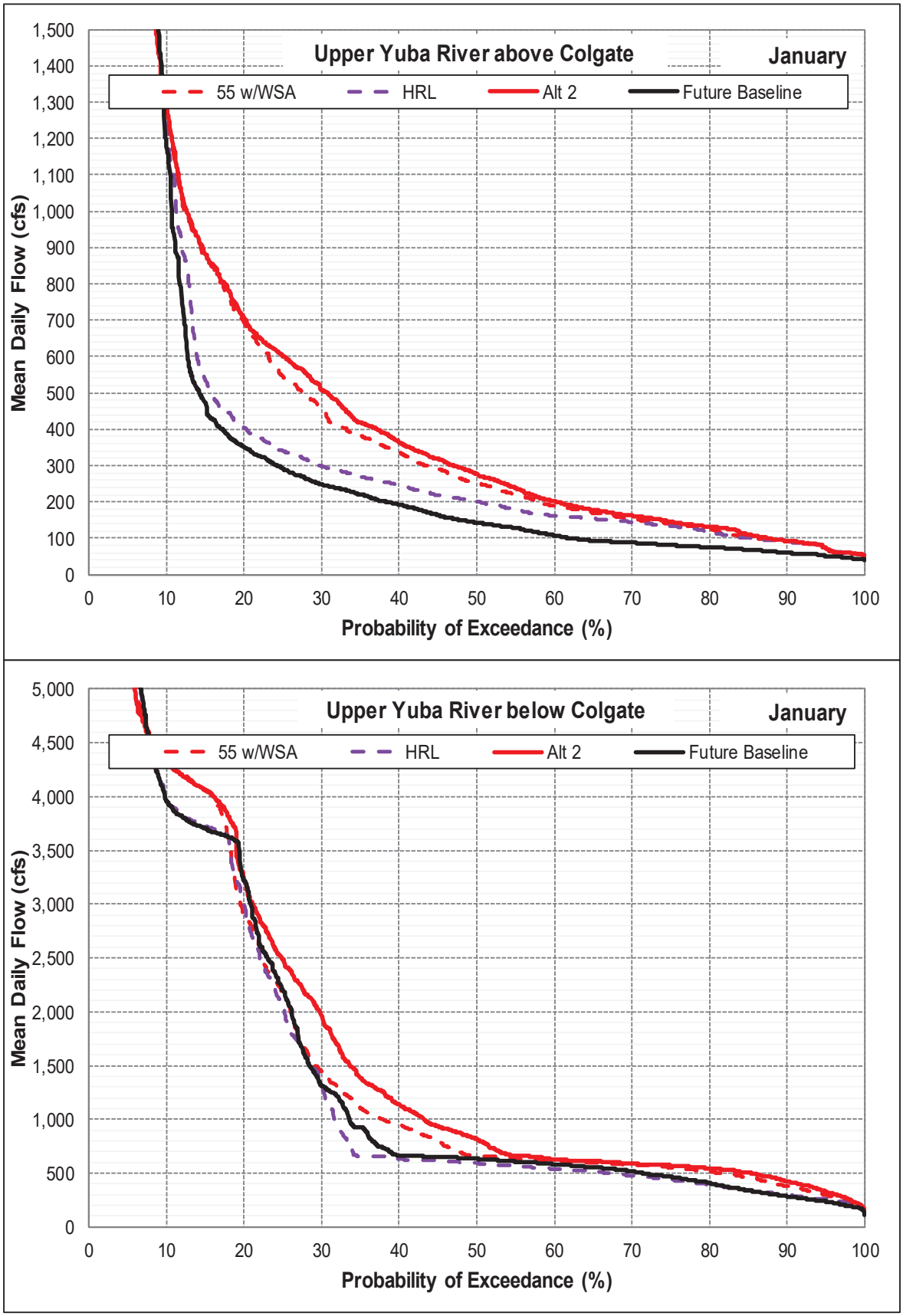


Figure 1A-37. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).

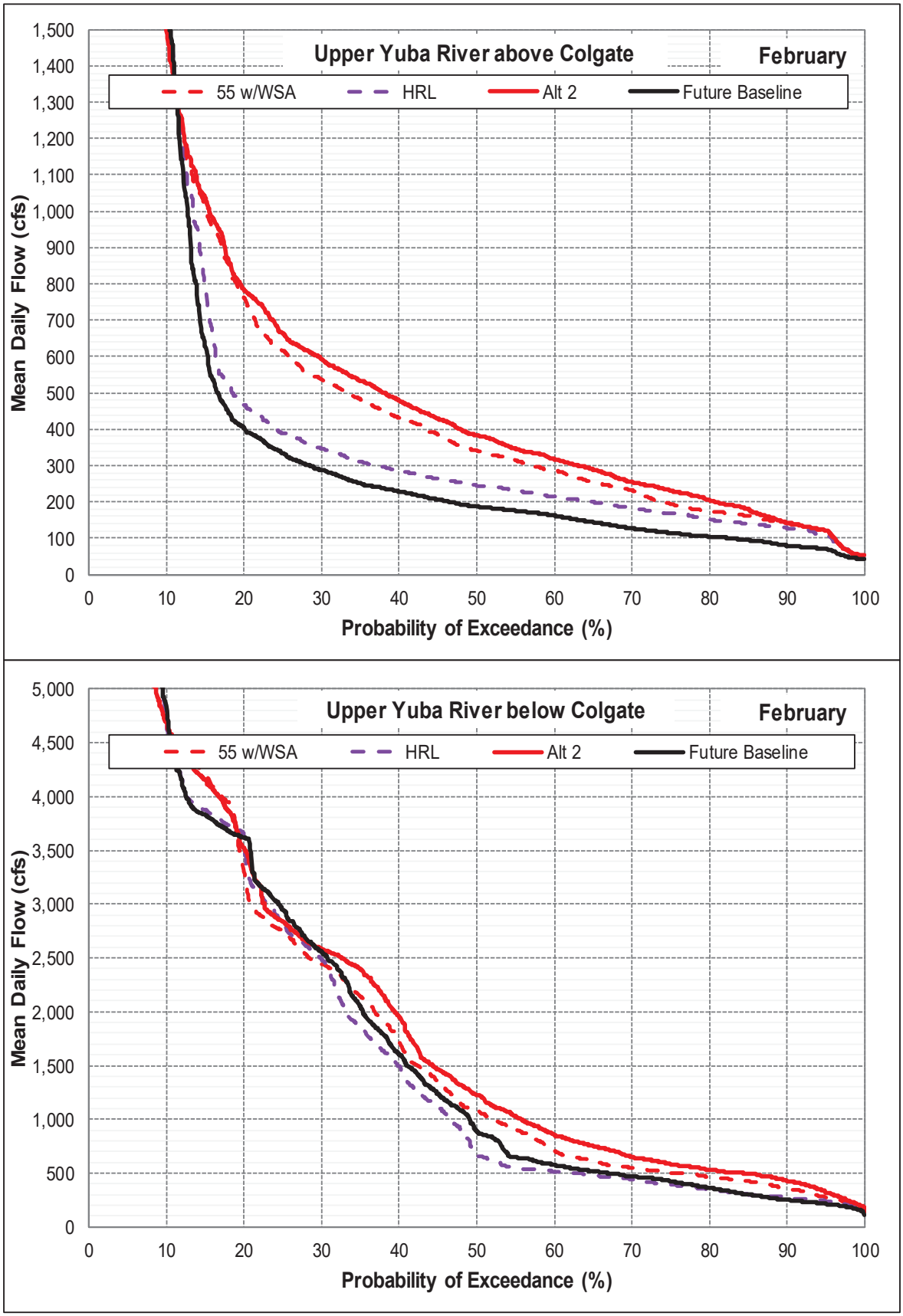


Figure 1A-38. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).

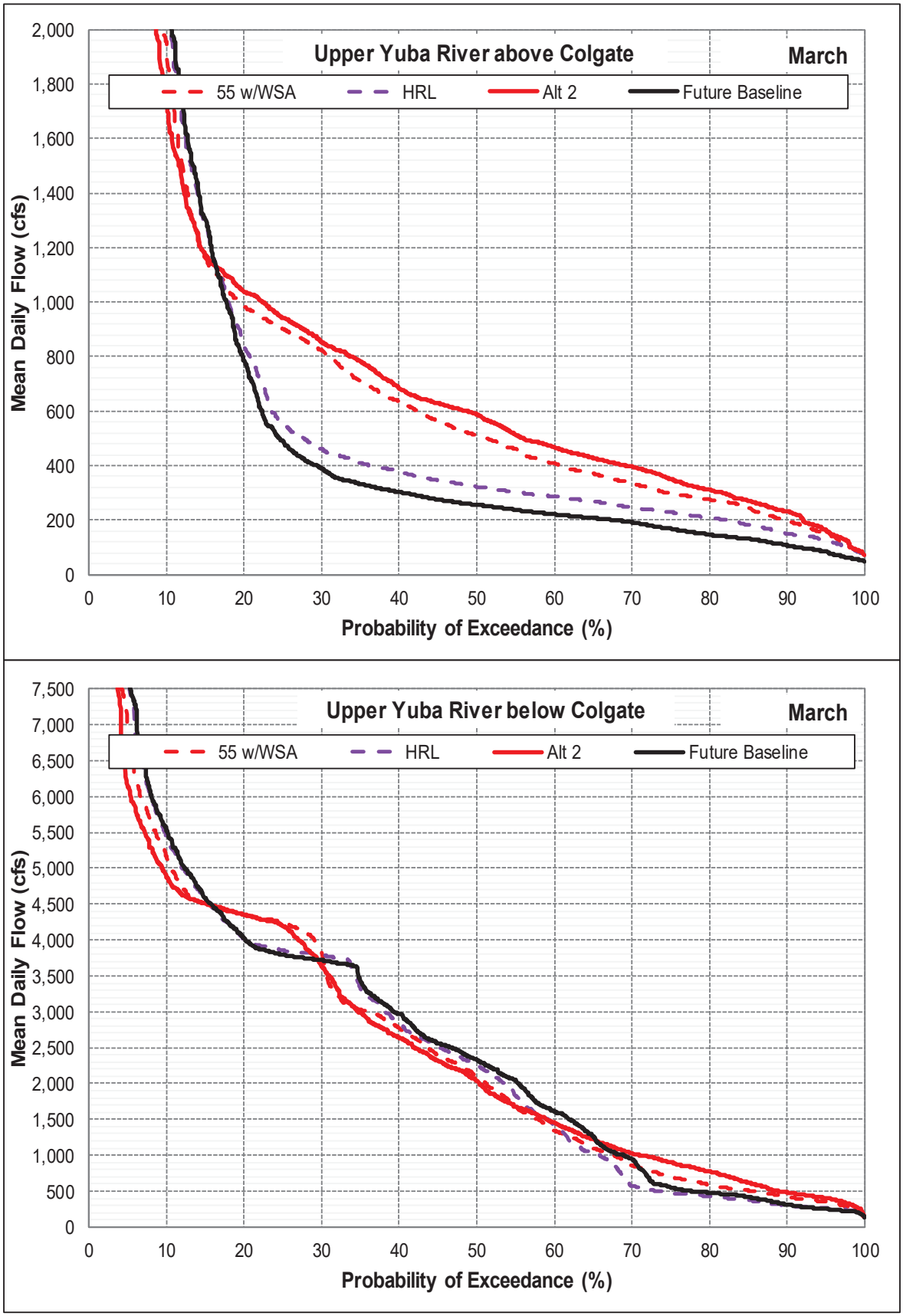


Figure 1A-39. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

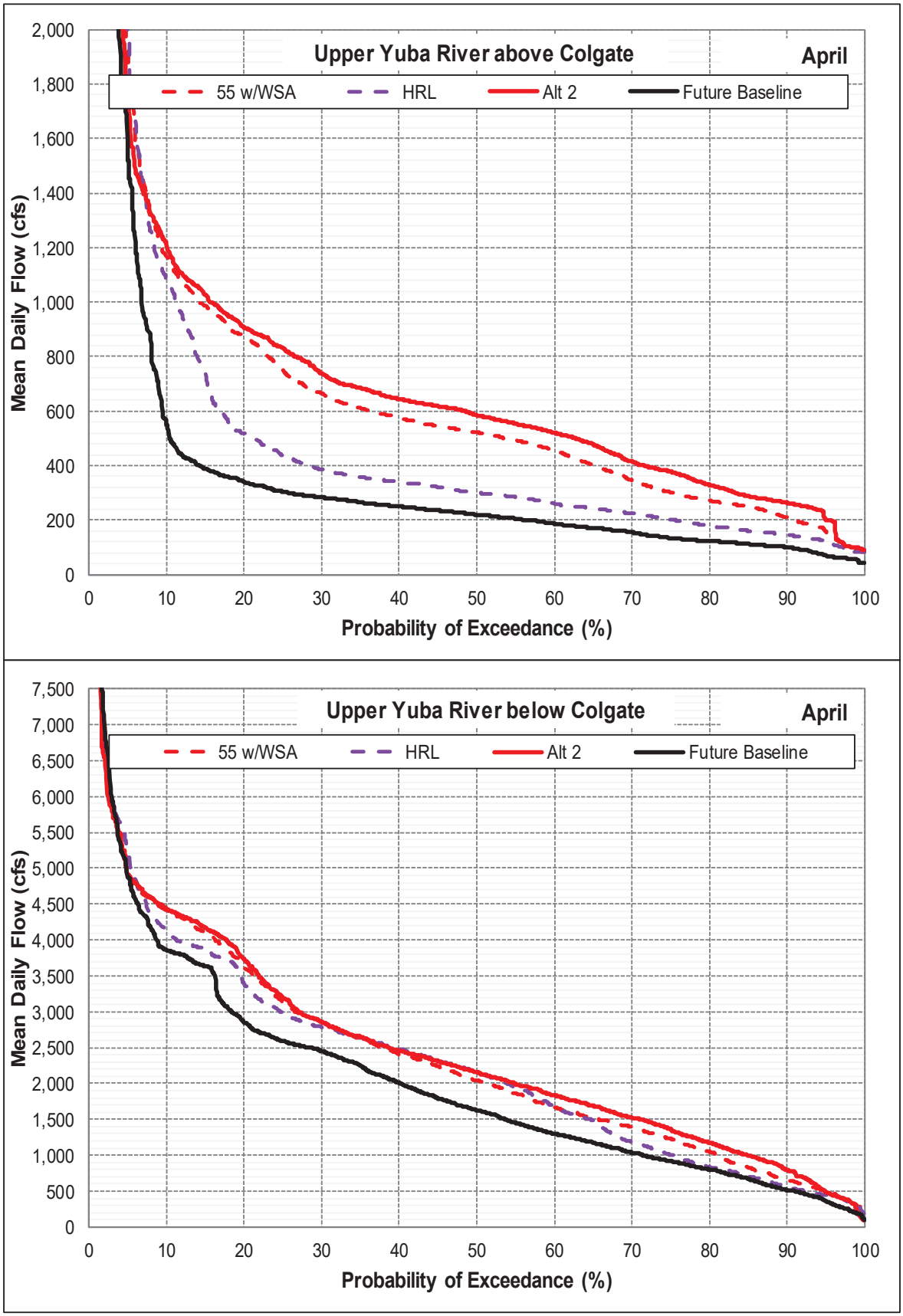


Figure 1A-40. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).

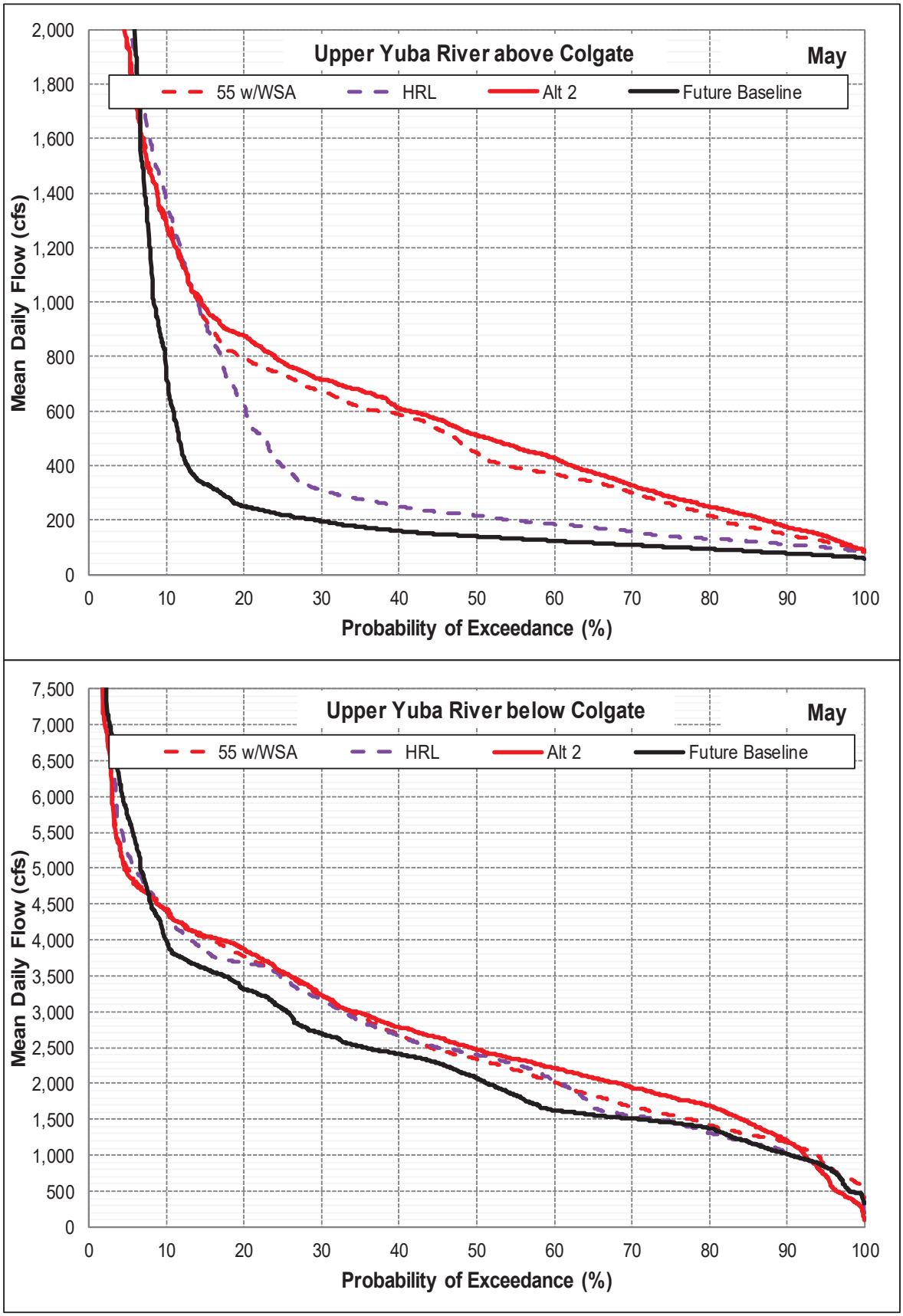


Figure 1A-41. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).

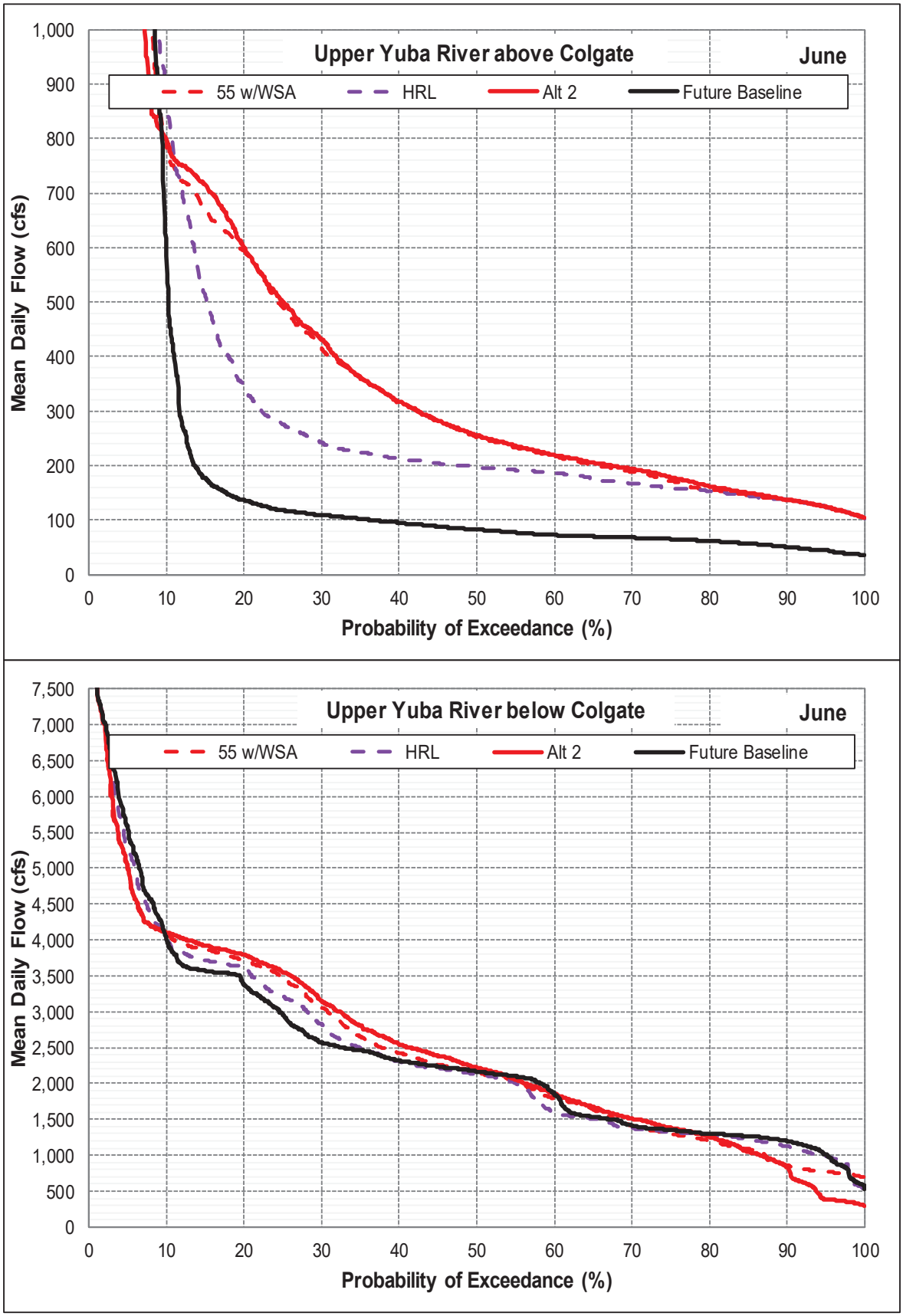


Figure 1A-42. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

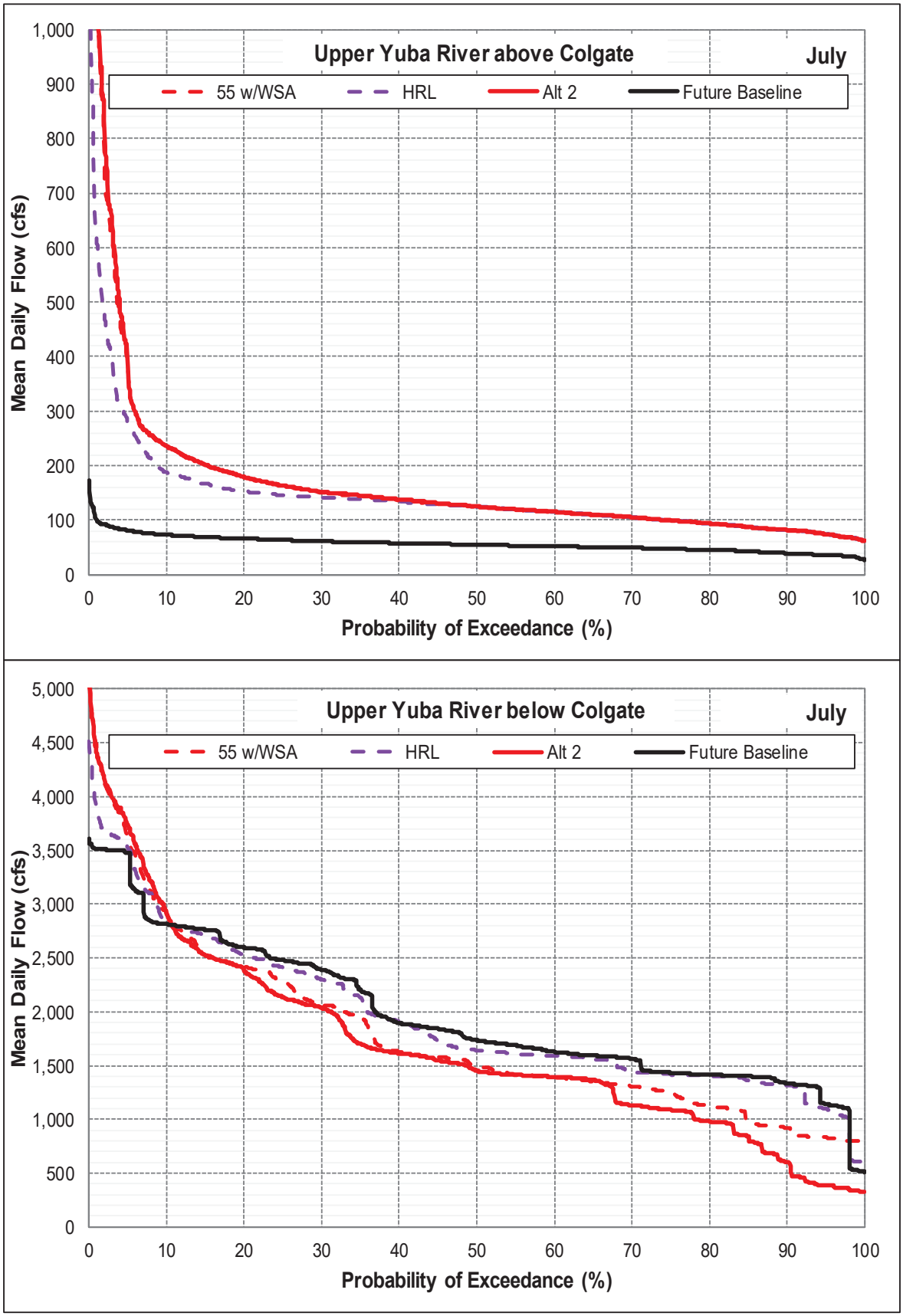


Figure 1A-43. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).

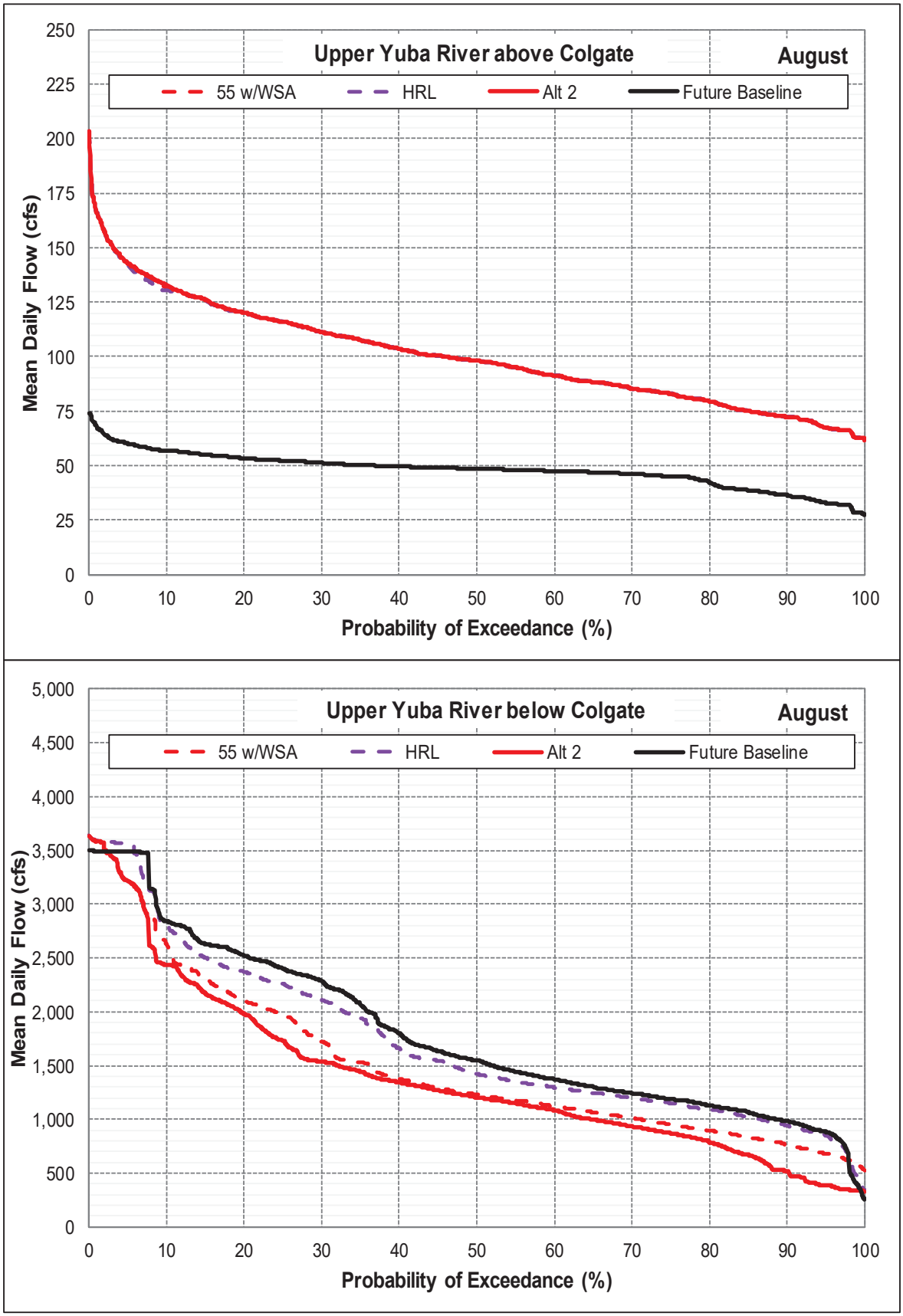


Figure 1A-44. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

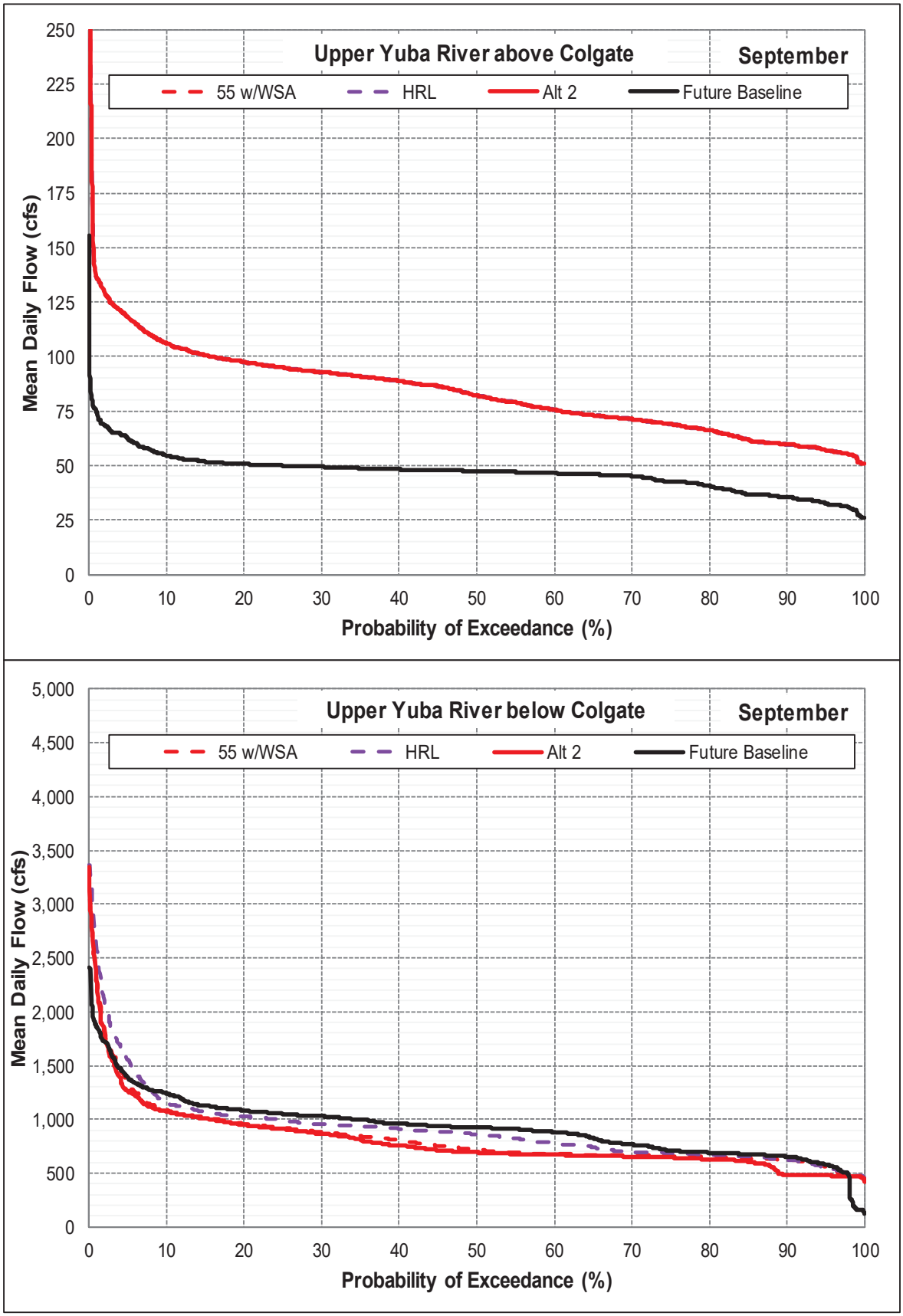


Figure 1A-45. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

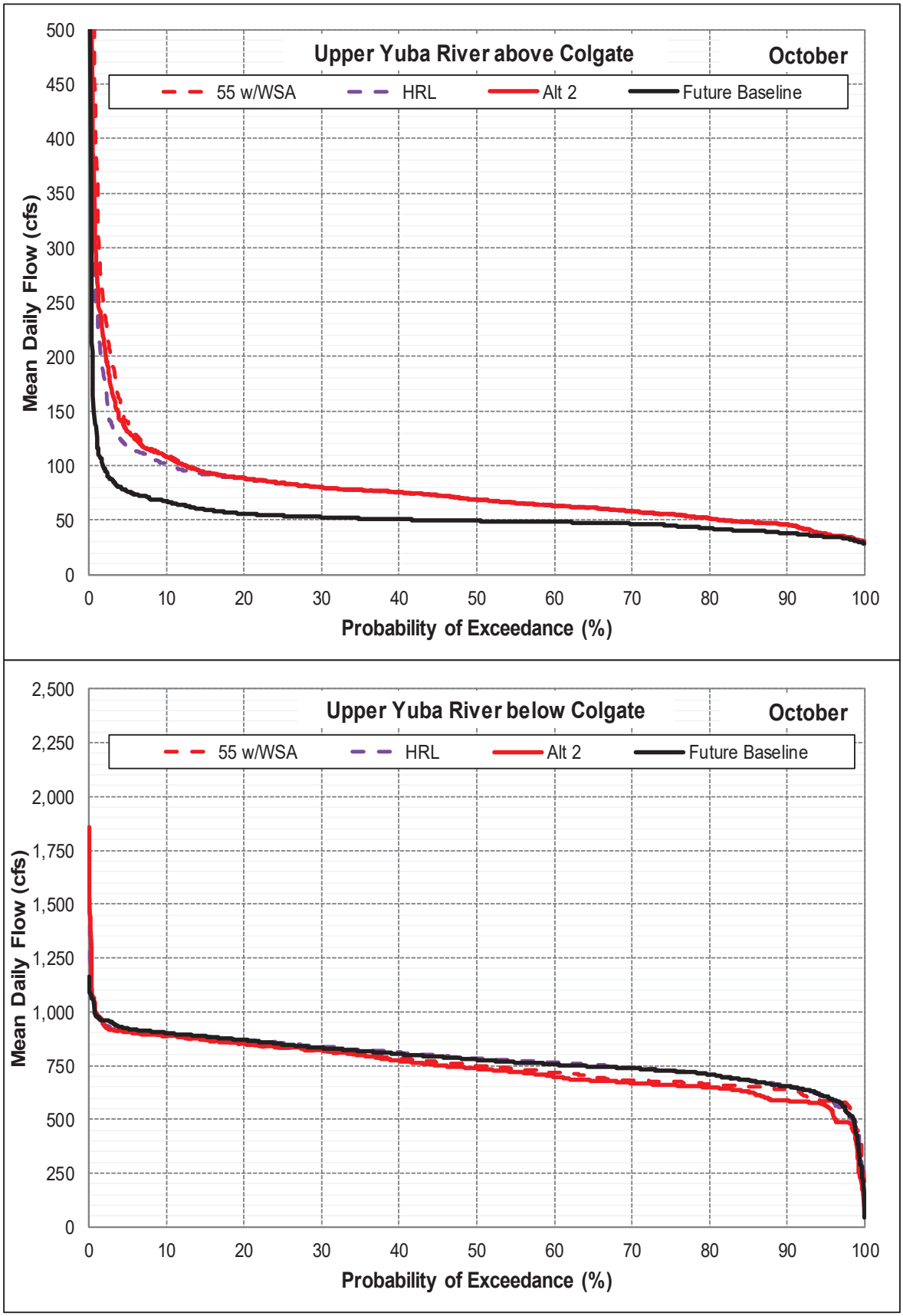


Figure 1A-46. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

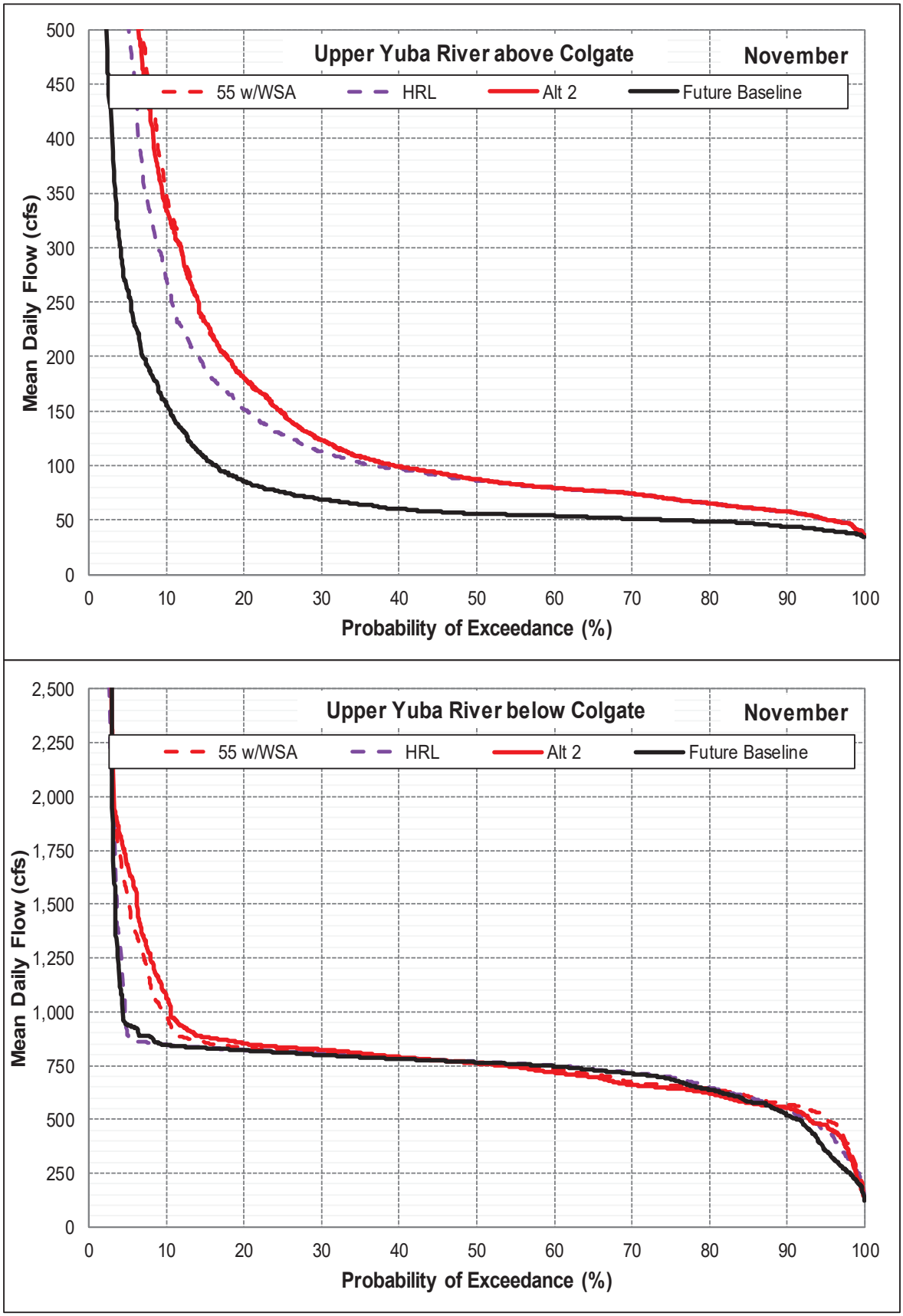


Figure 1A-47. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

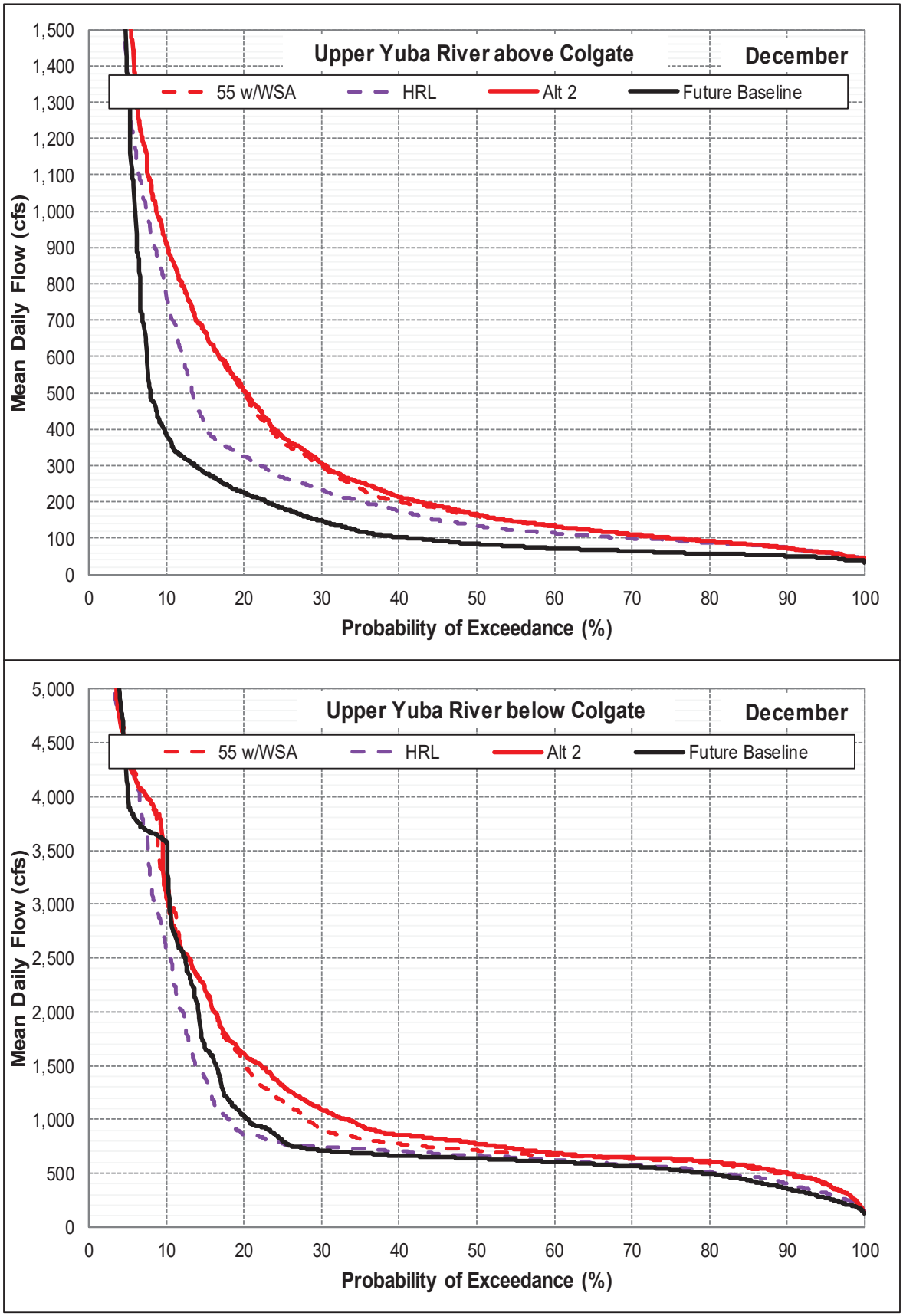


Figure 1A-48. Simulated flow exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

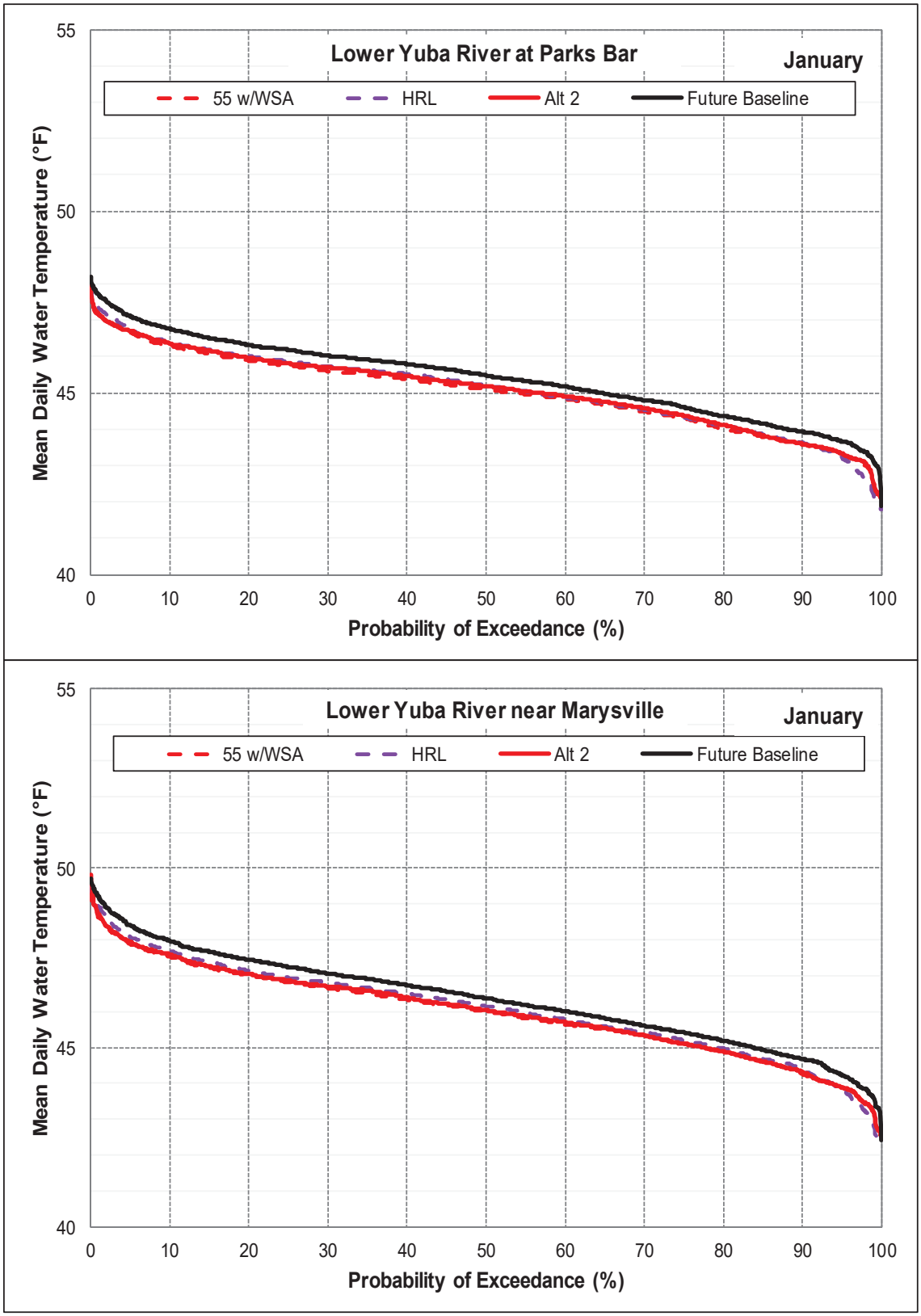


Figure 1A-49. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).

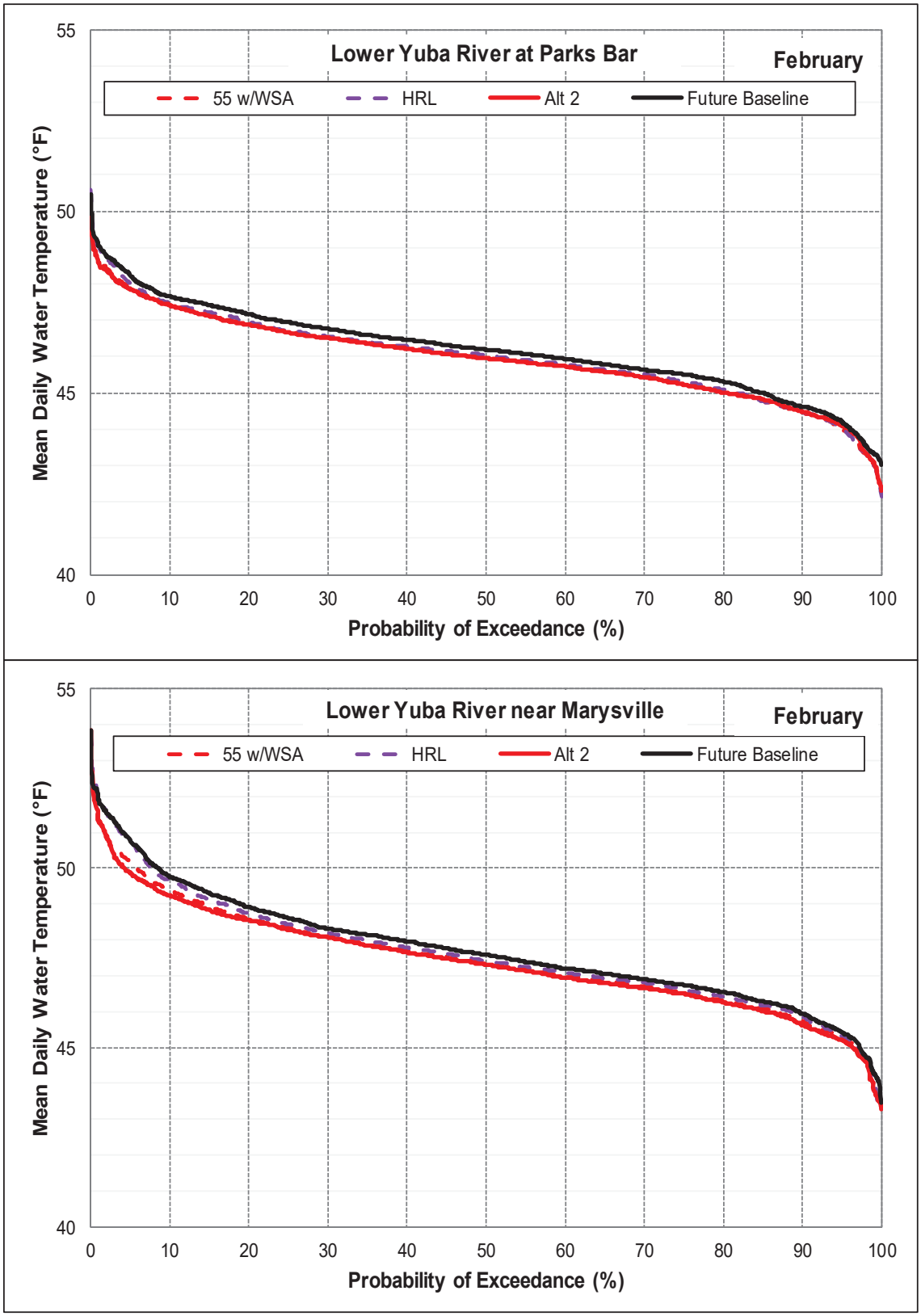


Figure 1A-50. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).

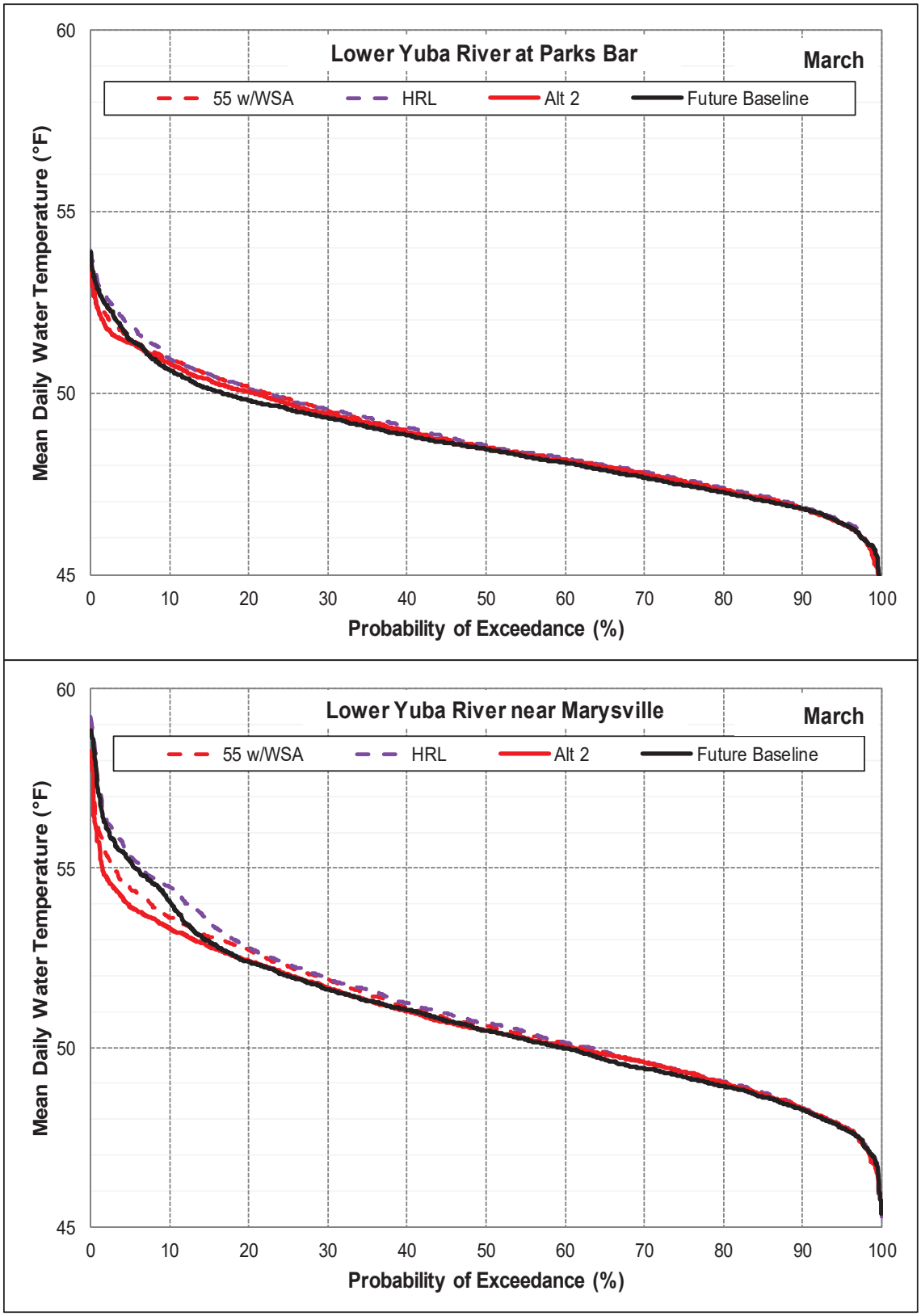


Figure 1A-51. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

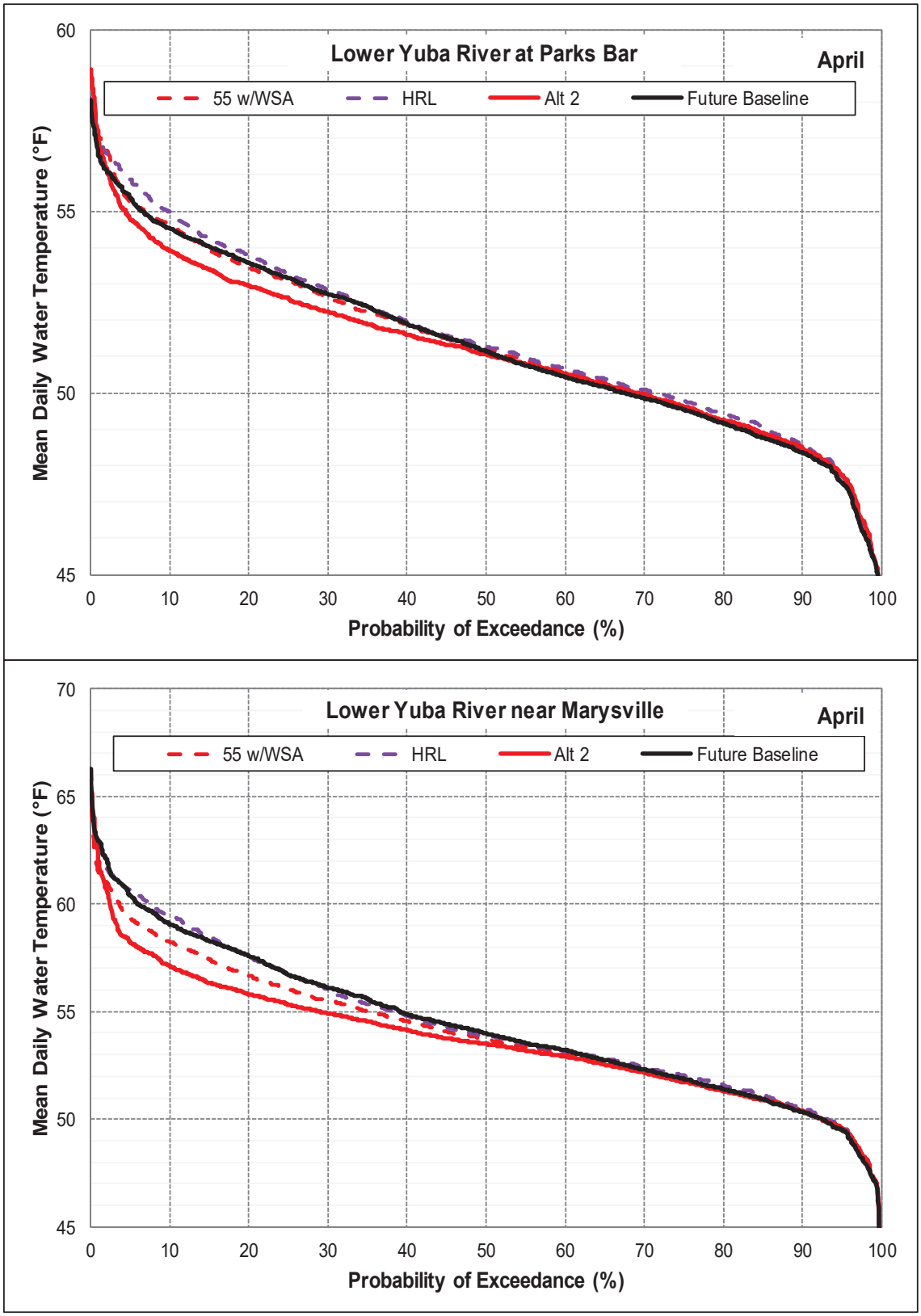
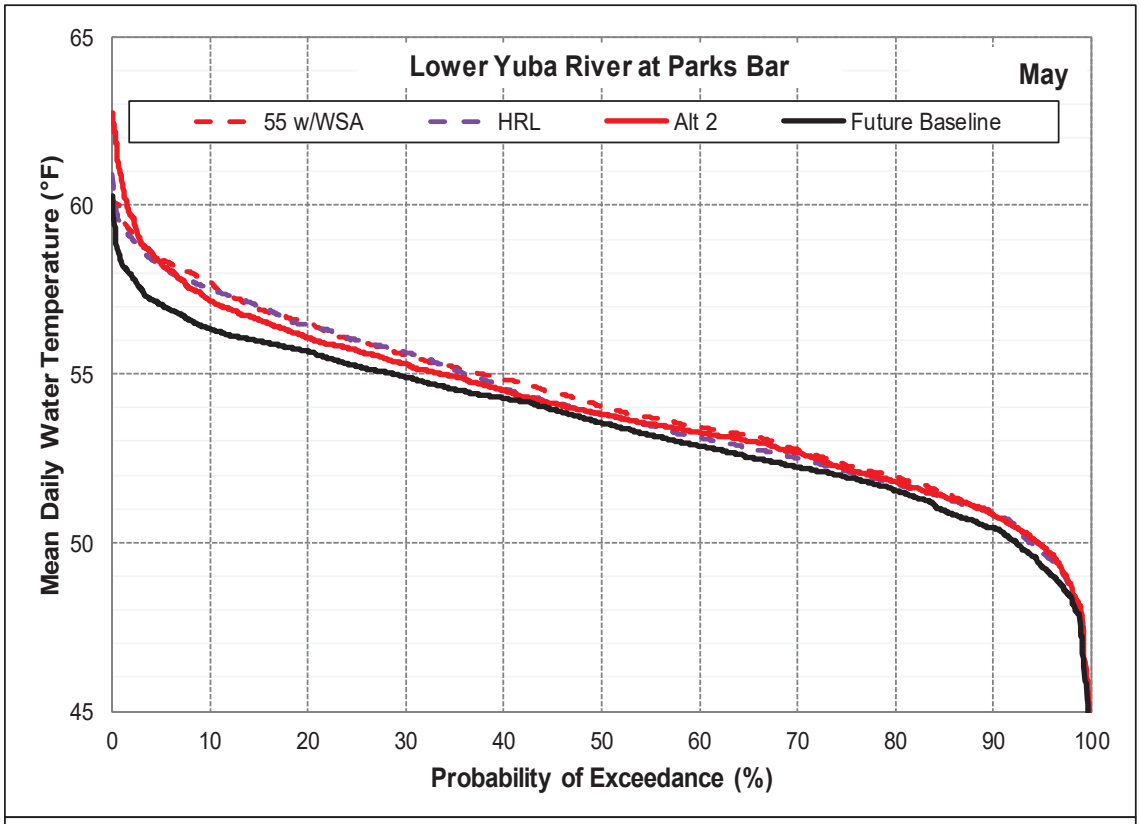


Figure 1A-52. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).



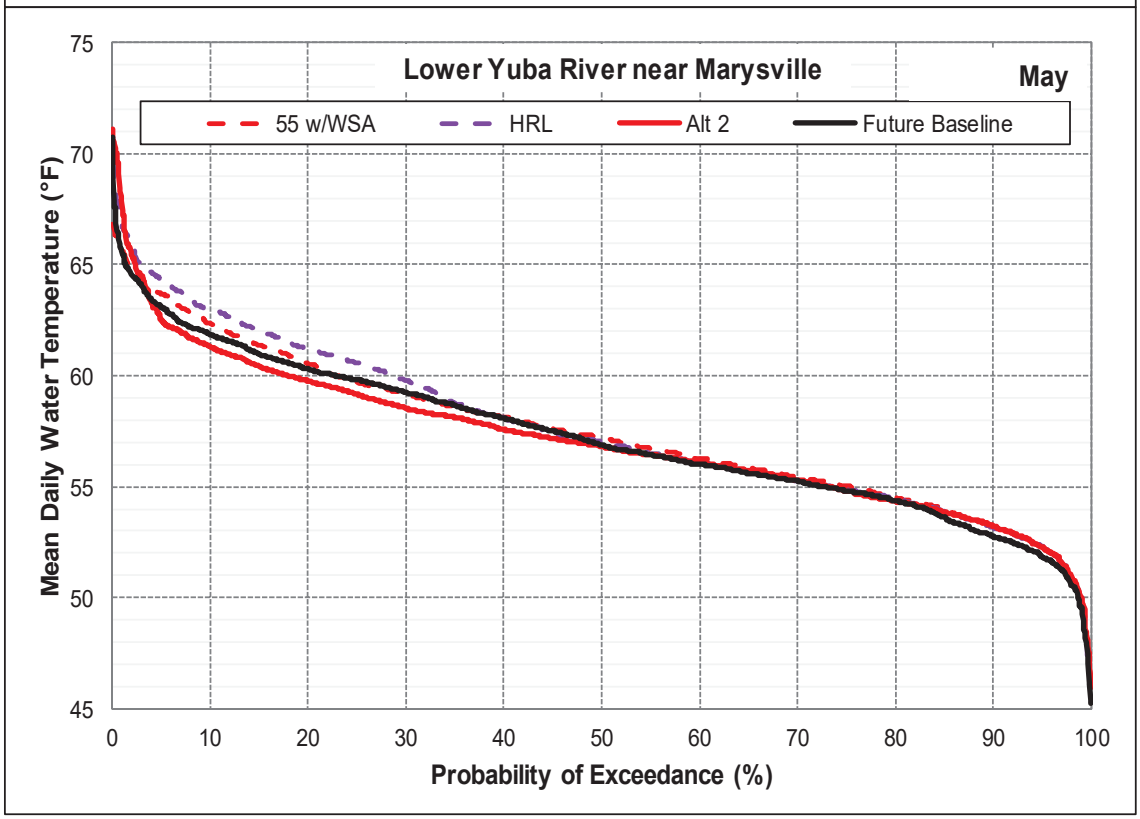


Figure 1A-53. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).

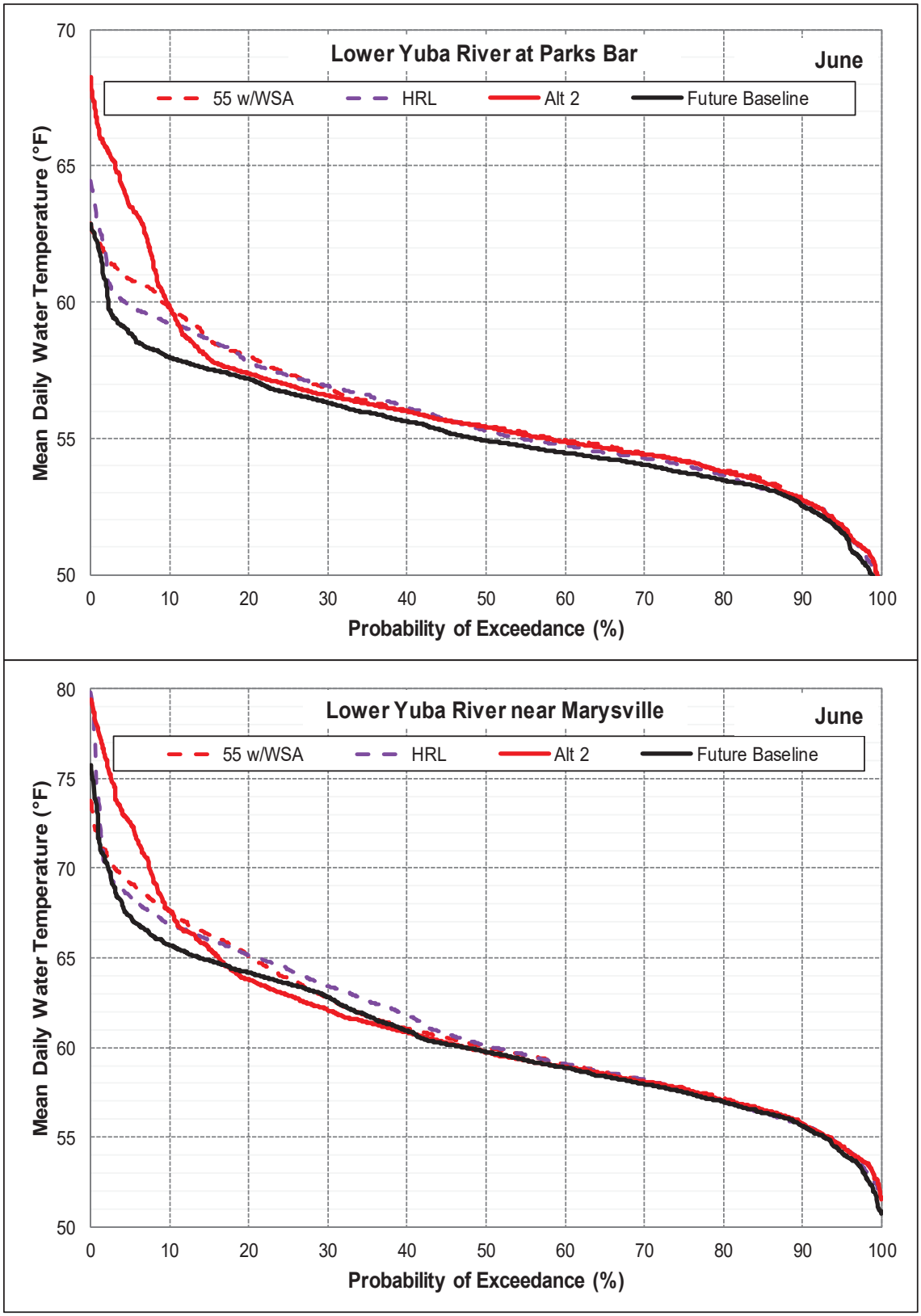


Figure 1A-54. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

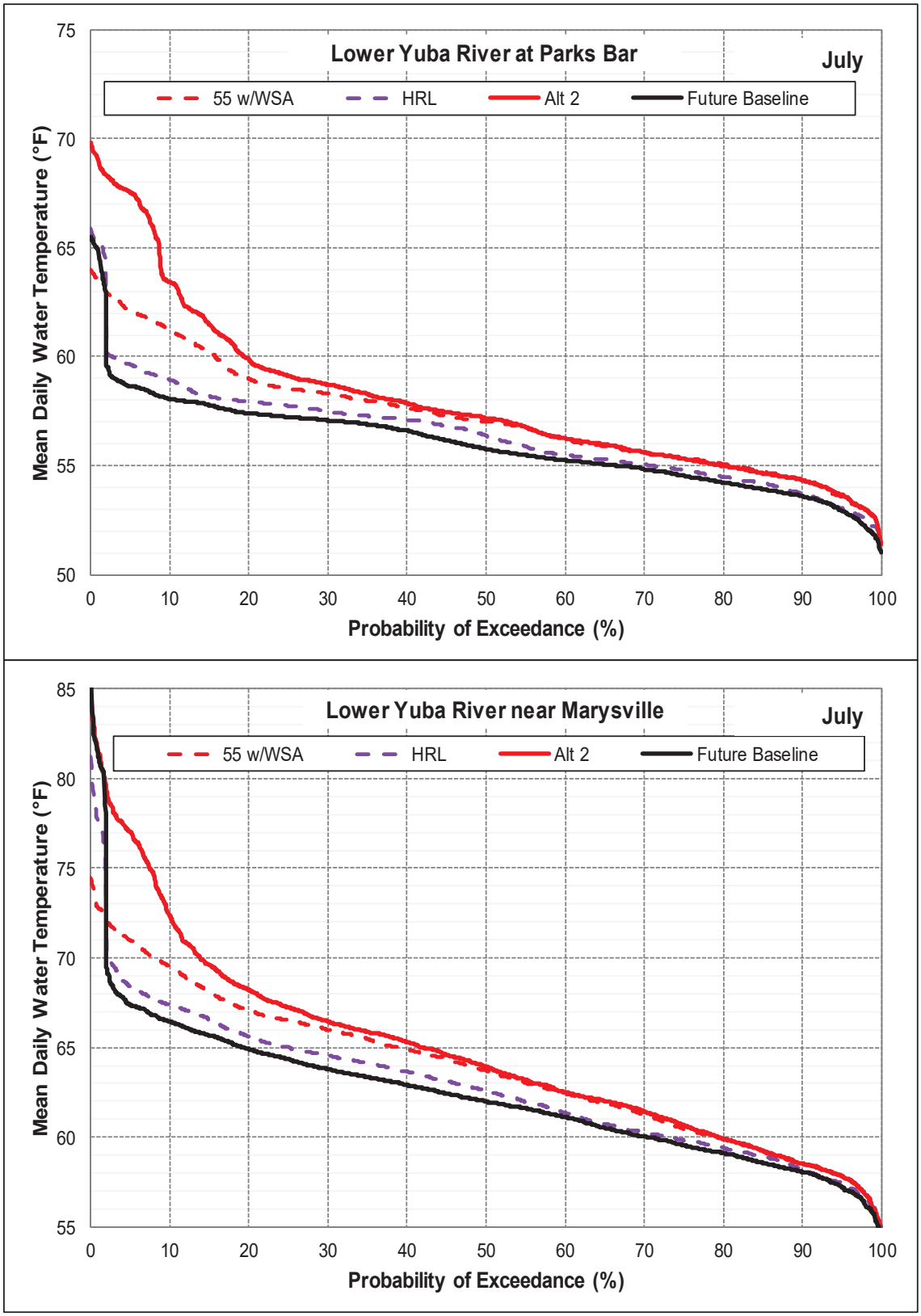


Figure 1A-55. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).

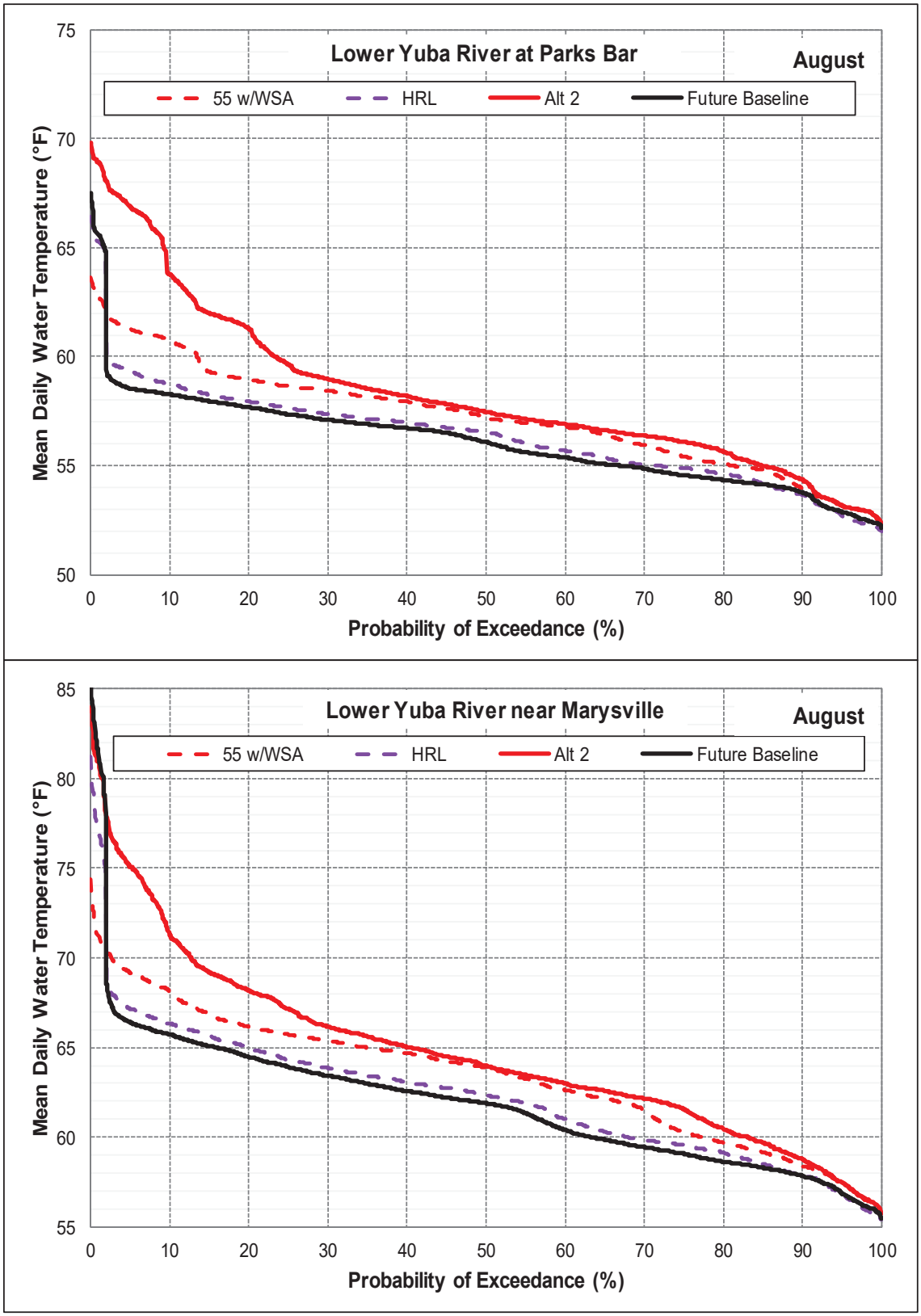


Figure 1A-56. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

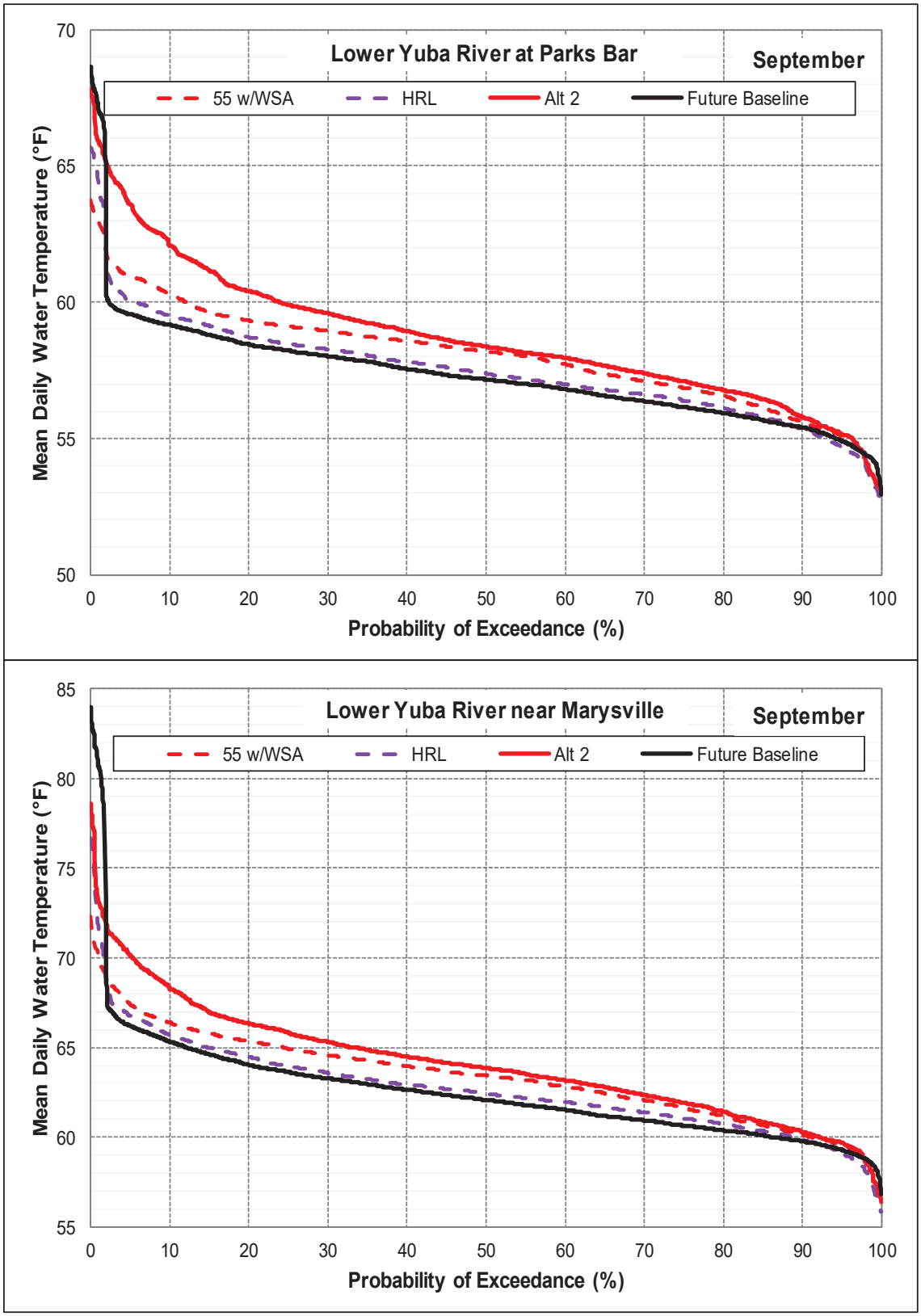


Figure 1A-57. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

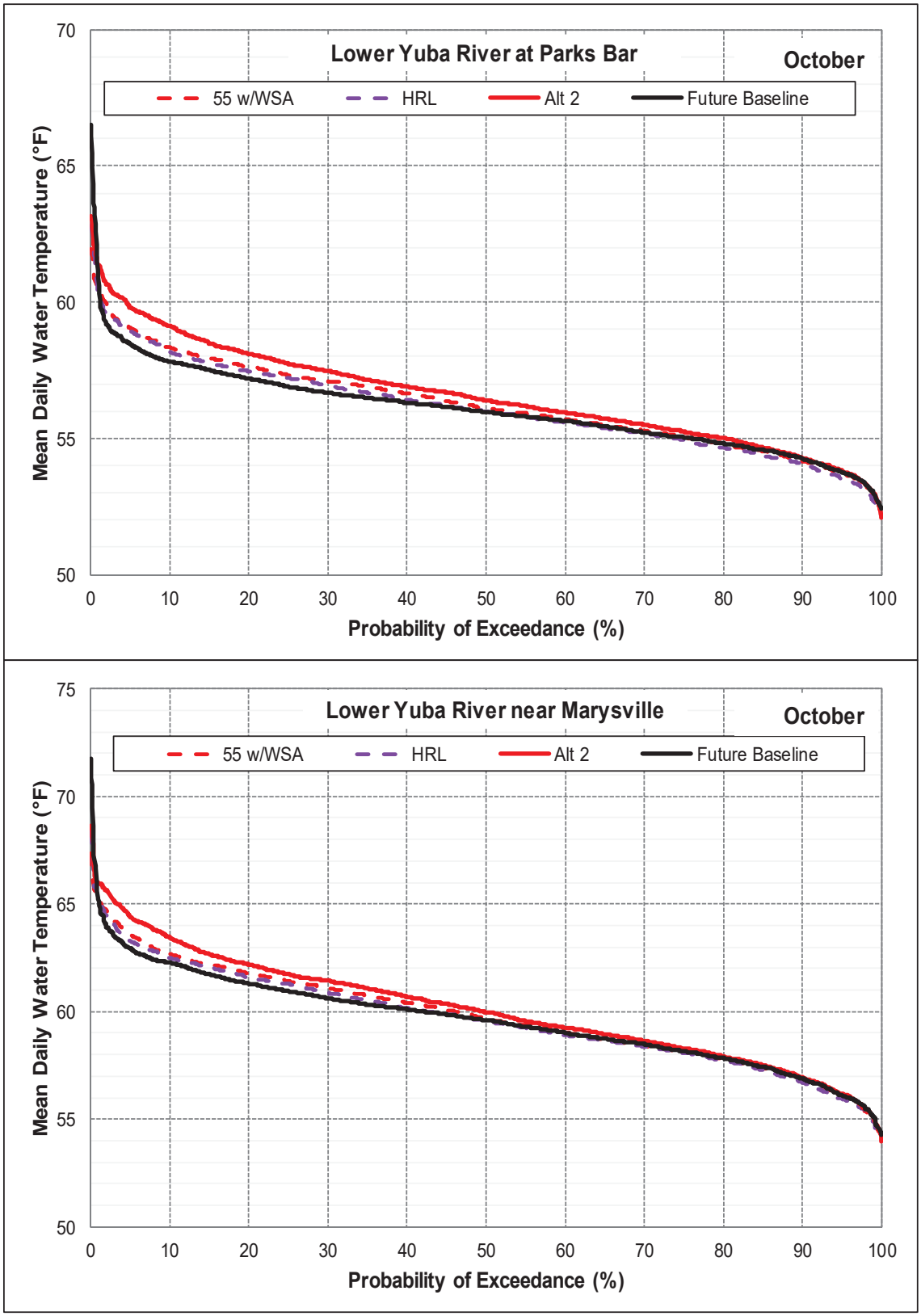
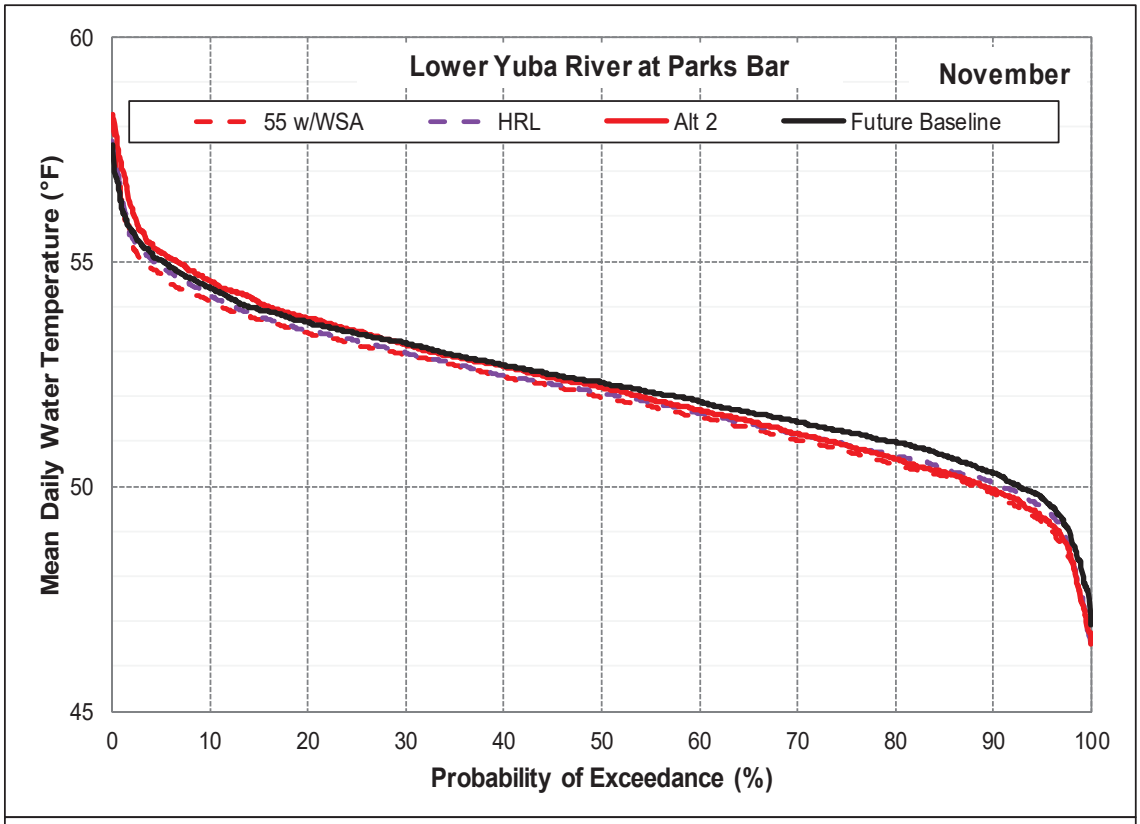


Figure 1A-58. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).



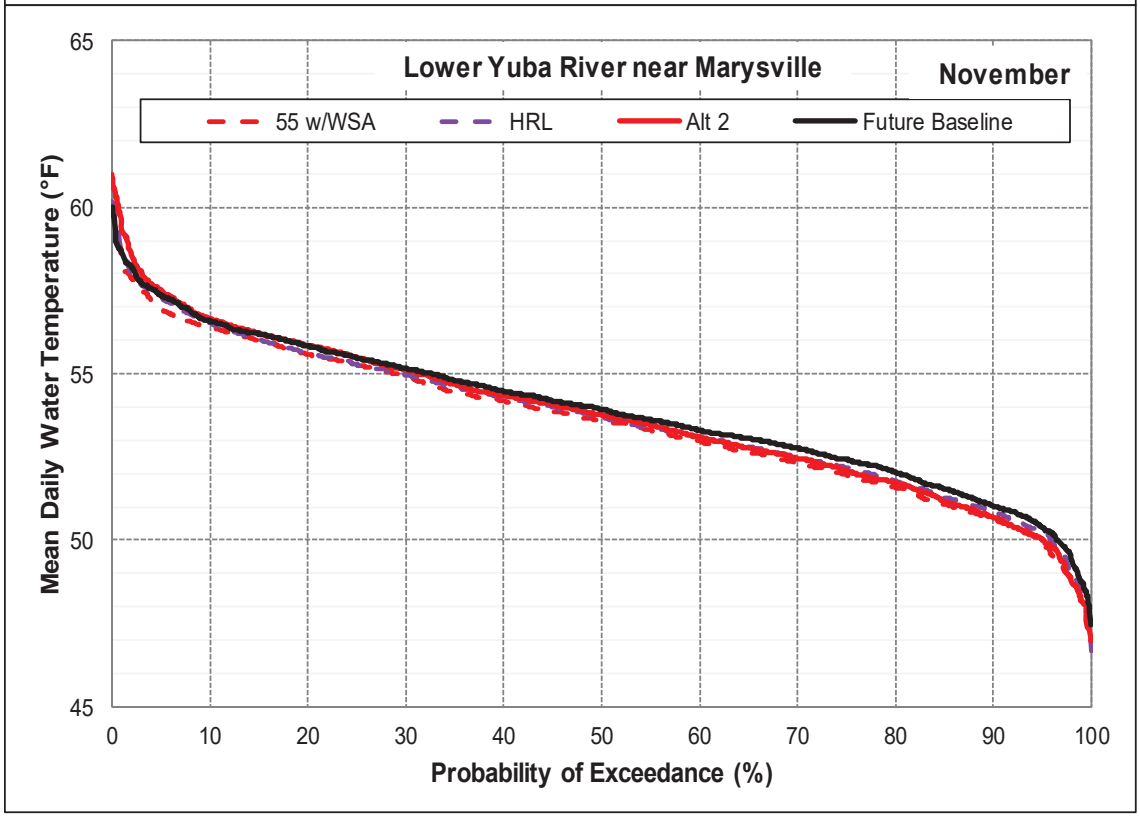


Figure 1A-59. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

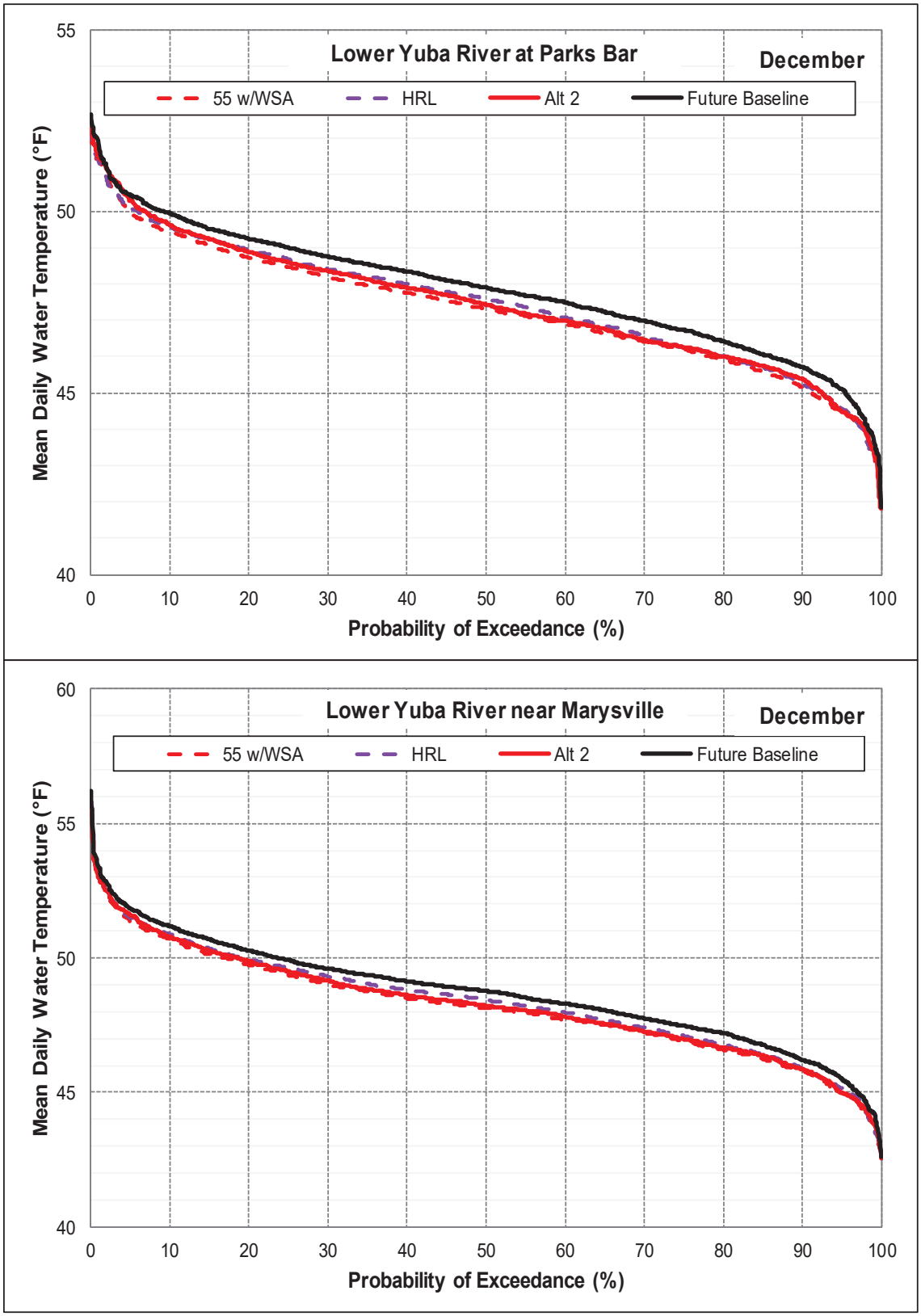


Figure 1A-60. Simulated water temperature exceedance probabilities in the lower Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

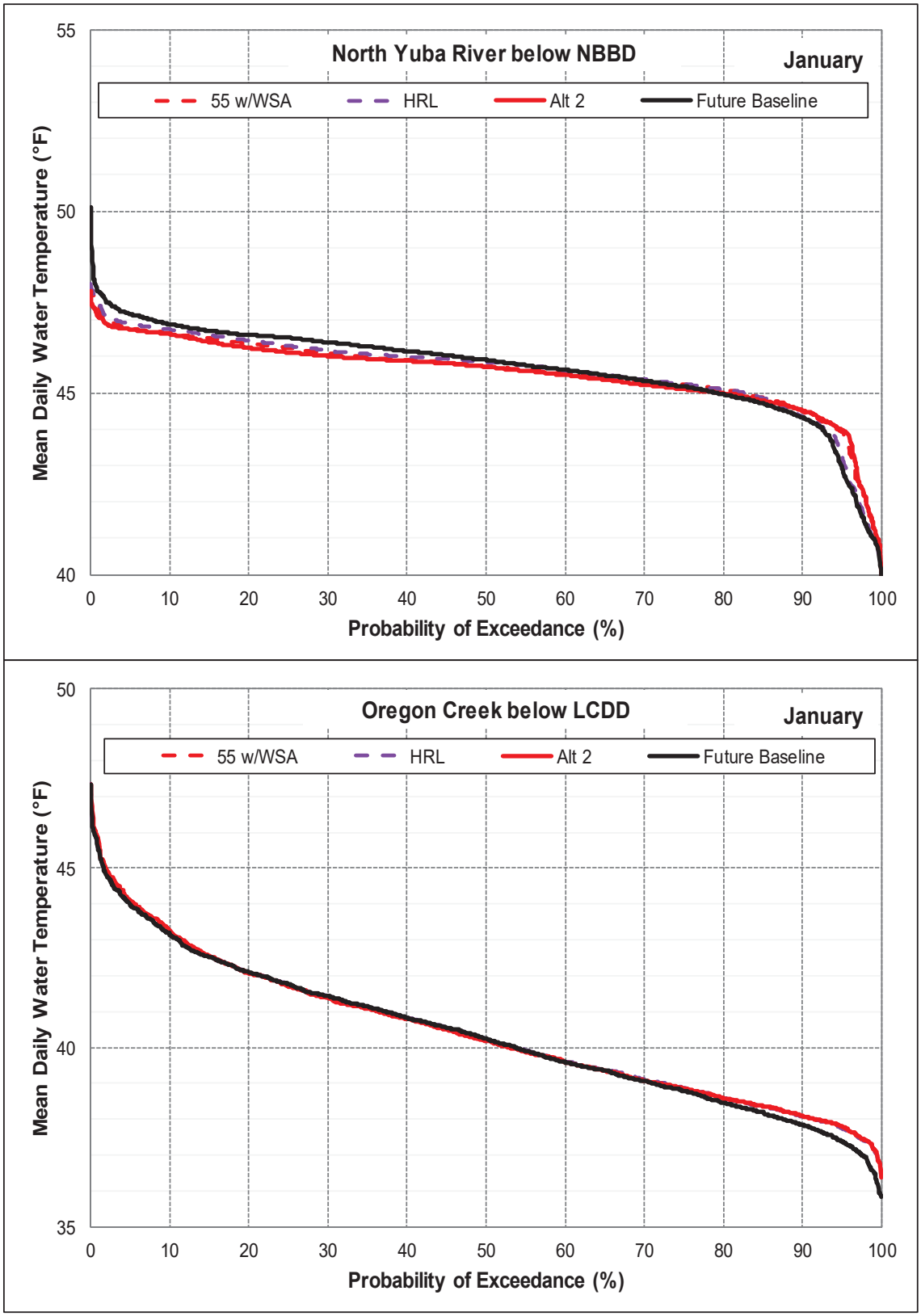
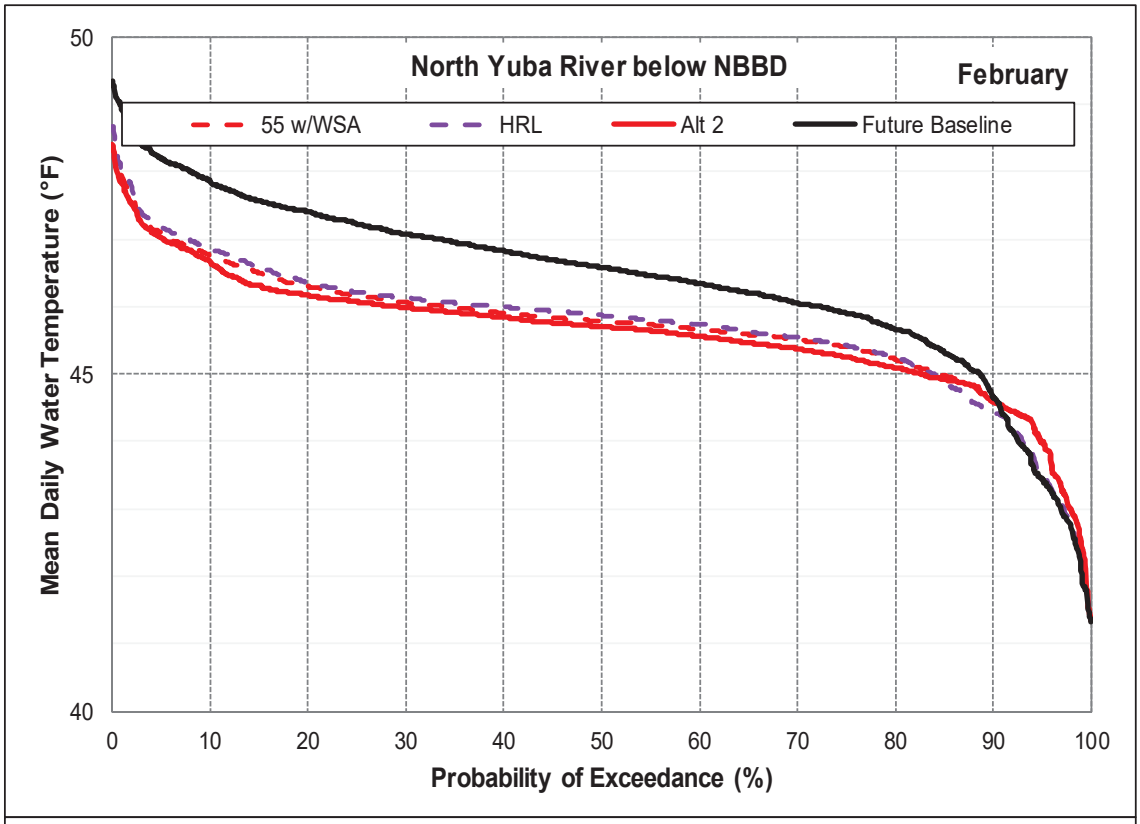


Figure 1A-61. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).



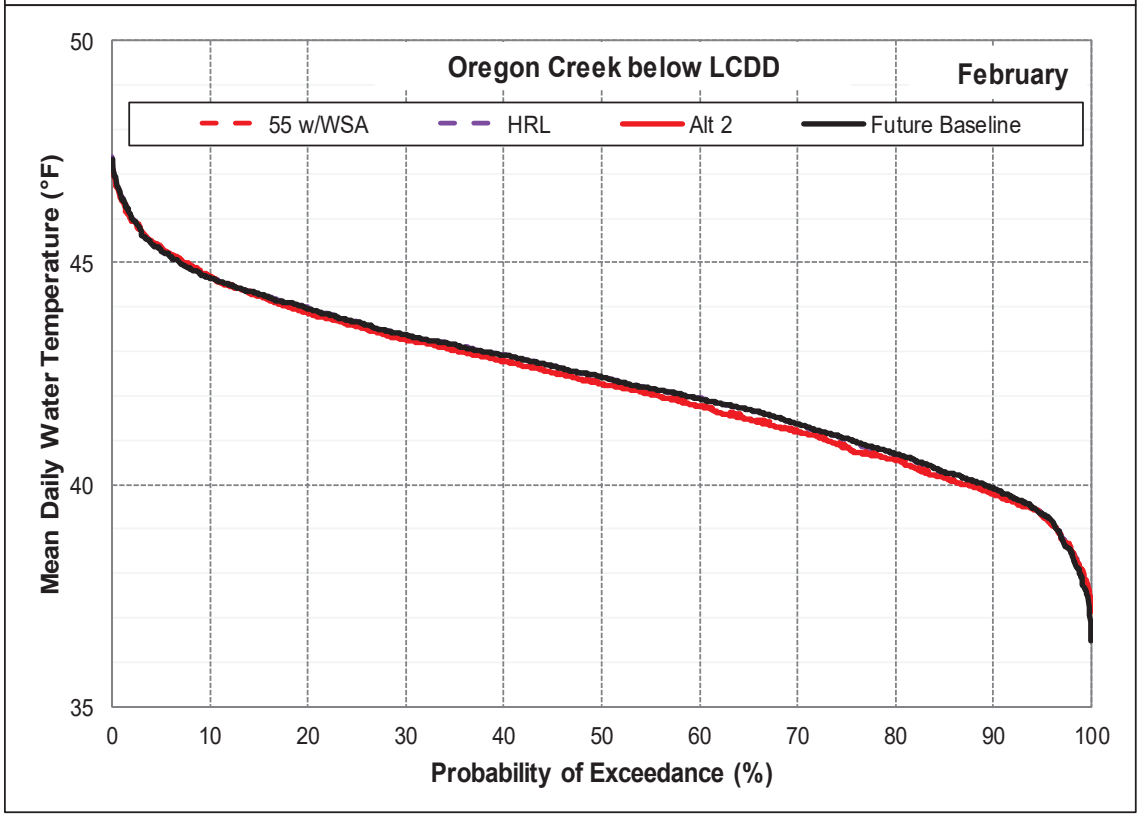


Figure 1A-62. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).

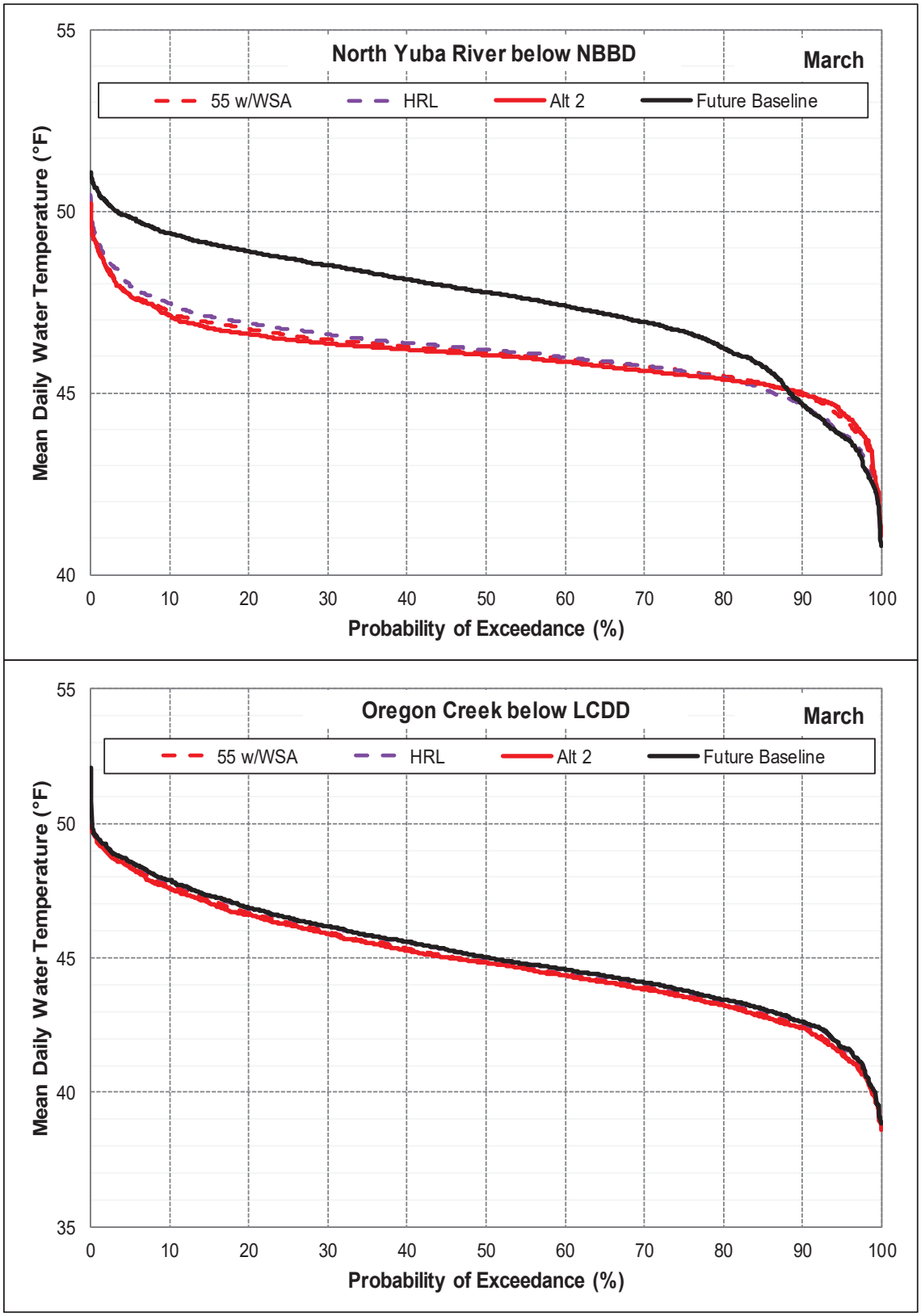


Figure 1A-63. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

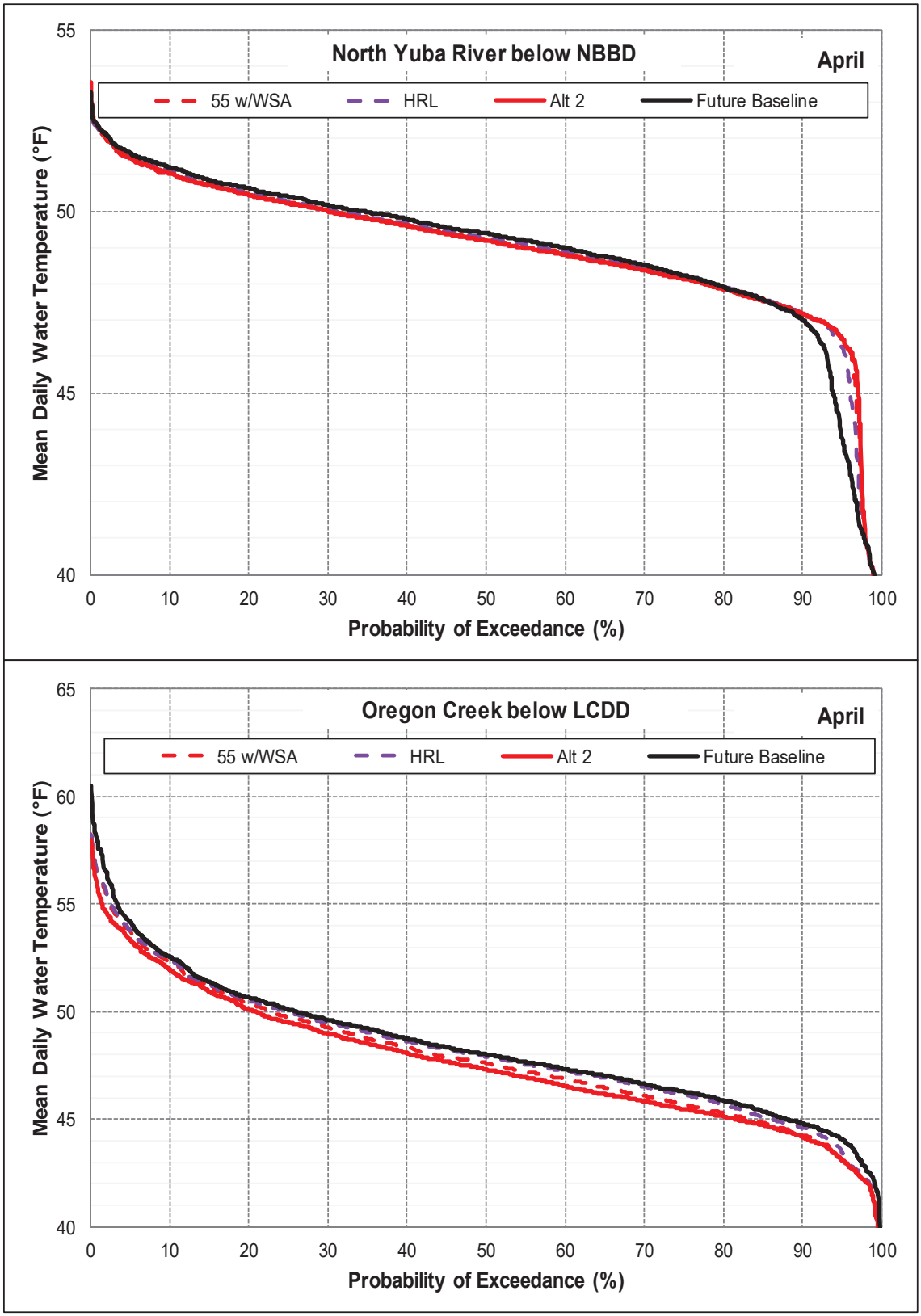


Figure 1A-64. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).

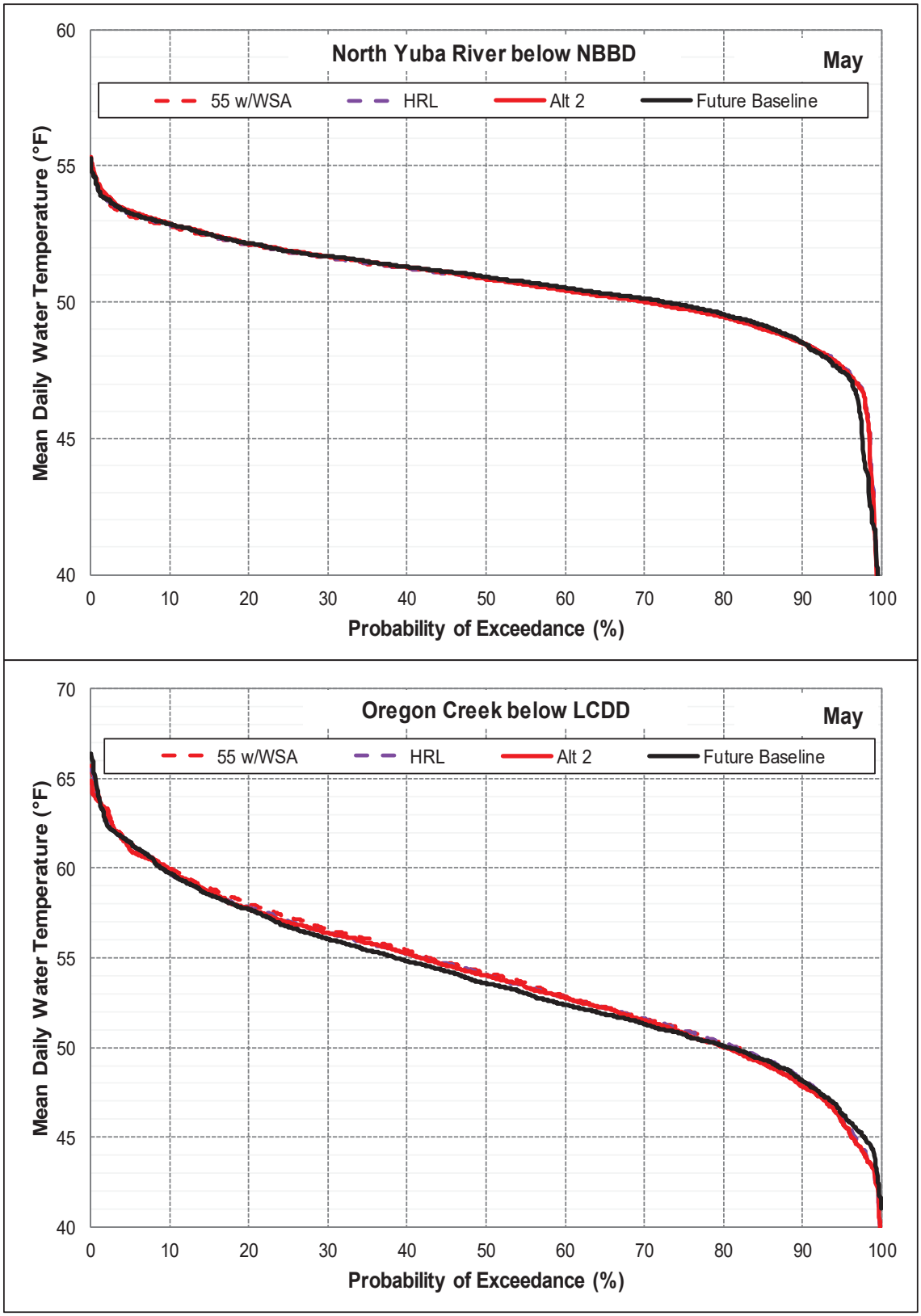


Figure 1A-65. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).

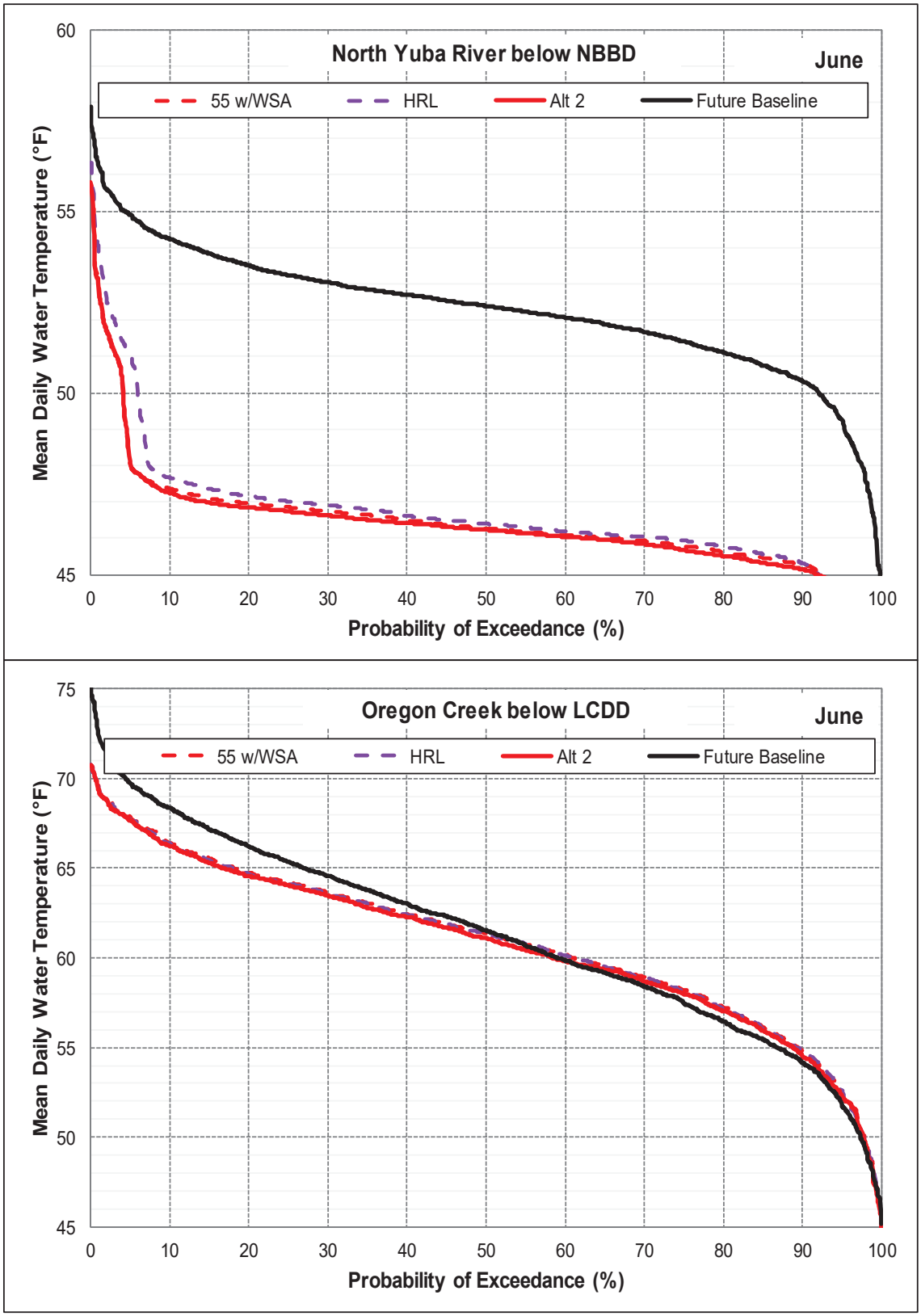


Figure 1A-66. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

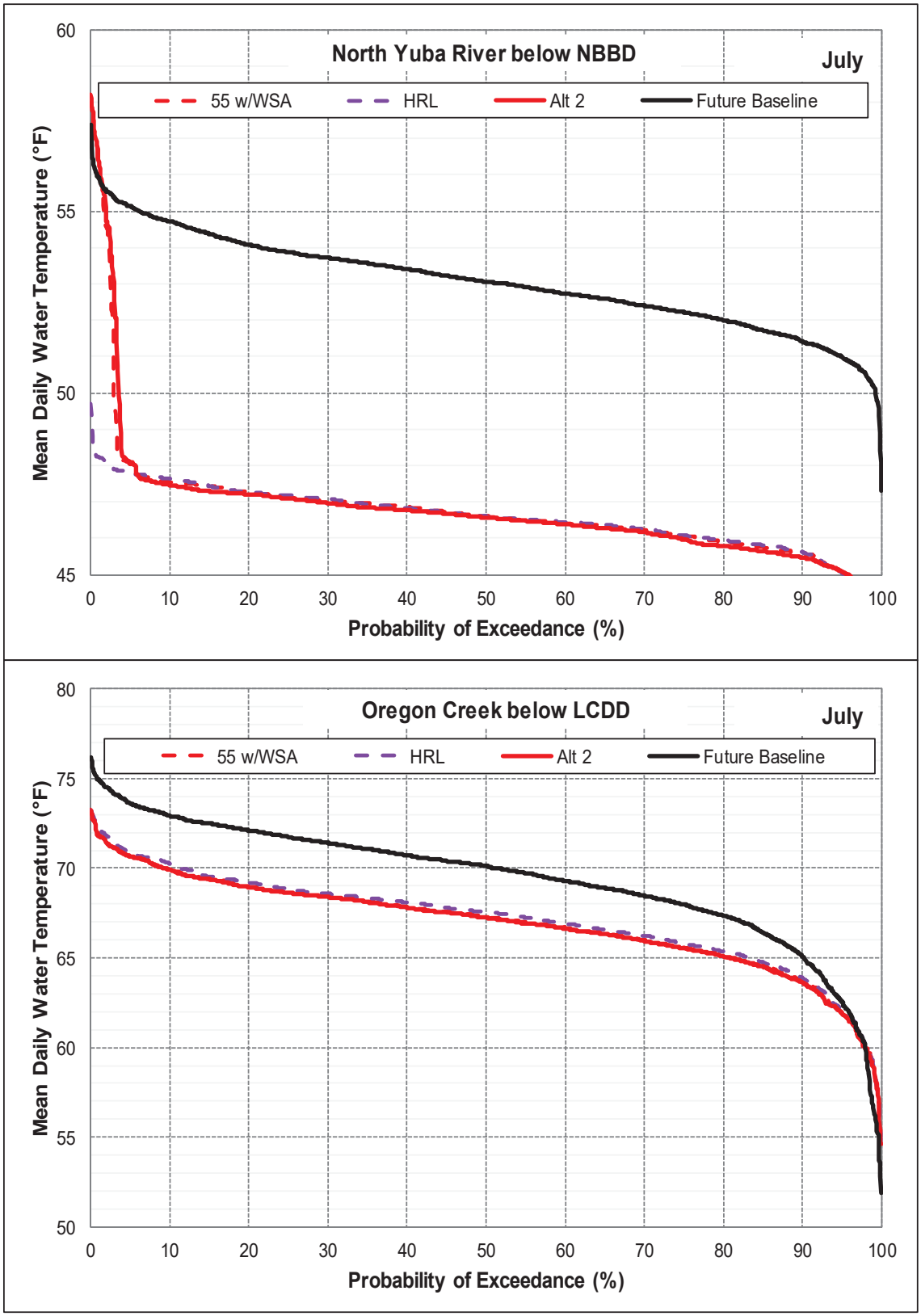


Figure 1A-67. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).

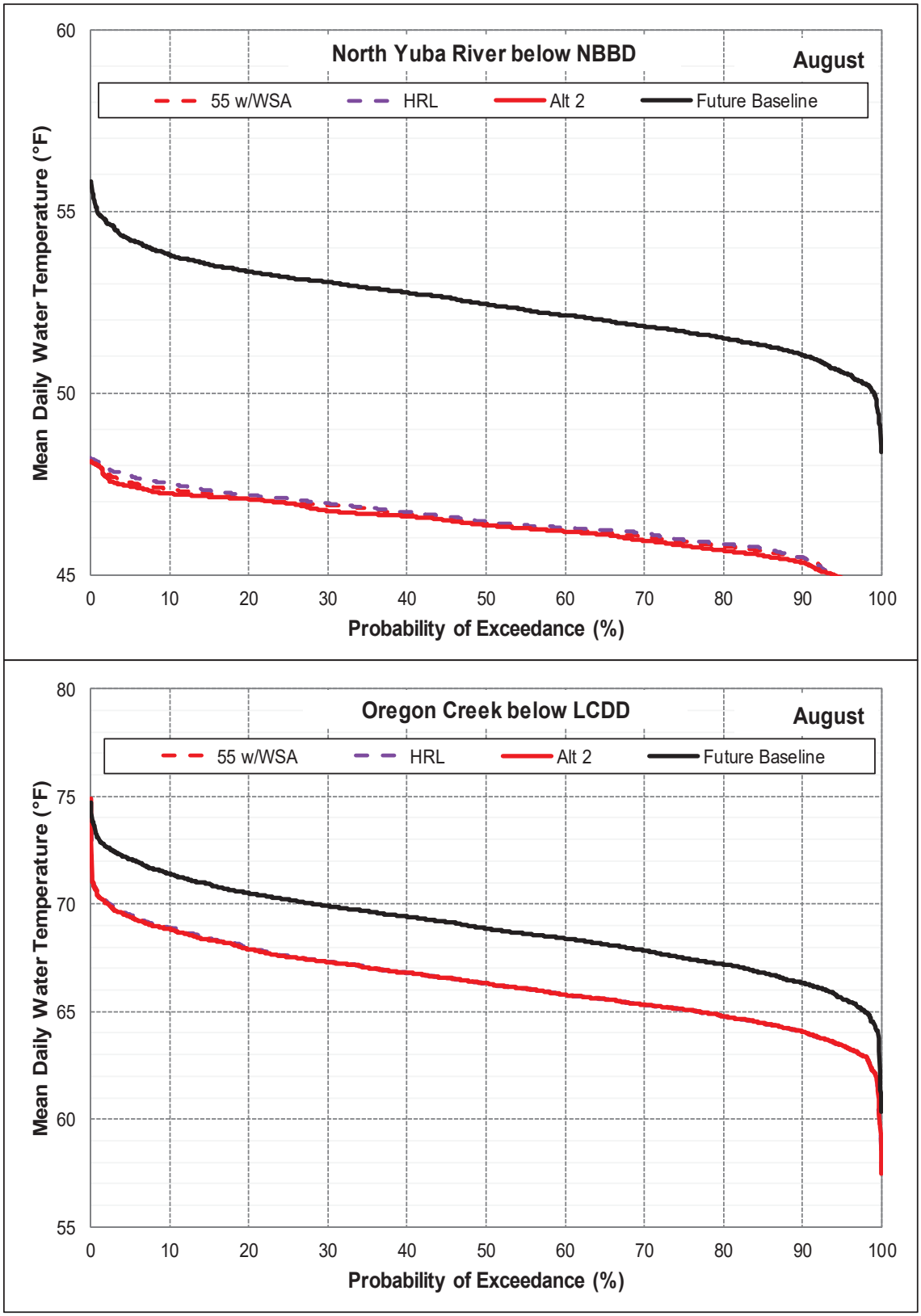


Figure 1A-68. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

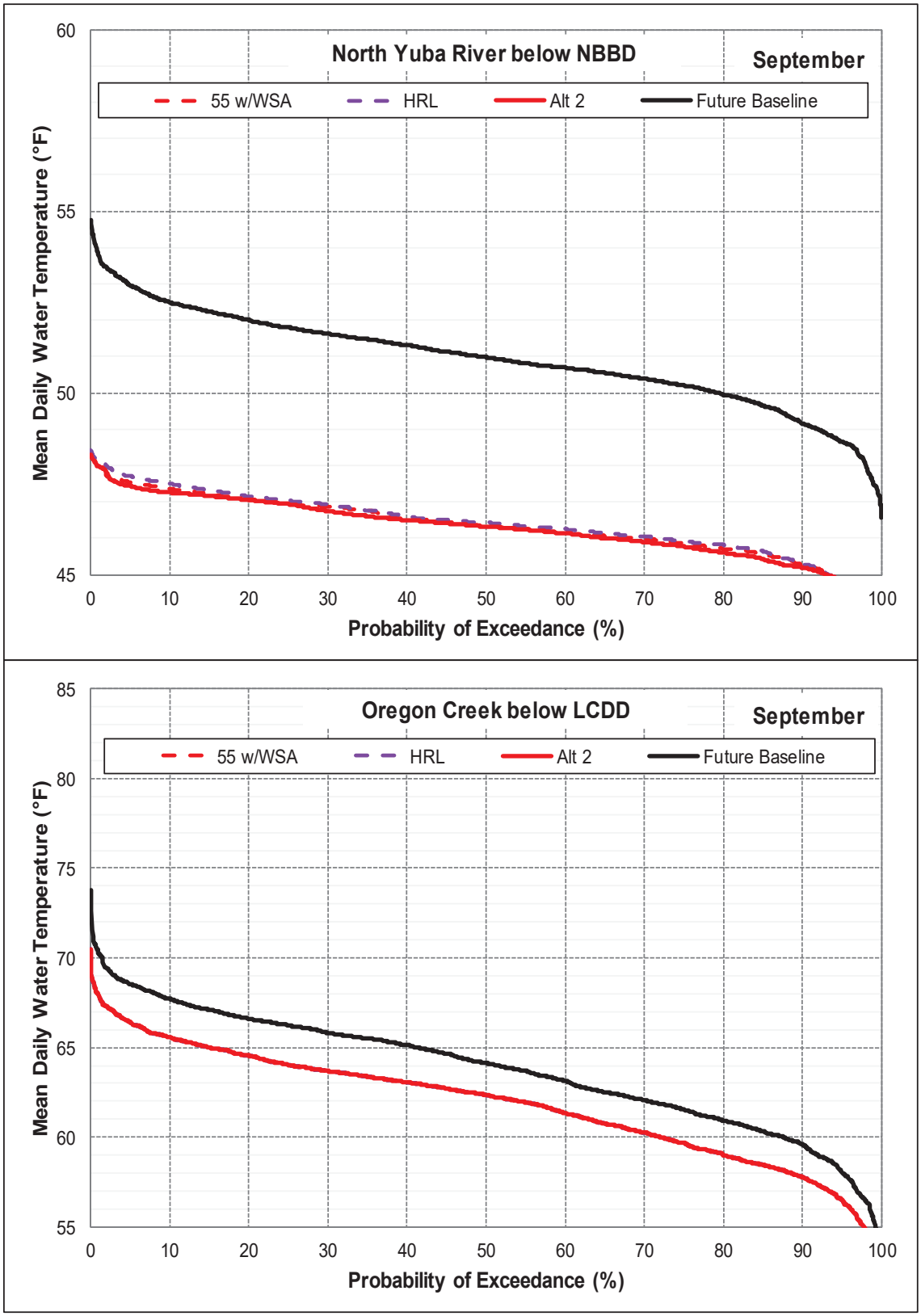


Figure 1A-69. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

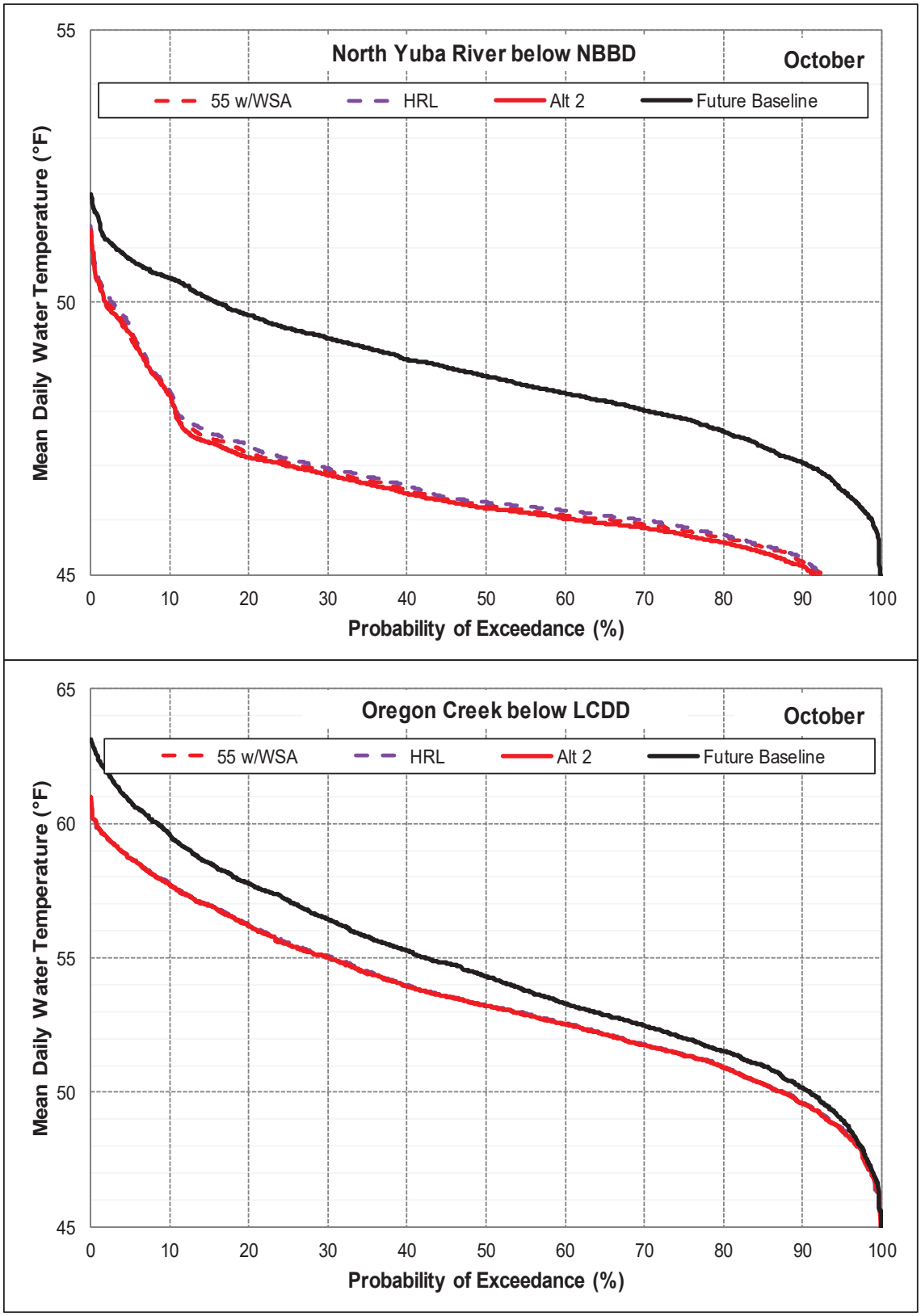


Figure 1A-70. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

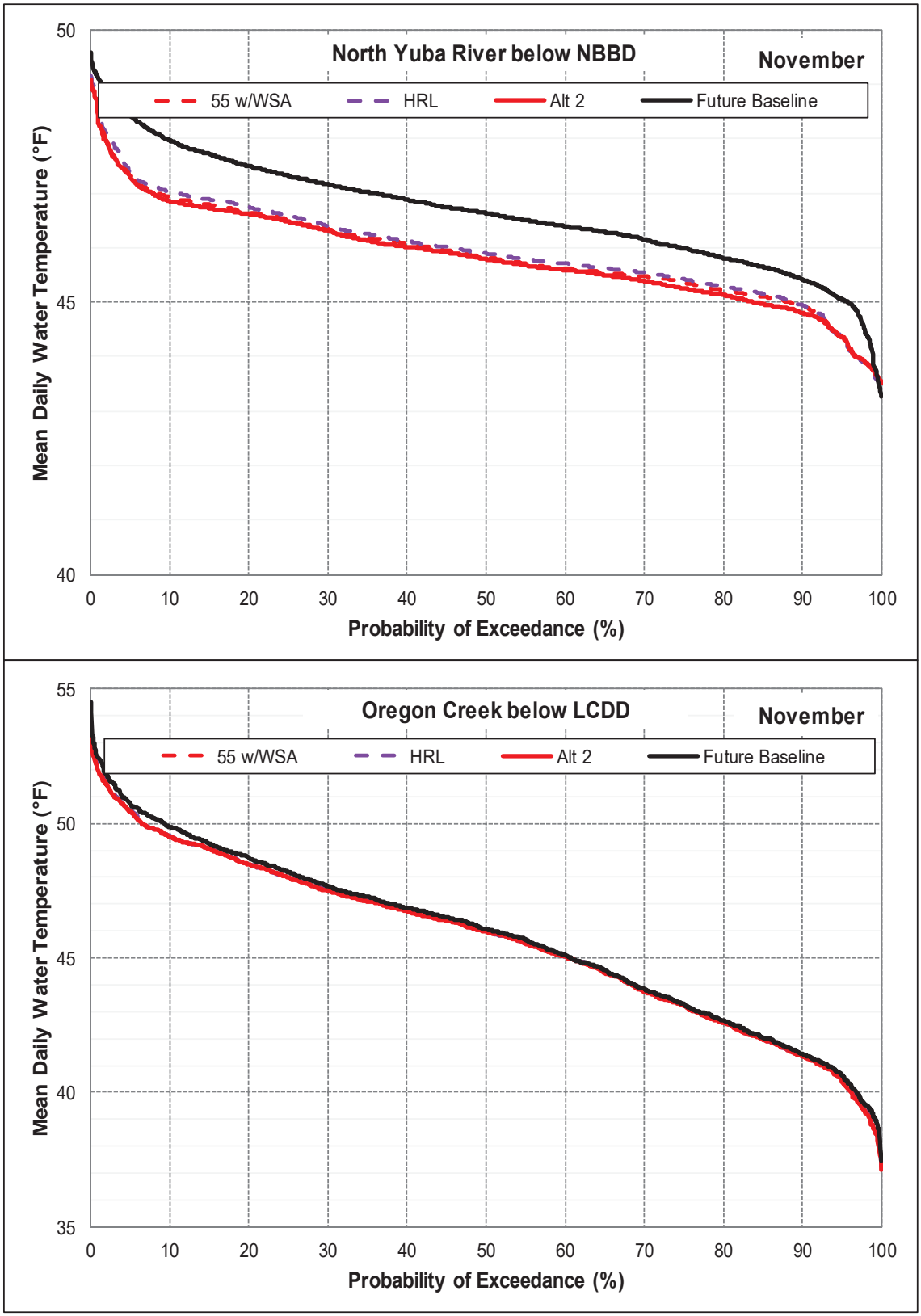


Figure 1A-71. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

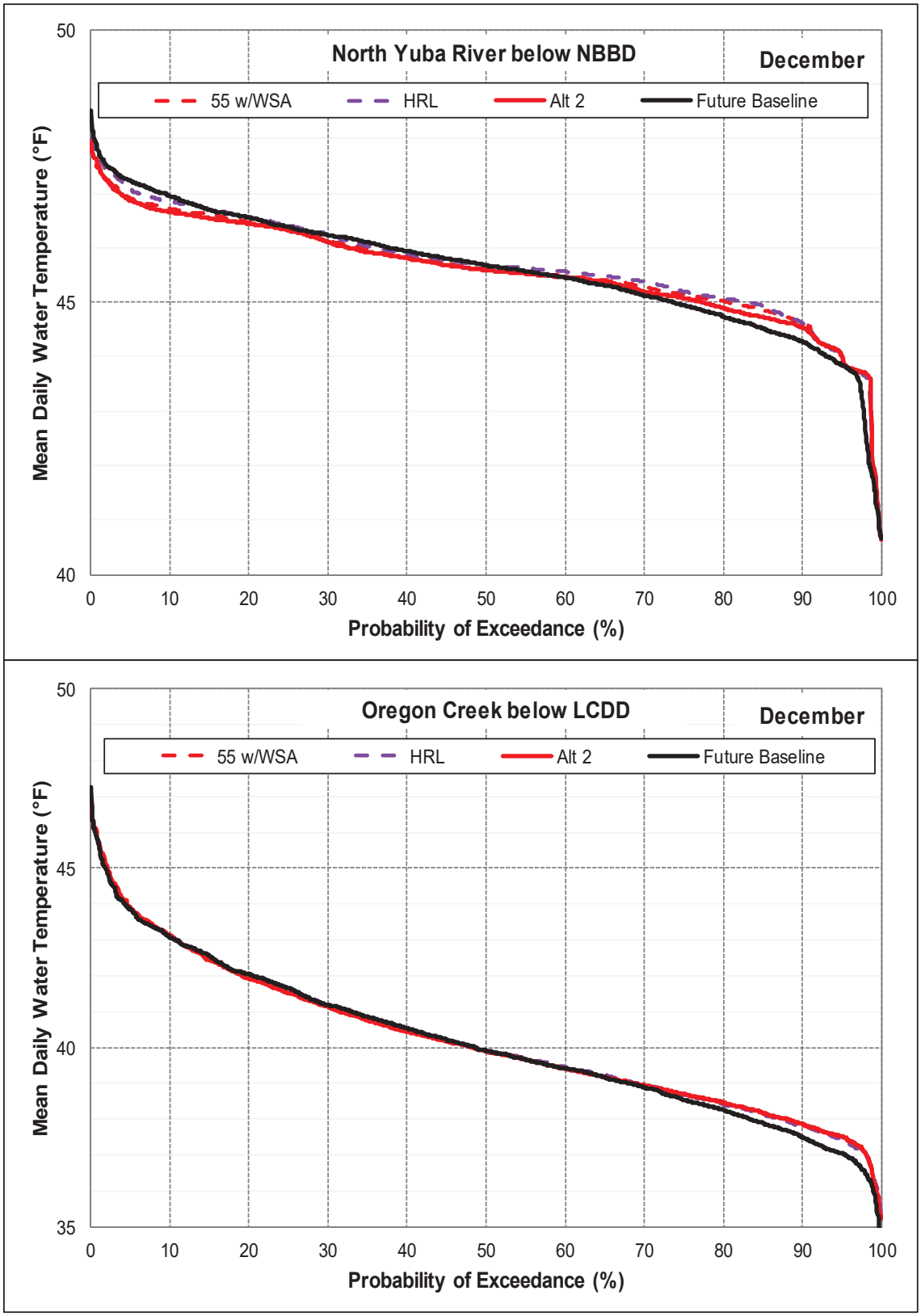


Figure 1A-72. Simulated water temperature exceedance probabilities in the North Yuba River and Oregon Creek under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

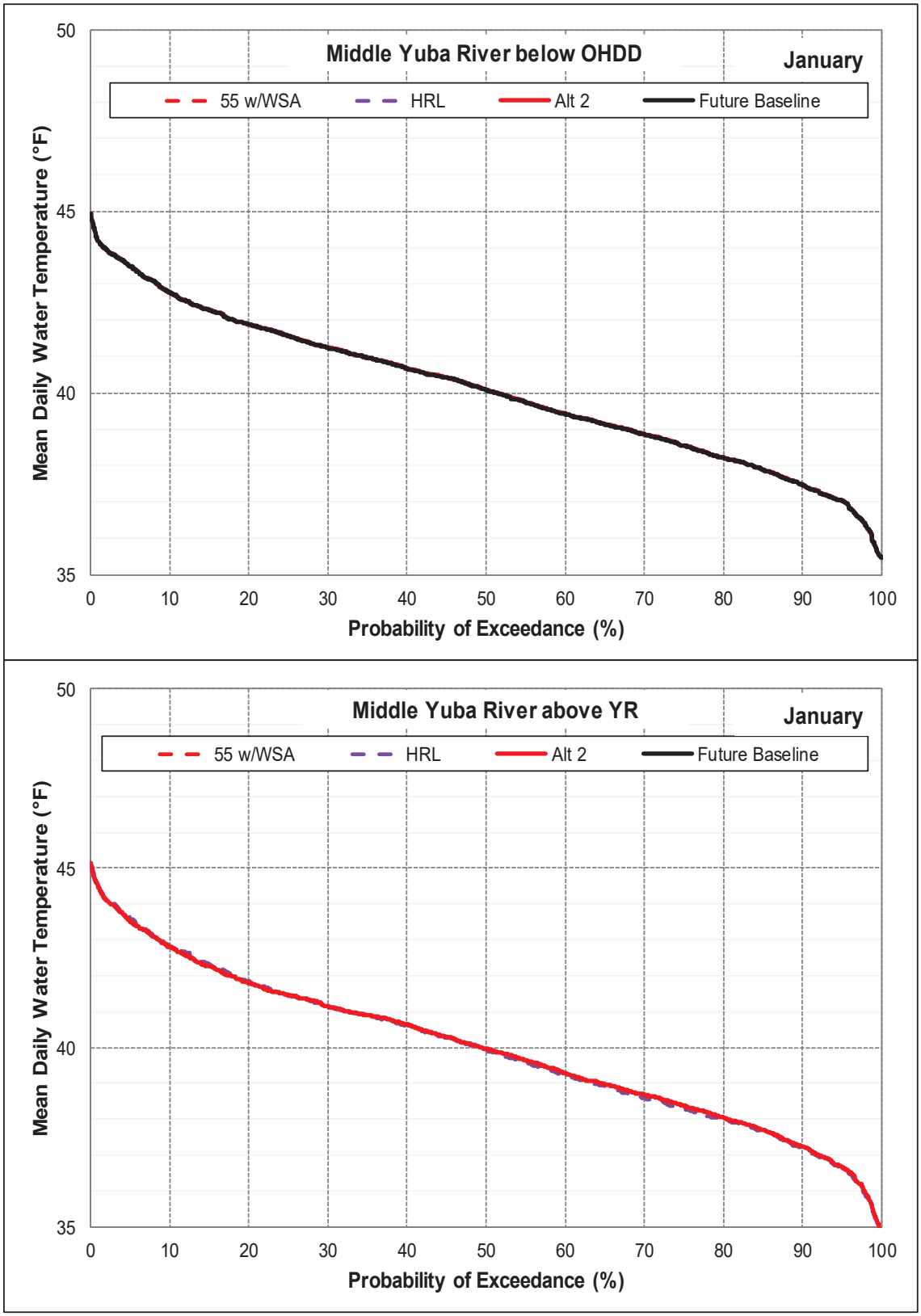


Figure 1A-73. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).

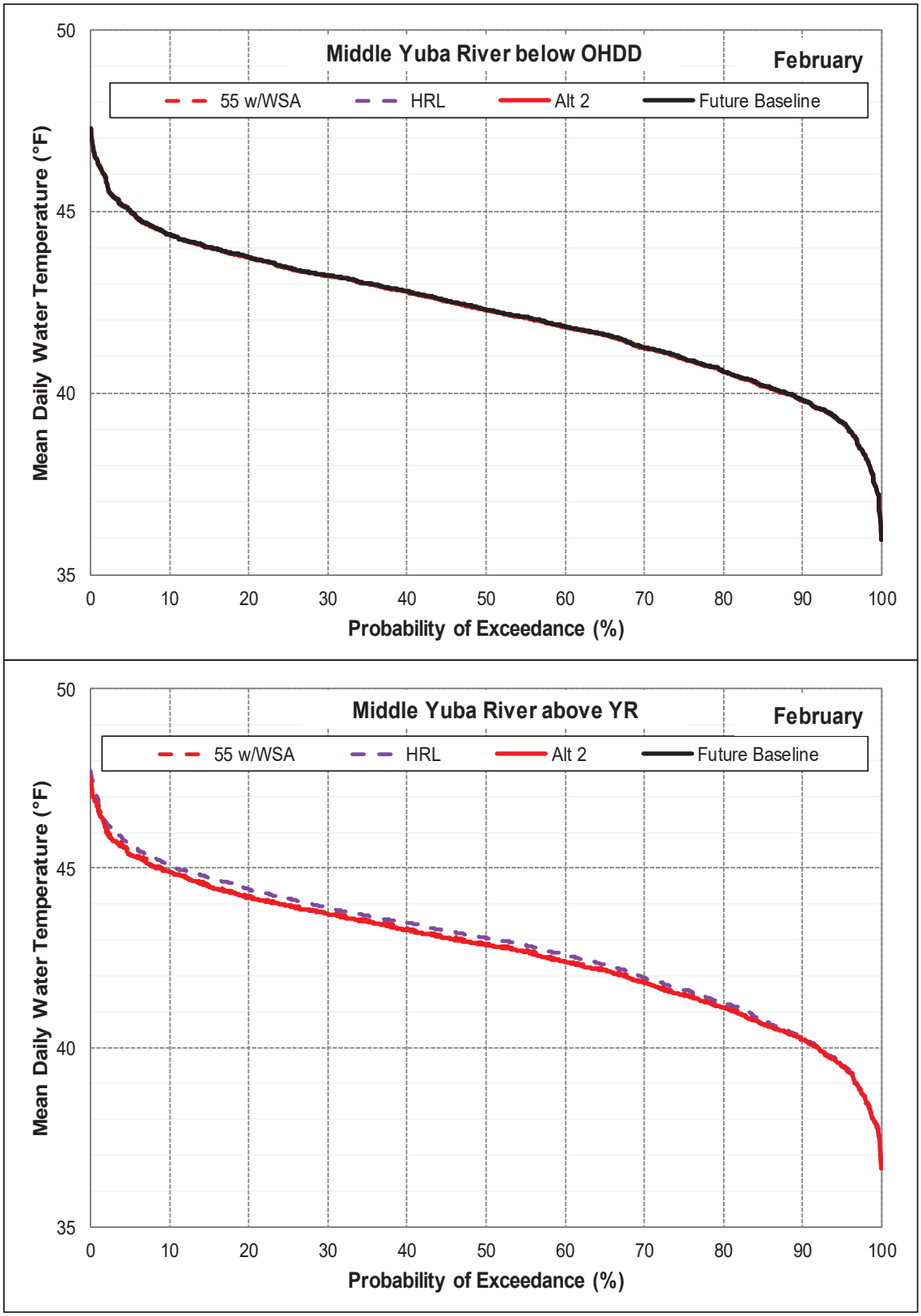
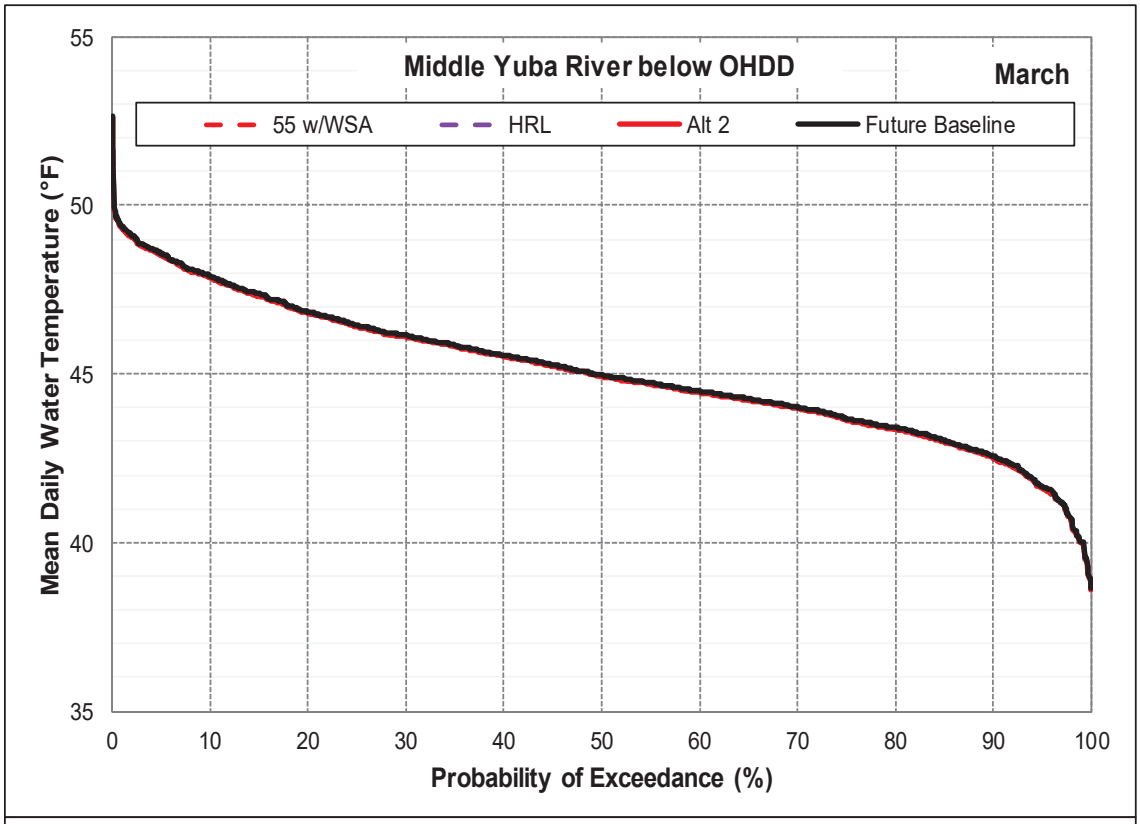


Figure 1A-74. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).



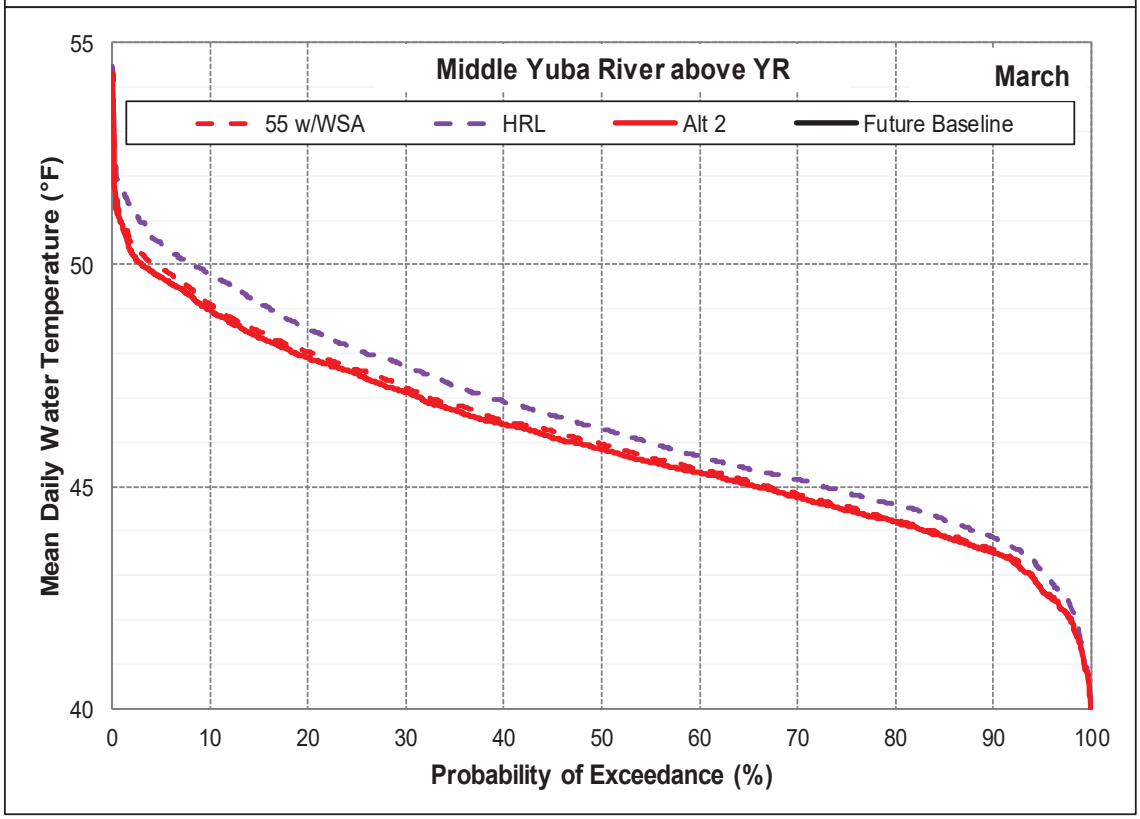


Figure 1A-75. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during March over the entire simulation period (WY 1970-2021).

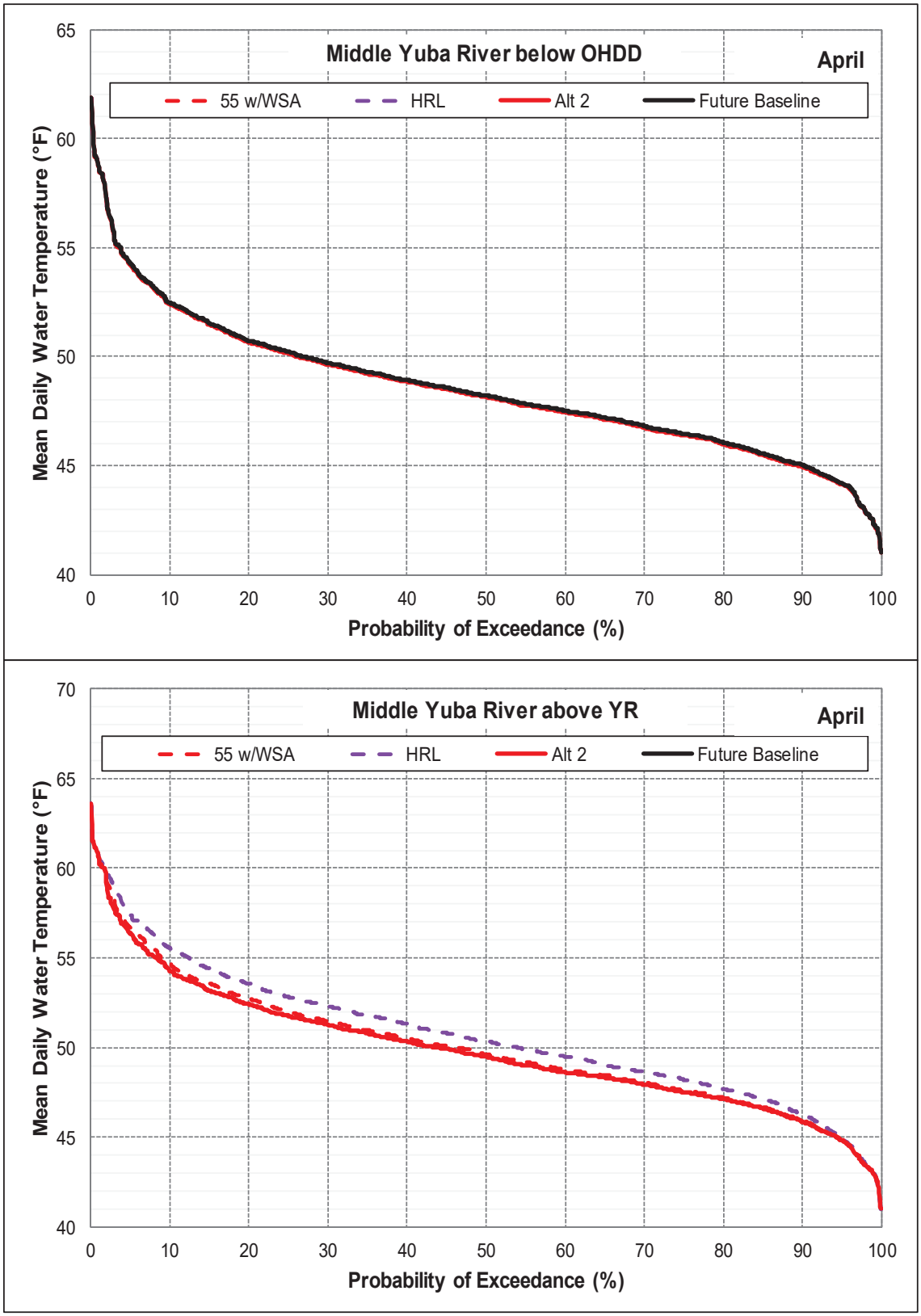


Figure 1A-76. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).

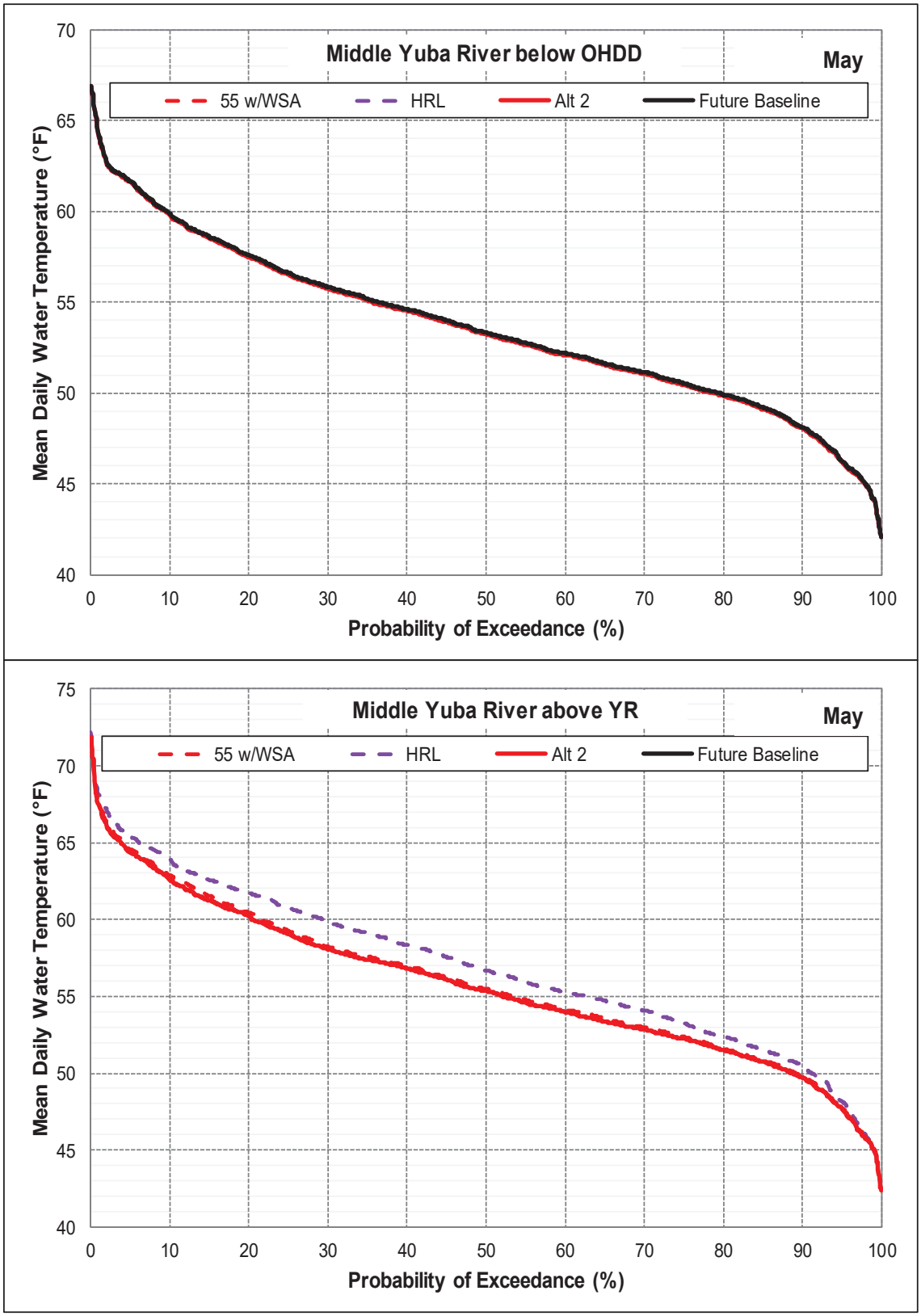
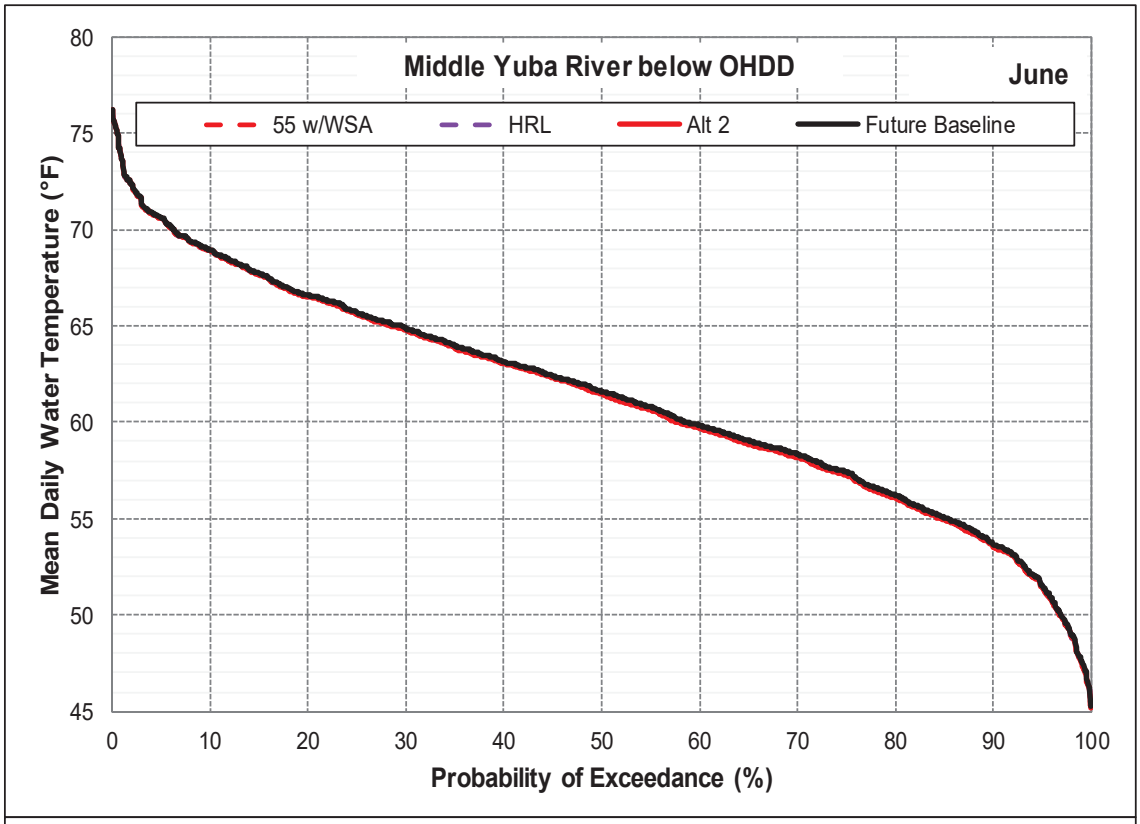


Figure 1A-77. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).



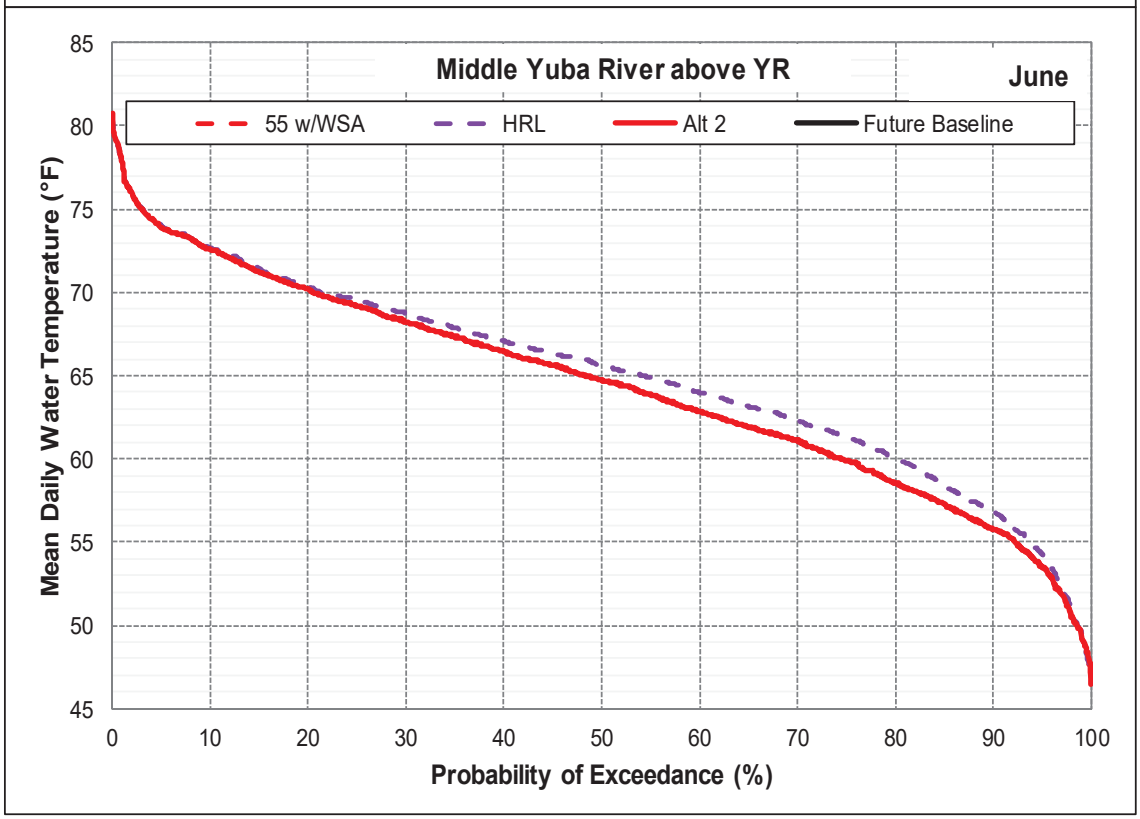


Figure 1A-78. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).

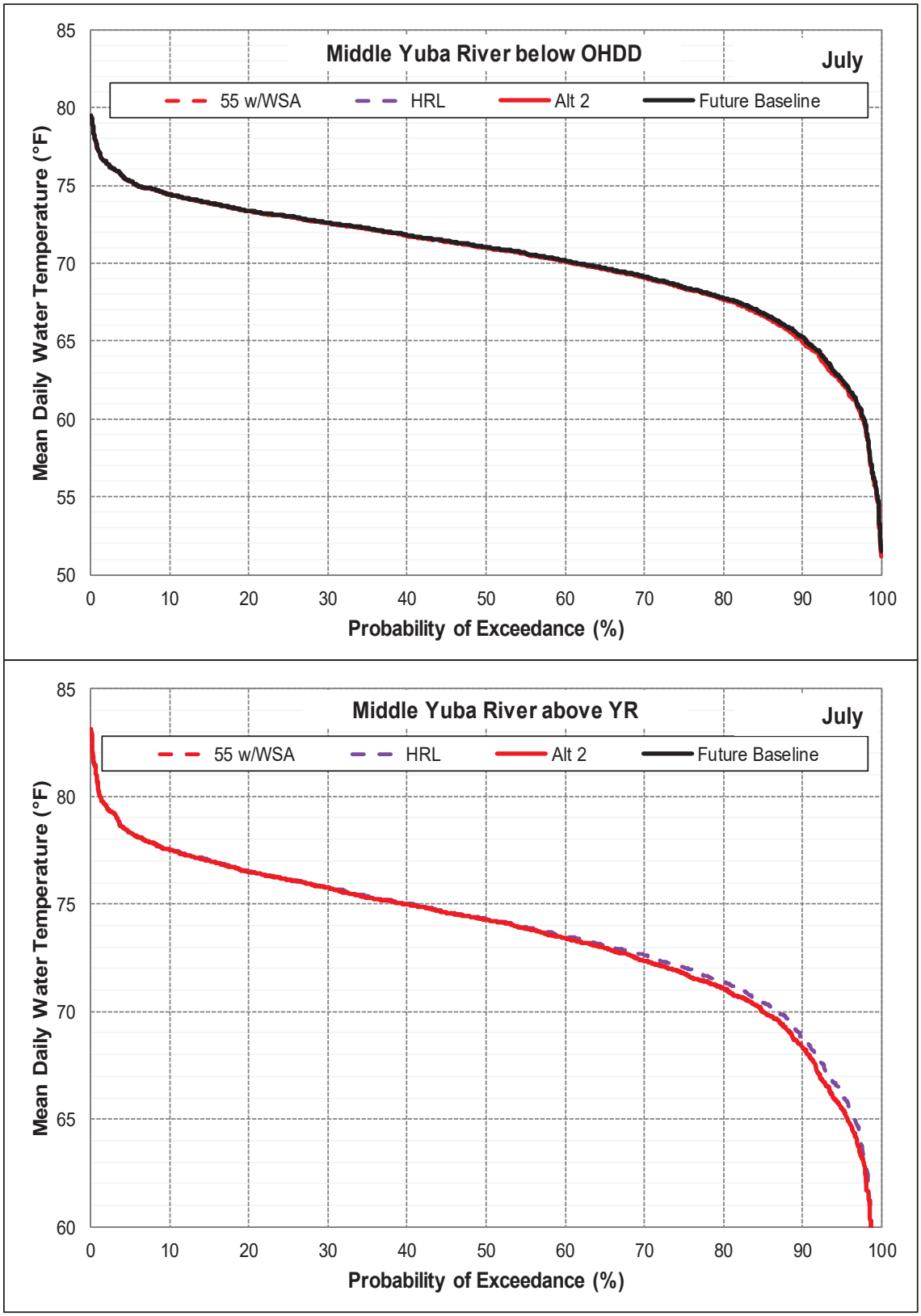
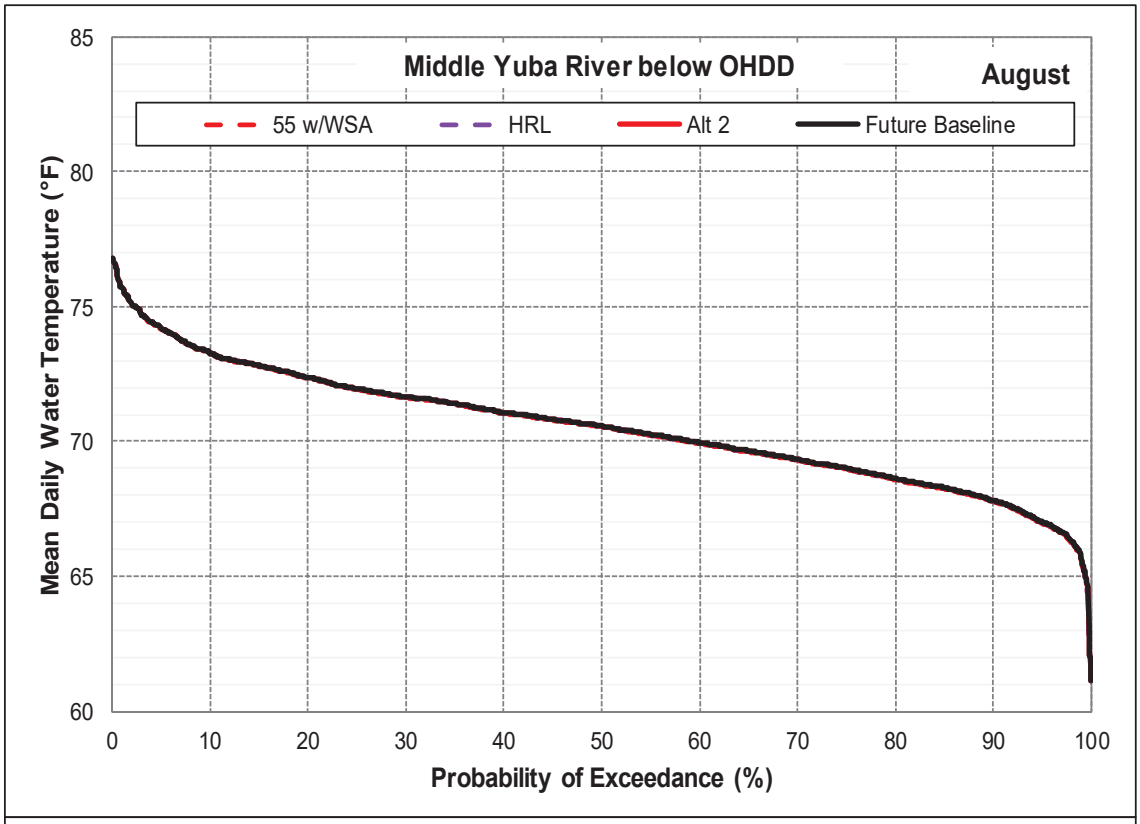


Figure 1A-79. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during July over the entire simulation period (WY 1970-2021).



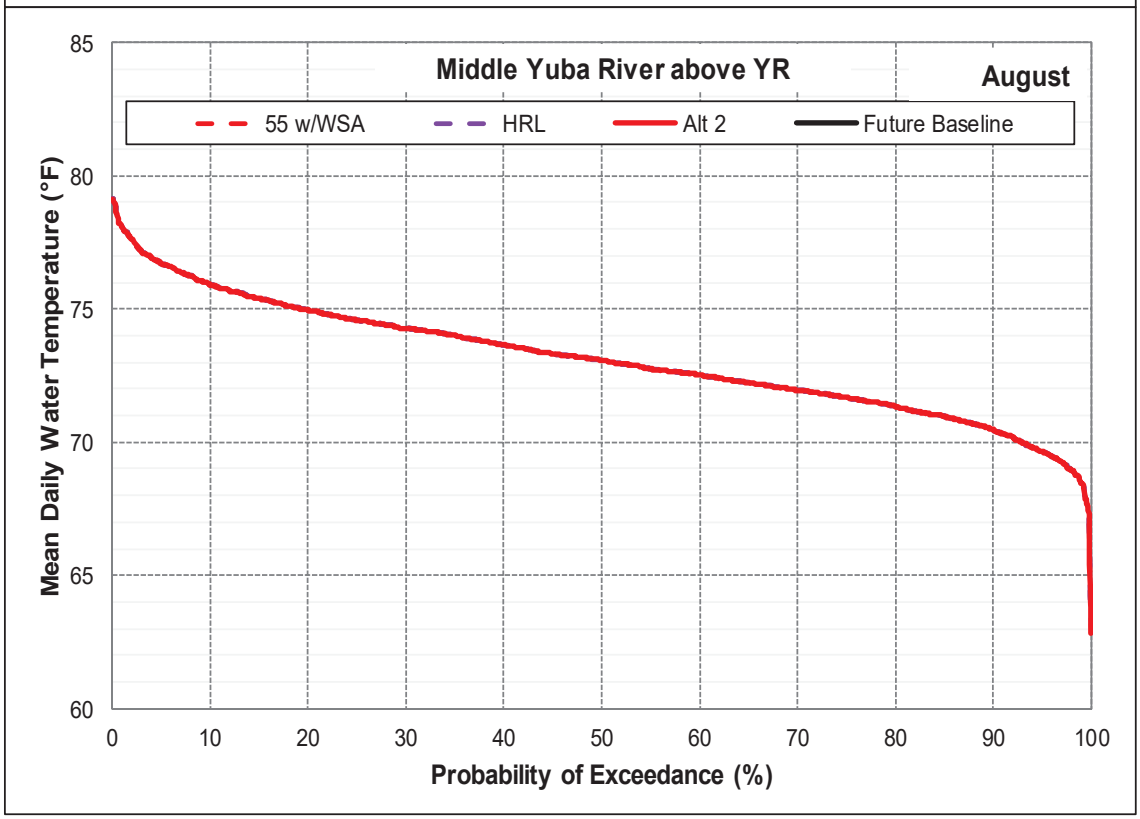
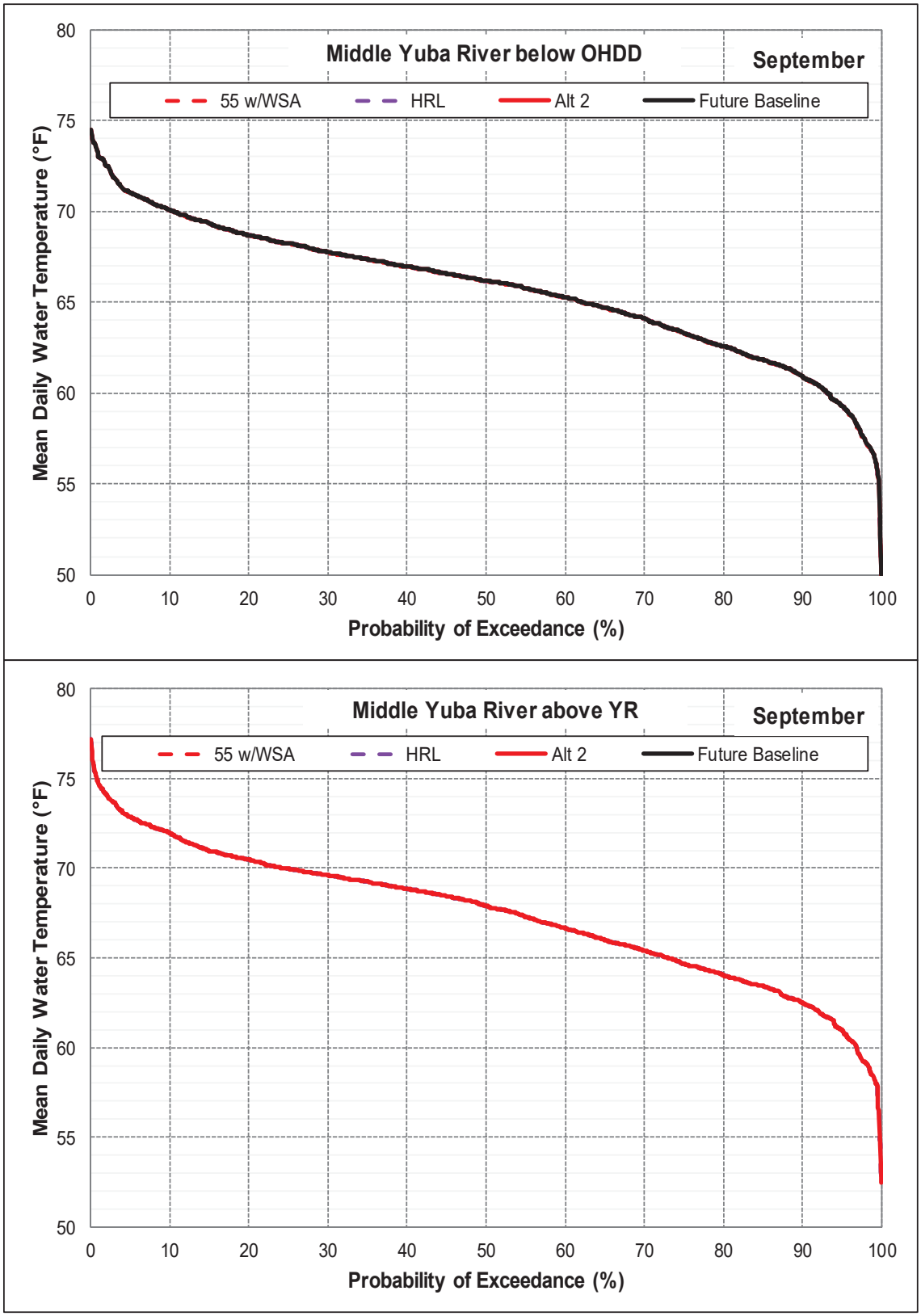


Figure 1A-80. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).



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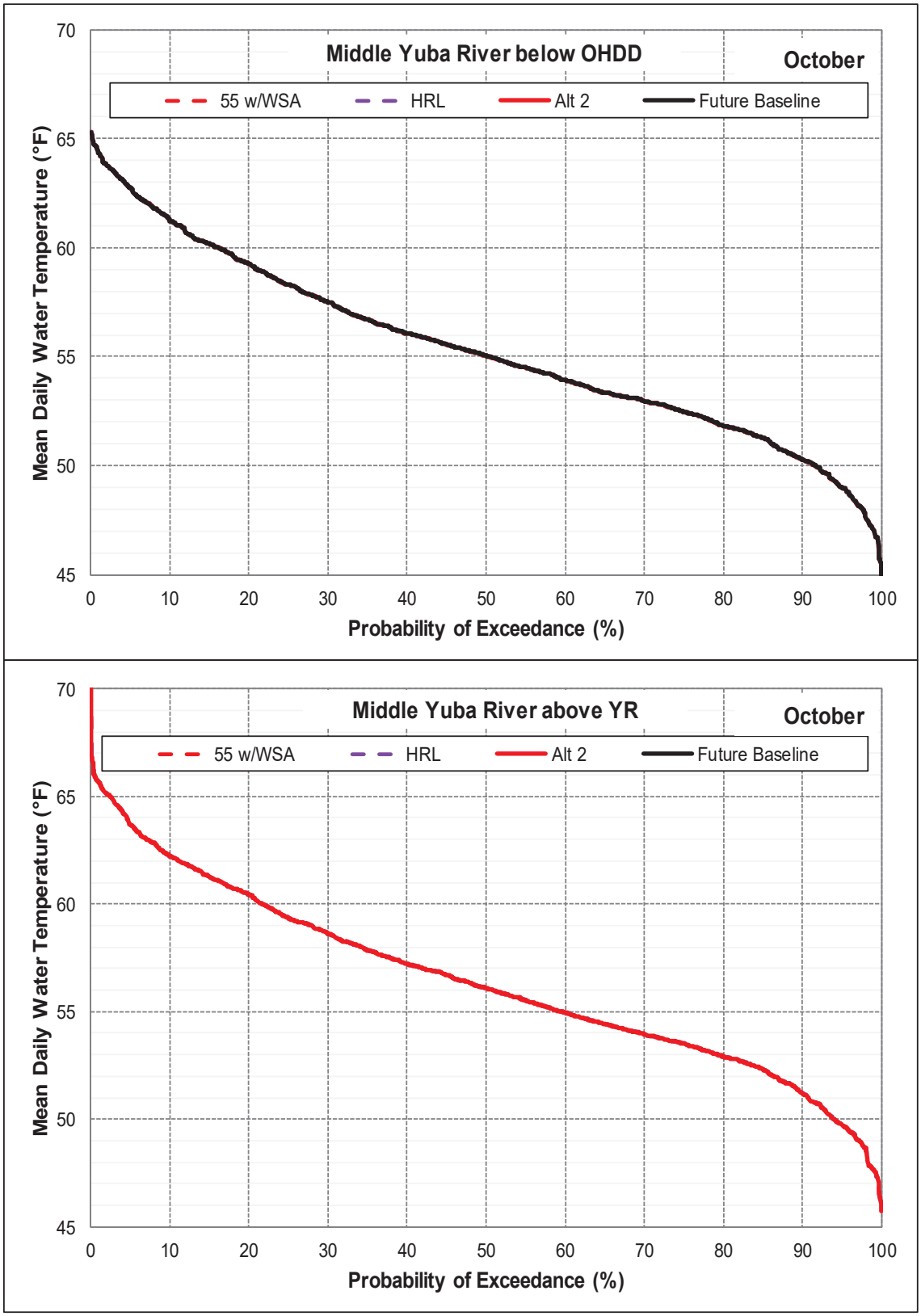


Figure 1A-82. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

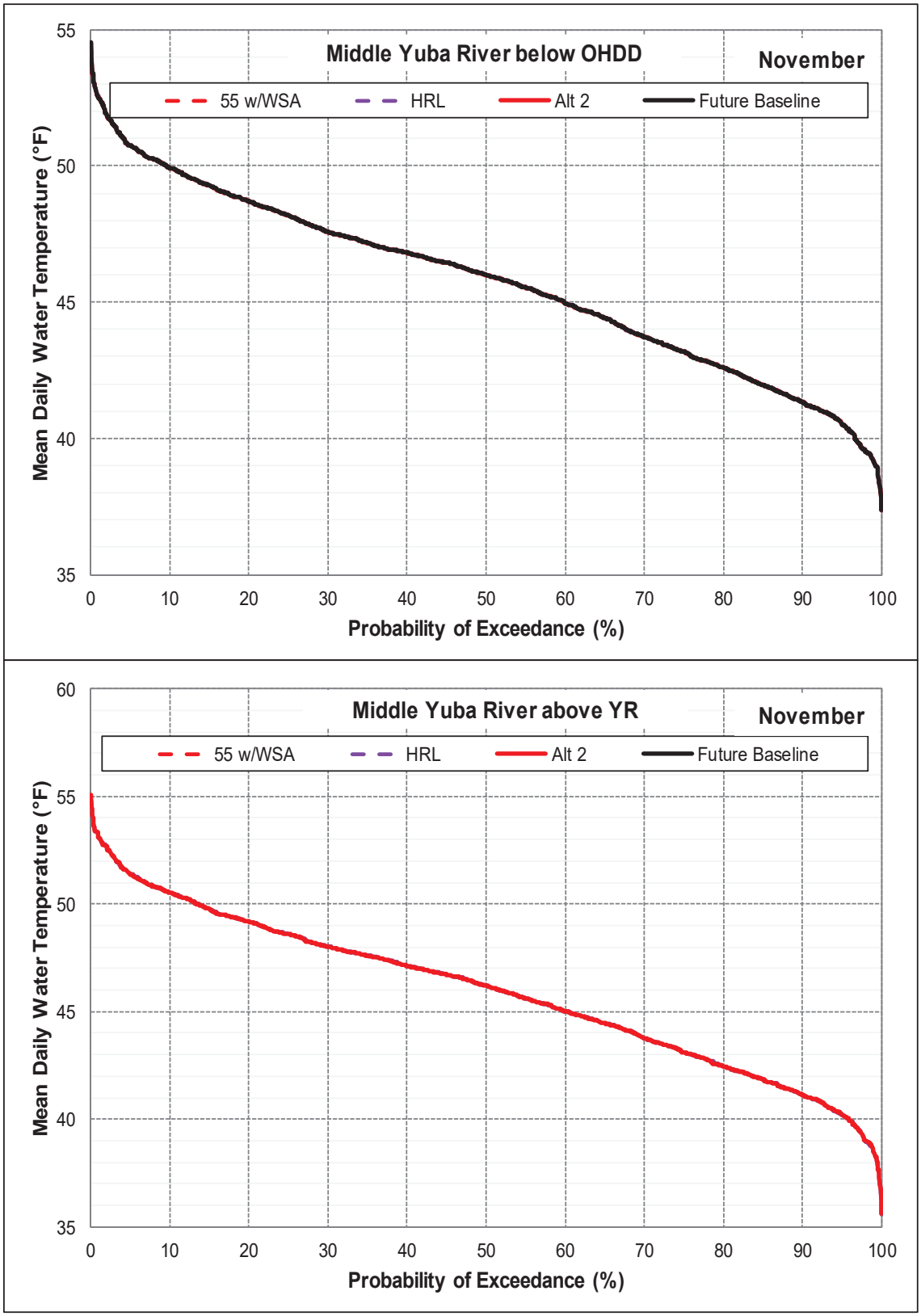
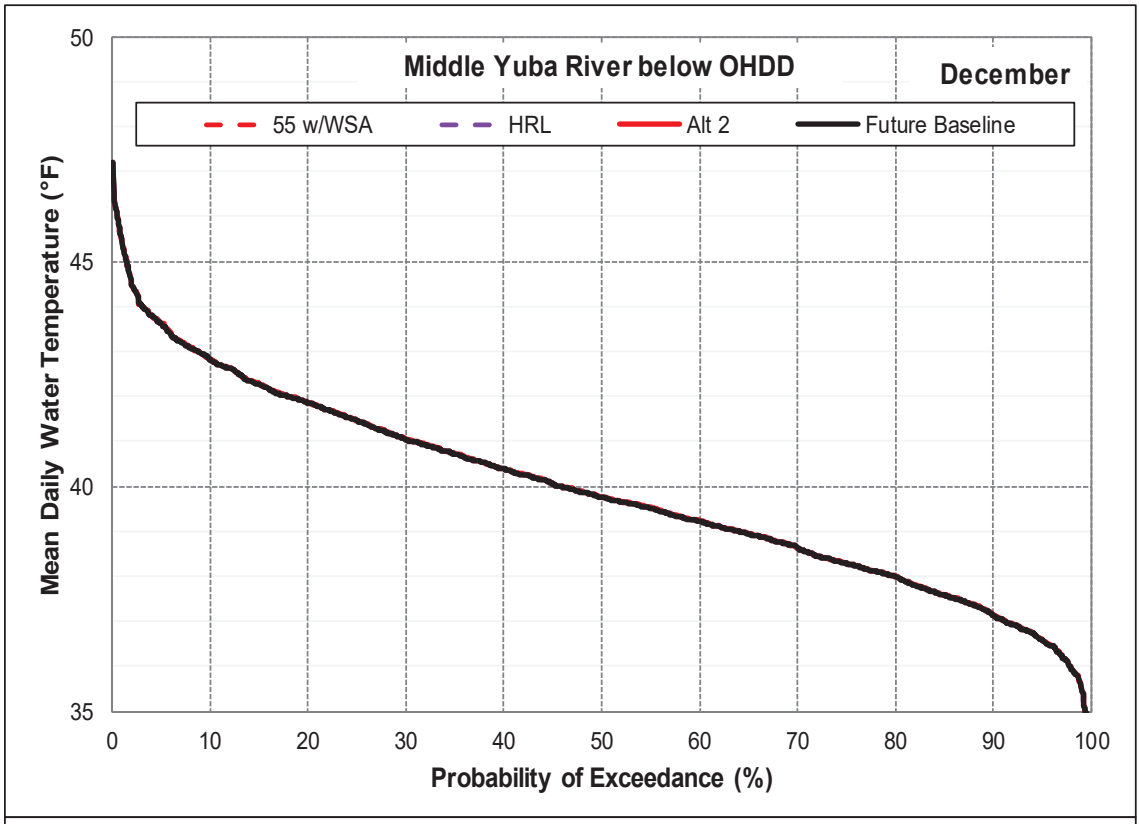
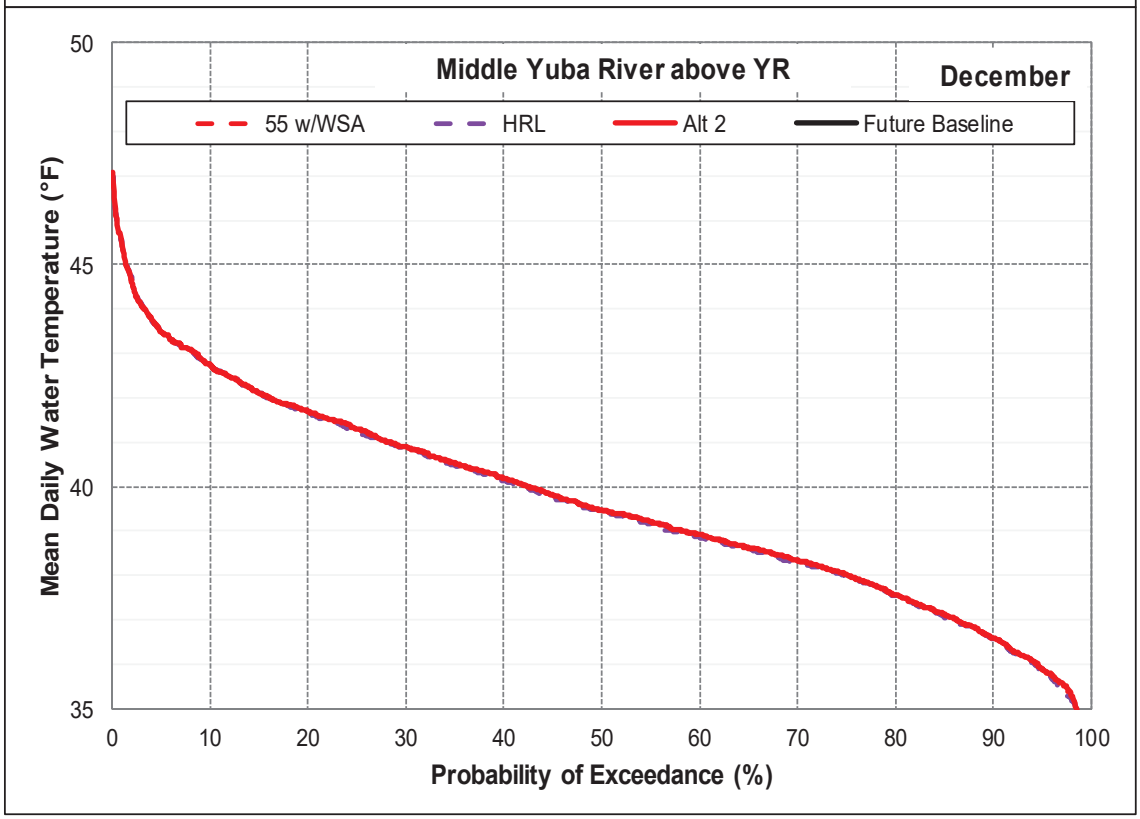


Figure 1A-83. Simulated water temperature exceedance probabilities in the Middle Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).





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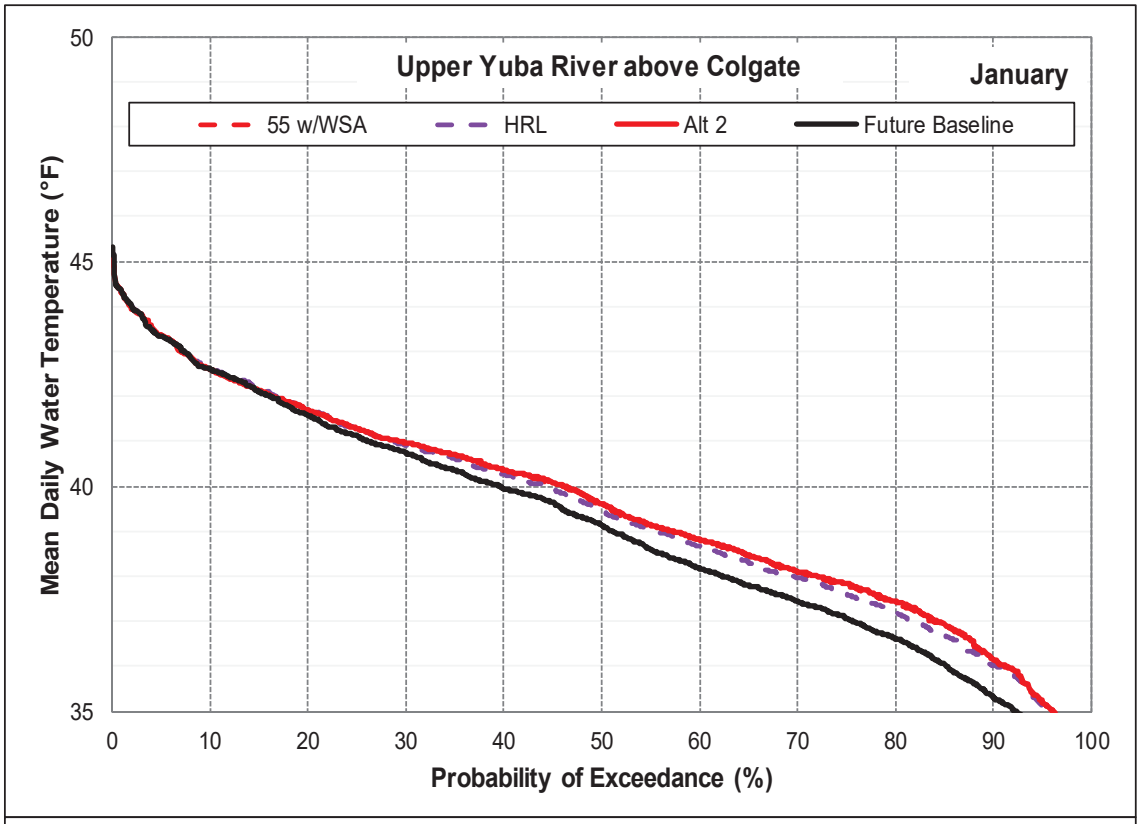


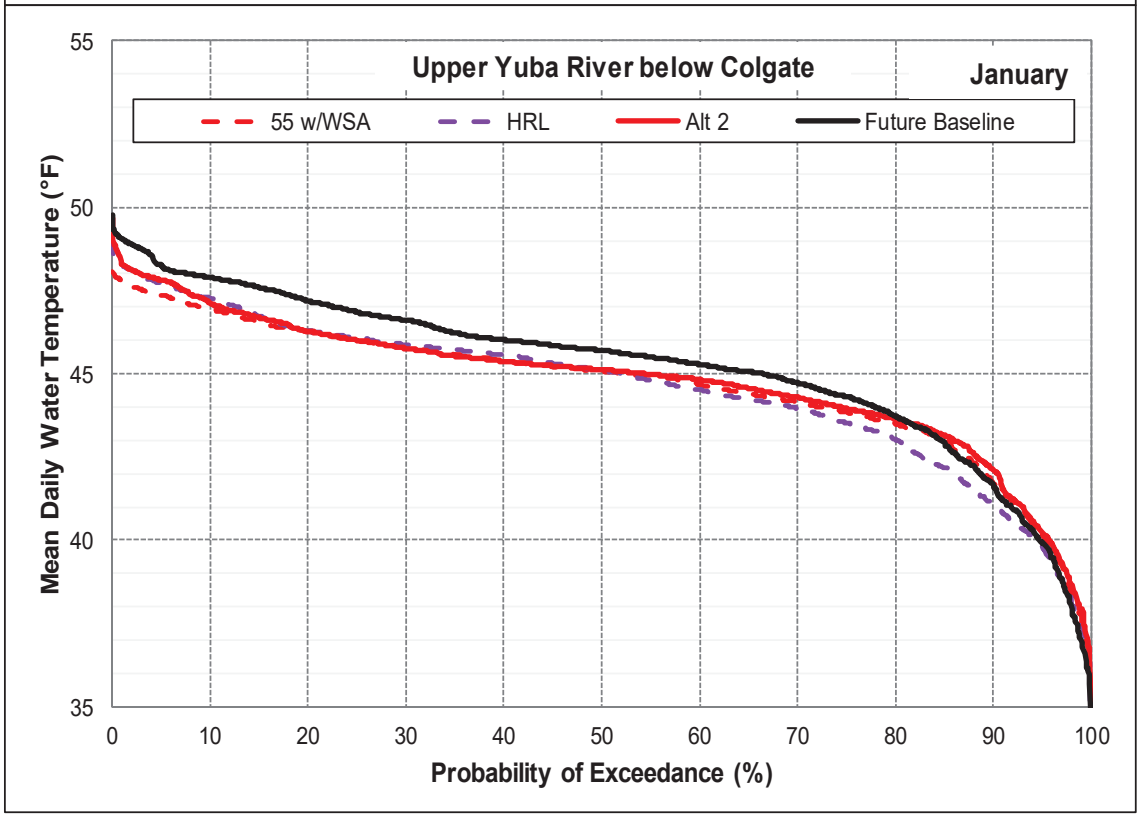
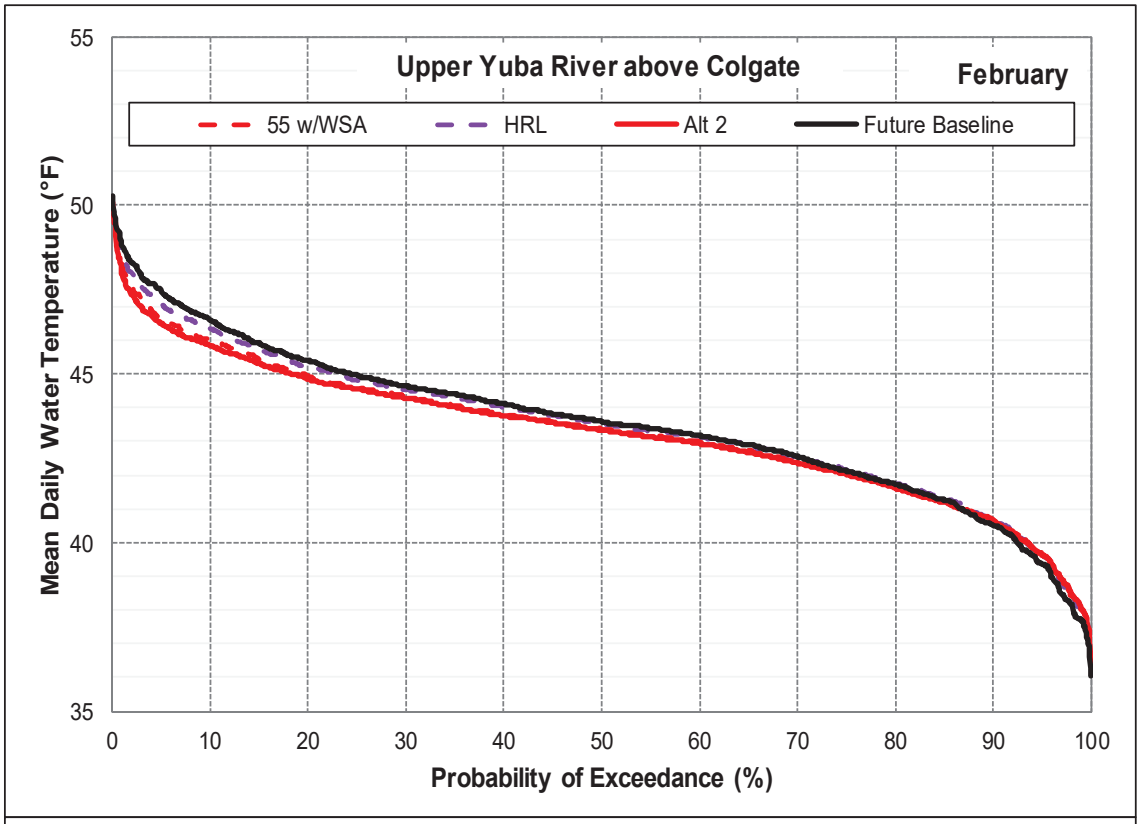


Figure 1A-85. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during January over the entire simulation period (WY 1970-2021).



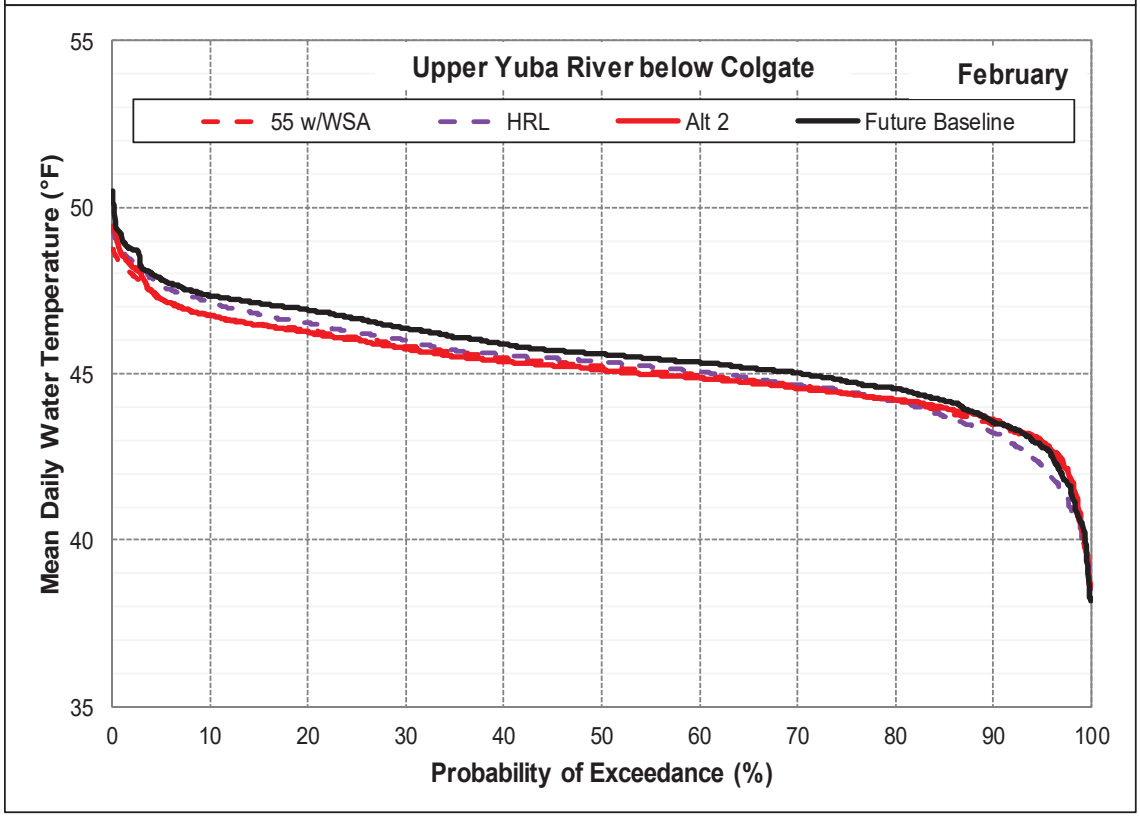
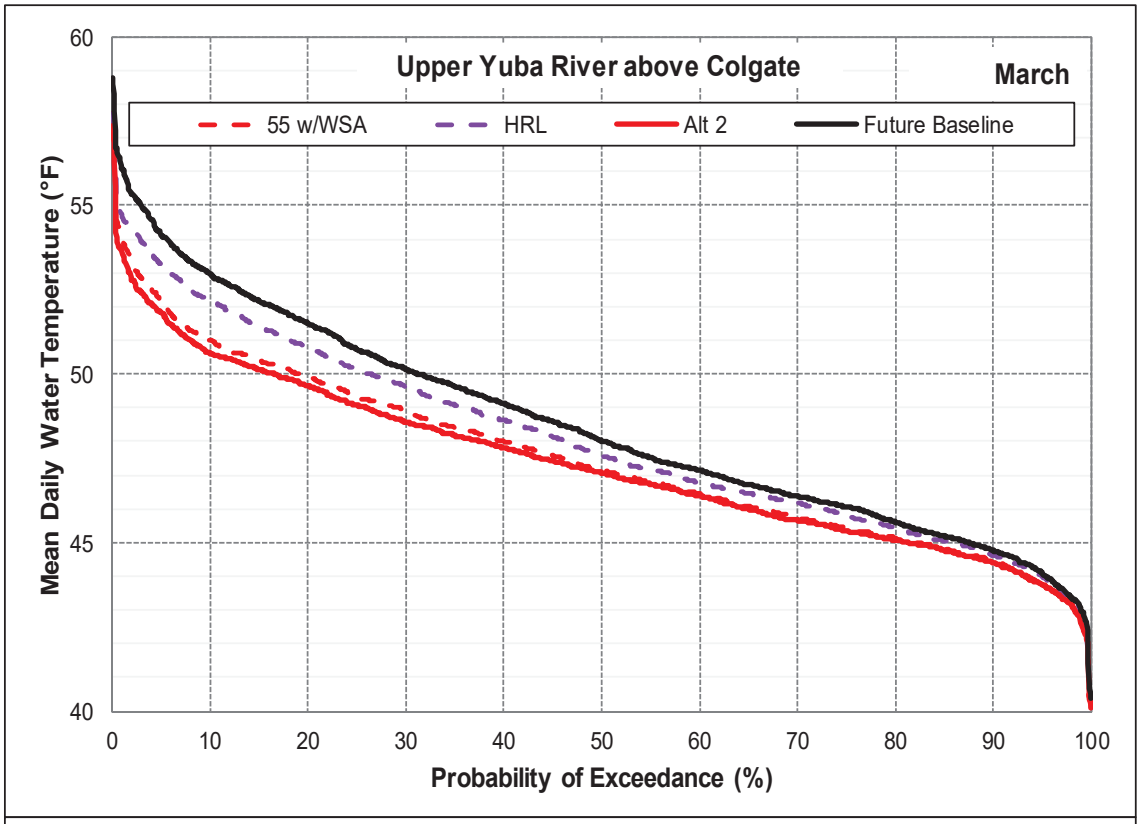
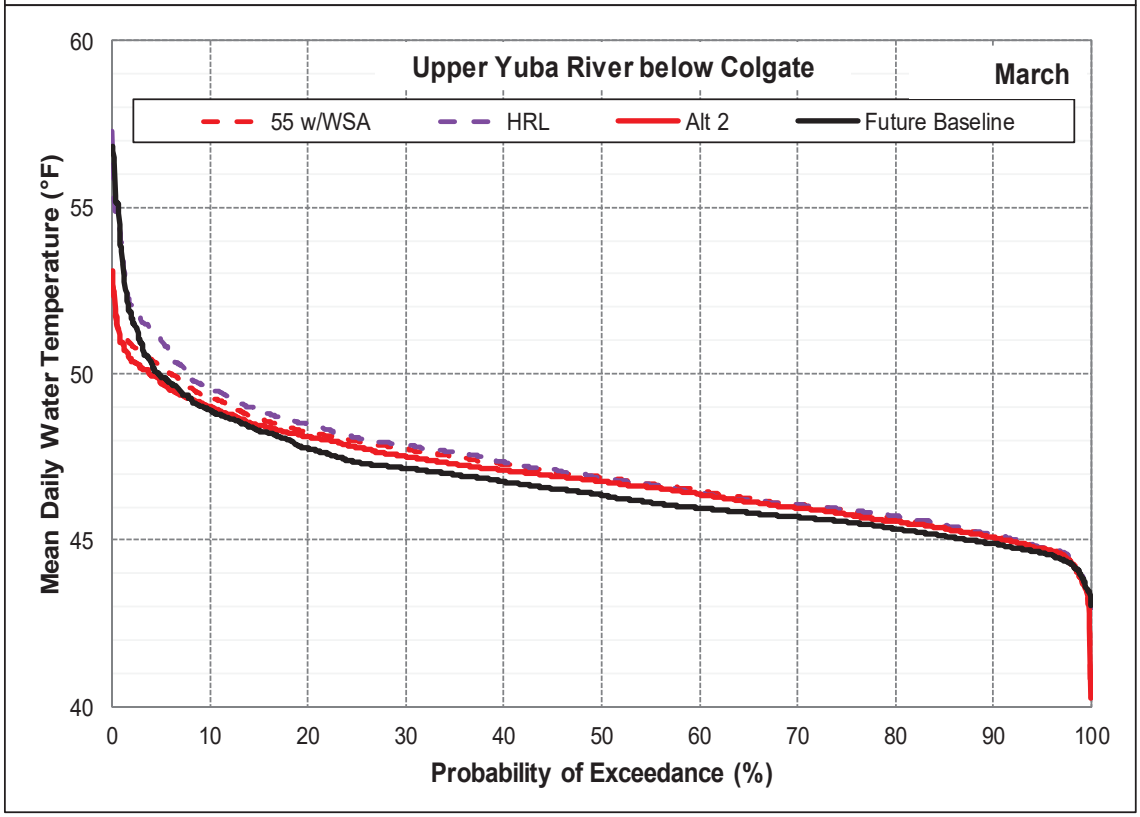


Figure 1A-86. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during February over the entire simulation period (WY 1970-2021).





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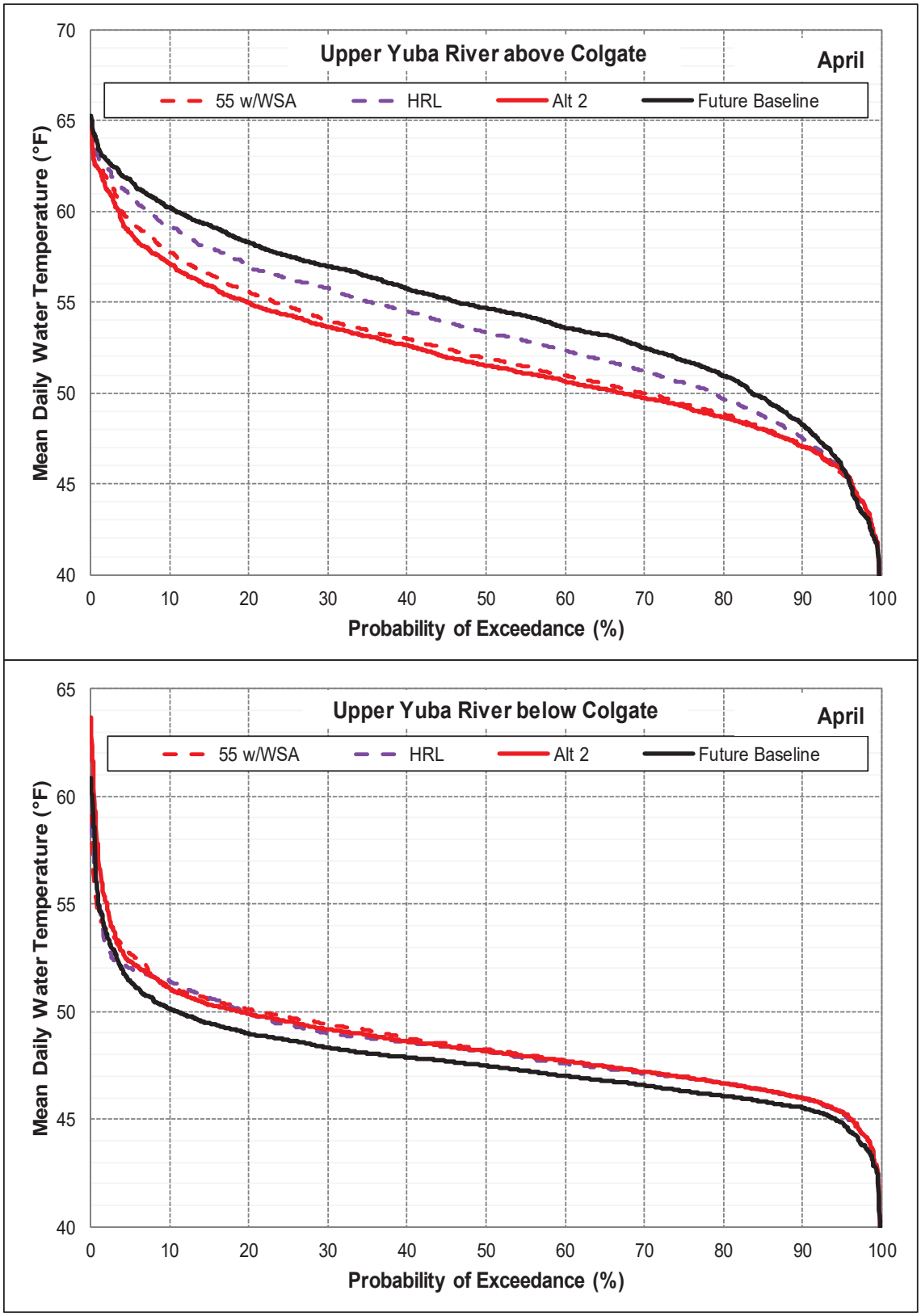
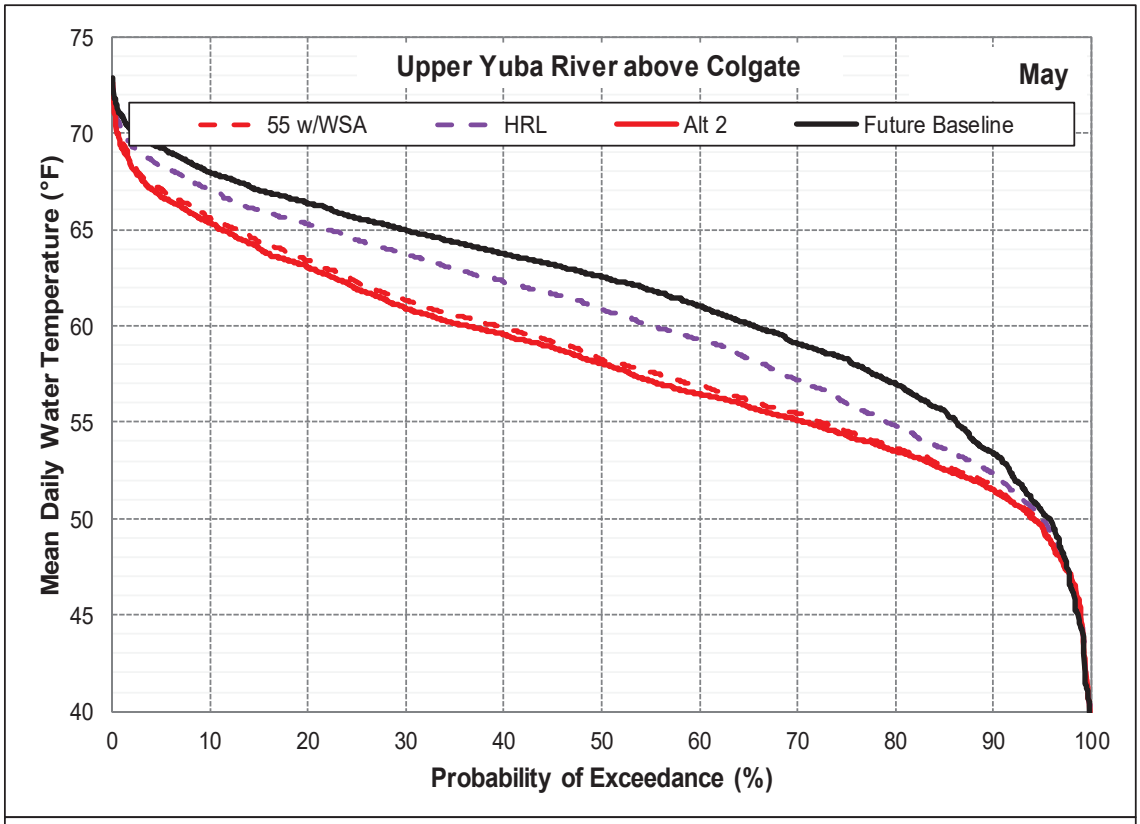


Figure 1A-88. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during April over the entire simulation period (WY 1970-2021).



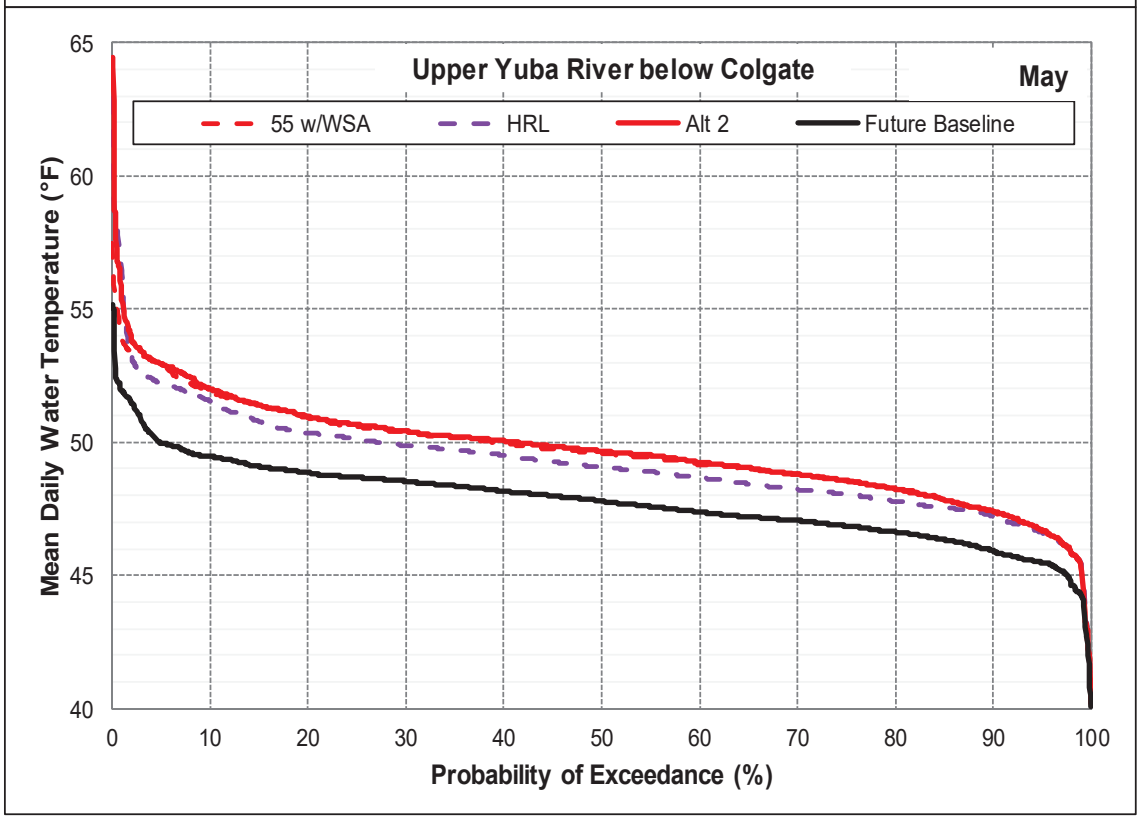
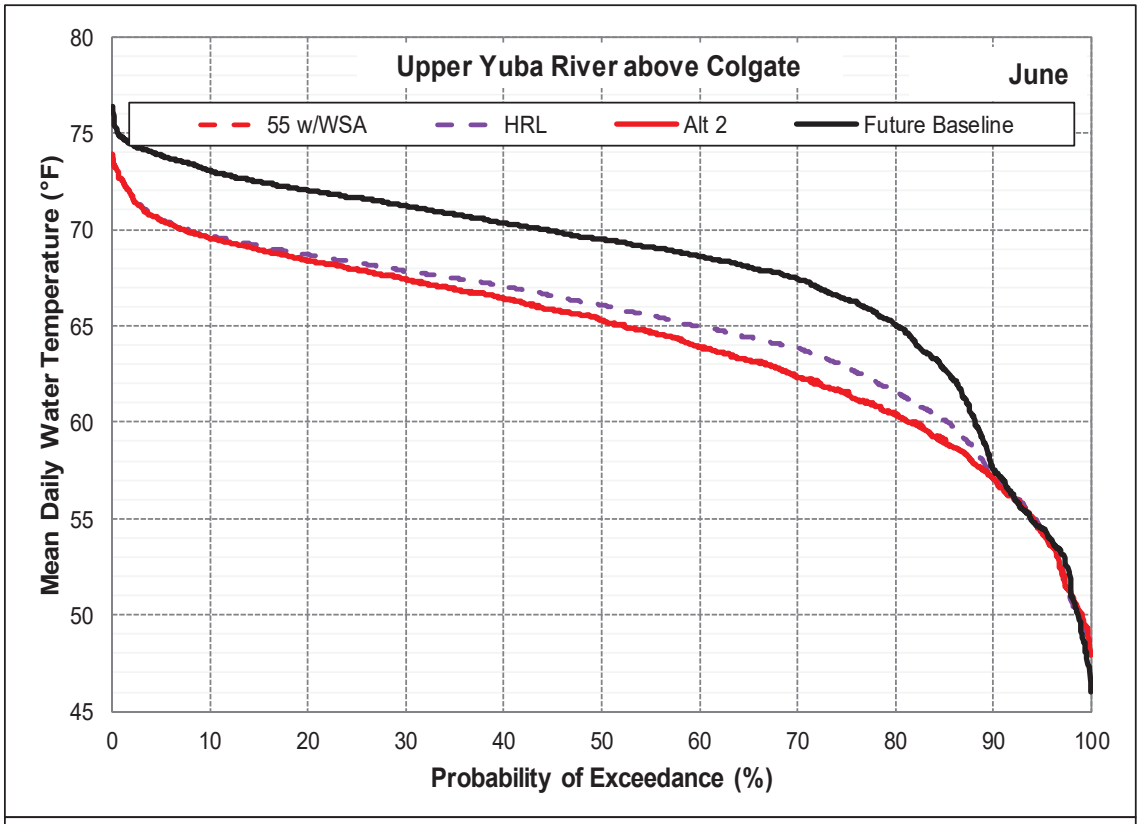


Figure 1A-89. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during May over the entire simulation period (WY 1970-2021).



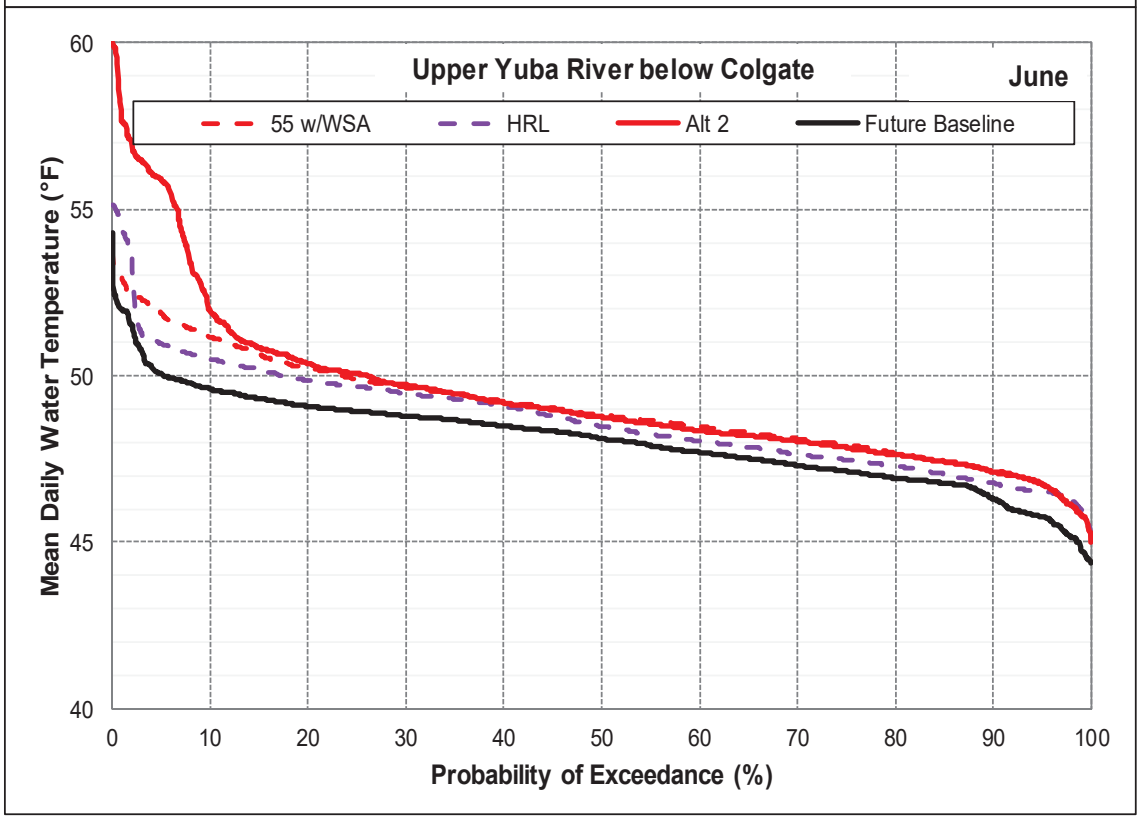
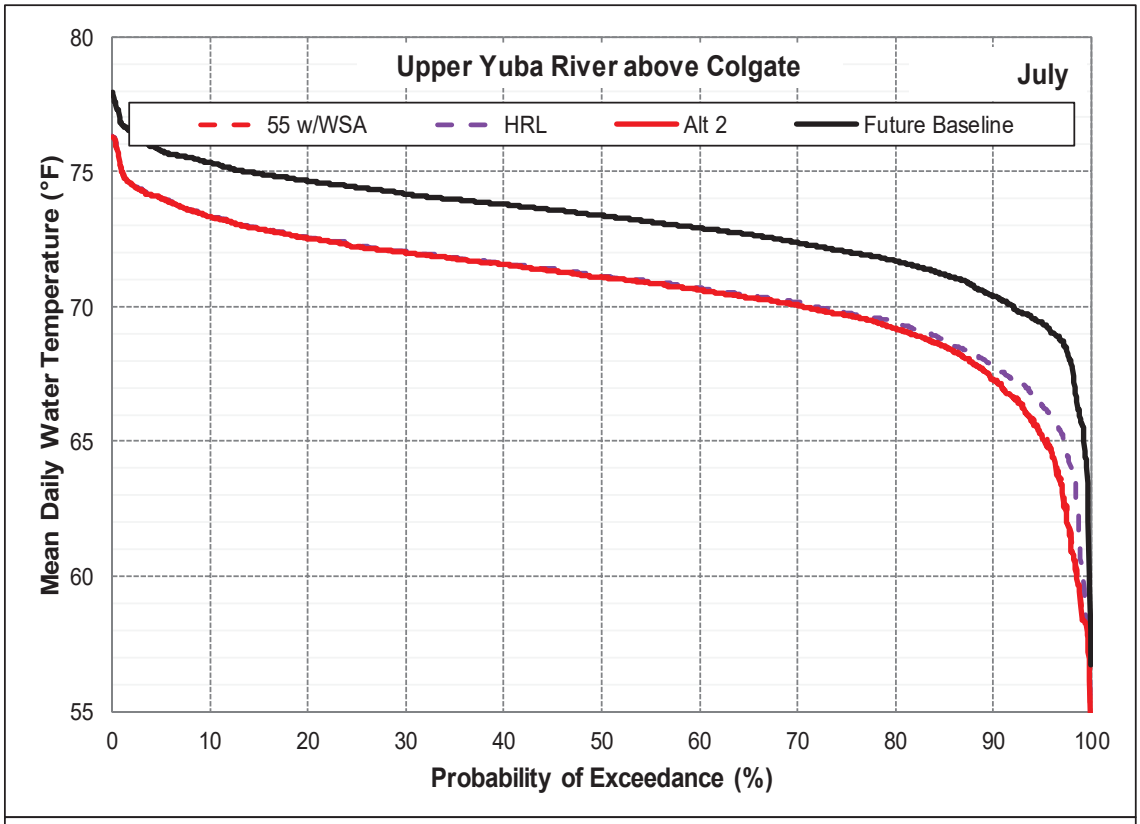
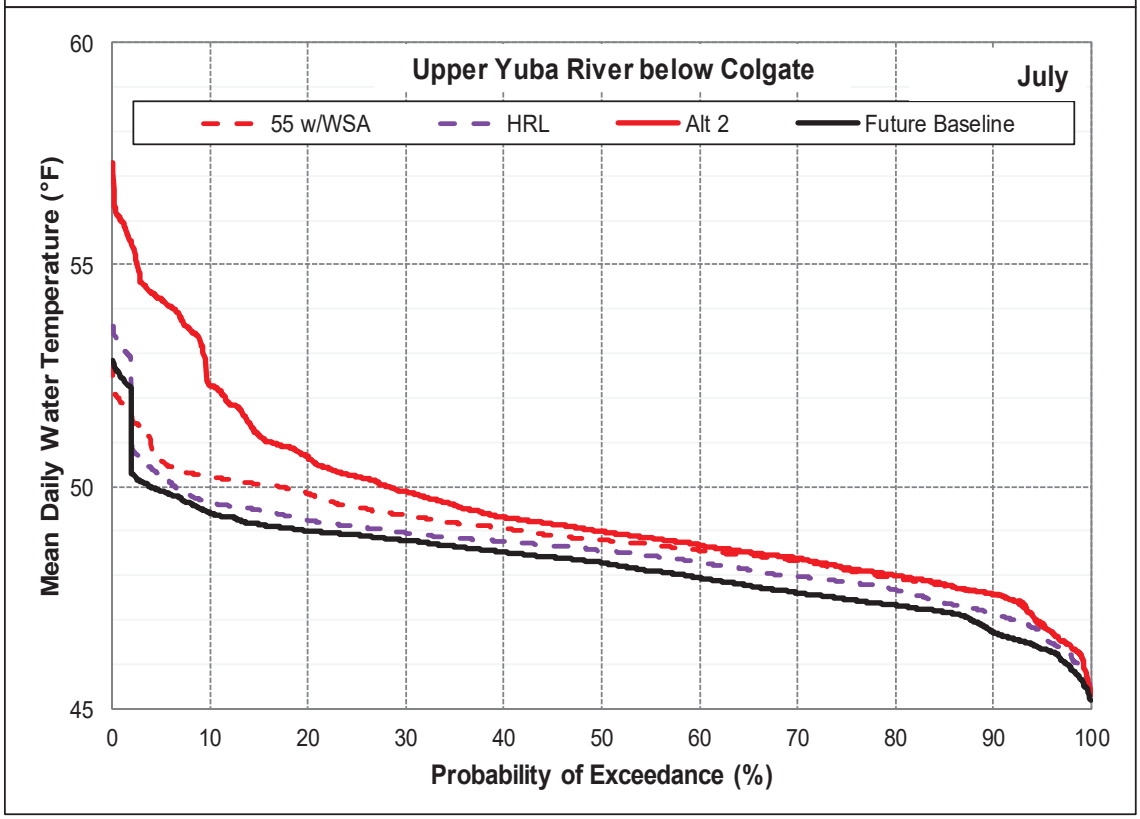


Figure 1A-90. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during June over the entire simulation period (WY 1970-2021).





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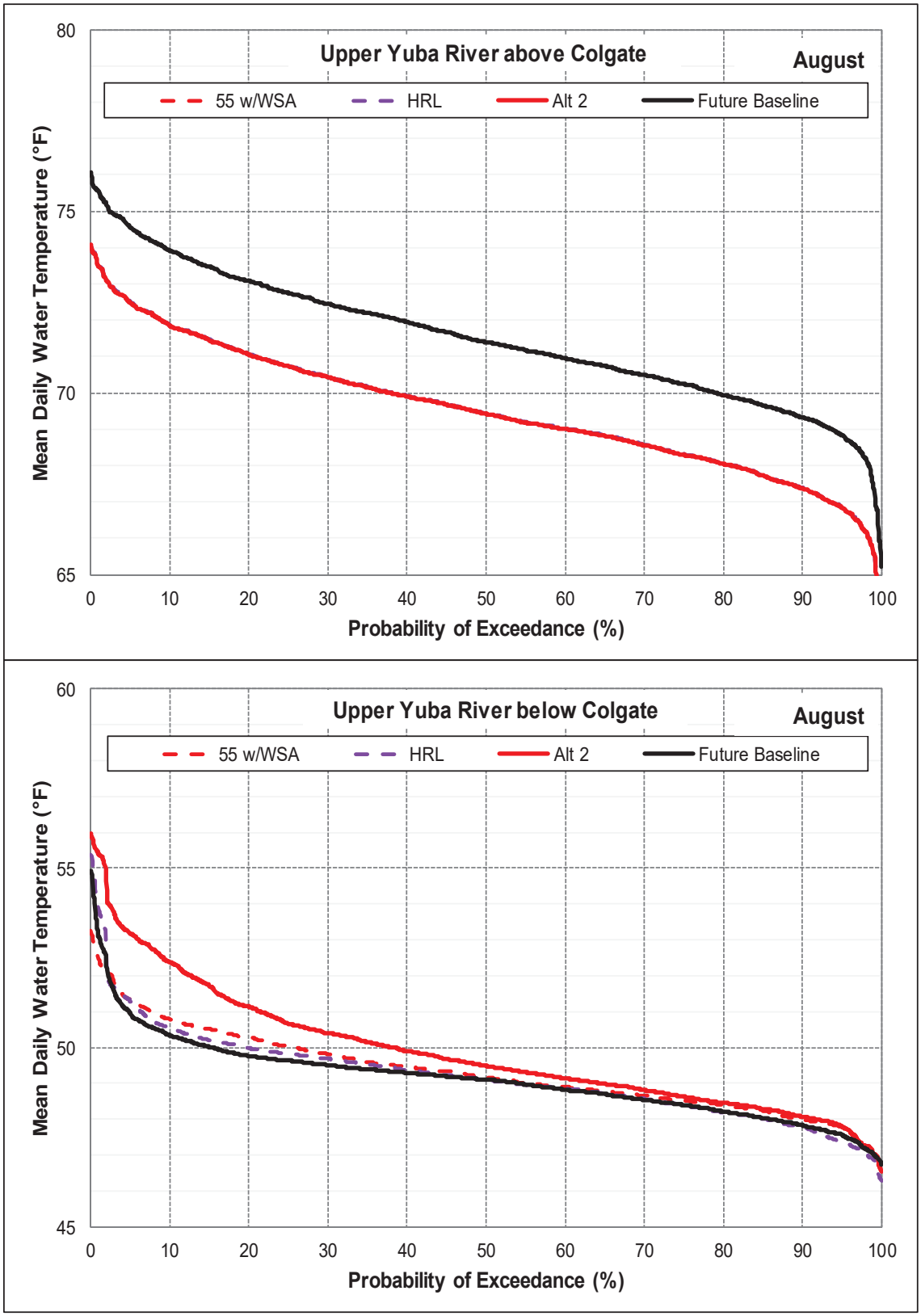

Figure 1A-92. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during August over the entire simulation period (WY 1970-2021).

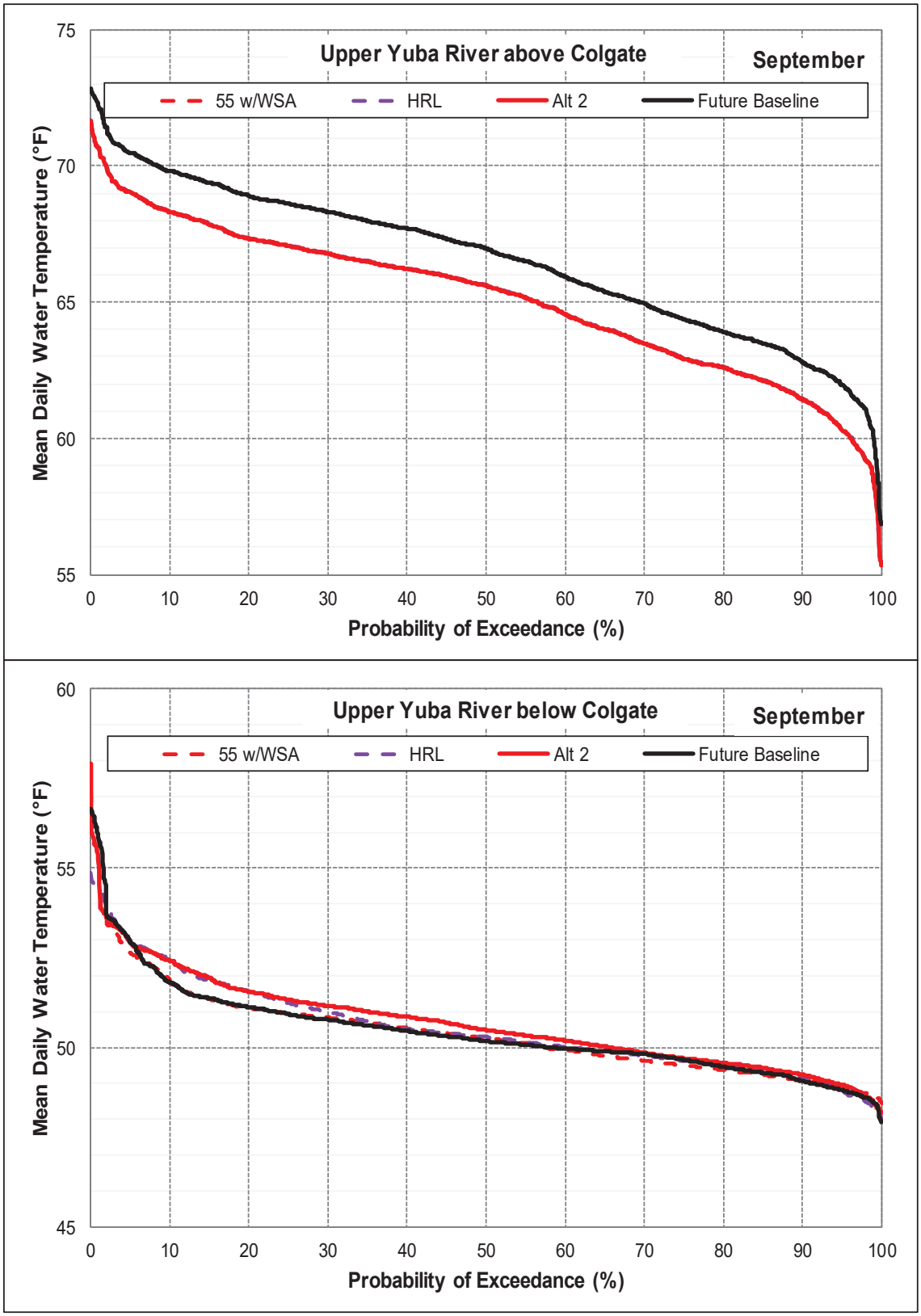

Figure 1A-93. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during September over the entire simulation period (WY 1970-2021).

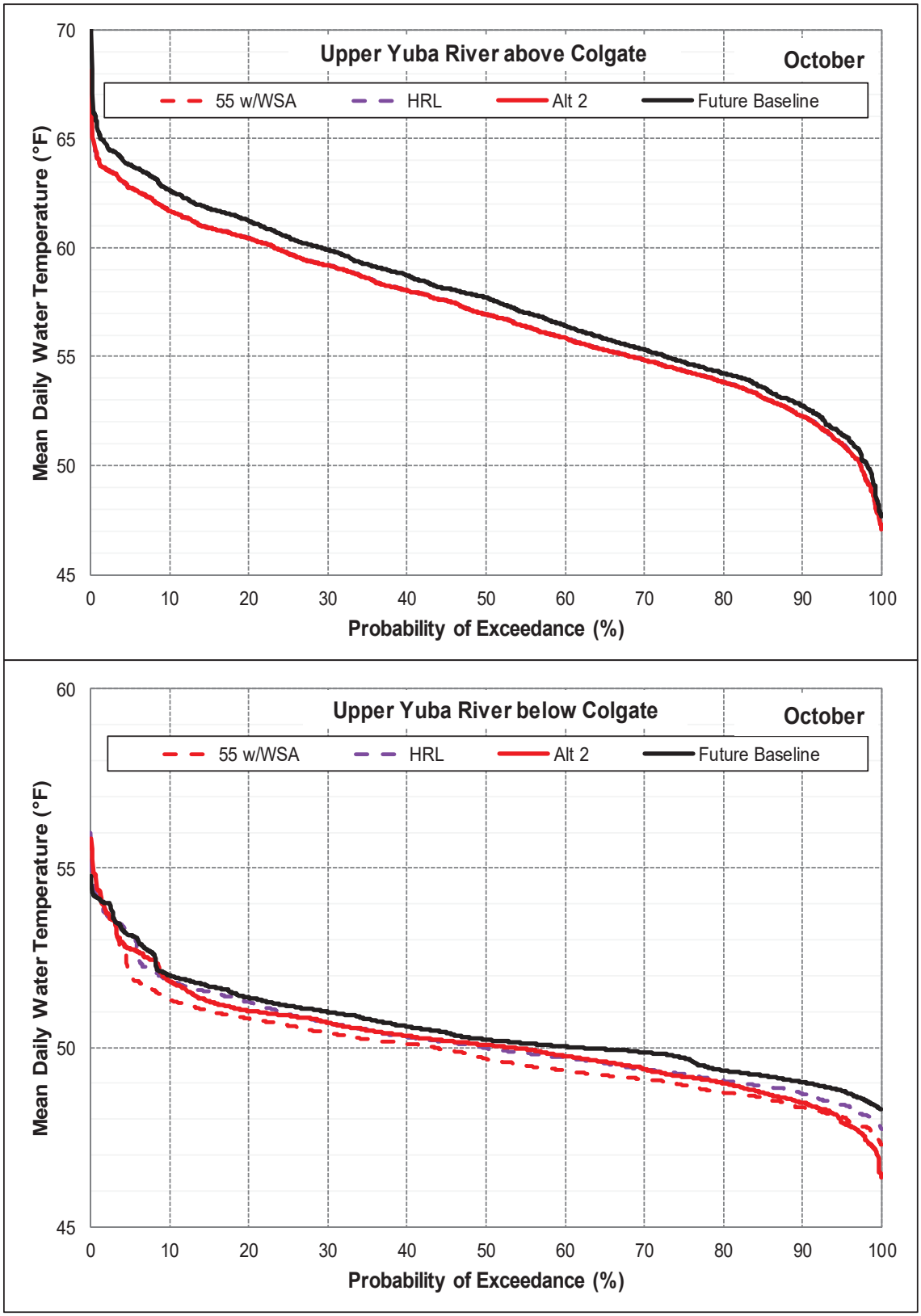

Figure 1A-94. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during October over the entire simulation period (WY 1970-2021).

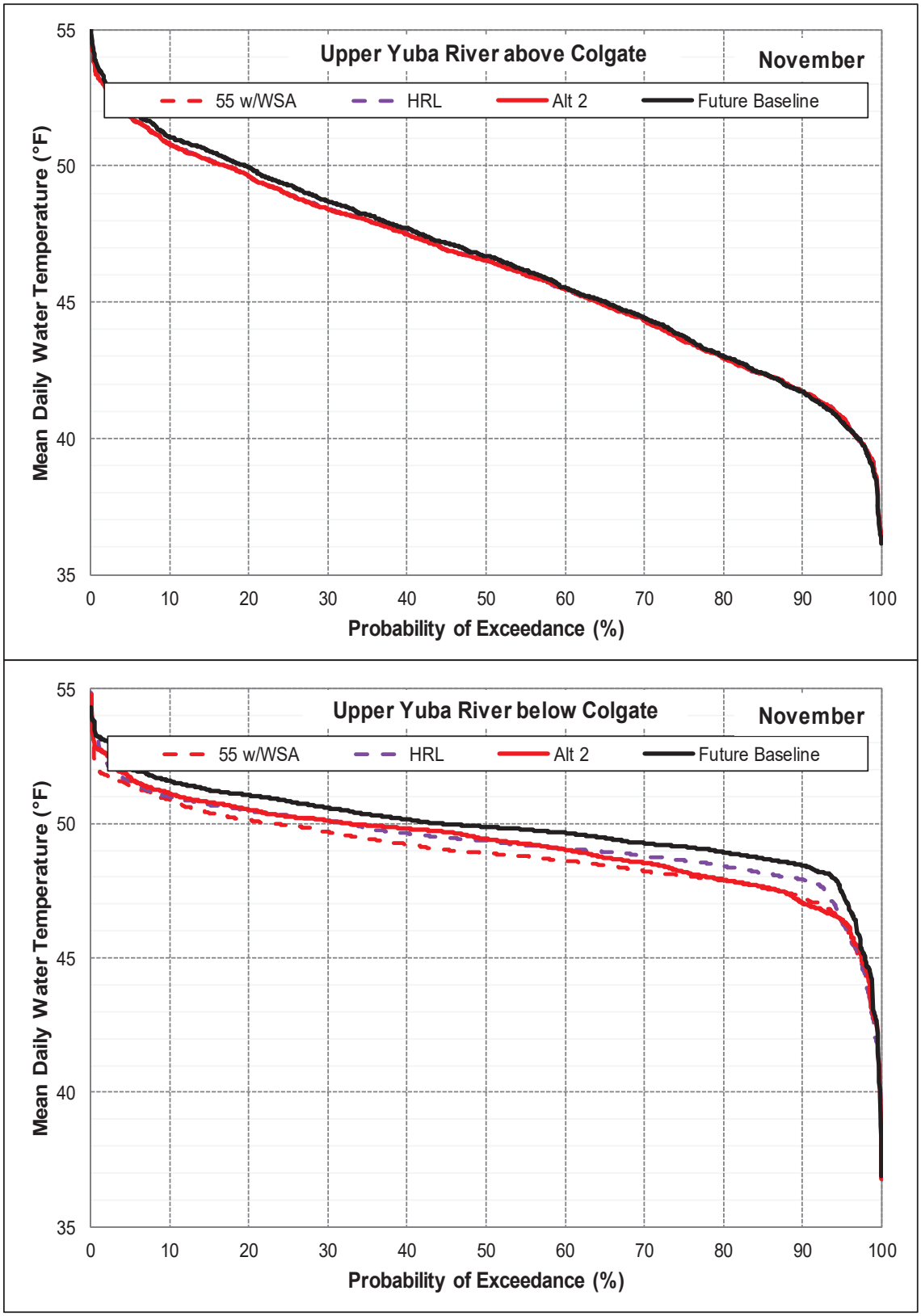

Figure 1A-95. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during November over the entire simulation period (WY 1970-2021).

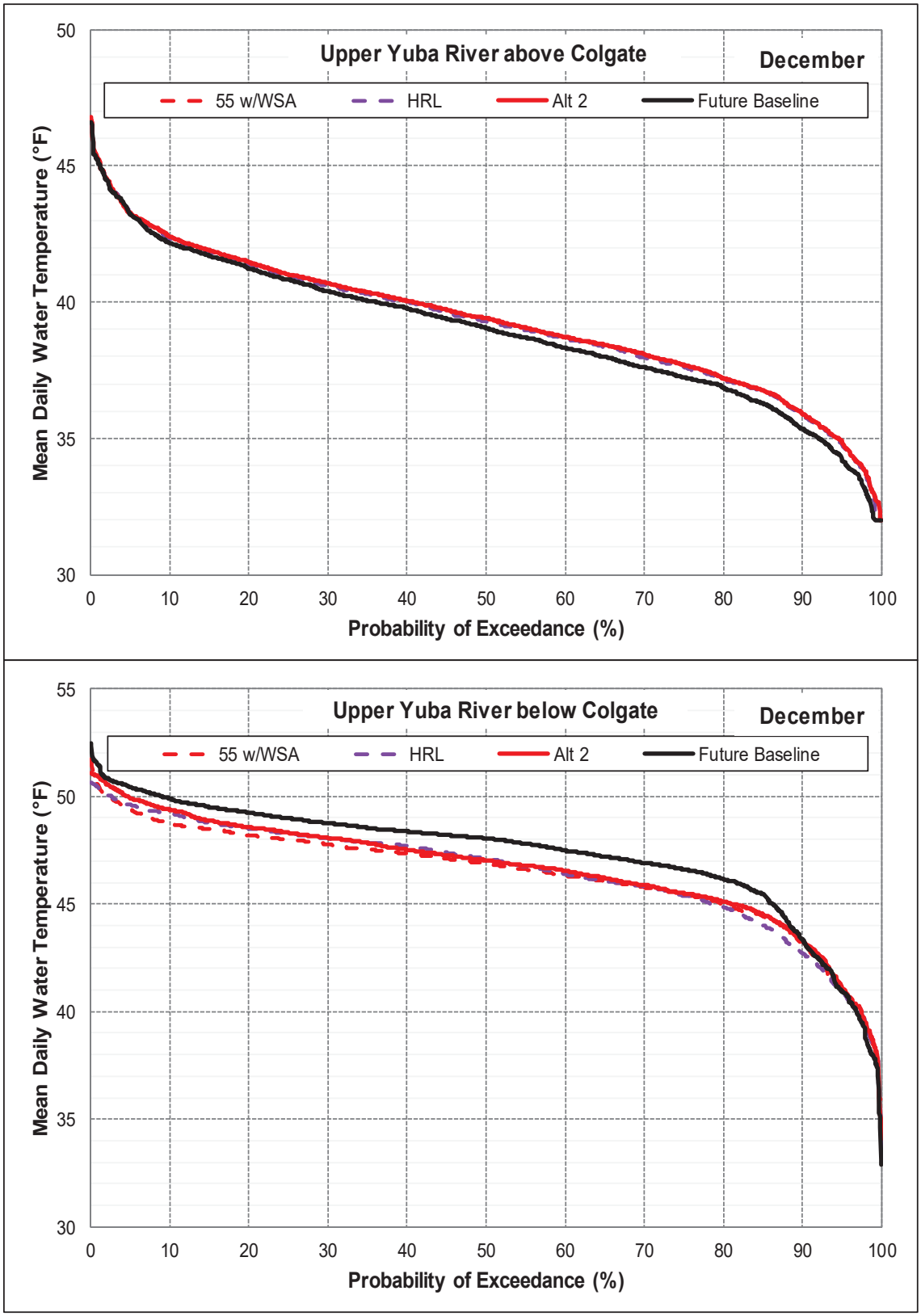

Figure 1A-96. Simulated water temperature exceedance probabilities in the upper Yuba River under the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios during December over the entire simulation period (WY 1970-2021).

Yuba River Development Project
&
Narrows Joint EIR

Attachment 1B

Fisheries Data Products

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Fisheries Data Products
Attachment 1B

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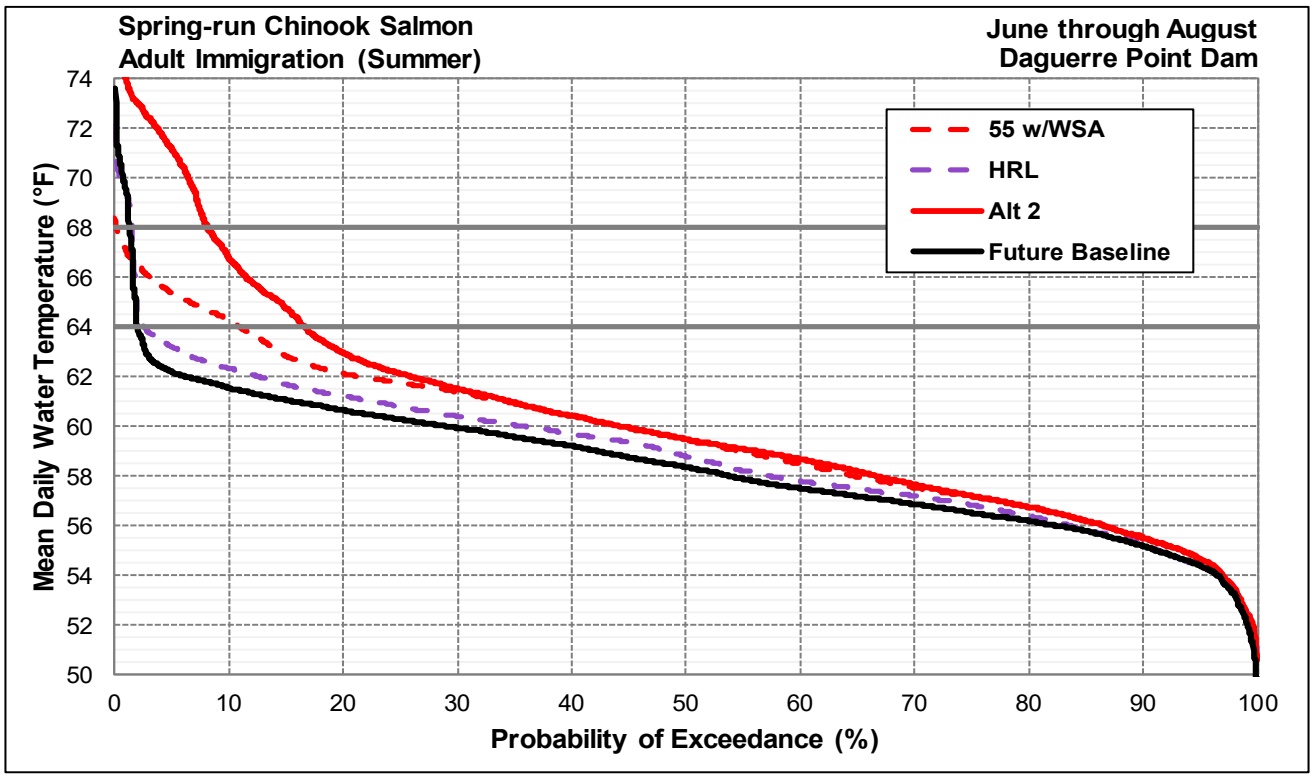

Figure 1B-1. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

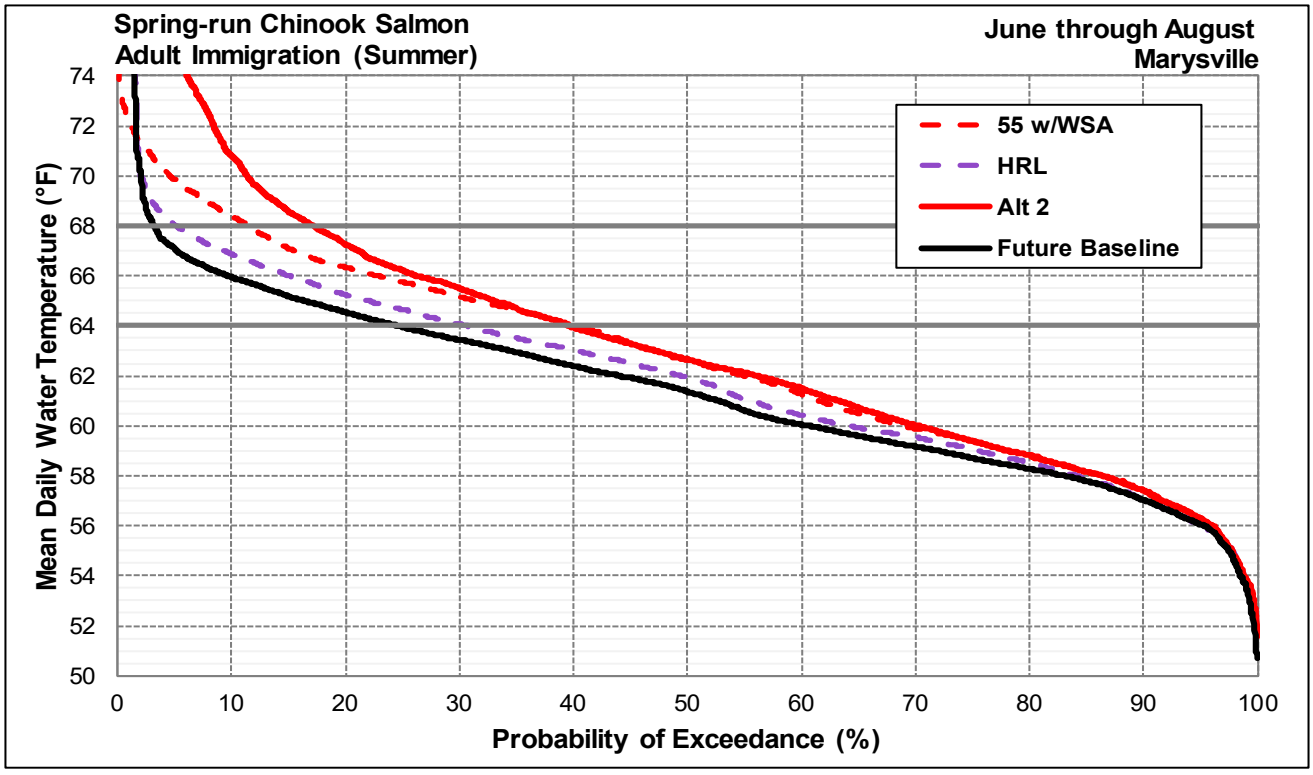

Figure 1B-2. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

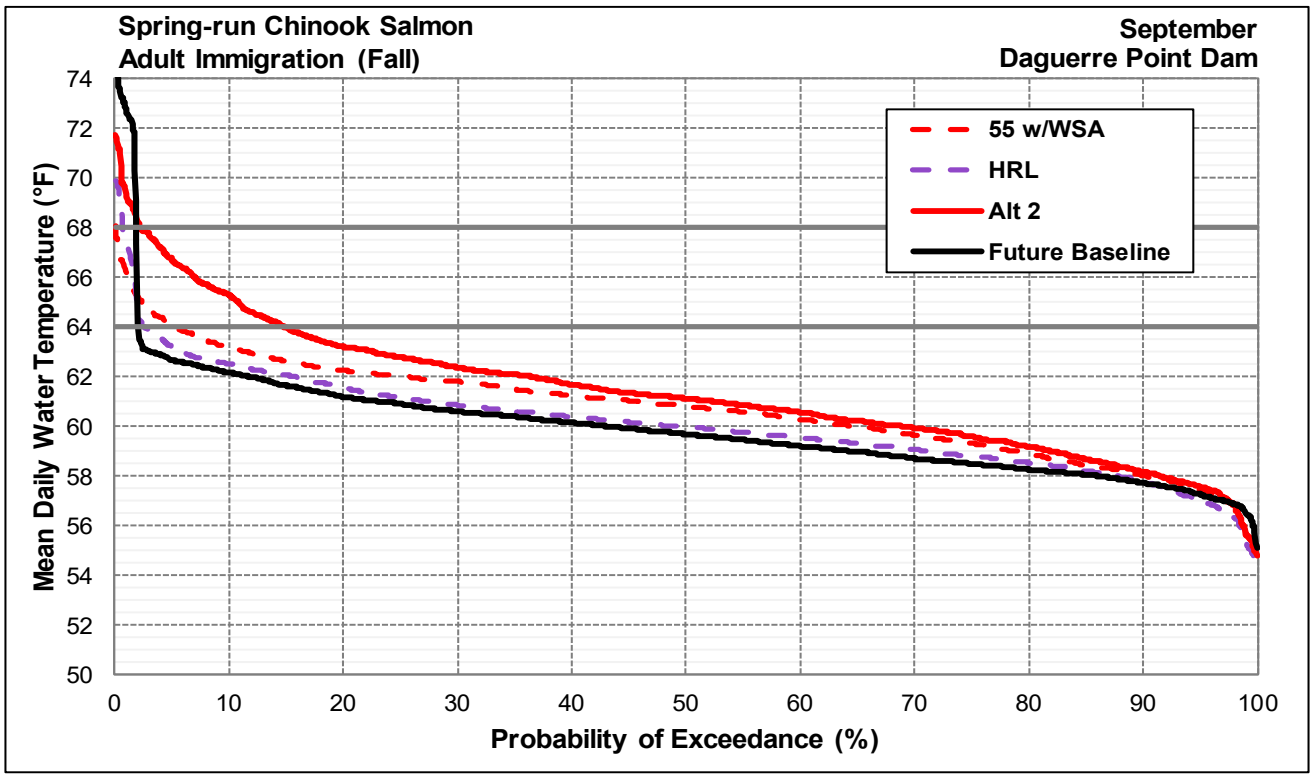

Figure 1B-3. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

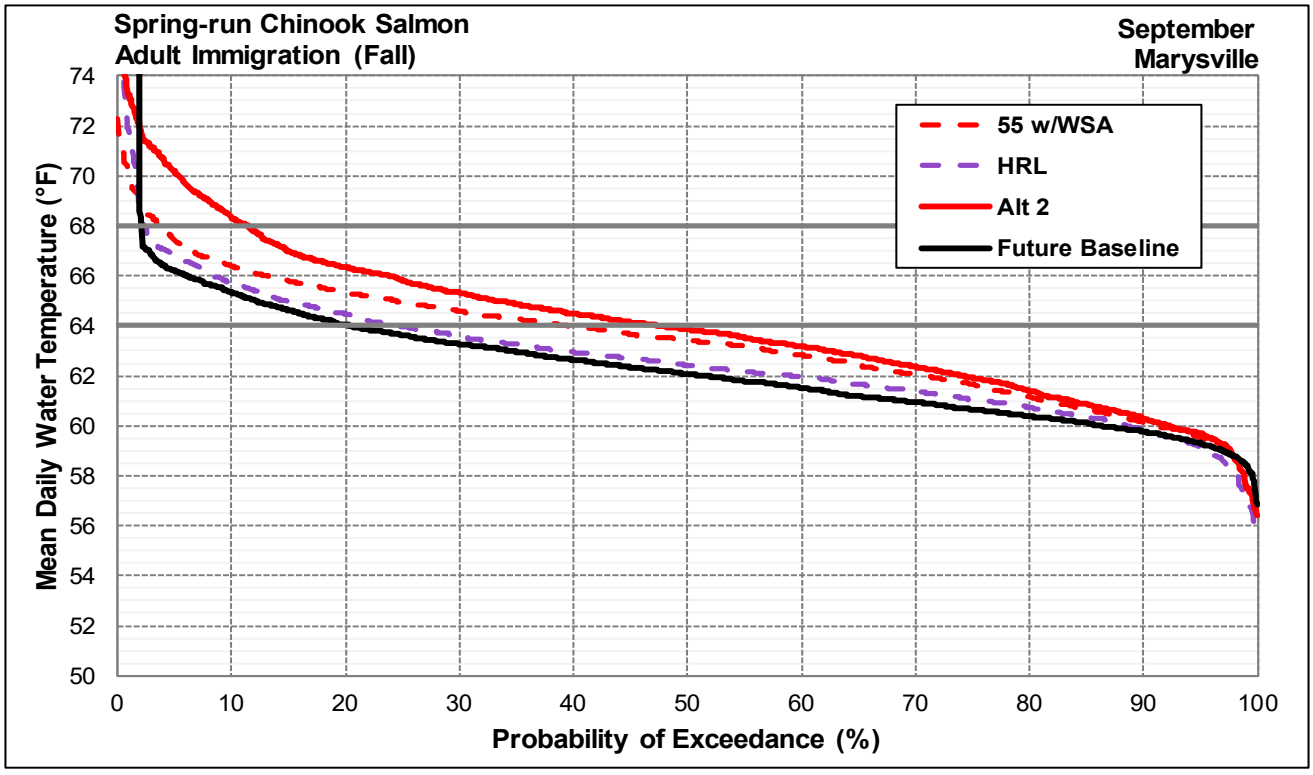

Figure 1B-4. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

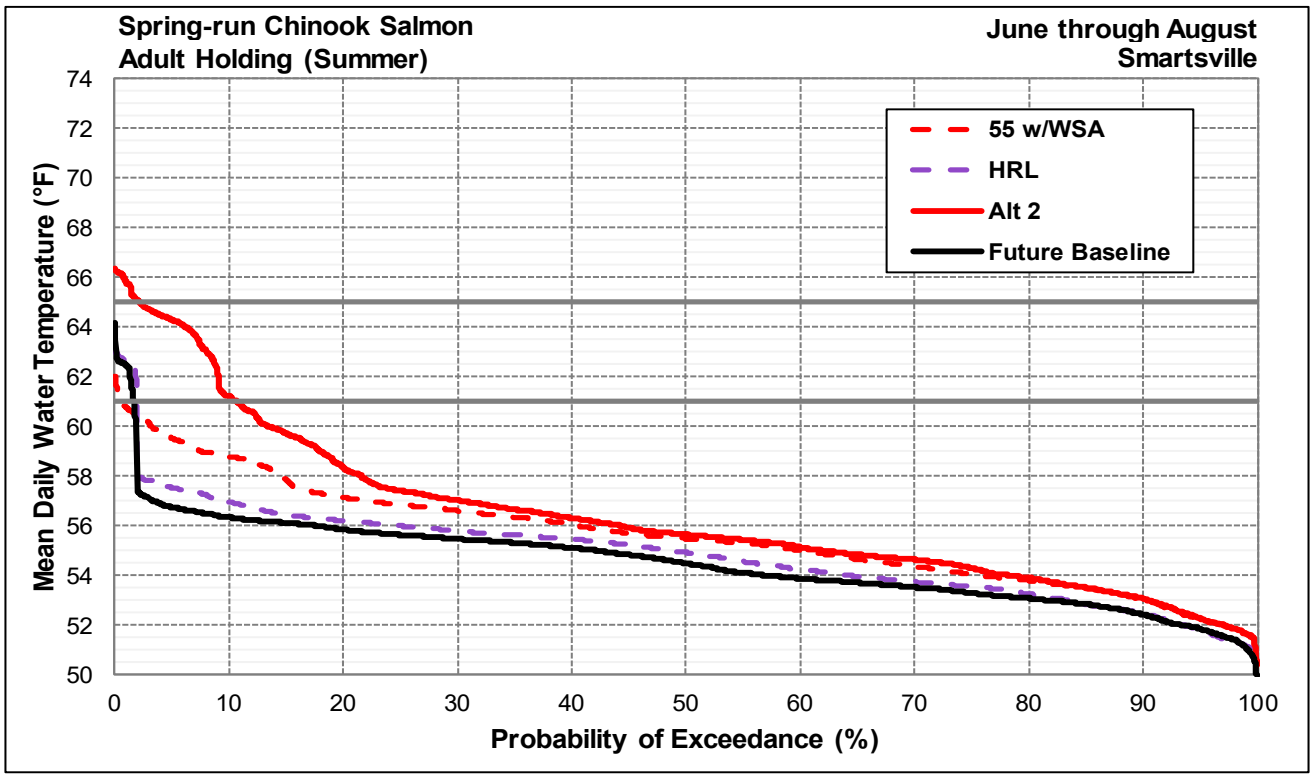

Figure 1B-5. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

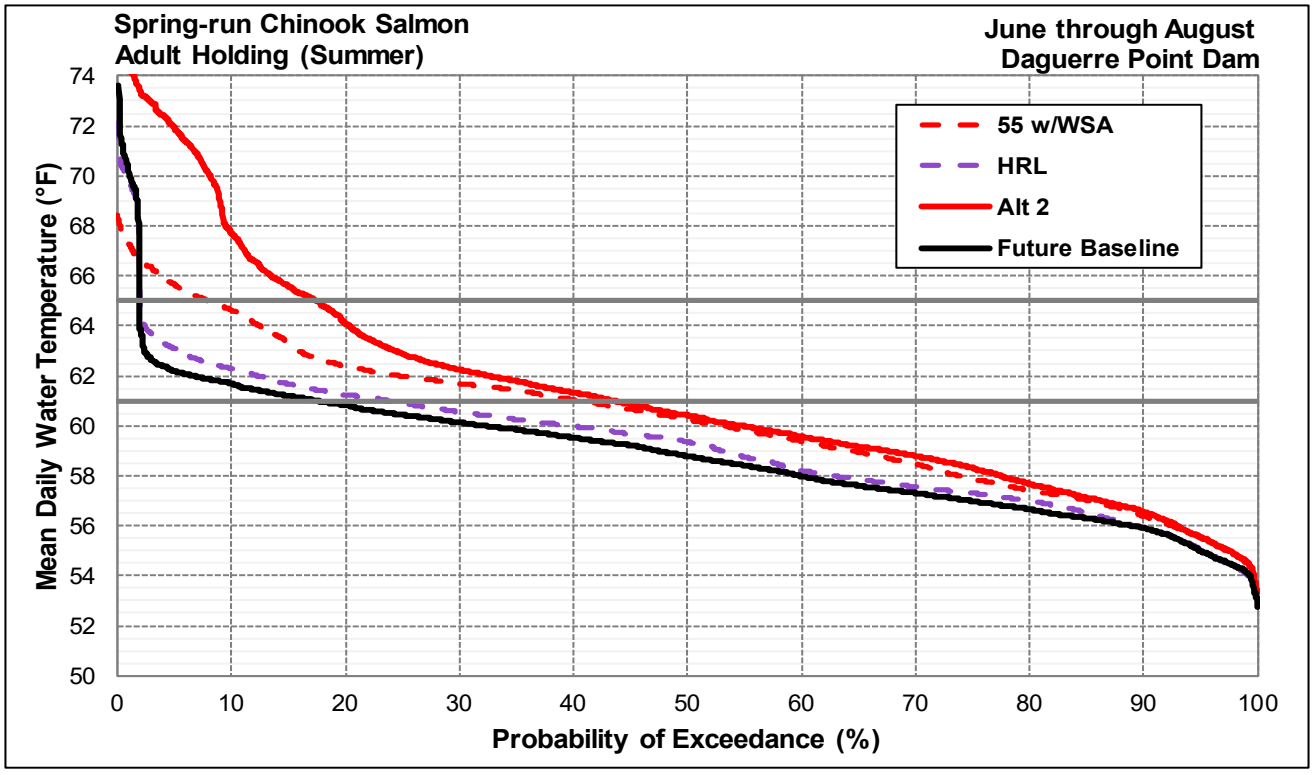

Figure 1B-6. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

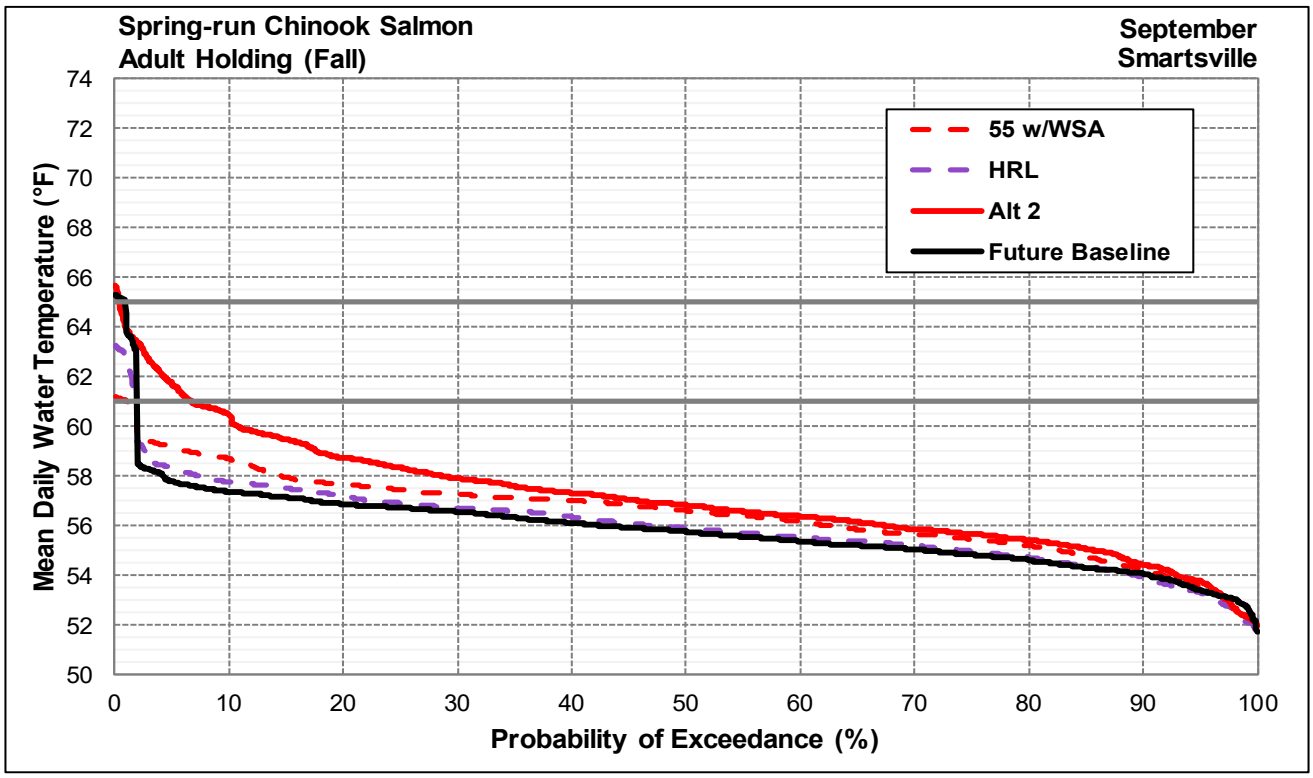

Figure 1B-7. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

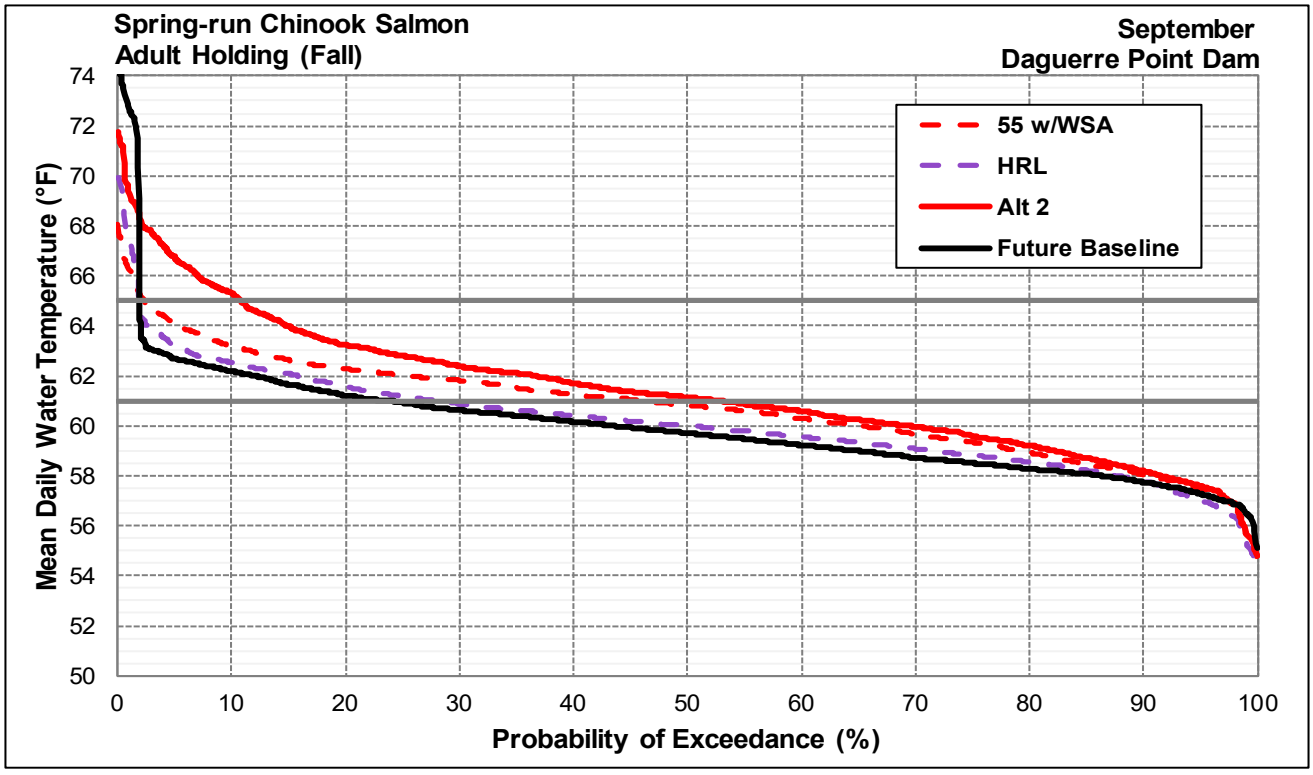

Figure 1B-8. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

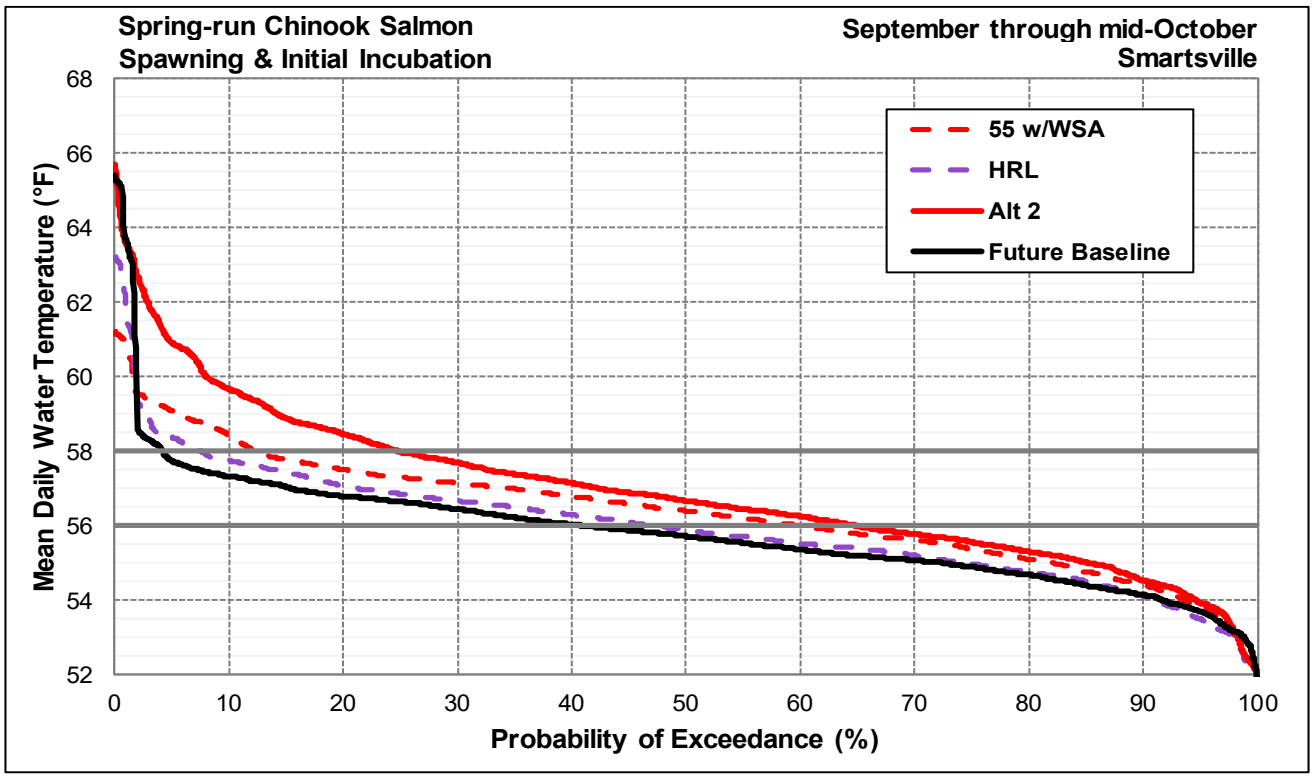

Figure 1B-9. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

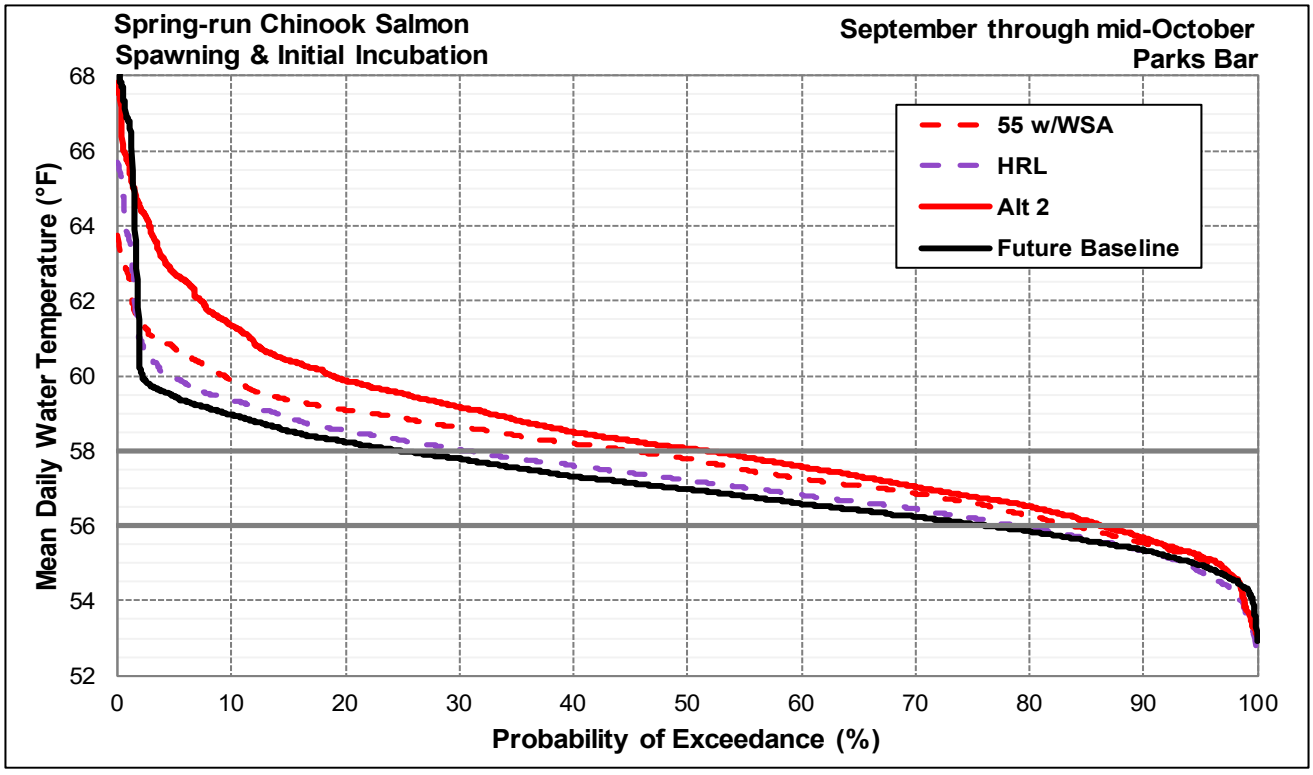

Figure 1B-10. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

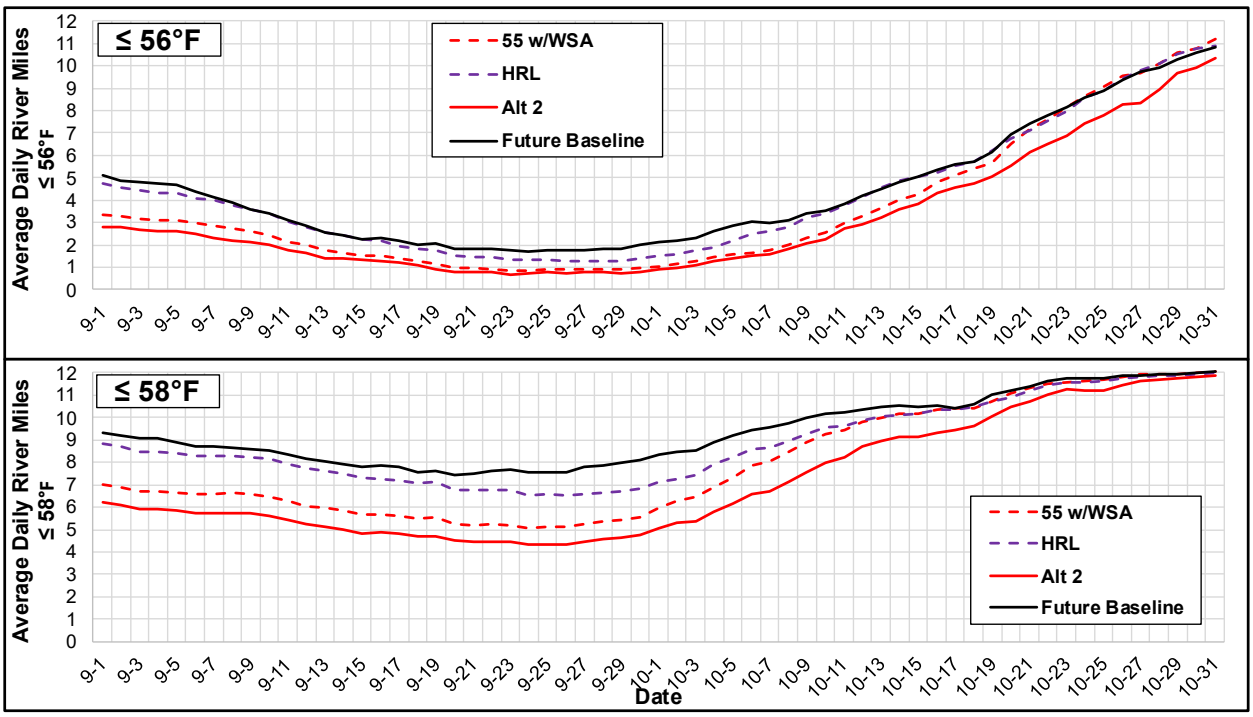

Figure 1B-11. Average daily length of spring-run Chinook salmon spawning and incubation thermally suitable habitat for each day from September through October during all water years for the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios.

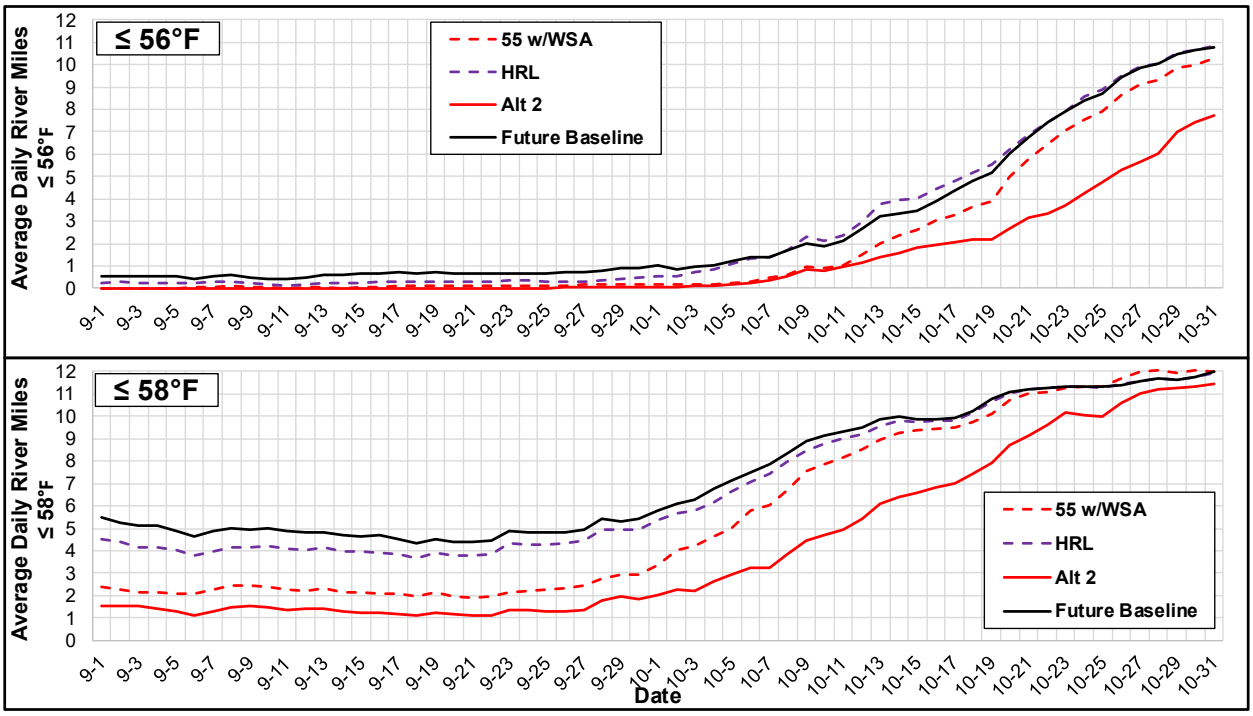

Figure 1B-12. Average daily length of spring-run Chinook salmon spawning and incubation thermally suitable habitat for each day from September through October during Dry and Critical water years for the 55 w/WSA, HRL, Alternative 2, and Future Baseline scenarios.

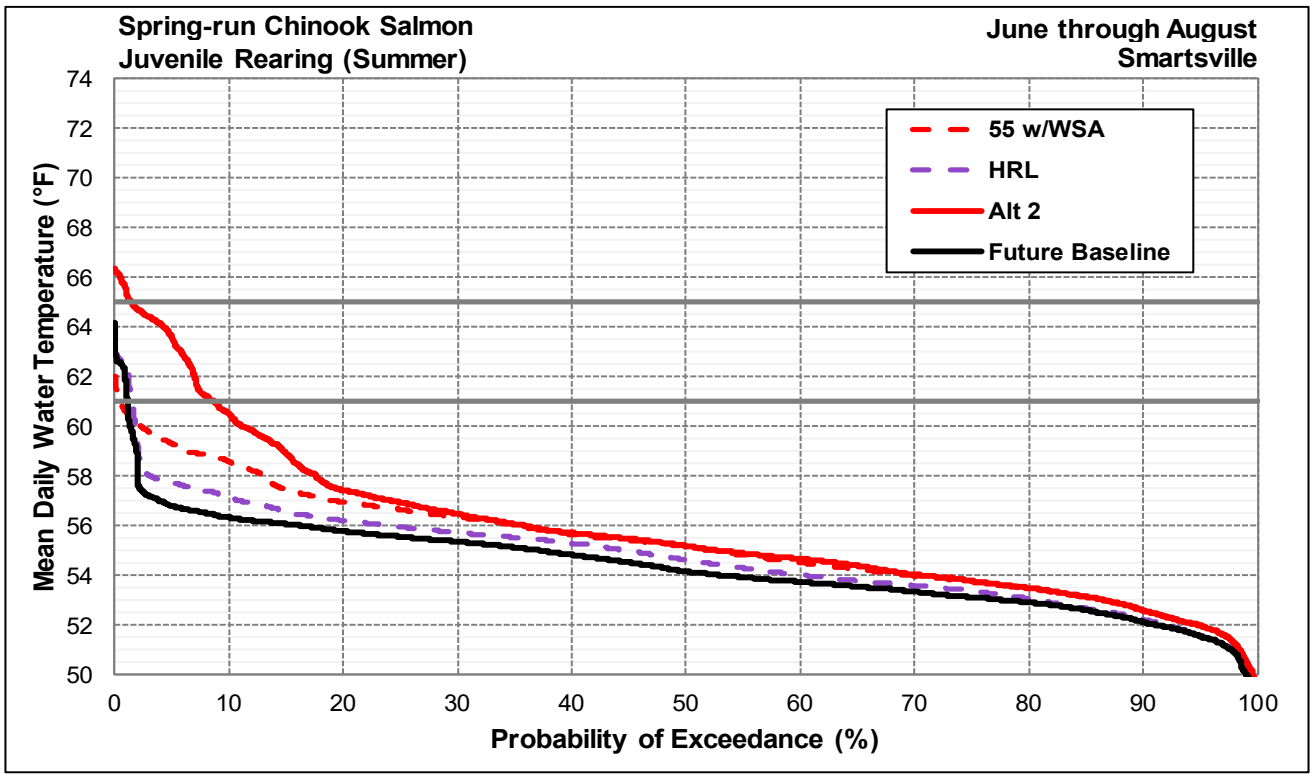

Figure 1B-13. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

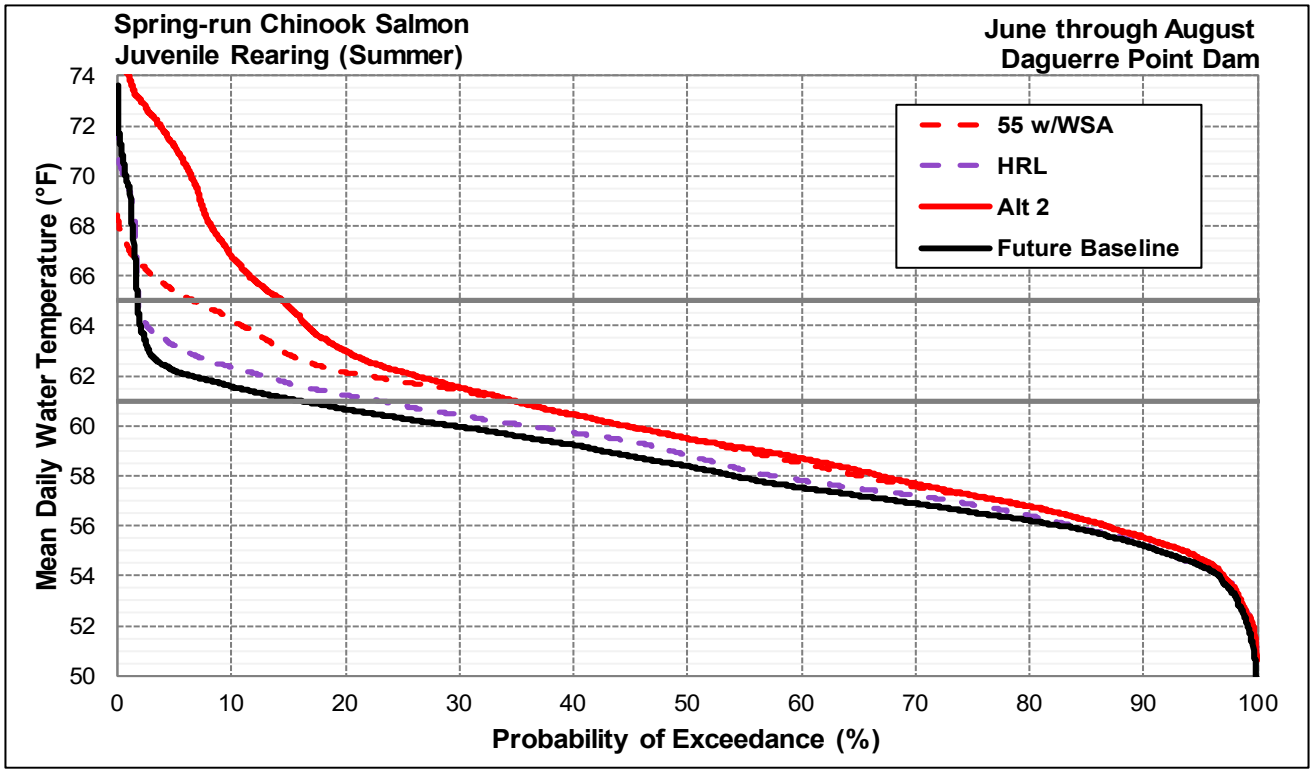

Figure 1B-14. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

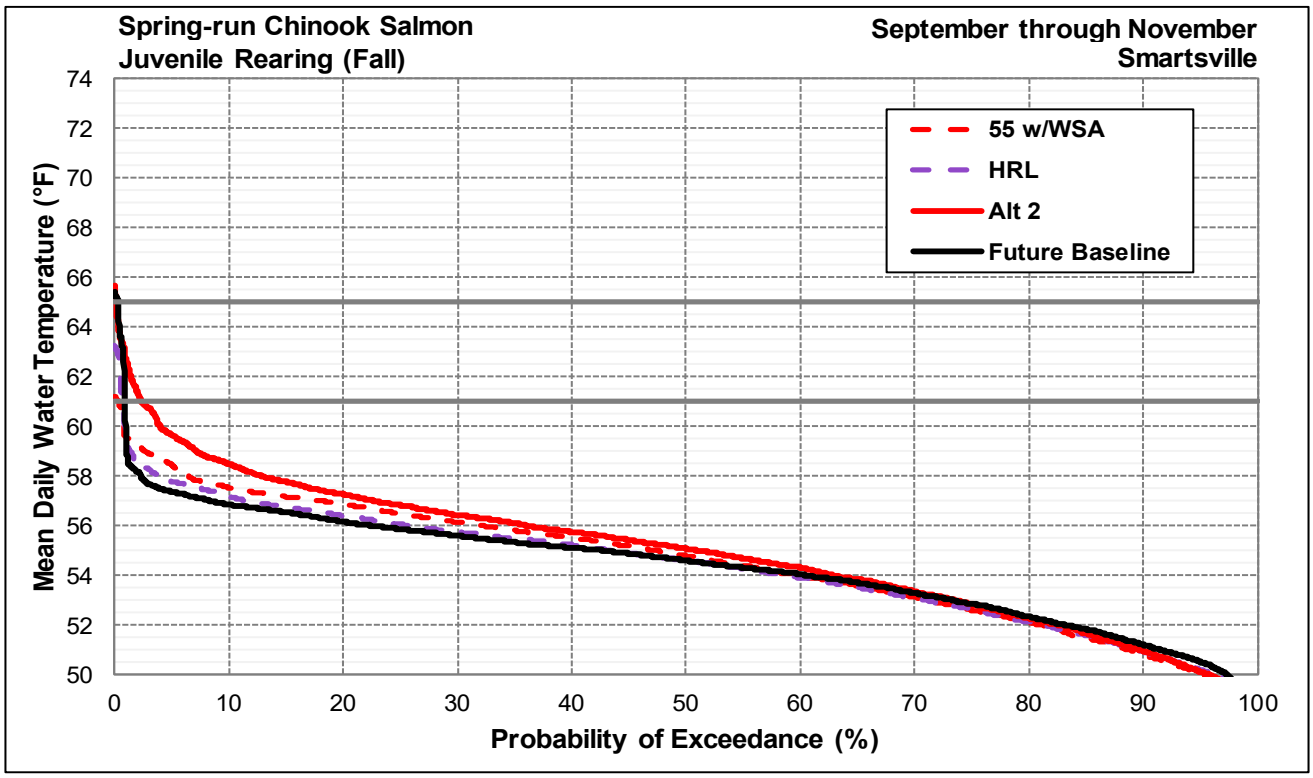

Figure 1B-15. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

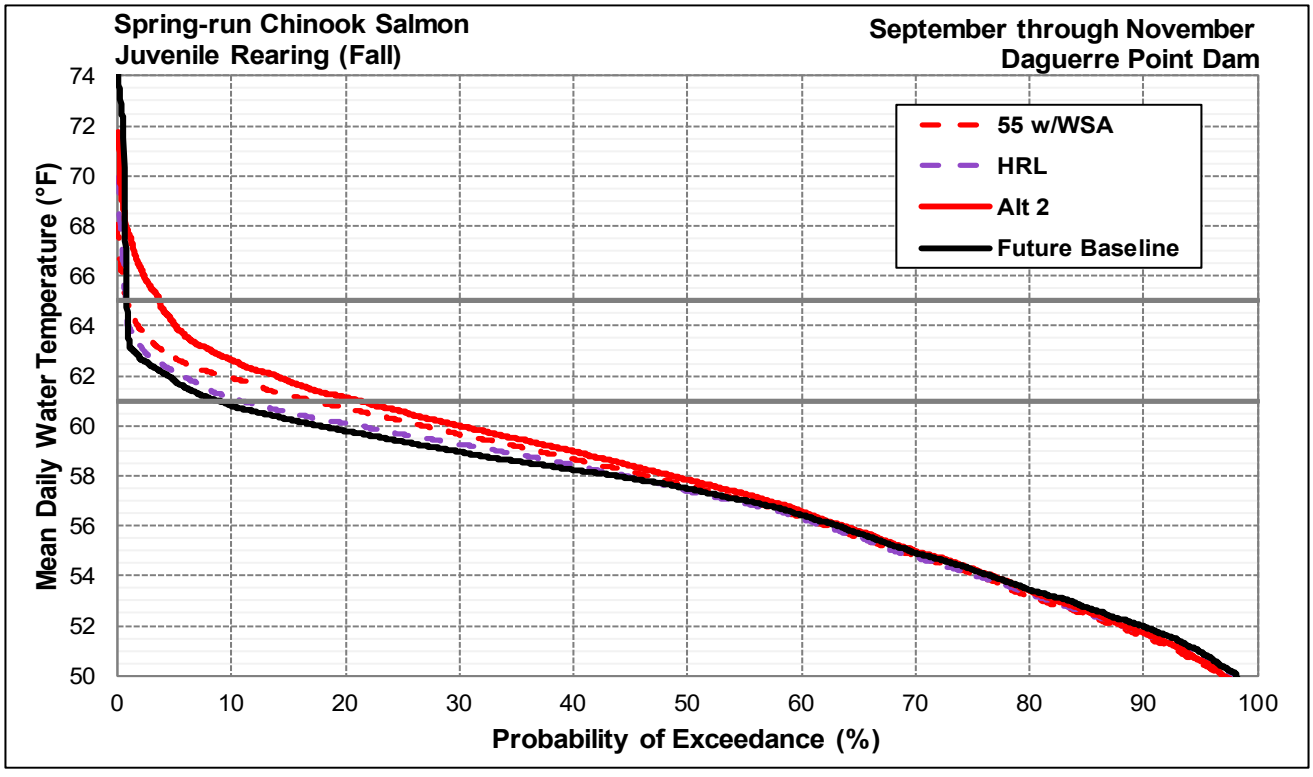

Figure 1B-16. Spring-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

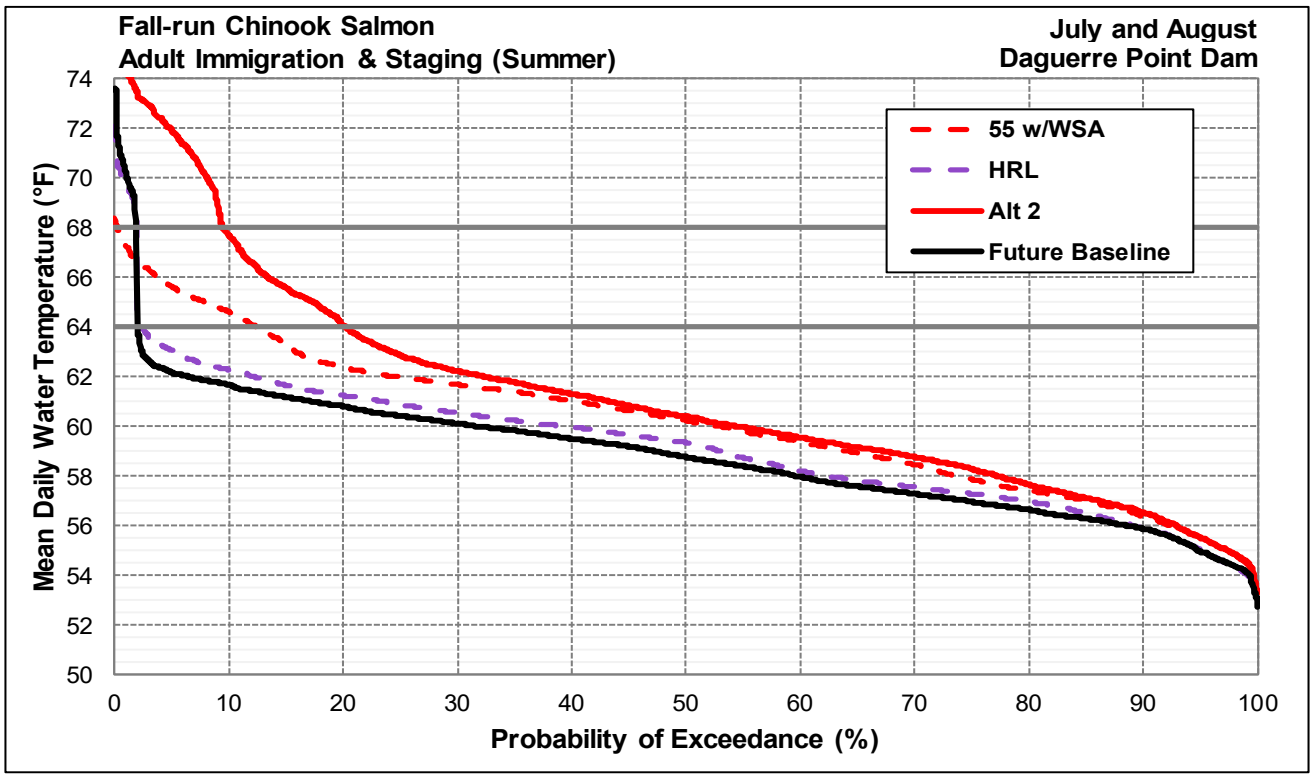

Figure 1B-17. Fall-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

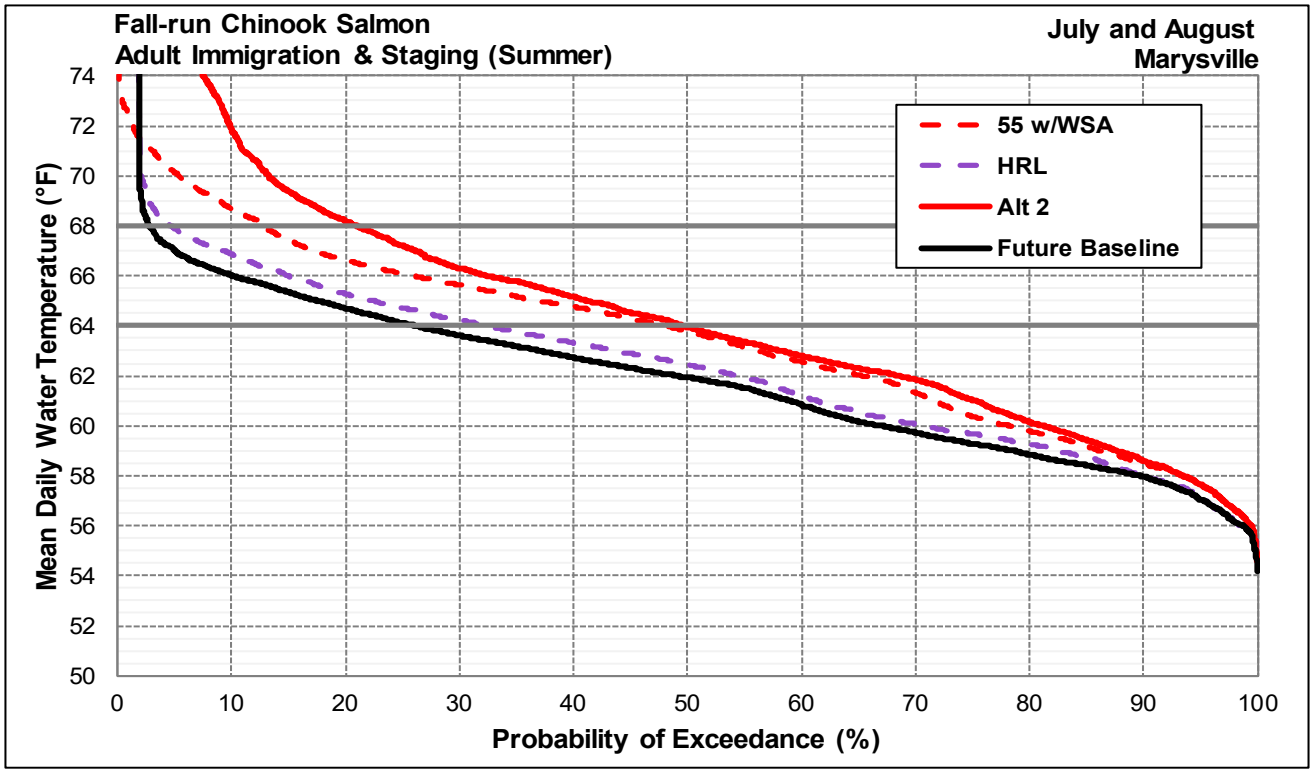

Figure 1B-18. Fall-run Chinook salmon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

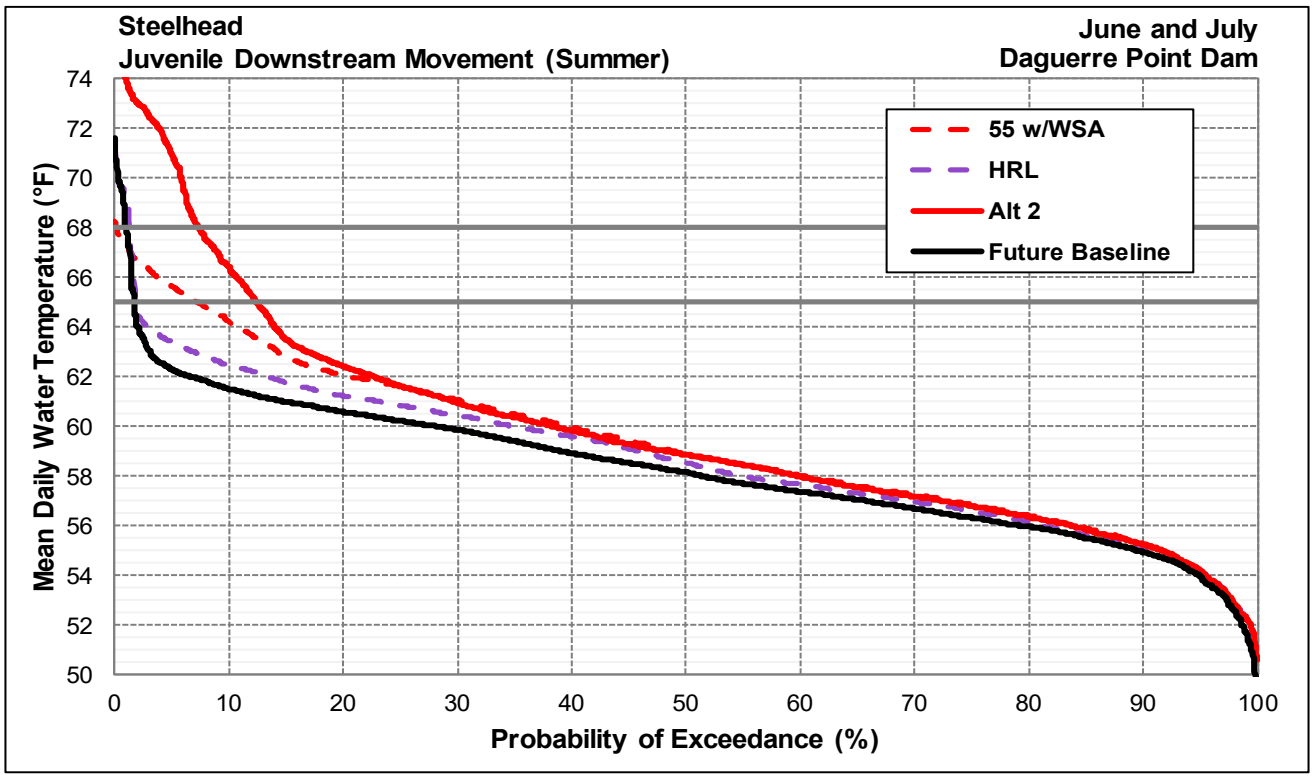

Figure 1B-19. Steelhead water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

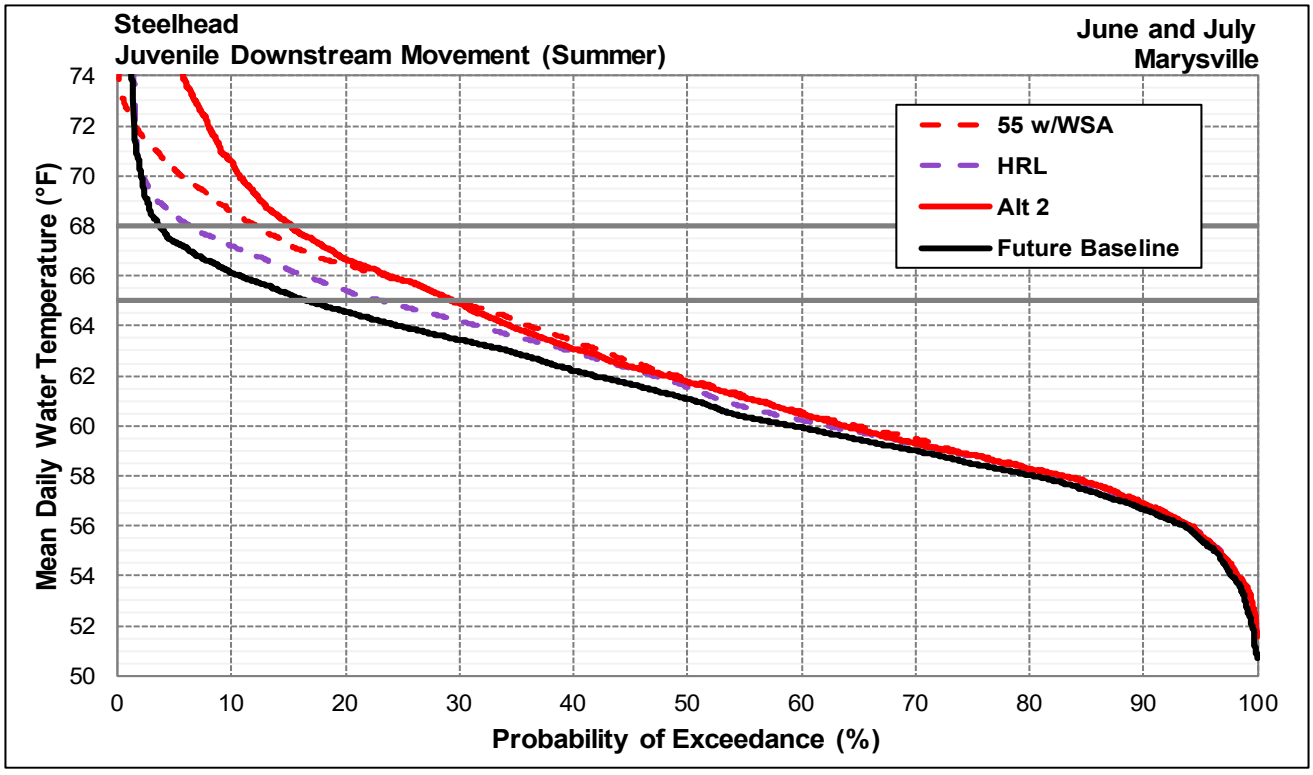

Figure 1B-20. Steelhead water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

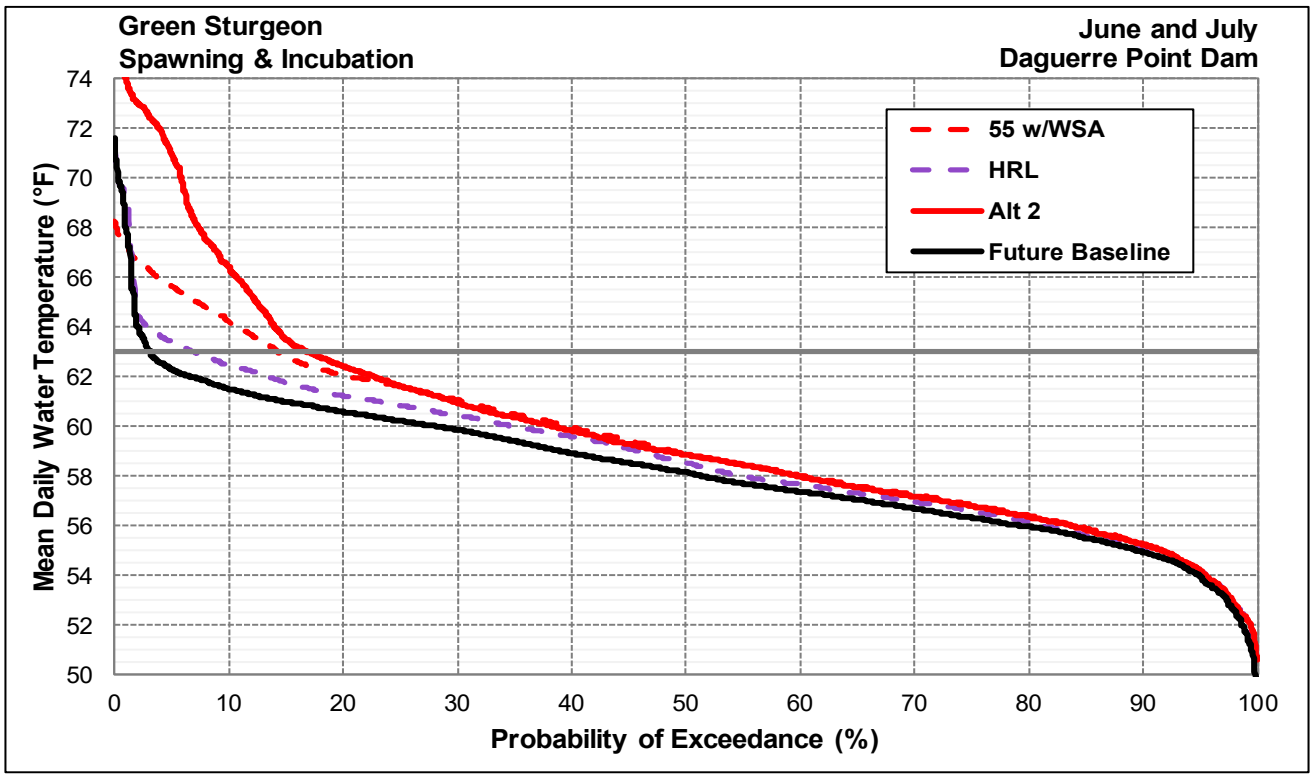

Figure 1B-21. Green sturgeon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

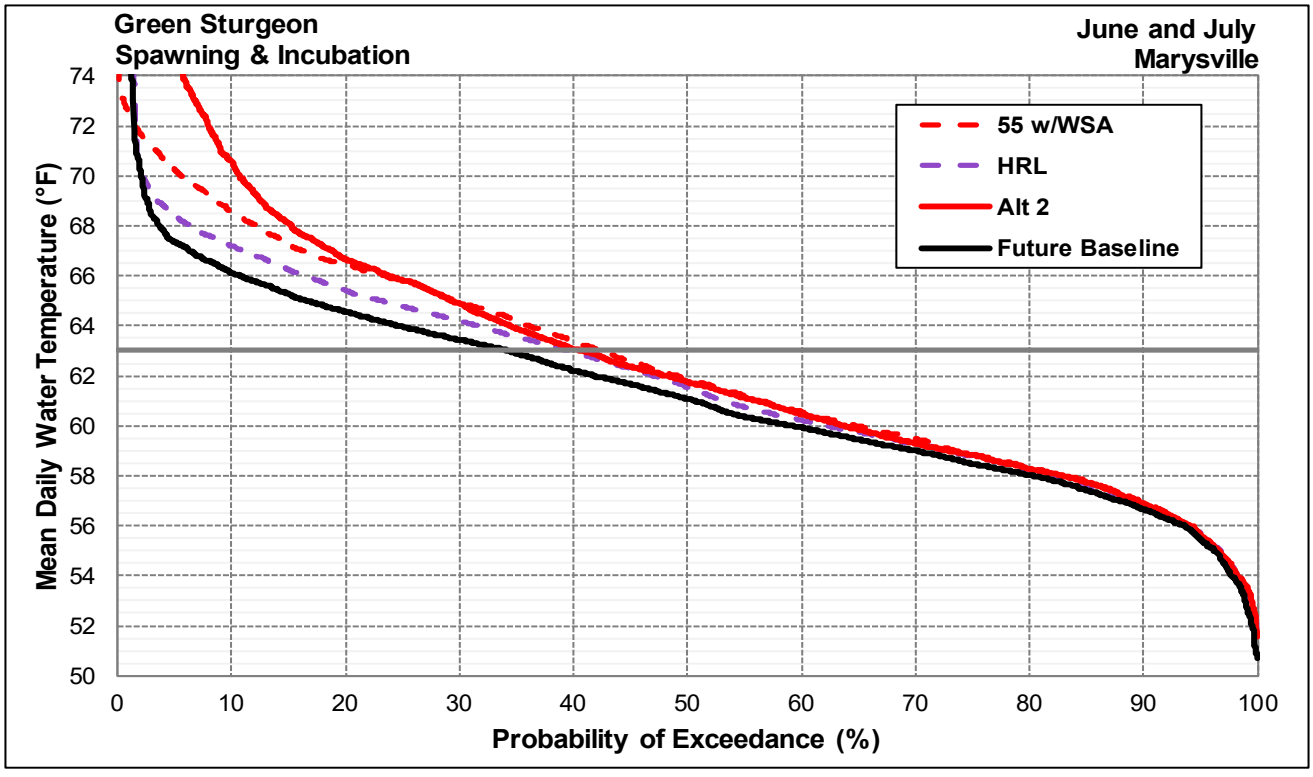

Figure 1B-22. Green sturgeon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

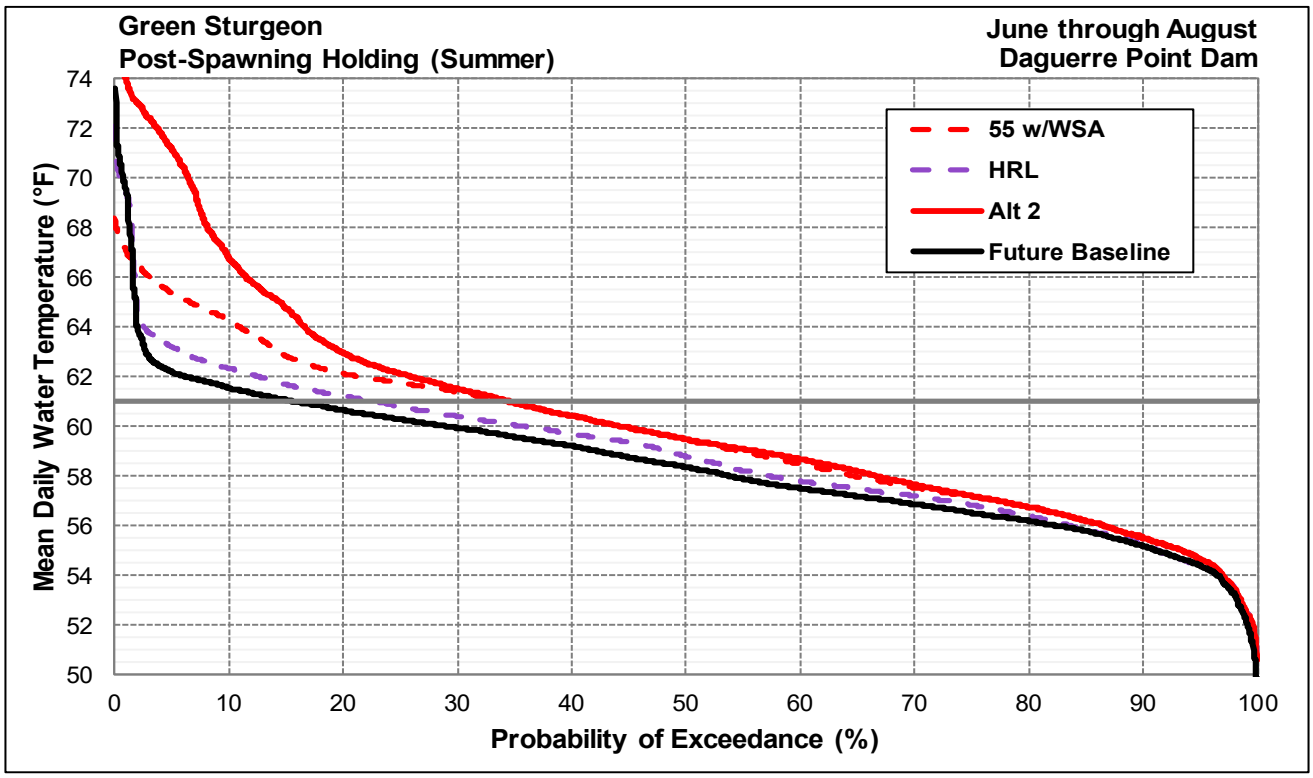

Figure 1B-23. Green sturgeon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

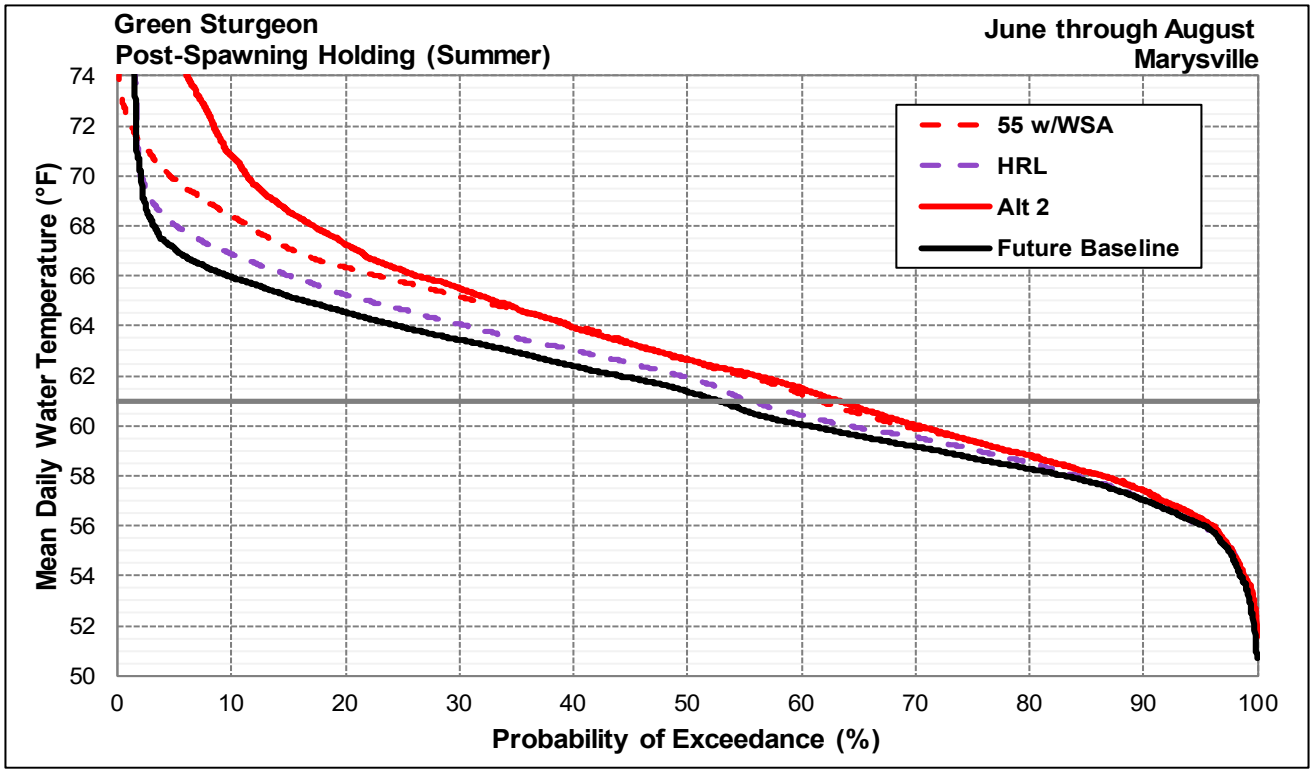

Figure 1B-24. Green sturgeon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

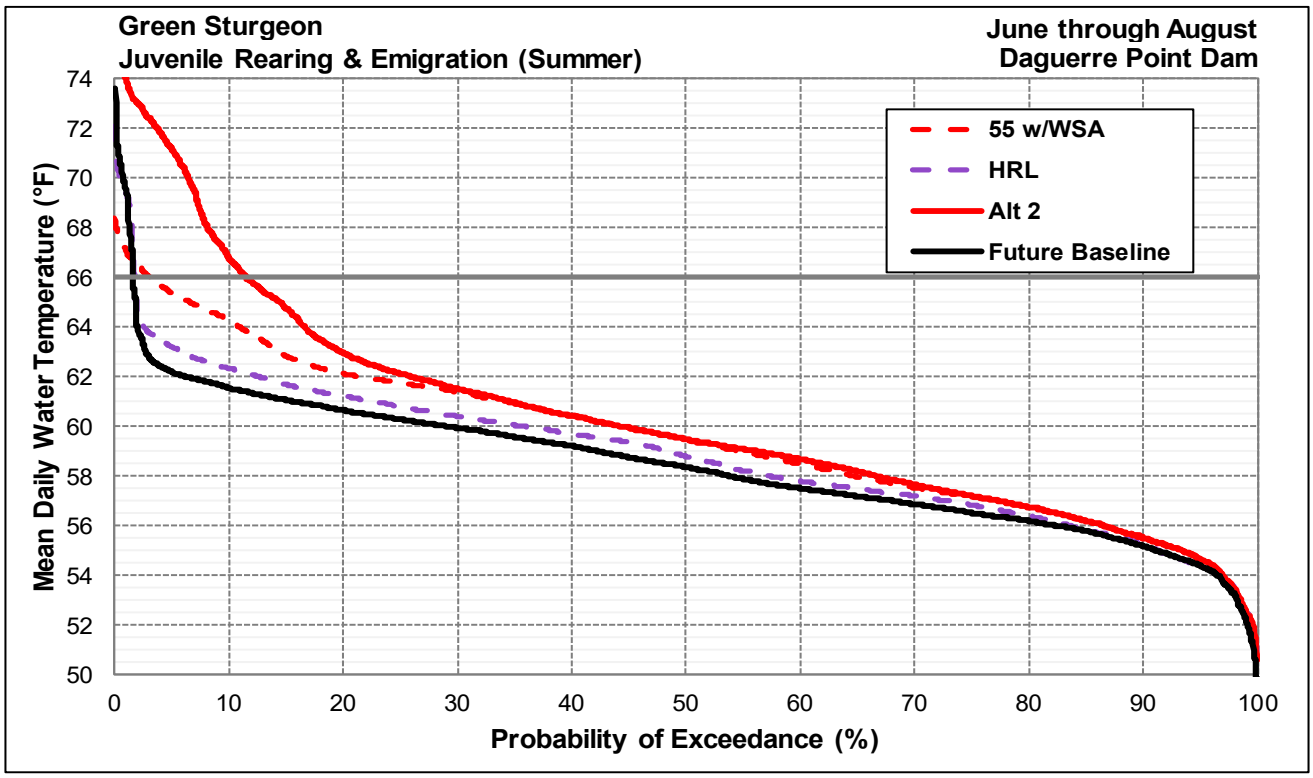

Figure 1B-25. Green sturgeon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

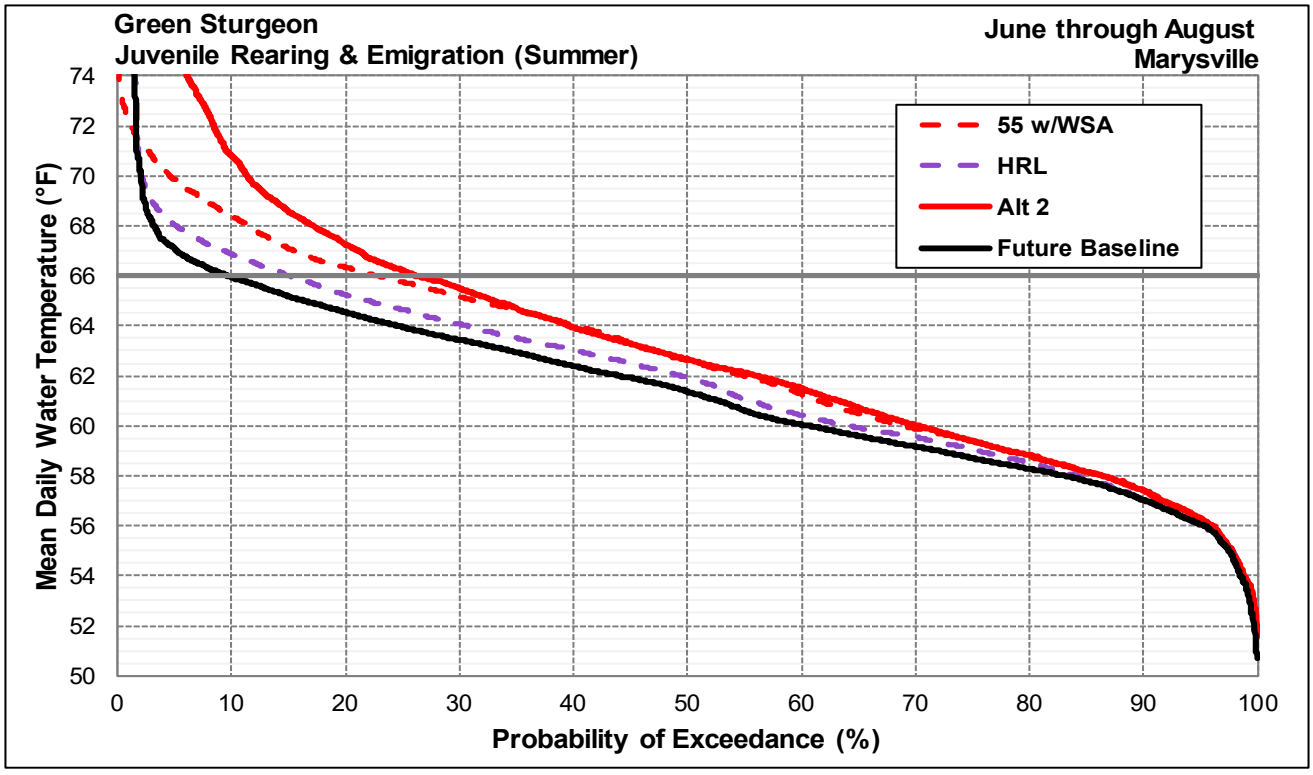

Figure 1B-26. Green sturgeon water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

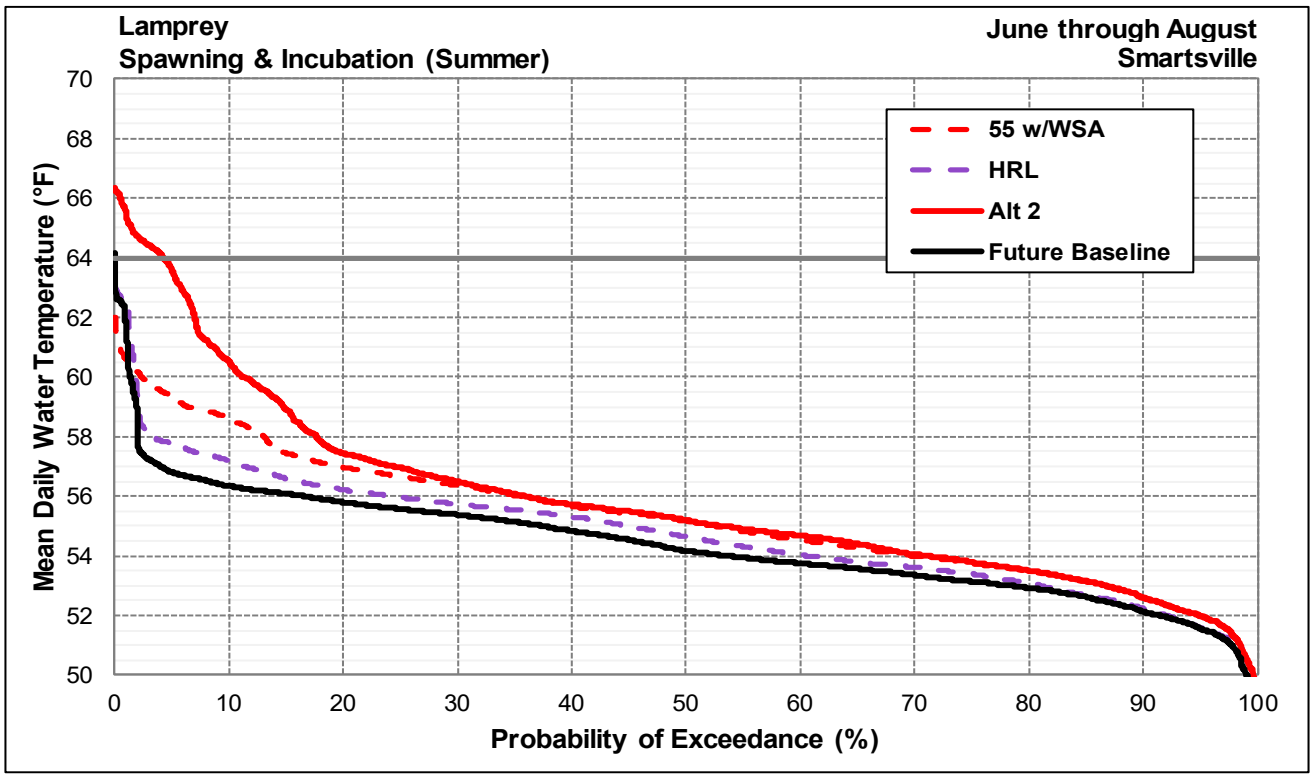

Figure 1B-27. Lamprey water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

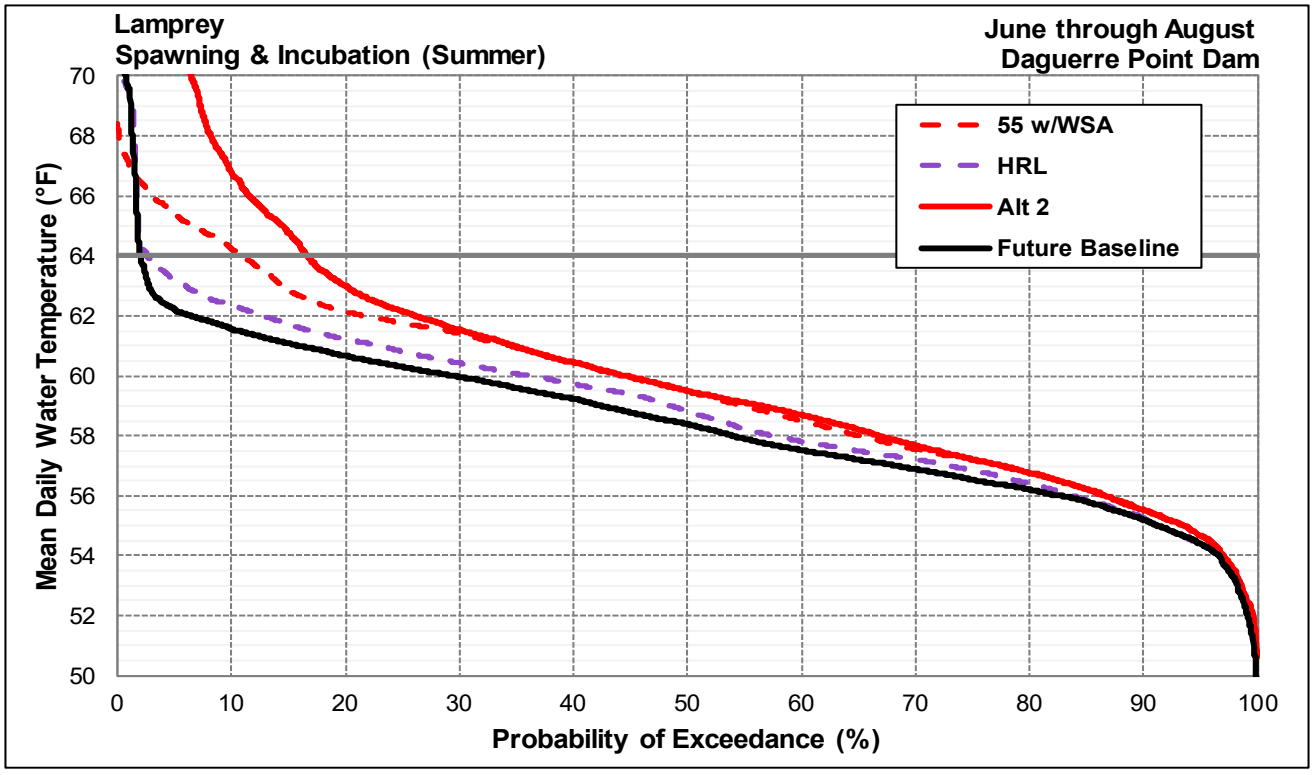

Figure 1B-28. Lamprey water temperature exceedance probabilities comparing the 55 w/WSA, HRL, Alt 2, and Future Baseline scenarios.

2.3.3 Comment Letter – California Department of Fish and Wildlife

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CDFW Letter

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

September 12, 2025

John James
Director of Resource Planning
Yuba County Water Agency
1220 F Street
Marysville, CA 95901
jjames@yubawater.org

Subject: Yuba River Development Project (P-2246) and the Narrows Hydroelectric Project (P-1403) FERC Relicensings
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)
SCH No. 2024101277

Dear John James:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Availability of a DEIR from Yuba County Water Agency (YWA) for the Federal Energy Regulatory Commission (FERC) relicensing of the Yuba River Development Project and the Narrows Hydroelectric Project (Projects) pursuant the California Environmental Quality Act (CEQA) statute and guidelines.[1] CDFW previously submitted comments in response to the Notice of Preparation of the DEIR on December 2, 2024. CDFW-1

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Projects that may affect California fish, wildlife, native plants, and their habitat. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Projects that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Fish & G. Code, § 1802.) Similarly for purposes of CEQA, CDFW provides, as available, biological expertise during public agency CDFW-2

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code. CDFW-2

PROJECT DESCRIPTION SUMMARY

The Projects are located in the Yuba River watershed, which has a drainage area of approximately 1,108 square miles at Englebright dam and 1,339 square miles at its confluence with the Feather River.

The Yuba River Development Project (YRDP) is located in the Yuba River watershed on the mainstem Yuba River, the North Yuba River, and the Middle Yuba River, including Oregon Creek, a tributary to the Middle Yuba River, and the lower Yuba River. Given the dispersed nature of the YRDP facilities, the YRDP does not have a physical address. YRDP facilities are located in Yuba, Nevada, and Sierra counties, California. CDFW-3

The Narrows Hydroelectric Project (Narrows Project) is located along the lower Yuba River in Nevada County, California. The Narrows Project facilities are located on the south bank of the Yuba River extending approximately 0.2-mile downstream of Englebright Dam.

The Projects consist of the acceptance and implementation of the subsequent FERC licenses and continued operation and maintenance of the Projects pursuant to the subsequent FERC licenses.

COMMENTS AND RECOMMENDATIONS

The Yuba River Resilience Initiative (YRRI) Agreement was released in April 2025, and it establishes an agreement between YWA, CDFW, and National Marine Fisheries Service (NMFS) for habitat restoration measures in the lower Yuba River and funding for a reintroduction program to the North Yuba River. The YRRI Agreement sets forth negotiated terms that are outside of FERC's jurisdiction.

If the YRRI contains an Exhibit 4 Recommended Section 401 Certification Conditions for New YRDP FERC License, the conditions specified in Exhibit 4 are assumed to be part of the Proposed Project in the DEIR. CDFW reminds YWA that a supplemental CEQA evaluation may need to be conducted if conditions in the State Water Resources Control Board's 401 Certification contain conditions different from those included in the DEIR. CDFW-4

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ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. CDFW-5

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.) CDFW-6

CONCLUSION

Pursuant to Public Resources Code § 21092 and § 21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670 or emailed to R2CEQA@wildlife.ca.gov.

CDFW appreciates the opportunity to comment on the DEIR for the FERC relicensing of the Projects to assist YWA in identifying and mitigating impacts on biological resources due to operations and maintenance. CDFW personnel are available for consultation regarding biological resources and strategies to minimize and/or mitigate impacts. Questions regarding this letter or further coordination should be directed to Will Kanz, Environmental Scientist at (916) 880-8981 or Will.Kanz@wildlife.ca.gov. CDFW-7

Sincerely,

DocuSigned by
Morgan Kilgour
C3AB6784CCAC4FB

Morgan Kilgour
Regional Manager

ec: Kevin Thomas, Deputy Director
Kevin.Thomas@wildlife.ca.gov

Docusign Envelope ID: 8FCB4BE7-25CC-46DE-86F3-9DB31AA414E3

Morgan Kilgour, Regional Manager
Morgan.Kilgour@wildlife.ca.gov

Jennifer Garcia, Environmental Program Manager
Jennifer.Garcia@wildlife.ca.gov

Briana Seapy, Senior Environmental Scientist (Supervisor)
Briana.Seapy@wildlife.ca.gov

Lauren Mulloy, Senior Environmental Scientist (Specialist)(Acting Supervisor)
Lauren.Mulloy@wildlife.ca.gov

Will Kanz, Environmental Scientist
Will.Kanz@wildlife.ca.gov

Office of Land Use and Climate Innovation, State Clearinghouse, Sacramento

Responses to Comment Letter – California Department of Fish and Wildlife

CDFW-1 These are introductory paragraphs that do not specifically address issues analyzed in the DEIR. No response required.

CDFW-2 Yuba Water acknowledges the role CDFW has as a Trustee Agency and as a potential Responsible Agency under CEQA. No further response required.

CDFW-3 This comment summarizes the Project Description provided in the DEIR. It does not specifically address issues analyzed in the DEIR. No response required.

CDFW-4 Yuba Water would comply with the conditions of the Section 401 Water Quality Certification issued by the SWRCB. Should any 401 conditions differ from those described in the DEIR, additional CEQA analysis would be conducted if necessary.

CDFW-5 This comment does not specifically address issues analyzed in the DEIR. No response required.

CDFW-6 This comment does not specifically address issues analyzed in the DEIR. No response required.

CDFW-7 Yuba Water shall provide written notifications to CDFW in accordance with the Public Resource Code sections cited in the comment. Yuba Water appreciates the contact information provided.

2.3.4 Comment Letter – Nevada Irrigation District

Docusign Envelope ID: F7CFE4D6-5A86-475B-B8AE-419AF8422800

NID Letter

Nevada Irrigation District

September 22, 2025

Via E-Mail
jjames@yubawater.org

Mr. John James, Director of Resource Planning
Yuba County Water Agency
1220 F Street
Marysville, CA 95901

Subject: NID's Comments on YCWA's Yuba River Development Project & Narrows Joint DEIR Dated July 2025

Dear Mr. James:

This letter provides Nevada Irrigation District's ("NID") timely comments on Yuba County Water Agency's ("YCWA") July 2025 Yuba River Development Project and Narrows Joint Draft Environmental Impact Statement ("DEIR") that YCWA circulated with the intent of satisfying the requirements of the California Environmental Quality Act ("CEQA") for relicensings of YCWA's Yuba River Development Project, Federal Energy Regulatory Commission ("FERC") Project Number ("No.") 2246 ("YRDP" or "P-2246"), and YCWA's Narrows Hydroelectric Project, FERC Project No. 1403 ("Narrows Project" or "P-1403"). These two projects are collectively referred to as "YCWA's projects'" in this letter.

NID owns and operates the Yuba-Bear Hydroelectric Project, FERC Project No. 2266 ("Yuba-Bear Project") and the Deer Creek Hydroelectric Project, FERC Project No. 14530 ("Deer Creek Project"). NID closely coordinates the operation of the abovementioned projects with PG&E's Upper Drum-Spaulding Hydroelectric Project, FERC Project No. 2310 ("Upper Drum-Spaulding Project") and PG&E's Lower Drum Hydroelectric Project, FERC Project No. 14531 ("Lower Drum Project"). These four projects are collectively referred to as "upstream projects" in this letter. NID-1

NID takes exception for both legal and technical reasons that are described below to YCWA's DEIR. The DEIR is defective in numerous regards including its analysis of the upstream projects' effects on anadromous fishes and inclusion of releases from the upstream projects in alternatives evaluated in the DEIR. YCWA must correct the identified legal and technical inaccuracies before issuing and adopting its final EIR ("FEIR").

NEVADA IRRIGATION DISTRICT

NID is a California Irrigation District that was formed and exists under the California Water Code. NID serves domestic and irrigation water supply to over 20,000 customer accounts in Nevada, Placer, and Yuba counties. NID-2

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NID's rights to divert water from the Middle Yuba River and South Yuba River predate YCWA's Yuba River water rights in time and priority. NID's diversion of water from the Middle Yuba River began as early as 1927, well before YCWA's projects began operation and even before YCWA was formed in 1959. As early as 1927, NID's upstream diversion system included Milton Diversion Dam on the Middle Yuba River that diverted high mountain water through the Milton-Bowman Diversion Conduit to Bowman Lake that captured releases from French, Faucherie, and Sawmill lakes, all located on Canyon Creek, a tributary to the South Yuba River. The water was then conveyed by the Bowman-Spaulding Conduit to PG&E's Lake Spaulding where the water was diverted to meet NID's water needs. NID-2 cont.

I. LEGAL COMMENTS

A. The DEIR's Preferred Alternative (Alternative 1) is Not Feasible for Implementation by YCWA.

The DEIR evaluates Alternative 1 (YCWA's October 31, 2022, Offer of Settlement for the YRDP) as one of three alternatives to the Proposed Projects, in addition to the "No Project Alternative". However, the DEIR acknowledges on its face that Alternative 1 is not a "feasible alternative" under CEQA: "Because Yuba Water cannot impose operational changes on PG&E's and NID's upstream projects, Alternative 1 is a conditional alternative that is subject to FERC's acceptance and implementation." (DEIR pg. 19). Furthermore, the EIR acknowledges that YCWA "cannot forecast whether FERC would approve Alternative 1 and include the above proposed conditions in new licenses for the YRDP and the YB/DS projects". (DEIR pg. 3-7). The DEIR also notes that the upstream projects relicensings are subject to their own CEQA review process, and any impacts outside the scope of YCWA' DEIR would require subsequent project-level CEQA review before NID and PG&E accept new licenses that would include the measures described in Alternative 1 of the DEIR. NID-3

Under CEQA, an EIR must "describe and evaluate a range of reasonable alternatives to the project or to the location of a project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen significant project impacts". (Cal Code Regs. tit.14 Section 15126.6.). An alternative is considered "feasible" if it is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors". (*Ibid.*; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553). A key aspect of infeasibility is when there is "no way to legally implement it". (Cal. Code Regs. Tit. 14 section 15364).

The DEIR's own language demonstrates that YCWA lacks the authority to implement a core component of Alternative 1—namely, imposing operational changes on the upstream projects. The fact that these actions are "subject to FERC's acceptance and implementation" and cannot be "forecast" by YCWA means that YCWA cannot, on its own or through its direct legal authority, ensure the successful accomplishment of this alternative.

Among other deficiencies, YCWA's Alternative 1 is wholly inconsistent with water right principles and the terms of a 1961 Stipulation between NID and YCWA concerning the water rights Yub seeks to exercise pursuant to the DEIR. The DEIR concerns YCWA Water Right NID-4

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Application 5632 and Permit 15026. YCWA acquired this right via assignment of State Water Applications 5631 and 5632 filed by the State of California in 1927. Those rights were subject to a pending NID application for assignment and release for priority for the benefit of current and future customers in Placer and Nevada counties. To resolve the conflict concerning priority to beneficial use of water under Application 5632, NID and YCWA reached a Stipulation in 1961 that established relative water right priorities and reservations of water. Material terms included in the 1961 Stipulation are:

- The Release of Priority of Applications 5631 and 5632 in favor of NID for numerous NID water rights and water right applications; and
- Reservations of water [from the assignment to YCWA] subject to Applications 5631 and 5632 required to supply NID's service territory, including:
  - All water in the Middle Fork of the Yuba River and its tributaries that originates above the existing Milton Diversion Dam of NID.
  - All water in the South Fork of the Yuba River and its tributaries that originates above Lang's Crossing.

NID-4 cont.

NID and YCWA executed the Stipulation in 1961. Consistent with Section 7 of the 1961 Stipulation, its terms and conditions are incorporated in Water Right Decision 1159 approving YCWA's Water Right Application 5632, and the same terms and conditions of the stipulation are incorporated in YCWA Water Right Permit No. 15026. (Appendix 3 hereto, Water Right Decision 1159).

NID's non-opposition to the assignment of Water Right Applications 5631 and 5632 was plainly predicated on the concept of 'no–injury' to NID. YCWA's proposal to compel NID and PG&E to release or forego diversions from upstream water sources to benefit or mitigate impacts associated with the YRDP is plainly inconsistent with the terms of the 1961 Stipulation, and therefore Water Right Permit 15026.

Given that YCWA explicitly states it "cannot impose operational changes on PG&E's and NID's upstream projects," the inclusion of Alternative 1 in the DEIR as a feasible alternative for YCWA's own decision-making is legally unsound, and renders the DEIR's Alternatives 1 analysis defective because it relies on core project elements that the lead agency (.e., YCWA) itself cannot legally guarantee or implement.

NID-5

B. The DEIR's Alternative 2 Is Not Feasible for Implementation by YCWA

Like Alternative 1, Alternative 2 assumes and implements operational changes that YCWA cannot implement. The Alternative 2 scenario assumes: (1) that the State Water Board will impose a 55 percent (%) of unimpaired flow (UIF) standard on NID and PG&E, even though those entities' water rights are decades senior to those held by YCWA; and (2) further assumes that NID and PG&E would accept, and not successfully contest or challenge, imposition of the % of UIF

NID-6

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approach in new FERC license conditions ("Alternative 2 also includes new FERC licenses for the upstream YB/DS projects" [DEIR at p. 4-12].)

NID-6 cont.

Like Alternative 1, Alternative 2 is not a "feasible" alternative because the lead agency (YCWA) cannot legally guarantee or implement either of the two elements applicable to the YB/DS Projects.

C. The DEIR's Analysis of Alternative 1 and Alternative 2 Constitutes Improper Piecemealing

CEQA mandates a comprehensive review of a project's environmental impacts, explicitly forbidding "piecemeal" review. This principle ensures that "environmental considerations do not become submerged by chopping a large project into many little ones." (*Citizens Assn. for Sensible Dev. of Bishop Area v. Cnty. of Inyo* (1985) 172 Cal. App. 3d 151, 165.)

The definition of a "project" under CEQA is broad, encompassing "the whole of an action" with the potential for direct or indirect physical environmental change. (Cal. Code Regs. Tit. 14, Section 15378.) The requirements of CEQA "cannot be avoided by 'chopping up' a proposed project into 'bitesize pieces' that, when individually considered, may not have a significant impact on the environment". *Citizens Assn. for Sensible Dev. of Bishop Area, supra,* at 165.

1. Piecemealing of Alternative 1 and Alternative 2 Analyses

NID-7

Alternative 1, as presented in the DEIR, is described as an "integrated suite of measures to be implemented by Yuba Water, PG&E, and NID, in coordination with each other". (DEIR at pg. 19). A key component of this alternative is the proposed "reoperation and release of an additional 15,600 acre-feet (ac-ft) of water from the Yuba-Bear/Drum-Spaulding (YB/DS) projects [NID and PG&E projects] during Dry and Critically Dry years" to enhance water temperatures in the lower Yuba River for ESA-listed fishes. (DEIR at pg. 19).

However, the DEIR itself acknowledges a critical limitation: "Because Yuba Water cannot impose operational changes on PG&E's and NID's upstream projects, Alternative 1 is a conditional alternative that is subject to FERC's acceptance and implementation". (DEIR at pg. 19). The DEIR further states that YCWA "cannot forecast whether FERC would approve Alternative 1" and clarifies that the upstream projects relicensings are subject to "their own CEQA review process," with any impacts beyond the scope of this DEIR requiring "subsequent project-level CEQA review" before NID and PG&E accept new licenses. (DEIR pg. 3-7.) The DEIR even characterizes its evaluation of the indirect impacts from these upstream projects contributions as occurring "at a programmatic level". (DEIR at pg. 3-7).

Likewise, Alternative 2 would also require changes to NID's and PG&E's FERC licenses for the upstream projects, but the DEIR repeatedly defers analysis of the impacts of those changes to some future time, even though the alternative is contemplated in this EIR. According to the DEIR, "Alternative 2 includes modifications to YRDP and Narrows Project operations, as well as similar operational changes to the upstream YB/DS projects under new FERC licenses, to comply with the following additional regulatory requirements under the SWRCB Draft Bay-Delta Plan Update.

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(DEIR at pp. 19-20, Emphasis added). More specifically, the DEIR at page 3-10 articulated that Alternative 2 scenario evaluated in the DEIR includes the following:

- NID operations to provide the greater of 55% of unimpaired Middle Yuba River flows above Our House Dam on a daily basis or the YB project's FERC 4(e) requirements.
- Yuba Water operations to provide 55% of unimpaired Middle Yuba River flow at its confluence with the North Yuba River. Yuba Water would bypass flows at Our House Dam, as needed, to ensure 55% of the total Middle Yuba River watershed unimpaired flow reaches its mouth on a 21-day rolling average.
- NID and PG&E operations of the YB/DS projects to provide the greater of 55% of the unimpaired South Yuba River flow at Jones Bar on a daily basis or their respective FERC 4(e) requirements.

Clearly, the imposition of a required to provide 55% of UIF at specific locations on the South Yuba River and Middle Yuba River will have significant impacts on NID and PG&E's upstream operations. However, the DEIR fails altogether to analyze those impacts, instead deferring analysis to the future. NID-7 cont.

This approach to Alternative 1 and Alternative 2 constitutes improper piecemealing, directly conflicting with CEQA's core principles for the following reasons:

- **Failure to Analyze the "Whole of the Action":** By presenting Alternative 1 as an "integrated suite" of measures involving NID and PG&E's operations of the upstream projects, the DEIR implicitly defines the "whole of this action" to include the effects of these upstream flows. However, by deferring detailed analysis of the impacts from the upstream projects contributions to a future "subsequent project-level CEQA review," the DEIR is effectively "chopping up" this integrated alternative into smaller, unanalyzed pieces. If a necessary element of a project (or in this case, Alternative 1) is excluded from the DEIR's description and its effects ignored, and the project cannot go forward without it, then the "total project" (or alternative) includes both the proposed action and the necessary contributing elements, requiring full analysis.
- **Violation of CEQA's Informational Requirements and the "Analytic Route" Test:** An EIR must provide "detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project". *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 510. It must contain facts and analysis, not merely bare conclusions or opinions. Crucially, an EIR must "disclose 'the analytic route the ... agency traveled from evidence to action'". Cal. Pub. Res. Code §§ 21002, 21081; Cal. Code Regs. tit. 14, § 15126.6(e)(2), *Save the Hill Grp. v. City of Livermore*, 76 Cal. App. 5th 1092, 292 Cal. Rptr. 3d 120 (2022). By stating that potential impacts from the upstream projects' operations are analyzed only "programmatically" or will be addressed in "subsequent project-level CEQA review", the DEIR fails to fully disclose the environmental consequences of this integral part of Alternative 1. This prevents a complete

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understanding of Alternative 1's impacts and the analytic route taken, thereby violating CEQA's informational mandate.

- **Improper Deferral of Analysis and Mitigation:** CEQA's demand for meaningful information "is not satisfied by simply stating information will be provided in the future". *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal. 4th 412, 441, 150 P.3d 709, 726 (2007), as modified (Apr. 18, 2007). An EIR is considered inadequate if "[t]he success or failure of mitigation efforts . . . may largely depend upon management plans that have not yet been formulated and have not been subject to analysis and review within the EIR'". *Pres. Wild Santee v. City of Santee*, 210 Cal. App. 4th 260, 281, 148 Cal. Rptr. 3d 310, 325 (2012). While the DEIR discusses "available protective measures developed in collaboration with regulatory agencies" for the upstream projects' operations, the very need for "subsequent project-level CEQA review" indicates that a full analysis of reasonably foreseeable significant environmental effects, including specific mitigation, has been improperly deferred.
- **Prejudicial Omission of Information:** A failure to include relevant information in an EIR is deemed prejudicial if it "preclude[s] informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process". *Save Our Capitol! v. Dep't of Gen. Servs.*, 87 Cal. App. 5th 655, 674, 303 Cal. Rptr. 3d 761, 777 (2023). By treating the upstream projects' contributions to Alternative 1 in a programmatic or deferred manner, the DEIR prevents decision-makers and the public from fully understanding the environmental implications of this "integrated" alternative as a cohesive whole.
- **These Deficiencies Apply to the Majority of Impact Analyses.**
  - Chapter 5 - Surface Water Impacts: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." (DEIR at p. 5-30).
  - Chapter 6 - Groundwater Impacts: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." (DEIR at p. 6-36).
  - Chapter 8 - Water Quality Impacts: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." (DEIR at p. 8-83).
  - Chapter 9 - Fisheries: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." (DEIR at p. 9- 126).

NID-7 cont.

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- Chapter 10 - Special Status Species: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." (DEIR at p. 10-148).
- Chapter 15 - Greenhouse Gas Emissions: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." (DEIR at p. 15-26).

2. Piecemealing of Alternative 2 Analysis

According to the DEIR, "Alternative 2 includes modifications to YRDP and Narrows Project operations, as well as similar operational changes to the upstream YB/DS projects under new FERC licenses, to comply with the following additional regulatory requirements under the SWRCB Draft Bay-Delta Plan Update, (DEIR at pp. 19-20). More specifically, the DEIR at page 3-10 articulated that Alternative 2 scenario evaluated in the DEIR includes the following:

NID-7 cont.

- NID operations to provide the greater of 55% of unimpaired Middle Yuba River flows above Our House Dam on a daily basis or the YB project's FERC 4(e) requirements.
- Yuba Water operations to provide 55% of unimpaired Middle Yuba River flow at its confluence with the North Yuba River. Yuba Water would bypass flows at Our House Dam, as needed, to ensure 55% of the total Middle Yuba River watershed unimpaired flow reaches its mouth on a 21-day rolling average.
- NID and PG&E operations of the YB/DS projects to provide the greater of 55% of the unimpaired South Yuba River flow at Jones Bar on a daily basis or their respective FERC 4(e) requirements.

Clearly, the imposition of a required to provide 55% of UIF at specific locations on the South Yuba River and Middle Yuba River will have significant impacts on NID and PG&E's upstream operations. However, the DEIR fails altogether to analyze those impacts, instead deferring analysis to the future.

- **Piecemealing Water Supply Impacts Analysis:** The DEIR simply made certain assumptions concerning impacts on the upstream projects, and advised that to the extent Alternative 2 would have impacts beyond the scope of analysis in the DEIR, such review should occur at some undefined time in the future: "As explained in Chapter 3, the YB/DS relicensings are subject to their own CEQA process. To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those

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operations becomes available." (DEIR at p. 5-30). This is the very definition of "piecemealing" that fails to meet CEQA requirements.

- **Failure to Analyze Upstream Impacts, Generally:** The DEIR focused exclusively on impacts to the Lower Yuba River. For example, the DEIR contemplated an "Downstream Extent of the Project Area" (DEIR at p. 4-6) but apparently did not consider any "Upstream Impacts" associated with the proposed Project. The DEIR limited its analysis of how implementing Alternative 2 would affect flows in the lower Yuba River but not impacts in the upstream areas: "Yuba Water has investigated how changed YRDP operations as part of the SWRCB's Draft Bay-Delta Plan Update would be expected to affect flows in the lower Yuba River." (DEIR at p. 4-9).
- **Failure to Analyze Water Supply Impacts in Areas Upstream of Englebright Dam.** Imposing the 55% of UIF standard on NID and PG&E would plainly have direct and indirect water supply impacts within NID's service area, and Placer County Water Agency's service area. Nonetheless, the DEIR did not evaluate those impacts: NID-7 cont.

> NID's releases from the Milton Diversion Dam would be to meet their proposed FERC 4(e) requirements, and the 55% unimpaired flow at the mouth of the Middle Yuba River would be met through a combination of accretions between the Milton Diversion Dam and Our House Dam, accretions between Our House and Log Cabin Dams and the confluence of the Middle Yuba and North Yuba rivers, and Lohman Ridge Tunnel closures. <u>While this would likely result in substantial reductions in out-of-basin diversions from the Yuba-Bear and Drum-Spaulding projects, since the implementation of the SWRCB regulatory pathway would be a result of SWRCB's processes, potential water supply reductions resulting from reductions in out-of-basin diversions are not evaluated in this report.</u> (DEIR at p. 5-46) (Emphasis added).

Given that Alternative 1 and Alternative 2 are presented as potential alternatives to achieve specific environmental benefits, the final EIR must comprehensively analyze all its components and their associated impacts, including the operational changes required of the upstream projects. Deferring this analysis to future CEQA documents or providing only programmatic details for an "integrated suite of measures" undermines the foundational purpose of an EIR to inform current decision-making and public participation.

D. Insufficient Cumulative Impacts Analysis of Alternative 1

The DEIR identifies Alternative 1 as a proposal where YCWA and upstream projects would cooperatively reoperate to release an additional 15,600 ac-ft of water during Dry and Critically Dry years. This water is intended to provide cooler water temperatures in the lower Yuba River for ESA-listed fishes from July through November. NID-8

While the DEIR acknowledges this significant release, its analysis of the impacts associated with the 15,600 ac-ft from these upstream reservoirs, particularly in a cumulative context, presents several deficiencies:

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- **Programmatic and Deferred Analysis**: The DEIR explicitly states that the analysis of indirect impacts from the upstream projects operations under Alternative 1 is conducted at a programmatic level, based on available information and reasonably foreseeable assumptions. Crucially, the DEIR notes that the upstream projects relicensings are subject to their own CEQA process. It specifies that impacts beyond the scope of this DEIR or other CEQA documents would need to be addressed through subsequent project-level CEQA review before NID and PG&E accept their new licenses. This deferral renders the DEIR's cumulative impacts analysis inadequate, as CEQA requires an EIR to "include details sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project". *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 510.
- **Lack of Specificity and Reliance on Future Determinations**: The DEIR highlights that the "actual distribution and timing of the additional block of water would be subject to FERC's determination and consultation with applicable regulatory agencies". (DEIR 5.5.1.5, pg. 5-43). This suggests a lack of concrete detail within the DEIR regarding how this substantial water release will be managed and its precise impacts. While the programmatic analysis makes assumptions about protective measures being developed in collaboration with regulatory agencies to minimize impacts (e.g., for groundwater, energy, water supply, water quality, and non-fisheries biological resources), such assumptions without specific plans or detailed analysis can be seen as conclusory. CEQA demands "facts and analysis, not just the agency's bare conclusions or opinions" and a disclosure of the "analytic route the agency traveled from evidence to action." *Habitat & Watershed Caretakers v. City of Santa Cruz*, 213 Cal. App. 4th 1277, 1303, 152 Cal. Rptr. 3d 888, 909 (2013). NID-8 cont.
- **Generalized Impact Conclusions for the 15,600 Ac-Ft Release**: Under Surface Water Resources, the programmatic analysis for Alternative 1 assumes reductions in out-of-basin diversions could result in reductions in water supply deliveries to NID and Placer County Water Agency (PCWA) customers, but the overall impact to surface water resources is concluded as "less-than-significant". The document lacks substantial evidence to support this conclusion.
- **Groundwater Resources:** Indirect groundwater impacts from upstream projects' operations under Alternative 1 are deemed "less-than-significant" programmatically, assuming protective measures developed in collaboration with regulatory agencies. The document lacks substantial evidence to support this conclusion.
- **Energy Production and Consumption:** Potential reductions in energy generation from upstream projects due to the 15,600 ac-ft release are also concluded as "less-than-significant", with the assumption that California Independent System Operator (CAISO) would procure additional generation from other resources. The document lacks substantial evidence to support this conclusion.
- **Surface Water Quality**: Indirect water quality impacts in waterbodies upstream of the YRDP associated with this component of Alternative 1 are determined to be "less-than-significant" programmatically, again relying on the assumption of protective measures and

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stating that operations are unlikely to substantially alter drainage patterns. The document lacks substantial evidence to support this conclusion.

- **Biological Resources:** The programmatic analysis of indirect impacts on non-fisheries biological resources from upstream projects operations under Alternative 1 concludes them as "less-than-significant" and potentially "beneficial", assuming protective measures and managed releases will increase habitat availability. For fisheries, it suggests generally similar or relatively small changes in species-specific habitat availability, and YRDP's incremental contribution to cumulative impacts on fisheries is considered not cumulatively considerable. The document lacks substantial evidence to support this conclusion. NID-8 cont.

The DEIR's approach of analyzing these specific impacts at a programmatic level and deferring detailed, project-level CEQA review to other agencies, while simultaneously concluding the cumulative contribution as "less-than-significant" for the YRDP, could be viewed as an attempt to minimize cumulative impacts, which CEQA advises against. This methodology does not provide the public or decision-makers with the comprehensive, detailed, and non-speculative information required for informed decision-making regarding the environmental consequences of such substantial water reallocation from upstream reservoirs.

E. Insufficient Impacts Analysis Under Alternative 2

The DEIR's impact analysis is also insufficient with respect to multiple categories, including:

- **Surface Water Resources.** The impact analysis does not directly address impacts to NID or PG&E water supplies (or contract water customers) associated with the proposed Project. By way of illustration, the DEIR's "mini-model" used to evaluate impacts did not even contemplate specific demands for NID and PG&E Customers: "While the Mini-Model includes information about changes in storage in Yuba-Bear and Drum-Spaulding reservoirs and associated water supply deliveries, the model is limited in its representation of many of the Yuba-Bear and Drum-Spaulding projects' operations, including flow, ramping, recreational flows, and spill cessations. The Mini-Model does not include specific demands for NID and PG&E customers . . . ." (DEIR at p. 5-30.) NID-9
- **Energy.** The DEIR evaluates impacts on hydropower generation for YCWA's YRDP and Narrows Projects, but does not directly or specifically analyze generation impacts to the Yuba Bear or Drum Spaulding projects associated with Alternative 2. (*See* DEIR, Chapter 7)
- **Biological Resources.** Chapter 10 significantly limited its analysis to the "Proposed YRDP Boundary." This boundary completely omits the entirety of the Project Boundaries of the Yuba Bear and Drum Spaulding Projects. (*See* Figure 10.2-1). The impact analysis is fatally flawed because, even though Alternative 2 would have significant impacts on the hydrology of the upstream projects, the Biological Resources analysis fails to analyze impacts thereon. (*See* Table 10.2-1 table of potential habitat of multiple species limited to "Potential Habit within Proposed YRDP Boundary").

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F. The EIR Is Deficient Because It Fails to Identify NID as a Responsible Agency

The DEIR is legally inadequate for failing to name NID as a responsible agency and for not conducting the necessary consultation with NID regarding Project Alternatives 1 and 2. These deficiencies undermine the DEIR's purpose as an informative document, and represents a failure to proceed in a manner required by CEQA. Under CEQA, a "responsible agency" is a public agency other than the lead agency that has responsibility for carrying out or approving a project. It includes all public agencies with discretionary approval power over the project. Responsible agencies generally rely on the lead agency's CEQA document (e.g., an EIR) to support their own decision-making process. *California Coastkeeper All. v. State Lands Com.*, 64 Cal. App. 5th 36, 54, 284 Cal. Rptr. 3d 886, 898 (2021).

- **Failure to Name NID as a Responsible Agency Constitutes a Legal Deficiency:** Despite the clear requirement for NID to take a specific, environmentally significant action (releasing 15,600 ac-ft of water) under Alternative 1, the DEIR does not name NID as a responsible agency. While the DEIR acknowledges that NID's operations of its Yuba-Bear and Deer Creek Projects are "indirectly affected by Yuba Water's Alternative 1" and that "their operations to meet other regulatory requirements are outside the scope of Yuba Water's analysis", (DEIR 5.4, pg. 5-29) This characterization is directly contradicted by Alternative 1's explicit "new proposed license condition" for NID's projects. This direct requirement means NID has discretionary approval power over a core component of Alternative 1's implementation, making it a responsible agency. YCWA, as the lead agency, has a duty to consult with NID as a responsible agency. NID-10
- **Circumventing Responsible Agency Review and Findings:** A lead agency's approval of a project is a "nullity if based upon an EIR that does not provide the decision-makers, and the public, with the information about the project that is required by CEQA". *Save our Peninsula Comm. v. Monterey Cnty. Bd. of Supervisors*, 87 Cal. App. 4th 99, 118, 104 Cal. Rptr. 2d 326, 340 (2001). If NID is not identified as a responsible agency, it cannot make its own findings on the feasibility of relevant mitigation measures or project alternatives within its powers based on the YCWA's EIR. This bypasses a critical CEQA safeguard.

Furthermore, if NID believed the DEIR was inadequate for its use, it would be required to challenge it in court within 30 days or be deemed to have waived any objection to its adequacy. By not naming NID as a responsible agency, the EIR may effectively prevent this critical check and balance from occurring.

In conclusion, the DEIR's failure to recognize NID as a responsible agency, particularly given the explicit requirements placed upon NID for water releases under Alternative 1, and the subsequent programmatic and deferred analysis of these impacts, represents a significant legal inadequacy. This approach hinders comprehensive analysis, precludes informed public and agency participation, and potentially sidesteps NID's critical responsibilities under CEQA to make independent findings on project components within its jurisdiction.

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G. The 'No Project Alternative' Assumes the Upstream Projects Operate in Accordance with All FERC Requirements, Contracts, and Water Supply Obligations.

The purpose of the No Project Alternative is to provide a comparison of the environmental impacts that would result if the project is not approved with those that would occur if the project is approved. (14 Cal Code Regs tit.14, Section 15126.6(e)(1). The No Project Alternative comparison should provide a forecast of what reasonably would be expected to occur in the foreseeable future if the project is not approved. (14 Cal Code Regs section 15126.6(e)(3)(A).) Here, the DEIR fails to accurately describe the 'No Project Alternative' because it is completely silent on the project operations associated with the Upstream Projects under the identified scenarios. The DEIR describes this scenario exclusively in terms of actions that Yuba may or may not take. However, the 'No Project Alternative' is equally dependent on the assumption that the upstream projects will continue to operate in accordance with all existing FERC requirements, water supply obligations, and contract commitments. The No Project alternative as currently defined is inadequate and incomplete because it is silent on these key project components. Importantly, this deficiency undermines the analyses for the other Project alternatives because it contemplates an incomplete project baseline. NID-11

H. The DEIR's Reduced Water Transfer Exports Alternative Should Have Been Evaluated in Further Detail.

The Draft EIR falls short of the legal requirement to "contain sufficient information about each alternative to permit an evaluation of the relative merits of the alternatives and the project" with respect to the 'Reduced Water Transfer Export Alternative.' (14 Cal Code Regs section 15126.6(a); DEIR at p. 3-23). The DEIR prematurely abandoned the Reduced Water Transfer Export Alternative based on considerations that are conclusory and hypothetical in violation of CEQA requirements. (*See Laurel Heights Improvement ass'n v. Regents of Univ. Of Cal.* (1988) 47 Cal 3d 376, 404).

Here, the DEIR deemed the Reduced Water Transfer Exports Alternative to not merit further review by reference to Yuba Water's Draft SEIR for the Accord Extension, and the analysis therein which concluded transfers would not likely occur if the State Water Board adopted UIF requirements under the Bay Delta Water Quality Control Plan. (DEIR at p. 3-24). This issue is largely irrelevant to the alternatives analysis for this relicensing DEIR. For example, the Draft EIR does not address whether the Draft SEIR for the Accord Extension analyzed Yuba's proposed 'Offer of Settlement' demand for the upstream projects to release an additional 15,600 ac-ft of water supply during certain year types. NID-12

Meanwhile, under the truncated analysis of implementation of this alternative "outside of a situation in which the SWRCB had adopted UIF requirements," the DEIR focuses exclusively on whether CVP and SWP water right holders would divert water previously transferred under the Accord.

The analysis of the Reduced Water Transfer Alternative wholly fails to evaluate whether Yuba County Water Agency's reduction of water transfers in certain year types would obviate the alleged

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need for NID and PG&E to release an additional 15,600 ac-ft, as proposed under YCWA's Alternative 1.

The "Reduced Water Transfer Alternative" is fatally flawed because it is premised on the State Water Board's adoption of an UIF standard (even though the DEIR's Alternative 1 does not assume this condition) and fails to evaluate whether the alternative would meet Project Objectives under other reasonably foreseeable regulatory scenarios. In this regard, the DEIR discussion of this alternative fails to meet basic CEQA requirements. (*San Bernadino Valley Audubon Soc'y v. County of San Bernadino* (1984) 155 Cal App 3d 738, 750.) NID-12 cont.

Unlike Alternative 1 and Alternative 2, both of which are infeasible for YCWA to implement because they are predicated on NID and PG&E accepting revised FERC license conditions, the Reduced Water Transfer Alternative is completely within Yuba County Water Agency's authority to approve and implement.

I. The Draft EIR's Analysis of the Narrows 1 or Narrows 2 Intake Extension Alternatives is Inadequate

The Draft EIR falls short of the legal requirement to "contain sufficient information about each alternative to permit an evaluation of the relative merits of the alternatives and the project" with respect to the 'Narrows 1 or Narrows 2 Intake Extension Considerations.' (14 Cal Code Regs section 15126.6(a); DEIR at p. 3-26). The DEIR prematurely abandoned the Reduced Water Transfer Export Alternative based on considerations that are conclusory and hypothetical in violation of CEQA requirements. (*See Laurel Heights Improvement ass'n v. Regents of Univ. Of Cal.* (1988) 47 Cal 3d 376, 404). NID-13

Revised State Water Board Water Right Decision 1644 and Corrected Water Right Order No. 2008-0014 require YCWA to diligently pursue development of a Narrows 2 intake extension in coordination with federal and state agencies. The truncated analysis of this requirement in the DEIR fails to satisfy this requirement. Among other defects, the DEIR asserts that the Narrows 2 intake extension is not feasible because Narrows 2 is shut down for maintenance in September and October when temperature reduction benefits associated with the intake extension are most needed. This contention is striking because it is the first time in the nearly 20 years since the State Water Board first imposed the Narrows 2 intake extension that YCWA has asserted the Narrows 2 facility is "shut down for maintenance" during the critical time period. Even YCWA's own Additional Information Response and 2023 memorandum evaluating feasibility did not raise this key point.

II. TECHNICAL COMMENTS

Page 4-12 of the DEIR describes the two baselines used in the DEIR to compare to the Proposed Project, Alternative 1, and Alternative 2. The first is the Existing Condition Baseline, which assumes the existing operations of YCWA's projects and the upper projects. The second is Future Baseline, which assumes existing operations of YCWA's projects, but future operations of the upper projects as described in FERC's FEIS for the upstream projects (i.e., operations under new licenses for the upper projects). NID-14

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A. Baseline - Technical Comments

1. The FEIR Should Explicitly State that the Existing Condition Baseline Includes Existing Water Demands, Contracts, and Agreements Associated with the Upstream Projects.

Page 4-12 of the DEIR describes the Existing Condition Baseline but neglects to state that the Existing Conditions Baseline includes existing water demands, contracts, and agreements associated with the upstream projects, not just conditions in the FEIS. The FEIR should make this disclosure and, if the simulated Existing Condition Baseline does not include existing water demands, contracts, and agreements associated with the upstream projects, the Existing Conditions Baseline should be revised in the FEIR to do so. NID-14 cont.

2. The FEIR Should Include Only the Existing Condition Baseline for Comparison to the Proposed Projects, Alternative 1, and Alternative 2.

The DEIR's inclusion of a Future Baseline, as described at page 4-12 of the DEIR, is clearly prejudicial to the upper projects when compared to Alternatives 1 and 2 because it assumes the upper projects flow releases have increased, as compared to the Existing Condition Baseline, while the YRDP and narrows project flow releases have not. In that case, flows from the upper projects have already been added to the YCWA projects. Further, it is highly unlikely that YCWA's projects would operate under existing conditions while the upper projects operate under new licenses, and vice versa, because one of FERC's explicit stated goals in issuing new licenses is that all new licenses in a watershed have concurrent terms. Therefore, comparison of the Proposed Project, Alternative 1, and Alternative 2 to a Future Baseline is unnecessary at best and misleading at worst. The FEIR should include only the Existing Condition Baseline.

B. Alternative 1 - Technical Comments

Page 3-6 of the DEIR states Alternative 1 assumes an "integrated suite of measures to be implemented by Yuba Water, PG&E, and NID, in coordination with each other," specifically requiring the release of an additional 15,600 ac-ft of water from the upstream projects (consistent with YCWA's October 31, 2022, Offer of Settlement for the YRDP) from April 1 through May 10 during Dry and Critically Dry water years excluding extreme Critically Dry water years[1] so that YCWA can provide from its projects cooler water from July through November in the lower Yuba River for Endangered Species Act (ESA)- listed anadromous fishes. NID-15

1. The FEIR Should Disclose that the Additional 15,600 ac-ft Release from the Upstream Projects Would Not Occur If NID and/or PG&E Reject New Licenses for the Upstream Projects and Discuss How such Rejections Would Affect Alternative 1.

[1] Page 5-43 of the DEIR states, "While Yuba Water has modeled these operations with 5,000 acre-feet on the Middle Yuba River and 10,600 acre-feet from the South Yuba River as a block of flow on top of minimum flows in April" and "To the extent possible, the additional release from the Middle Yuba River would be diverted into the Lohman Ridge Tunnel and into New Bullards Bar Reservoir for release later in the year. If the tunnel was already full, the water would be released down the Middle Yuba River and would displace similar releases from New Bullards Bar Reservoir, if operations were for flow requirements below Englebright Dam."

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Page 3-76 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1; however, at this time, Yuba Water cannot forecast whether FERC would approve Alternative 1 and include the above proposed conditions in new licenses for the YRDP and the YB/DS projects." YCWA has neglected to add that the 15,600 ac-ft release from the upstream projects would not be made if NID rejected new licenses for the Yuba-Bear and Deer Creek projects or if PG&E rejected new licenses for the Upper Drum-Spaulding and Lower Drum projects or both, which are actions outside the control of YCWA. The FEIR should disclose this possibility and discuss how it would affect YCWA's Alternative 1. NID-15 cont.

2. <u>The FEIR Alternative 1 Project Area for Indirect Impacts and Indirect Cumulative Impacts Should Include Jackson, French, Faucherie, Sawmill and Fordyce Lakes, Rollins Reservoir and the Resources Evaluated Should Include Non-Fisheries Biological Resources, and Recreation</u>.

Page 4-6 of the DEIR states, "Due to the potential for indirect impacts and indirect cumulative impacts that may occur as a result of potential YB/DS operational changes associated with the provision of 15.6 TAF under Alternative 1 (see Chapter 3 of this DEIR), the following additional areas are included in the Project Area for certain environmental resources (i.e., surface water resources, surface water quality and fisheries)." The listed areas on page 4-6 include: 1) Jackson Meadows Reservoir; 2) Middle Yuba River below Jackson Meadows Dam and Milton Diversion Dam to YCWA's Our House Diversion Dam Impoundment; 3) Bowman Lake; 4) Canyon Creek below Bowman Lake and Bowman-Spaulding Diversion Dam to its confluence with the South Yuba River; 5) Fordyce Lake; 6) Fordyce Creek from Fordyce Lake to Lake Spaulding; 7) Lake Spaulding; and 8) South Yuba River below Lake Spaulding to Englebright Reservoir. Even though page 5-43 of the DEIR states "Yuba Water's analysis assumes the increased flows for Alternative 1 would be a result of decreased storage in Jackson Meadows, Bowman, and Spaulding reservoirs rather than any modification to out-of-basin diversions or from other Yuba-Bear and Drum-Spaulding project reservoirs", reductions in storage in these reservoirs have the potential to affect storage in other upper projects' reservoirs, such as Yuba-Bear Projects' Jackson, French, Faucherie, and Sawmill lakes and Rollins Reservoir and PG&E's Fordyce Lake. Therefore, in the FEIR, the Alternative 1 Project Area for indirect impacts and indirect cumulative impacts should include these reservoirs. NID-16

In addition, reduced storage in Jackson Meadows, Bowman, Fordyce, and Spaulding reservoirs, as well as other upper projects' reservoirs listed above may affect resources besides "surface water resources, surface water quality and fisheries". Therefore, in the FEIR, the Alternative 1 resources evaluated for the upper projects should include Non-Fisheries Biological Resources, and Recreation.

3. <u>The FEIR Should List and Discuss NID's and PG&E's FERC Filings Regarding Alternative 1 That Includes YCWA's Purported Offer of Settlement.</u>

Pages 4-27 and 4-28 of the DEIR lists various documents on which YCWA states it relied when preparing the DEIR. With regards to Alternative 1, YCWA's list omits the following important documents: 1) NID's November 18, 2022, Reply to YCWA's Offer of Settlement (NID NID-17

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2022[2]) as supplemented by NID on March 15, 2023 (NID 2023[3]); and 2) PG&E's November 21, 2022, Reply to YCWA's Offer of Settlement (PG&E 2022[4]) as supplemented by PG&E on February 27, 2023 (PG&E 2023[5]). The filings provide relevant information regarding YCWA's Alternative 1 and each should be listed, reviewed, and discussed in the FEIR. Review and discussion of these documents are particularly relevant because page 3-6 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1" and NID's and PG&E's filings assess the impacts of YCWA's proposed Offer of Settlement on the upstream projects and associated resources. NID-17 cont.

4. <u>The FEIR Should Fully Describe the Complicated Water Rights on the Yuba River, Among NID, PG&E and YCWA.</u>

Page 5-9 of the DEIR states, "Yuba Water is a major water-right holder on the Yuba River. Yuba Water holds pre-1914 appropriative rights dating from 1897 and post-1914 appropriative water rights confirmed by water-right licenses." While this description is correct to an extent, it fails to describe the complicated water rights relationship between NID and PG&E. As stated above, NID's rights to divert water from the Middle Yuba River and South Yuba River predate YCWA's Yuba River water rights in time and priority. NID's diversion of water from the Middle Yuba River began as early as 1927, well before YCWA's projects began operation and even before YCWA was formed in 1959. To provide accurate information to decision makers, the FEIR should fully describe water rights and related agreements on the Yuba River and their implication on YCWA's Alternative 1. NID-18

5. <u>Table 5.3-5 in the FEIR Should Include the Period When YCWA Released Water for Each Water Transfer.</u>

On page 5-22 of the DEIR, Table 5.3-5, provides information regarding YCWA's water transfers from 2007 through 2024. However, the table provides no information regarding when (i.e., start date and end date) the transfers are made each year. The period when transfers are typically made is important to disclose so that decision-makers may evaluate if these discretionary releases have significant effects in the overall Alternative 1 analysis. The table included in the FEIR should show the start and end dates of transfers in each year when transfers were made. NID-19

6. <u>The FEIR Should Estimate and Evaluate the Compensation YCWA Would Make to NID and PG&E for Additional Water Releases and for Headwater Benefits[6].</u>

Page 5-44 of the DEIR states, "To the extent possible, the [Yuba-Bear Project's] additional release from the Middle Yuba River would be diverted into the Lohman Ridge Tunnel and into New Bullards Bar Reservoir for release later in the year." If YCWA receives monetary benefit NID-20

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2 NID's Reply is available online in FERC's ELibrary at accession number 2022118-5100.
3 NID's supplement to its Reply is available online in FERC's ELibrary at accession number 20230315-5196.
4 PG&E's Reply is available online in FERC's ELibrary at accession number 20221121-5189.
5 PG&E's supplement to its Reply is available online in FERC's ELibrary at accession number 20230227-5265.
6 Under Section 10(f) of the Federal Power Act, an owner of a hydropower project is required to reimburse upstream headwater project owners for an equitable part of the benefits it receives. These benefits, referred to as Headwater Benefits, are the additional energy production possible at a downstream hydropower project resulting from the regulation of river flows by an upstream storage reservoir. See also 18 CFR § 11.10.

(i.e., generation and capacity) from the upstream projects' additional releases, the incremental benefit should be passed on to NID and PG&E. YCWA should not benefit financially, whether from power or water sales, from the additional releases. In addition, if the upstream projects are required to make additional releases, NID and PG&E should be fairly compensated by YCWA for headwater benefits. The FEIR should clearly state and estimate the compensation YCWA would make to NID and to PG&E for the additional releases under headwater benefits. NID-20 cont.

7. <u>The FEIR Should Disclose the Impacts to NID and PCWA (via PG&E) Water Deliveries under Alternative 1.</u>

Page 5-36 of the DEIR states, "Operations under Alternative 1 could lead to reductions in diversions by NID and PG&E through PG&E's Drum Canal and NID's South Yuba Canal, combined in modeling as Spaulding Canals. This programmatic analysis assumes that NID's and PG&E's diversions during dry and critical years would provide water supply to NID and PCWA water users. Consequently, reductions in Spaulding Canals' diversions during these years could indicate reductions in water supply deliveries." NID is confused by this Alternative 1 "programmatic analysis" of impacts to NID's and PG&E's water deliveries since page 3-76 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1."

In addition, Section 5.6.2 on page 5-71 of the DEIR purports to address the cumulative impacts of Alternative 1 on surface water resources water deliveries as compared to existing conditions. Notwithstanding the statement on page 3-76 of the DEIR, NID did not find impacts to the upstream projects water deliveries addressed in Section 5.6.2. NID-21

NID and PG&E have filed with FERC description of the impacts to water deliveries under YCWA's proposed Offer of Settlement (NID 2022 and 2023, and PG&E 2022 and 2023). Without the additional release of 15,600 ac-ft of water, combined water delivery impacts to NID and PCWA totaling 143,000 ac-ft would have occurred over three years under FEIS conditions (Table 9 of NID's 2023 Attachment 2, Modeling Information). The additional releases proposed by YCWA in Alternative 1 would exacerbate these impacts by expanding combined water delivery deficits to four years, totaling 169,000 ac-ft (Table 9 of NID's 2023 Attachment 2, Modeling Information), an increase of 26,000 ac-ft over four years.

Groundwater is not an alternative to offset potential water shortages to NID. NID's service area does not overlay a California Department of Water Resources-defined groundwater basin, except for a small portion within the southwestern section of the service area by Lincoln. The majority of NID's service area overlays a fractured rock groundwater system that supports limited amounts of groundwater (Caby 2013,[7] USGS 1984[8]). The fractured rock formation is not a robust or reliable source of groundwater in the volume that could offset the anticipated shortages. The reduction in consumptive surface water supply that would occur under YCWA's Alternative 1 cannot be offset by groundwater pumping, though it is likely that some NID customers in the Lincoln area would attempt to do so, which would impact local groundwater levels.

[7] Cosumnes American Bear Yuba (CABY) Integrated Regional Water Management (IRWM). 2013. CABY IRWM Plan, Chapter 11.

[8] U.S. Geologic Survey (USGS). 1984. Ground-Water Conditions and Well Yields in Fractured Rocks, Southwestern Nevada County, California. Water Resource Investigation Report 83-4262.

Section 5.6.2 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under Alternative 1 to water deliveries to upstream water users. NID-21 cont.

8. The FEIR Should Disclose the Impacts to NID and PG&E Energy Production and Associated Revenue under Alternative 1.

Page 7-15 of the DEIR states "This impact analysis utilizes information from NID (NID 2023) regarding changes in average annual generation in dry and critically dry years between NID's Scenario 2, All FEIS and NID's Alternative 1, YCWA Proposal, to characterize potential changes to NID and PG&E generation that could occur under Alternative 1 at a programmatic level." However, although page 3-76 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1", and Section 7.6.2 on page 7-56 of the DEIR purports to address the cumulative impacts of Alternative 1 on power production. NID did not find impacts to the upstream projects energy production described in detail, other than a statement that "Overall, power production would not significantly change under the Cumulative Condition, including Alternative 1, relative to the Existing Condition. For these reasons, under the Cumulative Condition, including Alternative 1, there would not be a significant impact on power production or energy consumption." NID and PG&E find this statement to be in error and provide below the actual effects of Alternative 1 on the upstream projects' power production and associated lost revenue. NID-22

Tables 1 and 2 provide estimated reductions in energy production and associated revenues for the upstream projects, relative to FEIS conditions.

Table 1. Summary of energy generation and associated revenue for NID's Yuba-Bear Project Under YCWA's Alternative 1 compared to FEIS in Dry and Critically Dry WYs.

FEIS Conditions	YCWA's Alternative 1	
AVERAGE ANNUAL ENERGY GENERATION		
(GWh/yr)	(GWh/yr)	Percent Difference Relative to FEIS
141.9	138.7	-2.2%
AVERAGE ANNUAL ENERGY VALUE		
(2020 $/yr)	(2020 $)	Percent Difference Relative to FEIS
$16,340,451	$15,854,935	-3.0%

Source: Table 8 of Attachment 2 (Modeling information) and Table 2 of Attachment 1 (Supplemental Information) from NID's March 15, 2023 filing.

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Table 2. Summary of power production and associated revenue for PG&E's Upper Drum-Spaulding (UD) and Lower Drum (LD) Projects Under YCWA's Alternative 1 compared to FEIS in Dry and Critically Dry WYs.

FEIS Conditions	YCWA's Alternative 1 Conditions	
AVERAGE ANNUAL ENERGY GENERATION		
(GWh/yr)	(GWh/yr)	Percent Difference
UD – 410.3	399.4	-2.7
LD – 114.1	112.4	-1.5
AVERAGE ANNUAL ENERGY VALUE		
(2020 $/yr)	(2020 $)	Percent Difference Relative to FEIS
(UD +LD) $60,596,199	$58,760,105	-3.1

Source: Tables 4 and 5 of Attachment 2 (Modeling information) and Table 2 of Attachment 1 (Supplemental Information) from NID's March 15, 2023 filing.

NID-22 cont.

Section 7.6.2 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under YCWA's Alternative 1 to energy production and lost power revenue of the upstream projects in Section 7.6.2.

9. <u>The FEIR Should Fully Discuss Impacts to Fisheries Resources Upstream of YCWA's Projects due to YCWA's Alternative 1 Proposed Additional Release of 15,600 ac-ft from the Upstream Projects.</u>

The DEIR's Alternative 1 treatment of impacts to fisheries resources in the streams and reservoirs upstream of YCWA's projects in inadequate for two main reasons. First, the DEIR's assumption at page 9-44 of the DEIS, which states, "Because the intent of Alternative 1 is only to provide 15.6 TAF of water during April-May of Dry and Critical WYs, the evaluation of potential impacts to fisheries resources in YB/DS areas upstream of the YRDP under Alternative 1 focuses on changes that could occur during April and May of Dry and Critical WYs." is flawed. The analysis should include the entire year because increased releases in April and May affect the amount of water available in later months that, in turn, affect habitat and water temperatures for fisheries resources upstream of YCWA's projects.

NID-23

Second, page 9-128 of the DEIR concludes that under Alternative 1 habitat conditions for fishes upstream of the YRDP projects would not be substantially affected under Alternative 1 because of "(1) operational flexibility (e.g., geographic source) of the YB/DS reservoirs in providing the 15.6 TAF; (2) permutations in the allocation (e.g., variable amounts) among YB/DS reservoirs; (3) the potential for provision of the 15.6 TAF through reductions in diversions (and exports out of the upper Yuba River Watershed), releases from storage, or a combination thereof; (4) implementation of ramping rates (both increases and decreases); and (5) resource agency technical assistance in fashioning the releases to minimize impacts to aquatic species." In essence, the DEIR punted.

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In contrast, NID and PG&E evaluated the effects on fishes due to the additional release of 15,600 ac-ft from the upstream projects and provided their analysis to FERC and YCWA. In summary, the flow difference between a high April release and lower March and May flows would have significant effects on fishes, such as rainbow trout, due to stranding. NID-23 cont.

Section 9.5.2 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, to fisheries resources associated with the upstream projects.

10. <u>The FEIR Should Fully Discuss Impacts to Specials-Status Species Upstream of YCWA's Projects due to YCWA's Alternative 1 Proposed Additional Release of 15,600 ac-ft from the Upstream Projects.</u>

The DEIR's Alternative 1 treatment of impacts in Section 10.5.3 (beginning on page 10-136) and Section 10.5.4 to special-status species and in particular to Sierra Nevada yellow-legged frog (SNYLF) and its ESA-designated Critical Habitat, California red-legged frog (CRLF) and its ESA-designated Critical Habitat, foothill-yellow legged frog (FYLF), northwestern pond turtle (NPT), and little willow flycatcher (LWF) in the streams and reservoirs upstream of the YCWA projects is inadequate for the same reasons described in Section II.B.8 of this letter. In short, the DEIR only addresses changes in flow in April and May of Dry and Critically Dry WYs but should include the entire year because increased releases in April and May of Dry and Critically Dry WYs affect the amount of water available in later months that, in turn, affect habitat and water temperatures for special-status species. In addition, the DEIR assumes that Alternative 1 will not affect the above species because NID and PG&E could avoid and impacts, and even enhance habitat for the species, through operational flexibility and consultation with agencies - certainly a huge leap. NID-24

YCWA has ignored the information filed with FERC and provided to YCWA by NID and PG&E regarding the effects on the above species due to the additional release of 15,600 ac-ft from the upstream projects. In summary, increasing minimum flows below Lake Spaulding Dam in Critically Dry and Dry water years in March from 25 to 30 cfs to up to 262 cfs for up to 45 days, and then to 40 to 60 cfs in May would have substantial impacts on FYLF in the South Yuba River because these are often the months when breeding begins and egg masses are deposited in the river. Egg masses deposited in March, prior to a large increase of flows, could be swept away by the increasing flows or be more susceptible to predation by fish if the water becomes deeper. Egg masses that are deposited during these much higher flows could become desiccated once flows decrease to minimum requirements in May. The flow difference between a high April release and lower March and May flows could also lead to stranding events for any FYLF tadpoles (PG&E 2022).

Sections 10.5-3 and 10.5.4 in the FEIR should fully disclose and discuss the impacts, which NID considers significant to the above species in streams and reservoirs potentially affected by the upstream projects.

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11. The FEIR Should Fully Discuss Impacts to Recreation Upstream of YCWA's Projects under Alternative 1.

During relicensing, PG&E, NID, and resource agencies, especially the United States Department of Agriculture, Forest Service (Forest Service), identified recreation at PG&E's projects and NID's Project as a major public resource to be protected and enhanced. As such, detailed recreation studies were completed, and robust recreation management plans were developed and submitted to FERC. The management plans anticipate significant increases in user demand at the projects' facilities and, as such, include new and expanded facilities at several reservoirs and nearby campgrounds. Under YCWA's Alternative 1, significant impacts to recreation opportunities would occur at NID's and PG&E's project reservoirs. At PG&E's Lake Spaulding, the boat ramp would become inaccessible 11 days earlier on average and as many as 30 days earlier under YCWA's Alternative 1 as compared to FEIS Conditions during dry and critically dry years (Table 3). At NID's Jackson Meadows Reservoir, the Pass Creek boat Launch would become inaccessible an average of 17 days sooner and up to 38 days sooner in dry and critically dry years under Alternative 1 as compared to the FEIS conditions (Table 4). At NID's Rollins Reservoir, the boat launches would become inaccessible an average of six days sooner in and up to 25 days sooner in dry and critically dry years under YCWA's Alternative 1 as compared to FEIS Conditions (Tables 6, 7, and 8). In addition, NID's Jackson Meadows Reservoir, Bowman Lake and Rollins Lake shoreline recreationists would experience impacts under YCWA's Alternative 1 due to reservoir drawdown caused by the additional releases. NID-25

Tables 3 through 8 shows when boat ramps at Lake Spaulding, Jackson Meadows, and Rollins Reservoir would no longer be usable after Memorial Day, which is considered the start of the recreation season. A boat ramp is considered usable when the median reservoir water surface elevation is no less than three feet above the end of the constructed ramp.[9]

Table 3. Date when the Lake Spaulding Boat Launch, El. 4942.6 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	No Usable Dates	No Usable Dates
1981	8/26/1981	8/14/1981 (-12 days)
1985	8/30/1985	8/30/1985 (0 days)
1987	8/1/1987	7/2/1987 (-30 days)
1988	7/8/1988	6/19/1988 (-19 days)
1990	9/13/1990	9/5/1990 (-8 days)
1991	11/12/1991	11/8/1991 (-4 days)
1992	7/22/1992	7/2/1992 (-20 days)
1994	8/20/1994	7/29/1994 (-22 days)
2001	8/22/2001	8/17/2001 (-5 days)
2007	8/24/2007	8/24/2007 (0 days)
2008	9/11/2008	9/6/2008 (-5 days)

Source: Table 10 of Attachment 2 (Modeling information) from NID's March 15, 2023 filing.
[1] Water Year type is Dry (D) or Critically Dry (CD).

[9] California Department of Boating and Waterways. 1991. Layout, Design and Construction Handbook for Small Craft Boat Launching Facilities. Sacramento, California.

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Table 4. Date when the Jackson Meadows' Pass Creek Boat Launch, El. 5,996.5 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	8/10/1976	7/23/1976 (-18 days)
1981	9/18/1981	9/2/1981 (-16 days)
1985	10/15/1985	10/4/1985 (-11 days)
1987	7/30/1987	7/6/1987 (-24 days)
1988	No Usable Dates	No Usable Dates
1990	10/3/1990	10/2/1990 (-1 days)
1991	9/8/1991	8/22/1991 (-17 days)
1992	No Usable Dates	No Usable Dates
1994	9/2/1994	8/17/1994 (-16 days)
2001	7/18/2001	No Usable Dates
2007	9/19/2007	9/3/2007 (-16 days)
2008	8/26/2008	7/19/2008 (-38 days)

Source: Table 11 of Attachment 2 (Modeling information) from NID's March 15, 2023 filing.
[1] Water Year type is Dry (D) or Critically Dry (CD).

Table 5. Date when the Jackson Meadows' Woodcamp Boat Launch, El. 6,016.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	No Usable Dates	No Usable Dates
1981	7/26/1981	7/2/1981 (-24 days)
1985	8/21/1985	8/11/1985 (-10 days)
1987	No Usable Dates	No Usable Dates
1988	No Usable Dates	No Usable Dates
1990	8/9/1990	8/8/1990 (-1 days)
1991	7/9/1991	No Usable Dates
1992	No Usable Dates	No Usable Dates
1994	No Usable Dates	No Usable Dates
2001	No Usable Dates	No Usable Dates
2007	7/26/2007	No Usable Dates
2008	No Usable Dates	No Usable Dates

Source: Table 12 of Attachment 2 (Modeling information) from NID's March 15, 2023 filing.
[1] Water Year type is Dry (D) or Critically Dry (CD).

NID-25 cont.

Table 6. Date when the Rollins' Orchard Springs and Greenhorn Boat Launches, El. 2,133.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	7/20/1976	7/7/1976 (-13 days)
1981	10/11/1981	10/11/1981 (-0 days)
1985	10/11/1985	10/11/1985 (-0 days)
1987	10/11/1987	9/21/1987 (-20 days)
1988	9/22/1988	8/28/1988 (-25 days)
1990	10/11/1990	10/11/1990 (-0 days)
1991	10/11/1991	10/11/1991 (-0 days)

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Table 6 (Continued)

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1992	10/7/1992	9/20/1992 (-17 days)
1994	10/11/1994	10/11/1994 (-0 days)
2001	10/11/2001	10/11/2001 (-0 days)
2007	10/11/2007	10/11/2007 (-0 days)
2008	9/30/2008	9/30/2008 (-0 days)

Source: Table 13 of Attachment 2 (Modeling information) from NID's March 15, 2023 filing.
[1] Water Year type is Dry (D) or Critically Dry (CD).

Table 7. Date when the Rollins' Long Ravine Boat Launch, El. 2,137.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	7/16/1976	7/3/1976 (-13 days)
1981	10/6/1981	10/6/1981 (-0 days)
1985	10/6/1985	10/6/1985 (-0 days)
1987	10/6/1987	9/18/1987 (-18 days)
1988	9/20/1988	8/24/1988 (-27 days)
1990	10/6/1990	10/6/1990 (-0 days)
1991	10/6/1991	10/6/1991 (-0 days)
1992	9/30/1992	9/17/1992 (-13 days)
1994	10/6/1994	10/4/1994 (-2 days)
2001	10/6/2001	10/6/2001 (-0 days)
2007	10/6/2007	10/6/2007 (-0 days)
2008	9/30/2008	9/30/2008 (-0 days)

Source: Table 14 of Attachment 2 (Modeling information) from NID's March 15, 2023 filing.
[1] Water Year type is Dry (D) or Critically Dry (CD).

NID-25 cont.

Table 8. Date when the Rollins' Peninsula Boat Launch, El. 2,146.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	7/7/1976	No Usable Dates
1981	9/27/1981	9/27/1981 (-0 days)
1985	9/27/1985	9/27/1985 (-0 days)
1987	9/27/1987	9/8/1987 (-19 days)
1988	9/13/1988	8/16/1988 (-28 days)
1990	9/27/1990	9/27/1990 (-0 days)
1991	9/27/1991	9/27/1991 (-0 days)
1992	9/23/1992	9/10/1992 (-13 days)
1994	9/27/1994	9/25/1994 (-2 days)
2001	9/27/2001	9/27/2001 (-0 days)
2007	9/27/2007	9/27/2007 (-0 days)
2008	9/26/2008	9/26/2008 (-0 days)

Source: Table 15 of Attachment 2 (Modeling information) from NID's March 15, 2023 filing.
[1] Water Year type is Dry (D) or Critically Dry (CD).

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Section 11.6.3, in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under Alternative 1 to recreation at the upstream projects in Section 11.6.3. NID-25 cont.

C. Alternative 2 - Technical Comments

Page 3-10 of the DEIR states that Alternative 2 assumes in part that NID would operate its Yuba-Bear Project to provide the greater of 55% of the Middle Yuba River's UIF above Our House Diversion Dam on a daily basis or the Yuba-Bear Project's FERC 4(e) requirements; YCWA would ensure that 55% of the Middle Yuba River's UIF flows passed Our House Diversion Dam and reaches its mouth; and NID and PG&E would operate the upstream projects to provide the greater of 55% of the South Yuba River's UIF at Jones Bar on a daily basis or their respective FERC 4(e) requirements.

1. <u>The FEIR Alternative 2 Percent of UIF Should be Modeled as a 7-Day Running Average</u>. NID-26

Page 1-6, Footnote 7, of the DEIR states that YCWA modeled the percent of UIF on a 21-day running average of daily UIFs. However, as the footnote mentions, the SWB's 2024 Draft Bay-Delta Plan Update specifically specifies that the year-round minimum flow level of 55% of UIF would be implemented under the plan as a 7-day running average or the license requirements, whichever is greater. To provide accurate information regarding Alternative 2, the FEIR should use the greater of 55% of UIF in a 7-day running average metric or the license requirements, consistent with the Bay-Delta Plan Update, so that decision makers can accurately weigh the differences between the Proposed Project, Alternative 1, and Alternative 2.

2. <u>The FEIR Alternative 2 Project Area for Indirect Impacts and Indirect Cumulative Impacts and Resources Evaluated Should be the Same as for Alternative 1</u>.

As stated above in Section II.B.2, page 4-6 of the DEIR describes the Project Area for indirect impacts and indirect cumulative impacts for Alternative 1. Like Alternative 1, Alternative 2 includes releases from the upper projects. Therefore, in the FEIR, Alternative 1 and Alternative 2 Project Areas and resources for indirect impacts and indirect cumulative impacts should be the same for both alternatives. NID-27

3. <u>In the Middle Yuba River, the FEIR Should Clearly State that the Alternative 2 Percent of UIF Contribution for the Yuba-Bear Project is Measured Immediately Downstream of Milton Diversion Dam.</u>

Page 4-18 of the DEIR states that the percent of UIF requirement in the Middle Yuba River would be met at its confluence with the North Yuba River, and that Yuba-Bear Project's percent of UIF contribution includes releases from the Milton Diversion Dam in combination with accretions between Milton Diversion and YCWA's Our House Diversion Dam. For the Yuba-Bear Project's contribution to the percent of UIF requirement in the Middle Yuba River, the FEIR should assume a Yuba-Bear Project compliance point immediately downstream of Milton Diversion Dam since the project does not affect UIF in the Midde Yuba River downstream of Milton Diversion Dam. NID-28

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4. In the South Yuba River, the FEIR Should Clearly State that the Alternative 2 Percent of UIF Contribution for the Yuba-Bear Project is Measured as the Sum of the Flows Immediately Downstream Bowman Diversion Dam and the Bowman-Spaulding Canal.

Page 4-18 of the DEIR states that the percent of UIF requirement in the South Yuba River would be met at the Jones Fork Gage and that Yuba-Bear Project's percent of UIF contribution includes releases from the Bowman-Spaulding Canal Diversion Dam and the Bowman-Spaulding Canal in combination with accretions between these locations and Jones Bar. For the Yuba-Bear Project's contribution to percent of UIF requirement in the South Yuba River, the FEIR should assume a compliance point immediately downstream of Bowman Diversion Dam and the Bowman-Spaulding Canal since the Yuba-Bear Project does not affect UIF in the South Yuba River downstream of those locations. It is also not clear how NID and PG&E would share the incremental accretion above Jones Bar. NID-28 cont.

5. In the South Yuba River, the FEIR Should Clearly State that the Alternative 2 Percent of UIF Requirement for the Upper Drum-Spaulding Project is Measured Immediately Downstream of Spaulding Dam.

Page 4-18 of the DEIR states that the Percent of UIF requirement in the South Yuba River would be met at the Jones Fork Gage, and that Upper Drum-Spaulding Project's percent of UIF contribution includes releases from Spaulding Dam in combination with accretions between Spaulding Dam and Jones Bar. For the Upper Drum-Spaulding Project's contribution to Percent of UIF requirement in the South Yuba River should be immediately downstream Spaulding Dam since the Upper Drum-Spaulding Project does not affect UIF in the South Yuba River downstream of the dam. It's also not clear how NID and PG&E would share the incremental accretion above Jones Bar.

6. The FEIR Should List and Discuss NID's and PG&E's FERC Filings Regarding Alternative 2 and Percent of UIF Releases.

Pages 4-27 and 4-28 of the DEIR lists various documents on which YCWA states it relied when preparing the DEIR. With regards to Alternative 2, YCWA's list omits the following important documents: 1) NID's June 7, 2021 (NID 2021a[10]), December 7, 2021 (NID 2021b)[11], June 7, 2022 (NID 2022a[12]), and October 31, 2022 (NID 2022b[13]), replies to FERC's Additional Information Request (AIR) regarding percent of UIF releases from NID's Yuba-Bear Project; and 2) PG&E's June 7, 2021 (PG&E 2021a[14]), PG&E's December 7, 2021 (PG&E 2021b[15]), June 15, 2022 (PG&E 2022a[16]) and PG&E's October 31, 2022 (PG&E 2022b[17]), replies to FERC's AIRs NID-29

[10] Available in FERC's ELibrary at accession number 20210607-5157 and 20210608-4000.
[11] Available in FERC's ELibrary at accession number 20211207-5138, 20211207-4011, and 20211207-4012.
[12] Available in FERC's ELibrary at accession number 20220606-5268.
[13] Available in FERC's ELibrary at accession number 20221103-0009, 20221104-4002, and 20221104-4003.
[14] Available in FERC's ELibrary at accession number 20210604-2312.
[15] Available in FERC's ELibrary at accession number 20211207-5173.
[16] Available in FERC's ELibrary at accession number 20220615-5167.
[17] Available in FERC's ELibrary at accession number 20221031-5365.

regarding percent of UIF releases from PG&E's Upper Drum-Spaulding and Lower Drum Project. Each document provides relevant information regarding Alternative 2 and each should be listed, reviewed, summarized, and discussed in the FEIR. NID-29 cont.

7. For Alternative 2, the FEIR Should Assume that the Upstream Projects Releases Are Passed Though YCWA's Projects Facilities in Real-Time, and for Compliance with SWB's Bay-Delta Plan, the Upstream Projects Contributions to Percent of UIF Are Measured at Marysville.

Pages 5-46 of the DEIR states, "The SWRCB regulatory pathway includes an assumption that 55% of UIF would be provided at three locations in the Yuba River watershed: (1) on the Middle Yuba River at its confluence with the North Yuba River; (2) on the South Yuba River at Jones Bar; and (3) on the Yuba River near Marysville." NID's upstream projects have numerous release points on the Yuba River, including: 1) Milton Diversion Dam on the Middle Yuba River; 2) Bowman Dam and Powerhouse on Canyon Creek, a tributary to the South Yuba River; 3) Texas Creek Diversion Dam on Texas Creek, a tributary to Canyon Creek and thence to the South Yuba River; 4) Fall Creek Diversion Dam on Fall Creek, a tributary to the South Yuba River; 5) the Bowman-Spauling Conduit, and 5) the Deer Creek Powerhouse on Deer Creek, which enters the Yuba River downstream of Englebright Dam. PG&E's Yuba River release points include: 1) Upper and Lower Rock Lake dams; Culbertson Lake Dam; Upper, Middle, and Lower Lindsey Lake dams; Feeley Lake Dam; Carr Lake Dam; Blue Lake Dam; Rucker Lake Dam; and Fuller Lake Dam – all on tributaries to the South Yuba River; 2) Lake Spaulding Dam; 3) Spaulding No. 1 and No. 2 powerhouses; and 4) South Yuba Canal spillgate. Given the myriad of these release points, it is reasonable to assume that if the SWB requires NID and PG&E to release from the upstream projects the greater of the percent of UIF on a daily 7-day running average basis or their respective FERC 4(e) requirements, for accounting purposes the sum of these releases for the Yuba River would be measured at the USGS streamflow gage at Marysville, the most downstream point on the Yuba River. Therefore, the FEIR should assume under Alternative 2 that the entirety of the upstream projects releases would be passed through YCWA's projects in real-time (i.e., 100% of NID's releases on the Midde Yuba would pass through Our House Diversion Dam and 100% of NID's and PG&E's releases in the South Yuba River would pass through Englebright Reservoir). Since these releases would be made in advance of and upstream of YCWA's projects, they would be considered "baseline" for accounting purposes (i.e., and YCWA releases for compliance at Marysville would be considered the incremental flow on top of the "baseline"). NID-30

8. The FEIR Should Disclose the Significant Impacts to NID and PG&E Water Deliveries under Alternative 2.

Section 5.6.3 on page 5-72 of the DEIR purports to address the cumulative impacts of Alternative 2 on surface water resources water deliveries as compared to existing conditions. However, NID did not find impacts to the upstream projects water deliveries addressed in Section 5.6.3 even though this information is available. NID and PG&E have filed with FERC the impacts to water deliveries under Alternative 2 (NID 2022a and PG&E 2022a). Under Existing Conditions Baseline, NID's water deliveries shortages occur in two years totaling 53,000 ac-ft (Table 6 in NID 2021 (Response to AIR Items 1_2_3)), and PG&E's water delivery shortages to PCWA occur in two years totaling 47,000 ac-ft (Table 4 in PG&E 2021 (Response to AIR Items 1, 2, and 3)). NID-31

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The additional releases proposed by YCWA in Alternative 2 would exacerbate these impacts by adding deficits to NID 16 in additional years (54.5% of years) for a total deficit of 468,000 ac-ft from 1976 through 2008 (Table 6 in NID 2021 (Response to AIR Items 1_2_3)), and by adding deficits to PCWA in 15 additional years (51.5% of years) for a total deficit of 393,000 ac-ft from 1976 through 2008 (Table 4 in PG&E 2021 (Response to AIR Items 1_2_3)).

Section 5.6.3 in the FEIR should fully disclose and discuss these impacts, which NID considers significant, under Alternative 2 to water deliveries.

9. <u>The FEIR Should Disclose the Significant Impacts to NID and PG&E Power Production and Associated Revenue under Alternative 2.</u>

Section 7.6.3 on page 7-57 of the DEIR purports to address the cumulative impacts of Alternative 2 on power production. However, NID did not find impacts to the upstream projects power production described in this section even though NID and PG&E have made the information available. Table 9 provides estimated reductions in energy generation and associated revenues for NID's Yuba-Bear Project.

Table 9. Summary of average annual energy generation and associated revenue for NID's Yuba-Bear Project Under YCWA's Alternative 2 compared to Existing Conditions, Water Year 1976 through 2008.

Existing Conditions	YCWA's Alternative 2 Conditions	
AVERAGE ANNUAL ENERGY GENERATION		
(GWh/yr)	(GWh/yr)	Percent Difference
266.2	135.5	-49.1%
AVERAGE ANNUAL ENERGY VALUE		
(2020 $)	(2020 $)	% Difference
$10,153,957	$5,301,714	-47.8%

Source: Tables 2 and 3 in NID (2021b).

NID-31 cont.

In addition, the Yuba-Bear Project provides Resource Adequacy ancillary services to support the California electric grid. Under Existing conditions, NID receives approximately $3,154,010 (2020 $/yr) annually for these services bringing the total annual value of the Yuba-Bear Project power production under FEIS conditions to $11,684,257. Under YCWA's Alternative 2, the annual value of Resource Adequacy ancillary services would be $1,848,013 (2020 $/yr), which would bring the total annual value of the Yuba-Bear Project power production to $7,149,727, a reduction in annual value of 46.3 percent relative to Existing conditions (NID 2021b).

Table 10 provides estimated reductions in energy generation and associated revenues for PG&E's Upper Drum-Spaulding and Lower Drum Projects.

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Table 10. Summary of average annual energy generation and associated revenue for PG&E's Upper Drum-Spaulding and Lower Drum Projects Under YCWA's Alternative 2 compared to Existing Conditions, Water Year 1976 through 2008.

Existing Conditions	YCWA's Alternative 2 Conditions	
AVERAGE ANNUAL ENERGY GENERATION		
(GWh/yr)	(GWh/yr)	Percent Difference
729.6	388.7	-46.7%
AVERAGE ANNUAL ENERGY VALUE		
(2020 $)	(2020 $)	Percent Difference
$24,150,587	$12,887,465	-46.6%

Source: Tables 2 and 3 in PG&E (2021b).

Section 7.6.3 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, Under Alternative 2 to power production and associated revenue of the upstream projects.

NID-31 cont.

10. <u>The FEIR Should Disclose the Impacts to Water Temperature upstream of YCWA's Projects under Alternative 2.</u>

While Section 8.6.3 of the DEIR appears to address the cumulative effects of Alternative 2 on water resources, it is deficient because it does not address effects on water temperature upstream of YCWA's projects. NID and PG&E have evaluated these effects and provided that analysis to FERC and YCWA. In summary, water temperature would be warmer in summer and fall in the Middle Yuba River downstream of Jackson Meadows Dam due to deletion of Jackson Meadows coldwater pool, and colder water and higher, spikey flows in spring. However, water temperature of inflow into YCWA's Our House Diversion Dam impoundment would be similar to baseline conditions, with mean daily temperatures exceeding 20 degrees Centigrade (°C) from about June through early fall and 7-day average daily maximum (7DADM) water temperatures would exceed 25°C for up to 6 weeks in drier water years (Table 12 and Figures 1 through 6 of NID 2021a). Daily mean water temperature of inflow into Englebright Reservoir would be similar in pattern with mean daily water temperatures warmer than 20°C, and even 25°C in Above Normal WYs, in August and September, and 7DADM water temperatures warmer than 25°C for extended periods (Table 13 and Figures 13 through 18 of NID 2021a)

Section 8.6.3 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under Alternative 2 to water temperature upstream of YCWA's projects.

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11. The FEIR Should Disclose the Impacts to Fisheries Resources upstream of YCWA's Projects under Alternative 2.

Section 9.5.3 beginning on page 9-142 purports to discuss and describe impacts to fisheries resources under Alternative 2. However, the section does not address effects on the fisheries upstream of YCWA's projects. NID and PG&E have evaluated these effects and provided the analysis to FERC and YCWA. In summary, YCWA's Alternative 2 would result in significant adverse impacts on rainbow trout in the Middle Yuba River and South Yuba River primarily due to higher than optimum and very spikey flows in spring and warmer water temperatures in summer and fall (NID 2021a).

Section 9.5.3 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under Alternative 2 to fisheries resources upstream of YCWA's projects.

12. The FEIR Should Disclose the Impacts to Special-Status Species upstream of YCWA's Projects under Alternative 2.

NID-31 cont.

Section 10.5.5 beginning on page 9-150 of the DEIR purports to discuss and describe impacts to special-status species under Alternative 2. However, the section does not address effects on special-status species upstream of YCWA's projects. NID and PG&E have evaluated these effects and provided the analysis to FERC and YCWA. In summary, YCWA's Alternative 2 would result in significant adverse impacts to foothill yellow-legged frog (FYLF) in the Middle Yuba River, primarily due to colder and spikey flows in spring and warmer water temperatures in summer and fall.

Section 10.5.5 in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under Alternative 2 to special-status species upstream of YCWA's projects.

13. The FEIR Should Fully Discuss Impacts to Recreation Upstream of YCWA's Projects under Alternative 2.

Under YCWA's Alternative 2, significant impacts to recreation opportunities would occur at NID's and PG&E's project reservoirs due to reservoir drawdown caused by the additional releases. Table 11 shows when the boat ramps at Jackson Meadows Reservoir, Bowman Lake, and Rollins Reservoir, the three reservoirs with boat ramps, would no longer be usable after Memorial Day, which is considered the start of the recreation season. A boat ramp is considered usable when the median reservoir WSE is no less than 3 feet above the end of the constructed ramp (CDBAW 1991).[18]

[18] California Department of Boating and Waterways (CDBAW). 1991. Layout, Design and Construction Handbook for Small Craft Boat Launching Facilities. Sacramento, California.

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Table 11. Summary by water year type of average date when a Project boat ramp would be below its usable elevation and number of modeled years the ramp would have no usable days under YCWA's Alternative 2 relative to the environmental baseline (Existing Conditions).

Boat Ramp And Usable Elevation	Water Year Type[1]	Average Date Boat Ramp No Longer Usable and the Difference in Usable Days Compared to Existing Conditions	
		Existing Conditions	YCWA's Alternative 2 Conditions
JACKSON MEADOWS RESERVOIR			
Pass Creek (El. 5,996.5 ft)	W	12/4	12/14 (10 days)
	AN	12/18	10/14 (-65 days)
	BN	10/19	7/21 (-89 days)
	D	9/10	8/9 (-32 days)
	E/CD	8/18	8/2 (-16 days)
Water Years Without Any Boat Ramp Usable Days[2]		2	8
Woodcamp (El. 6,016.0 ft)	W	9/10	9/19 (9 days)
	AN	9/11	8/25 (-17 days)
	BN	8/25	No Usable Days
	D	8/1	7/18 (-14 days)
	E/CD	7/6	No Usable Days
Water Years Without Any Boat Ramp Usable Days[2]		6	18
ROLLINS RESERVOIR			
Orchard Springs and Greenhorn (El. 2,133.0 ft)	W	11/11	10/10 (-32 days)
	AN	10/11	10/8 (-3 days)
	BN	10/10	9/18 (-22 days)
	D	10/19	No Usable Days
	E/CD	9/11	No Usable Days
Water Years Without Any Boat Ramp Usable Days[2]		1	14
Long Ravine (El. 2,137.0 ft)	W	10/9	10/5 (-3 days)
	AN	10/6	10/4 (-2 days)
	BN	10/5	08/21 (-45 days)
	D	10/14	No Usable Days
	E/CD	9/7	No Usable Days
Water Years Without Any Boat Ramp Usable Days[2]		1	14
Peninsula (El. 2,146.0 ft)	W	9/26	No Change
	AN	9/26	No Change
	BN	9/26	9/17 (-10 days)
	D	9/26	No Usable Days
	E/CD	8/29	No Usable Days
Water Years Without Any Boat Ramp Usable Days[2]		1	16

Source: Table 11 in (NID 2021 (6/7/2021 filing)

[1] Water Year type is indicated in parenthesis as Extreme Critically Dry and Critically Dry (E/CD), Dry (D), Below Normal (BN), Above Normal (AN) and Wet (W).

[2] The modeling period of record is 33 years (WYs 1976 through WY 2008)

NID-31 cont.

Table 12 shows when the boat ramps at Lake Spaulding and Lake Valley Reservoir, two of the three PG&E reservoirs with developed (i.e., paved) boat ramps, would no longer be usable after Memorial Day, which is considered the start of the recreation season. A boat ramp is considered usable when the median reservoir water surface elevation is no less than three feet above the end of the constructed ramp (CDBAW 1991).[19]

[19] California Department of Boating and Waterways (CDBAW). 1991. Layout, Design and Construction Handbook for Small Craft Boat Launching Facilities. Sacramento, California.

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Table 12. Summary by water year type of the average date when a Project boat ramp would be below its usable elevation and number of modeled years the ramp would have no usable days under YCWA's Alternative 2 relative to the environmental baseline (Existing Conditions).

Boat Ramp And Usable Elevation	Water Year Type[1]	Average Date Boat Ramp No Longer Usable and the Difference in Usable Days Compared to Existing Conditions	
		Existing Conditions	YCWA's Alternative 2 Conditions
LAKE SPAULDING			
Lake Spaulding Boat Launch (El. 4,942.6ft)	W	11/07	11/05 (-3 days)
	AN	10/31	10/08 (-23 days)
	BN	10/23	08/24 (-60 days)
	D	10/14	08/03 (-72 days)
	E/CD	07/20	No Usable Days
Water Years Without Any Boat Ramp Usable Days[2]		4	7
LAKE VALLEY RESERVOIR			
Silvertip Boat Launch (El. 5,783.1 ft)	W	07/14	07/09 (-5 days)
	AN	07/09	No Change
	BN	07/08	No Usable Dates
	D	07/06	No Usable Dates
	E/CD	No Usable Dates	No Usable Dates
Water Years Without Any Boat Ramp Usable Days[2]		12	22

Source: Table 9 in PG&E (2021a).

[1] Water Year type is indicated in parenthesis as Extreme Critically Dry and Critically Dry (E/CD), Dry (D), Below Normal (BN), Above Normal (AN) and Wet (W).

[2] The modeling period of record is 33 years (WYs 1976 through WY 2008)

NID-31 cont.

Section 11.6.4, in the FEIR should fully disclose and discuss the impacts, which NID considers significant, under Alternative 1 to recreation at the upstream projects in Section 11.6.4.

D. Proposed New Alternative – Technical Comments

1. <u>The FEIR Should Include an Alternative 3 That Evaluates a 65% of UIF Scenario.</u>

While the SWB's 2024 Draft Bay-Delta Plan Update states the "default" is a release of 55% of UIF, the Plan Update provides the latitude for the SWB to increase the required percent of UIF to 65% stating on page 50, "In addition to the WSAs [water supply adjustments] to the unimpaired flow requirement discussed above for existing water rights, the required percent of unimpaired flow may be adjusted to any value between 45 and <u>65 percent</u> of unimpaired flow, inclusive." [Emphasis added]. Given this possibility and that the YCWA projects will likely have terms of 50 years, the FEIR should include a new alternative (e.g., Alternative 3) that assumes required releases of the greater of the 65% of UIF on a daily 7-day running average basis from the YRDP, Narrows and upper projects or their respective FERC 4(e) requirements.

NID-32

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If you have any questions regarding this letter, please contact me.

Sincerely,

Signed by:
Jennifer Hanson
C319E970BA65462...

Jennifer Hanson
General Manager

cc: NID Central Files

NID-1 The comment contains introductory statements and does not specifically address the contents, analysis, or conclusions of the DEIR. The comment is noted, and no further response is required.

NID-2 The comment addresses NID's current and past activities and does not address the contents, analysis, or conclusions of the DEIR. The comment is noted, and no further response is required.

NID-3 The comment states that Alternative 1 is not feasible. As the comment acknowledges, the DEIR characterizes Alternative 1 as a conditional alternative that Yuba Water would only be able to implement if FERC first decides to include the Alternative 1 conditions in the licenses for Yuba Water's projects and the upstream projects.

As an initial matter, Yuba Water notes that it will not be able to accept and implement new FERC licenses for the YRDP or the Narrows Project until FERC issues new licenses—regardless of whether those licenses include the terms and conditions described for the Proposed Projects, Alternative 1, or Alternative 2. The fact that Yuba Water cannot "on its own or through its direct legal authority, ensure the successful accomplishment of [Alternative 1]" as the comment points out, or the Proposed Projects' relicensings, does not mean that the evaluation of the Proposed Projects or the alternatives is meaningless or improper. Rather, completing CEQA review at this phase, before FERC has issued final licenses, is fully consistent with CEQA's fundamental purpose of "inform[ing] the public and its responsible officials of the environmental consequences of their decisions *before* they are made." (*County of Butte v. Department of Water Resources* (2022) 13 Cal.5th 612, 627, 635 [discussing EIR for relicensing project for which the licensee's implementation of the project similarly "depend[s] on FERC issuing and [the licensee] accepting a license materially consistent with the Proposed Project"].)

Although Yuba Water may not unilaterally implement Alternative 1, it is reasonably foreseeable that FERC will accept and implement Alternative 1 when it issues final licenses for the projects in the watershed. Yuba Water originally developed Alternative 1 in response to a request by FERC that Yuba Water, NID, and PG&E evaluate options for all three entities to equitably allocate water for ESA-listed fish species and their habitat in the lower Yuba River. Neither NID nor PG&E submitted a responsive proposal to FERC.

CDFW, NMFS, and USFWS submitted comments on Yuba Water's proposal to FERC. CDFW stated that "CDFW staff believe that [Yuba Water's proposal] identifies implementable flow and/or infrastructure solutions that could be combined in different configurations by the licensees to meaningfully reduce temperatures in the Lower Yuba River in dry and/or critically dry years," and recommended that FERC "collectively consider the suite of viable solutions and

apportion responsibility for a preferred temperature improvement solution across licensees." NMFS commented that Yuba Water fulfilled FERC's request after "spending considerable time investigating the drivers of water temperature on the lower Yuba and the relative effects of various actions on lower Yuba water temperatures" and that, by contrast, "NID and PG&E's rationale for not offering a solution is not supported." USFWS commented that it supported the recommendations from NMFS and CDFW and stated that it would "provide technical assistance to FERC and Licensees to help develop a flow release schedule [for the upstream projects] that would not cause adverse impacts to native aquatic species."

Given this context, Yuba Water reasonably determined that Alternative 1 is a potentially feasible alternative to the Proposed Projects, even though it is conditioned on FERC's acceptance of Yuba Water's proposal (and inclusion of the Alternative 1 conditions in new licenses for Yuba Water, NID, and PG&E).

NID-4

The comment states that Alternative 1 is not consistent with NID's water rights, the terms of a 1961 Stipulation between NID and Yuba Water, or other water right principles. The comment misinterprets Alternative 1 as Yuba Water compelling "NID and PG&E to release or forego diversions from upstream water sources to benefit or mitigate impacts associated with the YRDP." As the comment acknowledges, the DEIR explicitly states that Yuba Water "cannot impose operational changes on PG&E's and NID's upstream projects." Contrary to NID's comment, Alternative 1 is Yuba Water's best effort to represent an "equitable allocation" among Yuba Water, NID and PG&E of responsibility for providing "the water that is needed in the Yuba River basin to protect ESA-listed fish species and their designated critical habitat," consistent with FERC's March 2021 additional information requests to Yuba Water, NID and PG&E. To date, as far as Yuba Water is aware, the only proposal to FERC to implement such an equitable allocation is Yuba Water's 2022 offer of settlement, which is the basis of Alternative 1. To date, NID and PG&E have not provided any proposed equitable allocation as requested by FERC and appear to take the position that they have no responsibility whatsoever for maintaining conditions in the lower Yuba River to support the ESA-listed fish in the river, which include spring-run Chinook salmon, steelhead and green sturgeon. Based on FERC's additional information requests, however, it is reasonably foreseeable that FERC ultimately will allocate responsibility among Yuba Water, NID and PG&E. Alternative 1 reflects the best available information about what that allocation may be.

Alternative 1 further reflects the undisputed fact that NID's and PG&E's operations annually export, from the Yuba River watershed, hundreds of thousands of acre-feet a year that otherwise would be available to support the lower Yuba River's ESA-listed fish. For example, the State Water Board's DSR (SWRCB 2023, at page 2-53) for the Delta Plan update states that NID's and PG&E's diversions through the South Yuba Canal and the Drum Canal divert on average about 430 TAF/yr from the South Fork Yuba River at Lake Spaulding to the Deer Creek and Bear River watersheds. NID and PG&E have not provided

any technical information to date to suggest that their significant exports of water from the Yuba River watershed have no effect on the lower Yuba River's ESA-listed fish. Accordingly, it is reasonably foreseeable that, in adopting the ultimate "equitable allocation" of responsibility among Yuba Water, NID and PG&E, FERC may require that NID and PG&E reduce their exports somewhat in order to contribute to maintaining adequate conditions for ESA-listed fish in the lower Yuba River.

Contrary to the comment, the terms of the cited 1961 stipulation and whatever water-right priorities NID holds would not preclude FERC from requiring NID to reduce its exports from the Yuba River watershed, and otherwise dedicate, additional water to support the lower Yuba River's ESA-listed fish consistent with Alternative 1. Like Yuba Water, NID and PG&E are seeking new Federal Power Act (FPA) licenses from FERC for their hydroelectric projects. Under the FPA, FERC has broad discretion in developing and adopting the terms of new hydroelectric licenses. (See 16 U.S.C. §§ 799; 803, subd. (a).) Moreover, both FERC and the courts have held that state-law water rights do not insulate a water project operator from having to comply with FERC's requirements where the operator intends to use its project's facilities to generate electricity so that an FPA license from FERC is required. (See *City and Borough of Sitka, Alaska* (2001) 94 F.E.R.C. P61,327 (citing *California v. Fed. Power Comm'n* (9th Cir. 1965) 345 F.2d 917).)

To the extent that NID's comment suggests that only YWA has any responsibility for maintaining adequate conditions in the lower Yuba River for ESA-listed fish, that comment is inconsistent with at least California law. As the State Water Board stated in the recently-withdrawn draft Section 401 water quality certification (SWRCB 2025, at page 16) for the Yuba-Bear project FERC relicensing (issued on June 12, 2025, prior to NID's withdrawal of its WQC application in August 2025): "Fish and Game Code section 5937 requires any owner of a dam to allow sufficient water to pass over, around, or through the dam to keep in good condition any fish that may be planted or exist downstream. Section 5937 and requirements to maintain or monitor flow or other water quality characteristics as required to meet section 5937 are appropriate conditions of state law necessary to protect fishery beneficial uses."

Whatever water-right priority NID may have, and whatever the 1961 stipulation's effect may be, they cannot excuse NID from equitably sharing responsibility for maintaining adequate conditions for the fish located below its dams under state law. Finally, water_right priority (including as established under the 1961 Stipulation between NID and Yuba Water) is a tool for allocating water supplies during times of water shortage. It does not provide a legal basis to shift the regulatory responsibility for mitigation for effects of diversions from one licensee to another.

NID-5 See Responses to Comments NID-3 and NID-4.

NID-6 The comment states that Alternative 2 is not feasible. See Response to Comment NID-3.

Alternative 2 reflects how Yuba Water would operate the YRDP and Narrows Project to comply with the possible future regulatory pathway identified in the SWRCB's October 2024 Draft Bay-Delta Plan Update. As explained in the DEIR, if the SWRCB were to adopt that regulatory pathway, it would be reasonably foreseeable that the SWRCB would impose a 55% unimpaired flow requirement on all of the FERC relicensing projects that are currently ongoing in the watershed—not just on Yuba Water's projects. Accordingly, to accurately contextualize and evaluate the impacts of Yuba Water's projects, specifically, the DEIR's characterization of Alternative 2 necessarily relies on certain assumptions about how non-Yuba Water operations would be expected to change to comply with the new watershed-wide regulatory requirements. These non-Yuba Water changes, however, would occur due to the SWRCB's adoption of new regulatory requirements, and not due to the YRDP and Narrows Project relicensings.

The DEIR evaluated Alternative 2 solely because the SWRCB—the agency leading the Bay-Delta Plan Update and a responsible agency for the Proposed Projects—asked Yuba Water to include it as alternative in the DEIR. In comments on the DEIR, the SWRCB confirmed that the DEIR's characterization and analysis of Alternative 2 is consistent with the possible regulatory pathway described in the October 2024 Draft Bay-Delta Plan Update. To the extent the comment is suggesting that Yuba Water should reconsider its assumptions about how the upstream projects would be affected under a future regulatory pathway, Yuba Water notes that the DEIR's characterization of Alternative 2 is reasonable and that the EIR "need not consider every conceivable alternative to a project." (*Saltonstall v. City of Sacramento* (2015) 234 Cal.App.4th 549, 576.)

Regardless, as the DEIR explains on page 3-9:

> [The] DEIR's inclusion of Alternative 2 differs from the more typical CEQA approach of evaluating only those alternatives to a proposed project that could feasibly attain most of the basic project objectives while also avoiding or substantially lessening potentially significant project impacts. During the scoping process, Yuba Water determined that Alternative 2 would not meet either of these criteria.

NID-7 The comment states that the analyses of Alternative 1 and Alternative 2 (but not the Proposed Projects) are improperly piecemealed. "Piecemealing" during CEQA review means "chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences." (*Aptos Council v. County of Santa Cruz* (2017) 10 Cal.App.5th 266, 278.)

As explained in Chapter 1, Introduction, of the DEIR, this EIR "evaluates the potential environmental impacts of the proposed renewals of the FERC licenses for the YRDP and the Narrows Project, respectively." (DEIR, p. 1-1.) Upstream of Yuba Water's projects, NID and PG&E are also currently seeking new FERC licenses for the YB/DS projects. While those relicensings may affect Yuba Water's operations, the YB/DS relicensings are separate from the YRDP and Narrows Project relicensings, and Yuba Water has no approval authority over the YB/DS relicensings. Additionally, the SWRCB is currently in the process of updating the Bay-Delta Plan. That process may also affect Yuba Water's operations; however, the Bay-Delta Plan Update is separate from the YRDP and Narrows Project relicensings and Yuba Water has no approval authority over the Bay-Delta Plan Update. Because the YB/DS relicensings and the Bay-Delta Plan Update are separate projects with different proponents, evaluating these projects separately from Yuba Water's Proposed Projects is not "piecemealing." (*Aptos Council v. County of Santa Cruz* (2017) 10 Cal.App.5th 266, 280.)

As explained in Responses to Comments NID-3 and NID-6, the DEIR includes reasonable assumptions about various non-Yuba Water operations that would occur under Alternative 1 and Alternative 2, so that the analysis could accurately consider the environmental impacts of Yuba Water's YRDP and Narrows Project relicensings in the context of those external changes. But those non-Yuba Water changes do not become part of the YRDP and Narrows Project relicensings simply because they are discussed in Yuba Water's DEIR.

While the lead agencies for the upstream relicensings are ultimately responsible for evaluating, disclosing, and mitigating or avoiding the environmental impacts associated with those projects (including by completing supplemental CEQA review, if necessary), Yuba Water also considered the impacts that could result upstream of the YRDP (i.e., before the water reaches Yuba Water's projects) in connection with the provision of 15,600 acre-feet of water by the YB/DS projects in dry and critically dry years, to provide additional context for the anticipated impacts of Yuba Water's own operations and in a "good-faith effort at full disclosure." (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 979.)

Because Yuba Water can only speculate about the specific ways in which NID and PG&E would provide this water, however, the DEIR necessarily makes general assumptions about how the YB/DS projects would operate to meet state and federal regulatory requirements and therefore provides only a programmatic analysis of the associated non-Yuba Water impacts. This approach is not "piecemealing" and is allowed under CEQA. (See *In re Bay-Delta etc.* (2008) 43 Cal.4th 1143, 1169–1173 [CEQA permits programmatic review when an agency can only speculate about "any secondary effects from an uncertain future [project], which will be subject to its own separate environmental review"].)

Importantly, an EIR need only "include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the

proposed project." (CEQA Guidelines § 15126.6, subd. (d).) "If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project as proposed." (*Ibid.*) The comment's suggestion that the DEIR's discussion of Alternative 1 and Alternative 2 needed to include additional project-level analysis of the upstream projects impacts turns this requirement on its head.

Finally, Yuba Water notes that the comment incorrectly states that the "DEIR focused exclusively on impacts to the Lower Yuba River" and did not analyze any upstream impacts. The full geographic scope of the analysis is described on pages 4-4 through 4-10 of the DEIR, and includes areas upstream of the lower Yuba River.

NID-8 The comment states that the analysis of Alternative 1's cumulative impacts is inadequate. As explained in response to comment NID-7, the DEIR properly evaluated the impacts upstream of Yuba Water's projects associated with YB/DS operations under Alternative 1 at a programmatic level.

The comment also states that substantial evidence does not support the DEIR's analysis of impacts from YB/DS operations under Alternative 1 to surface water, groundwater, energy production, water quality, and biological resources. These impacts are discussed on pages 5-58, 6-36, 7-39, 8-83 to 8-84, 9-126 to 9-129 and 10-146 to 10-148, which were prepared by subject matter experts (see Chapter 27, List of Preparers) based on the information that is currently available to Yuba Water. The DEIR concluded that these impacts would be less than significant and did not identify any cumulative projects that would combine with these less-than-significant impacts to result in a cumulatively significant impact. The comment does not specifically explain why these conclusions are inadequate beyond merely asserting that the DEIR "lacks substantial evidence," nor does the comment provide substantial evidence of any individual or cumulative environmental impacts beyond those disclosed in the DEIR.

Regardless, in response to the comment that substantial evidence does not support the DEIR's conclusion regarding fisheries impacts, Yuba Water further notes that the fisheries chapter (Chapter 9) described the methodology and summarized changes in flow-dependent habitat availability for each applicable fish species and lifestage by reach in the Middle Yuba River, Canyon Creek, Fordyce Creek and the South Yuba River under Alternative 1 relative to the bases of comparison. Appendix 9C provided the detailed evaluations for all fisheries habitat impact analyses, including for the YB/DS reaches.

The summary of changes in flow-dependent habitat availability under Alternative 1 relative to the Future Baseline in the YB/DS reaches on p. 9-127 were based on species, lifestage and reach-specific evaluations described in Section 1.4.2 of Appendix 9C. As described in Section 1.4.2.2 of Appendix 9C (p. 9C-81), "*Habitat (WUA)-flow relationships by reach and sub-reach provided*

in YB/DS Technical Memorandum 3-2 (NID and PG&E 2010) and NID and PG&E (2011) were examined to characterize potential changes in species and lifestage-specific flow-dependent habitat (WUA) availability." This analysis used the NID and PG&E species/lifestage/reach-specific habitat-WUA relationships to identify directional changes in WUA (habitat) based on an increase in flow of about 175-260 cfs relative to the Future Baseline during April and May, and the NID (2023) modeling results of Alternative 1 for Canyon Creek and the South Yuba River. As shown on pages 9C-81 and 9C-82 of Appendix C, directional changes in habitat were identified for all fish species and lifestages by reach in the Middle Yuba River, Canyon Creek, Fordyce Creek and South Yuba River that were addressed in these rivers by NID and PG&E.

In addition to the identification of directional changes in habitat by species, lifestage and reach, for hardhead (the only special-status fish species present in these rivers), Appendix 9C included additional description of the NID and PG&E adult hardhead habitat-flow relationship for the South Yuba River to explain why the increase in flow under Alternative 1 would result in similar or slightly improved adult hardhead habitat under the example NID (2023) model scenarios (see p. 9C-88).

NID-9 The comment states that the analysis of Alternative 2's impacts is inadequate. See Responses to Comments NID-6 and NID-7. The potential impacts discussed in the comment would be associated with the SWRCB's adoption of new unimpaired flow requirements throughout the watershed, not the YRDP and Narrows Project relicensings.

NID-10 The comment states that NID is a responsible agency under CEQA. This is incorrect. A "responsible agency" is defined under CEQA as "a public agency, other than the lead agency, which has responsibility for carrying out or approving a project" (Public Resources Code § 21069). NID has no responsibility for carrying out or approving the relicensings for Yuba Water's YRDP and Narrows Project. FERC will decide what terms and conditions will be included in Yuba Water's new licenses, and the SWRCB will decide what conditions will be included in the WQCs. Yuba Water's acceptance or rejection of those FERC licenses—whether they include the terms described under the Proposed Projects, Alternative 1, or Alternative 2—does not require any approval from NID.

As explained in Responses to Comments NID-3, NID-6, and NID-7, Alternative 1 and Alternative 2 include changes in Yuba Water's license requirements that would only occur in the context of other changes in the watershed. The mere fact that Yuba Water accounted for these changes to upstream project operations and the associated indirect environmental impacts in its DEIR for the YRDP and Narrows Project relicensings does not make Yuba Water the lead agency for the YB/DS project relicensings as well. NID is the lead agency for its own relicensings and has the ultimate responsibility for complying with CEQA in connection with those relicensings. Similarly, Yuba Water is not the lead agency

for the Bay-Delta Plan Update simply because it considered that separate project in the DEIR's analysis of Alternative 2.

In any event, NID waived any opportunity to participate as a responsible agency for Yuba Water's Proposed Projects when it declined to comment on the NOP. Yuba Water issued an NOP requesting that responsible agencies submit comments identifying themselves as such and identifying environmental issues that should be addressed in the DEIR. The CEQA Guidelines require any responsible agency to respond to the NOP within 30 days to notify the lead agency whether it will be a responsible agency and what specific issues it wants covered in the EIR (CEQA Guidelines § 15082, subd. (b)(1)). If responsible agencies do not respond, "the lead agency may presume that none of those entities have a response to make." (*Id.*, § subd. (b)(2)). NID did submit any comments on the NOP.

As NID does not have responsibility for carrying out or approving the YRDP and Narrows Project relicensings, and considering NID's failure to notify Yuba Water of NID's belief that it is a responsible agency, Yuba Water did not have a "duty to consult with NID as a responsible agency."

NID-11 The comment states that the DEIR's No Project Alternative assumes that the upstream YB/DS projects will continue their existing operations.

As the CEQA Guidelines explain, the purpose of evaluating a no project alternative "is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." (CEQA Guidelines § 15126.6, subd. (e)(1)). To do this, a no project alternative should include the existing conditions at the time the NOP is published, plus the reasonably foreseeable consequences of not approving the project. (*Id.*, subd. (e)(2)).

As explained in the DEIR, if Yuba Water does not accept new FERC licenses for the YRDP and Narrows Project, Yuba Water would most likely continue its existing YRDP and Narrows Project operations for flood management and water supply purposes; however, it would be required to cease its existing hydropower operations. The No Project Alternative would result in few changes to the physical environment, except that the loss of the license would eliminate an existing substantial source of hydropower and would thereby indirectly result in significant additional greenhouse gas emissions.

To the extent the comment is suggesting that the DEIR did not adequately describe the No Project Alternative, this is incorrect. The DEIR describes the reasonably foreseeable operational changes that would occur under the No Project Alternative (DEIR, pp. 3-11 to 3-14), identifies the assumptions that Yuba Water used in modeling the No Project Alternative, including assumptions about upstream operations (DEIR, p. 5-33), and provides additional information about likely YRDP and Narrow Project operations under the No Project

Alternative throughout the resource-specific analyses, as appropriate (e.g., DEIR, pp. 5-48 to 5-49).

Alternatively, to the extent the comment is suggesting that the No Project Alternative analysis also should have considered the possibility that the upstream YB/DS projects may eventually cease "operat[ing] in accordance with all existing FERC requirements, water supply obligations, and contract commitments," it is unclear how this possibility is related to the No Project Alternative, let alone a reasonably foreseeable consequence of the No Project Alternative. The upstream project operations are outside of Yuba Water's control and are subject to separate relicensing proceedings; they are not "key project components," as the comment suggests. The DEIR includes reasonable assumptions about what would likely occur in the foreseeable future if Yuba Water did not accept new FERC licenses for its projects, as CEQA requires.

NID-12 The comment states that the proposed reduced water transfers alternative should have been evaluated in detail in the DEIR. Although Yuba Water ultimately eliminated this alternative from further consideration, the DEIR includes a nearly four-page discussion that describes the alternative, cites Yuba Water's relevant prior analyses, explains why the potential alternative would be potentially infeasible and would not reduce any potential environmental impacts, and evaluates the alternative's consistency with the project objectives.

The comment refers to the potential of a reduced transfer alternative to obviate the need for a 15,600-acre-foot flow contribution from the upstream projects under Alternative 1. The comment also states that the discussion of this alternative is "fatally flawed" because it is premised on the SWRCB's adoption of a new unimpaired flow standard. The comment is incorrect. Yuba Water initially considered the alternative in response to comments on the 2024 Draft SEIR for the Yuba Accord Extension stating that new unimpaired flow requirements were reasonably foreseeable. While Yuba Water evaluated the proposed alternative in the context of new unimpaired flow requirements, Yuba Water also determined that the alternative would not result in meaningful changes of Yuba project operations outside of that scenario as the water would still be released to meet required instream flows and likely still be diverted, just without Yuba Water receiving any compensation. The comment states that this discussion "focuses exclusively on whether CVP and SWP water right holders would divert water previously transferred under the Accord," but does not demonstrate that the DEIR improperly considered this issue or otherwise undermine the DEIR's analysis.

Yuba Water thoughtfully considered the proposed alternative and properly rejected it from further consideration for a variety of reasons. The comment does not undermine the substantial evidence supporting this conclusion, nor does it provide additional evidence to suggest either that the alternative is feasible or

that it would avoid or substantially lessen any of the environmental impacts of the Proposed Projects.

NID-13 The comment states that the DEIR did not include "sufficient information about [the Narrows 1 or Narrows 2 Intake Extension Alternative] to permit an evaluation of the relative merits of the alternatives and the project." Although Yuba Water ultimately eliminated this alternative from further consideration, the DEIR includes a four-page discussion that describes the alternative, cites Yuba Water's relevant prior technical analyses, explains why the potential environmental benefits would be limited, identifies various engineering, environmental, legal, and financial feasibility considerations, and evaluates the alternative's consistency with the project objectives.

The comment only addresses one element of the DEIR's discussion, pointing out that the DEIR rejected a Narrows 2 intake extension as infeasible in part because Narrows 2 is shut down for maintenance when temperature reduction benefits are most needed. The comment states that this claim is "striking" because Yuba Water has not previously raised this issue. This is incorrect. Both documents cited in the comment made this point verbatim (see page 45 of Yuba Water's October 2022 technical memorandum in response to FERC's AIR request and page 29 of Yuba Water's February 2023 Narrows 2 and Narrows 1 intake extension assessment technical report). The comment does not otherwise meaningfully address the DEIR's lengthy discussion of the Narrows 1 or Narrows 2 Intake Extension Alternative.

Yuba Water thoughtfully considered the proposed alternative and properly rejected it from further consideration for a variety of reasons. The comment does not undermine the substantial evidence supporting this conclusion, nor does it provide additional evidence to suggest either that the alternative is feasible or that it would avoid or substantially lessen any of the environmental impacts of the Proposed Projects.

NID-14 The baseline for an EIR's analysis is generally the "physical environmental conditions as they exist at the time the notice of preparation is published." (CEQA Guidelines § 15125, subd. (a)(1)). "The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives." (*Id.*, subd. (a)).

The DEIR relies, in part, on an existing condition baseline. The DEIR explains that this includes the existing operations of the YRDP, Narrows Project, and YB/DS projects (DEIR, p. 4-13). Consistent with CEQA's requirements, Chapter 2, Project Description, of the DEIR includes detailed descriptions of the existing conditions for the YRDP and Narrows Project, as well as for nearby non-Yuba Water facilities (DEIR, pp. 2-9 to 2-39). Additionally, each resource chapter includes additional information about the environmental setting that may be relevant or helpful for the analysis of that resource. For example, Chapter 5, Surface Water Resources, describes various existing water supply contracts and

agreements that are relevant for its programmatic analysis of water supply impacts from YB/DS operations under Alternative 1. The comment does not identify any specific "existing water demands, contracts, and agreements associated with the upstream projects," that may have been improperly omitted from the DEIR's description of existing condition, nor does the comment demonstrate that the DEIR omitted information "necessary to provide an understanding of the significant effects of the proposed project and its alternatives" (CEQA Guidelines § 15125, subd. (a)).

While existing conditions are generally the appropriate baseline for a CEQA analysis, "a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record" (CEQA Guidelines § 15125, subd. (a)(1)). Moreover, the "agency may use project future conditions … as the sole baseline for analysis" if substantial evidence demonstrates "that use of existing conditions would be either misleading or without informative value." (*Id.*, subd. (a)(2)).

As explained in the DEIR, the YRDP and Narrows Project relicensings are occurring simultaneously with multiple other ongoing FERC relicensing projects in the watershed. While the non-Yuba Water relicensings are separate from the YRDP and Narrows Project relicensings, new FERC licenses for those non-Yuba Water projects would include new terms and conditions that would alter flows in the watershed, and therefore indirectly influence some of the potential environmental effects associated with the YRDP and Narrows Project relicensings. To account for these external effects, the DEIR evaluated the impacts of the Proposed Projects relative to both existing conditions and a future baseline based on anticipated future license conditions for the non-Yuba Water projects.

By contrast, the DEIR's analysis of Alternative 1 and Alternative 2 evaluated the impacts of those alternatives relative to the future baseline only, as a comparison to existing conditions would be misleading. This is because Alternative 1 and Alternative 2 assume that the upstream YB/DS projects would be operating under new FERC licenses, which would include new flow requirements that would apply whether or not those new licenses also contain the Alternative 1 or Alternative 2 requirements. As comparing Alternative 1 and Alternative 2 to existing conditions would identify environmental effects attributable to changes that are not specific to those alternatives, Yuba Water determined that those comparisons would not be helpful for evaluating the effects unique to Alternative 1 and Alternative 2. In the interest of full disclosure, however, the DEIR nevertheless includes discussions of those comparisons for informational purposes only.

Given the complexity of evaluating the YRDP and Narrows Project relicensings within the context of multiple other ongoing FERC relicensings in the watershed, Yuba Water determined that this dual baseline approach would

provide "the most accurate and understandable picture practically possible" of the impacts of the Proposed Projects and alternatives. (CEQA Guidelines § 15125, subd. (a)). The comment does not demonstrate that the selected baselines render the DEIR's analyses misleading or provide substantial evidence of any impacts beyond those disclosed in the DEIR.

NID-15 The comment states that the FEIR should evaluate what would happen under Alternative 1 if NID or PG&E rejected new FERC licenses. As explained in Response to Comment NID-3, Alternative 1 necessarily assumes that FERC will issue licenses consistent with Yuba Water's offer of settlement to all licensees and includes reasonable assumptions about how non-Yuba Water entities would operate their projects to comply with those licenses. To the extent the comment is suggesting that Yuba Water should evaluate a new alternative in which the upstream projects do not make additional releases to benefit lower Yuba River flows, Yuba Water notes that the DEIR's analysis of the Proposed Projects assumes that the upstream projects would not provide the additional 15,600-acre-foot flow contribution for reoperation by Yuba Water.

NID-16 The comment states that the FEIR should evaluate the effect of Alternative 1 on all NID and PG&E reservoirs in addition to Jackson Meadows, Bowman, and Spaulding.

While fully aware (and disclosing as such) that the analyzed flow split was not the likely ultimate division of releases between NID and PG&E, Yuba Water assigned 5,000 acre-feet of contribution from Jackson Meadows Reservoir and 10,600 acre-feet from Lake Spaulding for purposes of evaluating the benefit of a contribution from the upstream projects to water temperatures in the lower Yuba River, in general proportion to these upstream projects average annual exports of water out of the Yuba River watershed. Ultimately, the division of responsibility for mitigating for upstream projects' new FERC licenses' water temperature impacts on the lower Yuba River should be determined between NID and PG&E, and the timing of those releases would be subject to consultation between NID, PG&E, FERC, USFS, CDFW, and any other responsible regulatory agencies. Yuba Water acknowledged the presence of the upstream reservoirs in its DEIR, and that NID and PG&E could include a wide range of operations for Alternative 1, including releases from upstream reservoir storages (see Section 5.5.1.5.1). The combined NID and PG&E system is very complex[4] and there are countless combinations of operations possible, Yuba Water can only speculate about how the upstream projects will actually implement the 15,600-acre-foot flow contribution, and as Yuba Water has no discretion over those operations, the DEIR properly includes a programmatic analysis of the associated environmental impacts. The comment does not

[4] See https://www.nidwater.com/files/b1aa2727e/Yuba-Bear+and+Drum+Spaulding+Projects+Schematic+%28Modeling+Version%29.pdf for a schematic of the combined Yuba-Bear/Drum-Spaulding Projects

provide substantial evidence of potential impacts to these upstream reservoirs beyond the scope of the impacts disclosed in the DEIR.

NID-17 The comment states that the FEIR should list various NID and PG&E filings relating to Yuba Water's October 2022 offer of settlement. Yuba Water notes that the DEIR text cited in the comment does not provide an exclusive list of information relied on in the DEIR, but rather identifies "***some*** of the key sources of information" (*emphasis added*) that Yuba Water relied on in drafting the EIR.

In drafting the DEIR, Yuba Water reviewed and considered previous comments from NID and additional parties (e.g., PG&E, NMFS, and CDFW) related to the Offer of Settlement. These materials are cited and referenced as appropriate throughout the DEIR and are part of Yuba Water's administrative record of proceedings for the Proposed Projects. In response to the request that these materials be "reviewed and discussed in the FEIR," Yuba Water notes that the comment does not identify specific information from those filings omitted from the DEIR or demonstrate that the DEIR omitted information "necessary to provide an understanding of the significant effects of the proposed project and its alternatives." (CEQA Guidelines § 15125, subd. (a)).

NID-18 The comment states that "the FEIR should fully describe water rights and related agreements on the Yuba River and their implication on YCWA's Alternative 1." See Responses to Comments NID-4 and NID-14. Under CEQA, "a quantification of existing water rights [is] not necessary to an accurate and complete description of the environmental setting." (*Buena Vista Water Storage Dist. v. Kern Water Bank Authority* (2022) 76 Cal.App.5th 576, 592–593.) The DEIR describes Yuba Water's water rights on pages 2-33 to 2-35. The DEIR also generally discusses water rights held by non-Yuba Water entities, including NID and PG&E, as needed to inform the resource analyses (e.g., DEIR, p. 5-4). The comment does not demonstrate that the DEIR omitted information "necessary to provide an understanding of the significant effects of the proposed project and its alternatives." (CEQA Guidelines § 15125, subd. (a)).

NID-19 The comment states that table 5.3-5 in the DEIR should include the period in which the water transfers occurred. Page 2-39 of the DEIR explains that "[u]nder the Yuba Accord, transfer releases can occur throughout the year as part of the releases to meet the Yuba Accord flow schedules and end-of-September target storage in New Bullards Bar Reservoir, but transfer water is generally conveyed across the Delta during the summer months." The comment does not demonstrate that the DEIR omitted information "necessary to provide an understanding of the significant effects of the proposed project and its alternatives." (CEQA Guidelines § 15125, subd. (a)).

Furthermore, the comment refers to needing information on the timing of transfer "discretionary" releases to inform decision makers. There are only two minor portions of water transfers that are discretionary: (1) releases for groundwater substitution transfers, released in May through August with only

the July and August portions being discretionary, and (2) releases from New Bullards Bar Reservoir in July and August to reach an end-of-September storage target of 650 TAF, where the only discretion is whether to release this water and at what rates of flow for these two months. All other transfer releases are not discretionary, as detailed in the DEIR on Page 2-39.

NID-20 The comment states that Yuba Water "should not benefit financially" from additional water releases that may be required under new FERC licenses for the YB/DS projects and suggests that Yuba Water should compensate NID and PG&E for any financial benefits resulting from additional releases by the upstream projects. "However, social, economic, and business competition concerns are not relevant to CEQA analysis unless it is demonstrated that those concerns will have a significant effect on the physical environment." (*Maintain Our Desert Environment v. Town of Apple Valley* (2004) 124 Cal.App.4th 430, 446.) The comment does not identify any nexus to a physical environmental impact. The comment is noted, and no further response is required.

Yuba Water notes that the Yuba Accord accounting principles will continue to provide that Yuba Water will not account for as Yuba Accord transfer water any additional releases of water from NID's Yuba-Bear Project that are above the releases currently required of those projects, which may be required by a new FERC license or by a different regulatory order issued by a federal or state agency. Such Yuba-Bear Project releases will be part of the "Baseline Conditions" for purposes of calculating "Baseline Flows" under the Yuba Accord accounting principles, which are the flows that are not transferable by Yuba Water.

NID-21 The comment states that the FEIR should disclose upstream water delivery impacts under Alternative 1. Initially, the comment expresses confusion that the DEIR includes a programmatic analysis of certain impacts, while also stating that the DEIR fully evaluates Alternative 1 impacts. See Response to Comment NID-7. In response to this comment, Chapter 3, Alternatives, has been revised for clarification.

The comment states that NID did not find an analysis of impacts to upstream water deliveries in Section 5.6.2 of the DEIR. See Response to Comment NID-8. The comment also discusses water delivery impacts that could potentially occur upstream of the YRDP under Alternative 1. The DEIR discusses Alternative 1's potential water supply impacts upstream of Yuba Water's projects on pages 5-43 to 5-44 and 5-58.

The comment states that NID and PG&E previously identified upstream water delivery impacts associated with Yuba Water's Offer of Settlement in various FERC filings. These filings evaluated three potential ways in which NID and PG&E would provide the 15,600-acre-foot flow contribution: (1) 5,000 acre-feet from NID and 10,600 acre-feet from PG&E; (2) all 15,600 acre-feet from NID; and (3) all 15,600 acre-feet from PG&E. The first two scenarios assumed all

NID releases were made from Bowman Reservoir and PG&E releases were from Spaulding Reservoir, and that these releases would occur over a 30-day period starting April 10 and include their FERC spill cessation schedules. The third scenario included similar assumptions but assumed releases would be made over as short a period as possible, subject to planned release capacity. While the DEIR's analysis considered reasonable management measures that would avoid significant upstream impacts, it does not appear that NID or PG&E made any attempts to refine their own hypothetical release schedules to reduce potential effects on upstream water supplies or any other resource area.

Regardless, the DEIR discloses that YB/DS operations under Alternative 1 could result in reductions in water supply deliveries to NID and PCWA customers in some years. The DEIR concludes, however, that significant reductions could be avoided through management measures, potentially developed in consultation with FERC and the resource agencies, and that any remaining shortages could be made up for using a combination of additional groundwater pumping, conservation, and purchasing available alternative water supplies.

The comment states that groundwater cannot make up for potential surface water shortages, but acknowledges that some water customers would offset surface water shortages with groundwater pumping. Yuba Water notes that groundwater pumping is one of several options that the DEIR identified, and that these options, in combination, could offset potential shortages. The comment does not demonstrate that these other options, in combination with groundwater pumping, would be inadequate for managing potential water supply shortages. Nor does the comment identify substantial evidence of any impacts beyond the scope of those disclosed in the DEIR.

Finally, the comment states that NID considers the impacts to upstream water users under Alternative 1 to be significant. But the decision as to whether an impact is significant is made by the lead agency. (CEQA Guidelines § 15064, subd. (b)). Differing opinions do not undermine that decision where, as here, it is supported by substantial evidence in the lead agency's record. (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1069.)

NID-22 The comment states that the FEIR should disclose upstream energy production and revenue impacts under Alternative 1. See Response to Comment NID-21.

The comment discusses energy production and revenue impacts that could potentially occur upstream of the YRDP under Alternative 1. The DEIR addresses Alternative 1's potential energy production impacts upstream of Yuba Water's projects on page 7-39. The DEIR discloses that YB/DS operations under Alternative 1 could result in reductions in power generation in some years and explains why the magnitude of the reduction is not considered significant. The comment does not specifically address the basis for that conclusion. Additionally, Yuba Water does not consider a decrease in the upstream projects' hydropower revenue, on its own, to be a significant impact. See Response to

Comment NID-20. The comment does not undermine the DEIR's analysis or identify substantial evidence of any impacts beyond the scope of those disclosed in the DEIR.

NID-23 The comment states that the analysis of Alternative 1 fisheries impacts upstream of Yuba Water's projects should include the entire year, rather than focusing specifically on April and May of dry and critical years. The focus of the fisheries impact analyses in the YB/DS reaches under Alternative 1 was on April and May of Dry and Critical water years due to the timing of the 15.6 TAF of water released from the YB/DS projects during April and May of Dry and Critical water years. Although Alternative 1 could have the potential to indirectly result in changes in flows during other times of the year, the NID (2023) model scenarios of two different examples of Alternative 1 operations in Canyon Creek and the South Yuba River do not support this. Examination of annual flow times-series of the NID (2023) scenarios during Dry and Critical water years demonstrates that flows under the Alternative 1 scenarios increase during mid-April into late May (typically until about May 23rd), with little to no changes in flows outside of this time period, except for during 1985 when the 15.6 TAF operation was shifted one month later (mid-May into June). Therefore, fisheries flow-dependent habitat availability would not necessarily be substantively affected outside of the April through May period, based on the example NID (2023) model scenarios.

Regarding evaluation of water temperatures year-round, the DEIR acknowledged the potential for effects of Alternative 1 on meeting water temperature targets for rainbow trout in the summer relative to the Future Baseline due to YB/DS reservoir storage reductions during spring through fall (page 9C-90 in Appendix 9C). The DEIR did evaluate water temperatures for which water temperature modeling was available for the Alternative 1 scenarios modeled by NID (2023). This modeling included estimated mean daily water temperatures year-round immediately above Englebright Reservoir on the South Yuba River and above Our House Diversion Dam on the Middle Yuba River. The only differences in estimated water temperature under the Alternative 1 scenarios relative to the Future Baseline (YB/DS FEIS scenario) were in the South Yuba River during April and May. Fisheries thermal suitability conditions were therefore evaluated in the DEIR during April and May for fisheries in the YB/DS reaches, with a focus on hardhead (the only special-status fish species in these reaches) due to its utilization of the lower reaches of the South Yuba River for spawning (see p. 9C-89 to 90 in Appendix 9C).

Due to the interconnectivity of YB/DS reservoirs, including Jackson Meadows Reservoir, Bowman Lake, Fordyce Lake, and Lake Spaulding, reductions in reservoir storage could be spread across reservoirs to minimize water temperature increases during the summer in the upper reaches of the South Yuba River below Spaulding Dam. For example, the YB/DS FEIS Staff Alternative (FERC 2014) already includes a measure that would supplement Lake Spaulding

coldwater storage to support the increased South Yuba River supplemental flow measure.

Additionally, the comment states that the DEIR makes various assumptions about how YB/DS operations would occur under Alternative 1 to conclude that there would be no significant impacts to habitat conditions for fisheries upstream of Yuba Water's projects, and that as a result, "the DEIR punted." This is incorrect. The comment ignores a critical part of the rationale for why Alternative 1 would not be expected to substantially affect habitat conditions for fishes upstream of the YRDP. As stated on p. 9-128 of the DEIR, "…*although the provision of the 15.6 TAF from YB/DS has the potential to result in some impacts to fisheries resources in YB/DS reaches upstream of the YRDP, habitat conditions are not expected to be substantially affected for rainbow trout, hardhead or other fish species evaluated in the YB/DS reaches under Alternative 1* ***based on the flow-dependent habitat availability and water temperature analyses summarized above*** *and because of: (1) operational flexibility (e.g., geographic source)*…" [emphasis added]. The summary of changes in flow-dependent habitat availability under Alternative 1 relative to the Future Baseline in the YB/DS reaches on p. 9-127 were developed based on species, lifestage and reach-specific evaluations described in Section 1.4.2 of Appendix 9C. This analysis used the NID and PG&E species/lifestage/reach-specific habitat-WUA relationships to identify directional changes in WUA (habitat) based on an increase in flow of about 175-260 cfs relative to the Future Baseline during April and May, and the NID (2023) modeling results of Alternative 1 for Canyon Creek and the South Yuba River. As shown on pages 9C-81 and 9C-82 of Appendix C, directional changes in habitat were identified for all fish species and lifestages by reach in the Middle Yuba River, Canyon Creek, Fordyce Creek and South Yuba River that were addressed in these rivers by NID and PG&E. The DEIR also evaluated water temperatures for which water temperature modeling was available for the Alternative 1 scenarios modeled by NID (2023).

Finally, the comment states that NID and PG&E previously evaluated the impacts associated with the upstream projects' 15,600-acre-foot flow contribution and identified significant effects on aquatic species due to stranding. It is unclear what the comment is referring to. Based on examination of the filings to FERC referenced by NID and PG&E, there is a simple sentence regarding potential effects of the 15.6 TAF operation on rainbow trout stranding that states "*The flow difference between a high April release and lower March and May flows could also lead to stranding events for any FYLF tadpoles, as well as other aquatic species like resident rainbow trout*." (p. 8 of PG&E filing dated November 21, 2022). By contrast, Appendix 9C (p. 9C-83 through 9C-88) of Yuba Water's DEIR evaluated example annual flow time-series of model scenarios developed by NID (2023) for Canyon Creek and the South Yuba River and demonstrated that the potential for juvenile stranding and isolation based on available information and modeling would be less than significant.

Accordingly, the methodology and conclusions in the DEIR are supported by substantial evidence, and the comment does not undermine the DEIR's conclusions or provide substantial evidence of any impacts beyond the scope of those previously disclosed in the DEIR.

NID-24 The comment states that the analysis of Alternative 1 impacts to special-status species upstream of Yuba Water's projects should include the entire year, rather than focusing specifically on April and May of dry and critical years. See Response to Comment NID-23, which explains why the DEIR reasonably concluded that there would not be significant changes in water availability and temperature impacts outside of April and May of dry and critical years.

Moreover, as explained in Response to Comments NID-3 and NID-7, the additional flow contribution by the upstream projects would be included in new FERC licenses for those projects and subject to protective conditions developed in consultation between NID, PG&E, FERC, USFS, CDFW, and any other responsible regulatory agencies. For example, the new YB/DS FERC licenses will be subject to FPA section 4(e) conditions intended to protect special-status species, including spill cessation measures that would prevent the types of impacts associated with rapid changes in flows that are raised in the comment. (YB-AQR1 for both the Middle Yuba River below Milton Diversion Dam for after May 1 and on Canyon Creek below the Bowman-Spaulding Diversion Dam after April 1, and DS-AQR1 for the South Yuba River below Lake Spaulding Dam after April 1).

Finally, while the comment states that large increases and decreases in flows under Alternative 1 can result in increased risk of stranding, predation, or egg masses being swept away or desiccated, Yuba Water notes that short-duration, abrupt increases and decreases in flows are not uncommon in the Middle Yuba and South Yuba rivers and Canyon Creek, which regularly experience rain events in the spring that result in these types of flow events. Accordingly, neither the comment nor the information cited therein provides substantial evidence that changes in flows in these stretches associated with additional YB/DS releases in dry and critical years would have substantial adverse effects on special-status species.

NID-25 The comment states that the FEIR should disclose upstream recreation impacts under Alternative 1. See Response to Comment NID-21.

The comment discusses recreation impacts that could potentially occur upstream of the YRDP under Alternative 1. Yuba Water does not consider a decrease in recreation opportunities, on its own, to be a significant impact. (*Save Our Access etc. v. Watershed Conservation Authority* (2021) 68 Cal.App.5th 8, 26–29 [reducing access to recreation sites may be "an adverse social impact for those who must recreate elsewhere," but not a physical environmental impact].) The DEIR discusses Alternative 1's potential recreation impacts upstream of Yuba Water's projects on pages 11-28 to 11-30 and 11-33 to 11-34. The DEIR

discloses that YB/DS operations under Alternative 1 could result in reductions in access to boat ramp facilities in some years and explains why the magnitude of the reduction is not considered significant. The comment does not undermine the DEIR's analysis or identify substantial evidence of any impacts beyond the scope of those disclosed in the DEIR. In response to this comment, Chapter 11, Recreation, has been revised to expressly include Rollins Reservoir.

NID-26 The comment states "the FEIR should use the greater of 55% of UIF in a 7-day running average metric or the license requirements, consistent with the Bay-Delta Plan Update". The commenter is directed to DEIR Page 3-10, footnote 9, which explains Yuba Water's comments to the SWRCB that a 7 day running average is not operationally achievable, and that an adaptive implementation, which is provided for in the Bay Delta Plan Update at page 49, is used to provide the unimpaired flow as 21 day running average. The comment does not address the substantive basis for Yuba Water's use of this 21-day running average, nor does the comment provide substantial evidence to support the suggestion that this decision precluded decisionmakers from "accurately weigh[ing] the differences between the Proposed Project, Alternative 1, and Alternative 2."

NID-27 The comment states that the project area for the analysis of Alternative 2 should be the same as for Alternative 1. See Responses to Comments NID-6, NID-7, and NID-9. Impacts upstream of Yuba Water's projects under Alternative 2 are not attributable to the YRDP and Narrows Project relicensings and need not be evaluated in Yuba Water's EIR. While the Alternative 1 indirect impacts upstream of Yuba Water's projects identified in the DEIR are not attributable to the YRDP and Narrows Project relicensings, Yuba Water evaluated those impacts to provide additional context for the anticipated impacts of Yuba Water's own operations and in a "good-faith effort at full disclosure." (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 979.)

NID-28 The comment states the FEIR should assume a Yuba-Bear Project compliance point immediately downstream of Milton Diversion Dam since the project does not affect UIF in the Middle Yuba River downstream of Milton Diversion Dam." This comment is made for UIF compliance in the South Yuba River immediately downstream of Bowman Diversion Dam and for PG&E's Drum-Spaulding Project on the South Yuba River immediately downstream of Spaulding Dam. The comment incorrectly states that the NID project and PG&E's project do not affect unimpaired flow downstream of Milton Diversion Dam, Bowman Diversion Dam or Spaulding Dam. Milton Diversion Dam, Bowman Diversion Dam and Spaulding Dam divert water from the Middle Yuba River and South Yuba River respectively and therefore reduces the amount of unimpaired flow below those diversion points and points throughout the remainder of the Middle Yuba River, South Yuba River and downstream. Regarding the compliance location, the UIF requirements stated in the July 2025 Bay Delta Plan Update includes the following statement at endnote 1 on Page 49 "Compliance locations also include the confluence of every major fork, branch, and tributary of the

tributaries listed in this table" and Table 6 of Pages 48 and 49 includes the Yuba River. In addition, the SWRCB's own SACWAM modeling includes an UIF compliance point for the Middle Yuba River at the confluence with the North Yuba River and not immediately downstream of Milton Diversion Dam and on the South Yuba River at Jones Bar gage and not immediately downstream of Bowman Diversion Dam or Spaulding Dam. The DEIR's characterization of Alternative 2 is based on the description of the regulatory pathway included in the SWRCB's October 2024 draft Bay Delta Plan. In its own comments on the DEIR, the SWRCB confirmed that the DEIR's approach appeared to be consistent with that potential regulatory pathway. The comment does not demonstrate otherwise.

NID-29 The comment states that the FEIR should list various NID and PG&E FERC filings relating to Alternative 2. Yuba Water notes that the DEIR includes some of the information listed in the comment, but this is not an exclusive list of information relied on in the DEIR but rather identifies "some of the key sources of information" that Yuba Water relied on in drafting the EIR. See Response to Comment NID-17. Further, while Yuba Water relied upon various information from the FERC AIR process that is relevant to Yuba Water's preparation of the DEIR and not all of the information listed in the comment is relevant to Yuba Water's preparation of the DEIR.

NID-30 The comment states, "…the FEIR should assume under Alternative 2 that the entirety of the upstream projects (*sic*) releases would be passed through YCWA's projects in real-time (i.e., 100% of NID's release on the Middle Yuba would pass through Our House Diversion Dam and 100% of NID's releases on the South Yuba River would pass through Englebright Reservoir). Since these releases would be made in advance of and upstream of YCWA's projects, they would be considered "baseline" for accounting purposes (i.e., and YCWA releases for compliance at Marysville would be considered the incremental flow on top of the "baseline")."

This comment appears to misrepresent what a standard of 55% (or 45% or 35%, depending on what is required) of the unimpaired flow at a specified location represents. As described in Table 3 of both the October 2024 and July 2025 Bay-Delta Plan Update, "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." Neither this description, nor any other related guidance from the SWRCB indicates the unimpaired flow requirement represents anything other than a percentage of the cumulative unimpaired flow at a particular location. The comment fails to provide any citation to indicate the SWRCB intended for bypassing of flow as described by the commenter. In addition, the comment incorrectly assumes there is a "baseline" of some type for accounting of the unimpaired flow requirement, when, as detailed in the Plan Update, it is simply a metric calculated as a percentage of the total unimpaired flow at the compliance location.

The DEIR's characterization of Alternative 2 includes reasonable assumptions about how the projects in the watershed would operate, based on the description of the regulatory pathway included in the SWRCB's October 2024 draft Bay Delta Plan. In its own comments on the DEIR, the SWRCB confirmed that the DEIR's approach appeared to be consistent with that potential regulatory pathway. The comment does not demonstrate otherwise.

NID-31 The comment states that the FEIR should disclose various impacts that could occur upstream of Yuba Water's projects under Alternative 2. See Responses to Comments NID-6, NID-7, NID-9, and NID-27.

NID-32 The comment states that the FEIR should include a new alternative under which the SWRCB potentially imposes a 65% unimpaired flow requirement in connection with the Bay-Delta Plan Update. See Response to Comment NID-6. Yuba Water notes that the SWRCB has not requested an analysis of a potential 65% unimpaired flow requirement throughout the watershed. Moreover, like Alternative 2, a 65% unimpaired flow alternative would not meet the project objectives as well as the Proposed Projects and would not avoid any significant impacts of the Proposed Projects. Impacts under a 65% unimpaired flow scenario would be expected to be more extreme than those evaluated under Alternative 2. Yuba Water also notes that the SWRCB did not include a 65% unimpaired flow scenario in the July 2025 Bay-Delta Plan update, though a 55% unimpaired flow scenario was included in addition to the 55% with Water Supply Adjustments (WSA) scenario evaluated by Yuba Water and included as an appendix to this document.

2.3.5 Comment Letter – Northern Sierra Air Quality Management District

NS Letter

Northern Sierra Air Quality Management District (NSAQMD)
200 Litton Drive, Suite 320
Grass Valley, CA 95945
(530) 274-9360 / FAX: (530) 274-7546
email: office@myairdistrict.com

Northern Sierra Air Quality Management District

To: Director of Resource Planning, John James
Yuba County Water Agency
jjames@yubawater.org

September 15, 2025

Yuba River Development Project and Narrows Joint Draft EIR: APN: 057-141-031

This document acknowledges that NSAQMD has received the Draft Environmental Impact Report (DEIR) documents for the **Yuba River Development Project and Narrows Relicensing** project located in Yuba, Sierra and Nevada Counties. The Northern Sierra Air Quality Management District is responsible for air quality measures in both Sierra and Nevada Counties. There does not appear to be construction or appreciable air quality impact at the Narrows (1) Site in Nevada County, therefore we will focus on the Our House Diversion Dam location. NS-1

The Our House Diversion Dam straddles the line between Sierra and Nevada Counties. From the Draft EIR it appears that there will be dam construction (for the 68-inch diameter outlet pipe and control valve installation), an adjacent laydown yard, construction of a rafting access trail, small improvements of an "undeveloped" recreation site, sediment maintenance activities, road maintenance, and possible burning of woody material. (This is an inference from the "Primary Burn Site and Secondary Burn Site" listed on page 208 of 1636. Please feel free to clarify if I am misunderstanding the terminology.) All these activities have the potential to cause air pollution. Most of these activities are adequately covered by the mitigation measure MM-AQ-1, including a mention of the required NSAQMD dust control plan. (Our dust plan requirements are laid out succinctly on page 6 and 7 of our guidelines document here: https://www.myairdistrict.com/land-use-guidelines .) NS-2

Therefore, we look forward to working with you to determine if a dust control plan is required. We are also very interested in the ultimate disposal of any removed dam sediment. Finally, please note that our CEQA mitigations require alternatives to open burning of vegetative material, unless otherwise deemed infeasible. Thank you so much for including us in the process. NS-3

Sincerely,

Julie D Hunter

Julie Hunter
Air Pollution Control Officer

Submitted by Suzie Tarnay APCS II / (530) 274-9360 x505

Responses to Comment Letter – Northern Sierra Air Quality Management District

NS-1 This is an introductory paragraph that does not specifically address issues analyzed in the DEIR. No response required.

NS-2 Yuba Water acknowledges the comment on potential air pollution generation at the Our House Diversion Dam, and that Mitigation Measure MM-AQ-1 would address this impact. Construction activity at the Our House Diversion Dam would implement MM-AQ-1, including dust control plans in compliance with NSAQMD requirements.

NS-3 Sediment removal would be conducted in accordance with NSAQMD rules and regulations, including Rule 226 – Dust Control as presented on page 15-30 of the DEIR. Also, MM-AQ-1, in its listing of Best Available Mitigation Measures that would be implemented, includes Item 12 (see page 15-32 of the DEIR), which prohibits open burning of vegetative waste or other legal or illegal burn materials at a construction project site.

2.3.6 Comment Letter – Foothills Water Network

FWN Letter



FOOTHILLS WATER NETWORK

September 22, 2025

Mr. John James
Yuba County Water Agency
1220 F Street
Marysville, CA 95901

Sent via email to jjames@yubawater.org and via U.S. mail

Re: Comments on the Joint Draft Environmental Impact Report (DEIR) for the Yuba River Development Project (YRDP) and the Narrows Project

Dear Mr. James:

The Foothills Water Network (FWN or Network) and its member organizations[1] respectfully write to comment on the Draft Environmental Impact Report (DEIR) for the YRDP and Narrows Project relicensings prepared by the Yuba County Water Agency (YCWA). The Foothills Water Network represents a broad group of non-governmental organizations and water resource stakeholders in the Yuba River, Bear River, and American River watersheds. The overall goal of the Foothills Water Network is to provide a forum that increases the effectiveness of non-profit conservation organizations to achieve river and watershed restoration and protection benefits for the Yuba, Bear, and American rivers. FWN-1

Executive Summary

The Foothills Water Network and allied groups have engaged for decades in protecting Yuba River fisheries, including through the Yuba Accord and ongoing relicensing proceedings. The Draft EIR for the Yuba River Development Project (YRDP) and Narrows Project does not meet CEQA's standards for disclosure, analysis, or public decision-making.

The DEIR improperly narrows the project scope by excluding Englebright Dam operations, despite acknowledging its central role as an afterbay for Colgate Powerhouse and as

[1] South Yuba River Citizens League, American Rivers, American Whitewater, California Sportfishing Protection Alliance, Friends of the River, Northern California Council Fly Fishers Interational, Gold Country Fly Fishers, Sierra Club Mother Lode Chapter, and Trout Unlimited.

1

the only controllable outlet to the lower Yuba River. By framing project objectives around Yuba Water's Settlement Agreement, the DEIR dismisses feasible alternatives—including agency-supported flow and habitat proposals—that would better protect fisheries and water quality.

The alternatives analysis is similarly flawed, mischaracterizing environmental outcomes and rejecting reasonable options. Critical issues such as safe access below New Bullards Bar and Narrows 2 and mitigation for habitat loss are either minimized or ignored. FWN-1 cont.

CEQA requires evaluation of feasible alternatives (14 CCR §§ 15126.6). The DEIR falls short. Without full and accurate analysis, decisionmakers and the public cannot weigh the true environmental consequences of the projects.

For these reasons, the DEIR must be revised and recirculated to comply with CEQA and provide a lawful basis for informed decision-making.

I. CEQA is required for licensing a hydropower project in California.

The California Environmental Quality Act (CEQA) is a critical component of the hydropower licensing process in California, informing crucial decisions and ensuring compliance with state environmental standards. As established in *County of Butte v. Department of Water Resources et al.*, 13 Cal.5th 612, 633-637 (2022), a public agency's decision to accept a new hydropower license from the Federal Energy Regulatory Commission (FERC), with specific terms and conditions, is a discretionary action subject to CEQA review. This review, often taking the form of an Environmental Impact Report (EIR), is essential for analyzing the potential environmental impacts of accepting a new license and operating in accordance with that license, as well as for assuring mitigation of identified significant impacts.

FWN-2

Moreover, a CEQA document is a core requirement for securing a water quality certification (WQC) from the State Water Resources Control Board (SWRCB), a responsible agency under CEQA. This certification is mandated under Section 401 of the Clean Water Act (CWA). The United States Supreme Court affirmed in *PUD No. 1 of Jefferson County v. Washington Department of Ecology* 511 U.S. 700 (1994) that CWA Section 401 grants certifying entities (including the SWRCB) broad authority to set conditions on federal licenses to ensure compliance with state water quality standards, including the protection of designated uses. *Jefferson* further explained that the scope of a water quality certification may include various state-specific water quality protections. It clarified that Section 401 certification must ensure that any federally licensed or permitted activity, including those not directly related to discharges, complies with state water quality standards, and that states could enforce conditions to protect designated uses of water bodies, such as fish migration, rearing, and spawning, among others. This means states can require measures like minimum stream flows to maintain designated and

existing uses. This interpretation allows states to address a wide range of environmental impacts associated with federally licensed projects.

The scope of the EIR must be sufficiently comprehensive to support the SWRCB's decision-making in evaluating the project's consistency with these broadly defined state water quality standards. Thus, the SWRCB, in its December 22, 2022 comments on YCWA's previous Notice of Intent to issue a CEQA document for the relicensing of the YRDP, underscored the need for YCWA's CEQA analysis to sufficiently inform the WQC for the YRDP.[2] FWN-2 cont.

II. The Project Description is Inadequate

Pursuant to CEQA, a project proponent is required to evaluate a proposed project to determine its impacts on the environment. CEQA defines a project as the "whole action" that is subject to decision making, and which has the potential to: (1) cause direct physical changes in the environment; or (2) cause a reasonably foreseeable indirect change, particularly where the activity involves the issuance of a permit, license or other entitlement. (Public Resources Code 21065). However, YCWA's analysis omits infrastructure associated with the two hydroelectric projects proposed for relicensing. As explained above in Section I, CEQA is required for the relicensing process, and directly informs elements of a hydropower license, including the required WQC.[2] Because the DEIR omits project infrastructure, the operation of which would impact water quality, the DEIR is inadequate. FWN-3

A. Englebright Operations Are Part of the Decision Subject to CEQA Review.

The DEIR is intended to support a request for the Water Quality Certification, required pursuant to the Clean Water Act, for a Federal Power Act hydropower license. Because the YRDP and Narrows projects reviewed in this DEIR depend on Englebright Reservoir for regulating flow, meeting minimum instream-flow requirements, moderating temperature, and controlling reservoir elevations, the reservoir is integral to the licensed activities.

The Network acknowledges that the US Army Corps of Engineers views Englebright Dam's primary purpose as debris management.[3] However, the dam is clearly used for hydropower operations. In fact, the DEIR and supporting documents acknowledge that Englebright Dam was built to trap hydraulic-mining debris and that its gross storage capacity has declined due to sedimentation. As explained below, YCWA operates Englebright Dam and Reservoir as part of the two hydroelectric projects for which YCWA is seeking a WQC. For the following reasons, Englebright Dam and Reservoir operations are part of the whole action that is subject to decision-making and should therefore be evaluated in the DEIR.

[2] *County of Butte v. Department of Water Resources et al.*, 13 Cal.5th 612, 633-637 (2022)
[3] See National Inventory of Dams https://nid.sec.usace.army.mil/#/dams/system/CA10105/summary (last assessed 9/22/25)

1. YCWA Operates Englebright Reservoir as an Afterbay for New Colgate Powerhouse.

Englebright Reservoir functions as an afterbay for New Colgate Powerhouse, which is a component of the YRDP hydroelectric project. The dam and reservoir should therefore be considered as part of the hydroelectric project, which is being evaluated for CEQA purposes. According to the Federal Power Act, "'project' means complete unit of improvement or development, consisting of a powerhouse, all water conduits, all dams and appurtenant works and structures (including navigation structures) which are a part of said unit . . ." (16 U.S.C. § 796(11).)

The DEIR notes that "Englebright Reservoir functions as an afterbay for the New Colgate Powerhouse; releases to the Yuba River below Englebright Dam are held relatively consistent, while storage in Englebright Reservoir fluctuates according to New Colgate Powerhouse releases."[4] This demonstrates that Englebright is not just a debris dam; it regulates hydro releases and maintains steady downstream flows, thereby integrating Englebright into YRDP power operations. Because the DEIR will inform the WQC request and issuance for the YRDP license Dam, and reservoir operations, these should be evaluated in the DEIR to ensure that in its entirety, including operations of the afterbay, Englebright dam and reservoir operations should be evaluated in the DEIR to ensure any significant impacts associated therewith are appropriately mitigated. FWN-3 cont.

2. YCWA Operates Englebright Reservoir as a Forebay for the Narrows Project and for Narrows 2 Powerhouse.

YCWA operates Englebright Reservoir as a forebay for Narrows 1 Powerhouse and Narrows 2 Powerhouse, making Englebright Reservoir an essential element of the hydroelectric projects for which YCWA is conducting the CEQA review. The FPA specifically calls out forebays as part of a hydroelectric project. Because the Federal Power Act considers forebays to be part of the hydroelectric project, and this DEIR is intended to support the WQC for the hydroelectric projects in its entirety, Englebright Reservoir operations must be evaluated in the DEIR.

The SWRCB's comments on the Draft EIS emphasize that Englebright's water elevation is controlled in part by project operations upstream and at Narrows 2. The SWRCB noted that Englebright Reservoir acts simultaneously as a forebay for the Narrows 2 Powerhouse and an afterbay for New Colgate. Because water levels are managed to facilitate power generation,

[4] Yuba Water Agency. *Yuba River Development Project and Narrows Hydroelectric Project Draft Environmental Impact Report (DEIR)*. Public Draft. July 2025, p. 5

Englebright's elevation is not solely under the Corps' control but is influenced by YRDP operations.[5]

3. Englebright Dam Controls Releases into the Lower Yuba River and is Necessary for Compliance with Narrows Hydropower License Compliance.

The outlets at Englebright Dam provide the only controllable releases into the lower Yuba River and therefore have a significant impact on water quality in the lower Yuba, which must be evaluated to properly inform the WQC for the projects. The DEIR states that Englebright has no low-level outlet:"[O]ther than through the Narrows 1 and Narrows 2 powerhouses, the only means of releasing water from behind the dam is through spills over it."[6] This means the Narrows powerhouses, which are part of the YRDP/Narrows projects, control virtually all releases to the lower Yuba River. According to the FPA, a project includes the dams and reservoirs that are necessary and appropriate for the operation of a hydroelectric project. Consequently, the operations associated with this project infrastructure must be evaluated and appropriately mitigated, if necessary. FWN-3 cont.

Moreover, non-spill releases from Englebright are made to meet flow requirements and maintain reservoir elevation, as required by the project licenses. DEIR Section 2.4.1.3 states that non-spill releases from Englebright Dam are made for two purposes: (1) "to meet flow requirements and agricultural diversion demands in the lower Yuba River," and (2) "to maintain the water surface elevation in Englebright Reservoir around 519 feet above mean sea level." These operational goals demonstrate that Englebright's releases are tied directly to YRDP license obligations regarding instream flows and reservoir management. Thus, Englebright Reservoir is an essential operating component of the hydropower facilities.

B. The Project Description Fails to Include all Storage Capacity Associated with Project Infrastructure.

The project description improperly omits Englebright's storage capacity. The DEIR lists YRDP reservoirs and their storage volumes but excludes Englebright's 50,000-acre-foot capacity from the table. Yet the project uses Englebright to regulate flows and store water. This discrepancy suggests that Englebright is functionally a project reservoir and should be included in the project description and environmental analysis.

III. The Selected Project is Speculative and Infeasible

Alternative 1, identified in the DEIR as Yuba Water's 2022 Offer of Settlement, does not comply with CEQA because it is both infeasible and speculative. CEQA Guidelines §15126.6(a) FWN-4

[5] SWRCB, comments on FERC Draft Environmental Impact Statement, pp. 4-5. See FERC eLibrary no. 20180730-5263.
[6] DEIR, p. 1-9, fn. 14.

require that alternatives analyzed in an EIR be "feasible," meaning they can be successfully implemented by the project proponent or another responsible agency.

The primary flow benefits in Alternative 1 are contingent on the imposition by FERC of new operational requirements on PG&E's Drum-Spaulding Project and NID's Yuba-Bear Project -- entities over which Yuba Water has no authority, and entities over which neither FERC nor the SWRCB has authority in the instant proceedings. In addition, CEQA Guidelines §15126.6(f)(2) prohibit reliance on "speculative or unlikely future scenarios" to justify or eliminate alternatives. Here, the DEIR acknowledges that the reoperation of 15,600 acre-feet of water from upstream projects "would only be possible if water is made available by the YBDS projects, which is subject to approval of a new license term by FERC".[7] Because the implementation of Alternative 1 hinges entirely on uncertain and speculative future federal licensing decisions and agreements among third parties, it does not provide the substantial evidence required to support a meaningful alternatives analysis. Accordingly, Alternative 1 fails CEQA's core requirement that alternatives be feasible, non-speculative, and capable of reasonably informing decisionmakers and the public about actual environmental choices. FWN-4 cont.

IV. The DEIR's Range of Alternatives is Unlawfully Narrow.

According to CEQA, an environmental review project requires analysis of a reasonable range of potentially feasible alternatives that could avoid or lessen significant environmental impacts, even if they impede some objectives (14 CCR §15126.6). Substantial evidence is required to support the dismissal of alternatives; speculative assertions of infeasibility are insufficient (14 CCR §15126.6(c)). The DEIR, as currently written, fails to meet CEQA's requirements due to the narrow range of alternatives, inappropriate framing of objectives (that inform alternative development), and improper dismissal of important alternatives. For these reasons, the DEIR must be remedied and recirculated. FWN-5

A. The DEIR's Stated Project Purposes and Objectives Fail to Comply with CEQA.

CEQA requires objectives to be framed broadly enough to allow a reasonable range of alternatives (14 CCR §15124(b)). Narrow or outcome-specific objectives predetermine the selection of alternatives and violate CEQA's intent for an unbiased comparison. The Network's comments on the Notice of Preparation (NOP) expressed concern that specific project objectives had the potential to prejudice the decision-making process and unlawfully narrow the project's scope of review. The DEIR has failed to correct this flaw. FWN-6

The DEIR's Objective 5 states: "Consistent with FERC's March 2021 AIR, implement any additional protections for ESA listed fish species in the lower Yuba River in a way that both: (a) improves Yuba River water temperatures for those species and their designated critical

[7] DEIR p. 19

habitat; and (b) equitably allocates protective activities such that no entity is disproportionately burdened with a responsibility to mitigate impacts on those species caused by other entities."[8]

The framing of this objective closely reproduces Objective 2(b) in the NOP, which proposed to "Implement additional protections for lower Yuba River fisheries in a way that…fairly allocates protective activities such that no entity is disproportionately burdened with a responsibility to mitigate watershed impacts caused by other entities".

This outcome-specific formulation introduces YCWA's specific viewpoint regarding the equitable allocation of protective activities into the preferred alternative. This could prejudice decision-making by making other alternatives appear to conflict with project purposes and objectives, especially if other licensees or regulators do not approve YCWA's proposed settlement.

An outcome that does not align with YCWA's vision for the allocation of protective measures does not relieve YCWA of its obligation to mitigate the impacts of the YRDP and the Narrows Project. CEQA does not allow framing Project objectives to shift the project proponent's responsibility for mitigation.

FWN-6 cont.

The DEIR's "Alternative 1" (Yuba Water's October 31, 2022 Offer of Settlement), presented as a response to FERC's March 2021 Additional Information Request (AIR), includes measures that are conditional and subject to FERC's acceptance and implementation, as Yuba Water "cannot impose operational changes"[9] on upstream projects like PG&E's and NID's. Relying on such a conditional element within a core objective fatally flaws comprehensive CEQA analysis.

B. The DEIR's Project Purpose and Objectives Introduces Improper Criteria.

According to CEQA, the statement of objectives in a DEIR should "go beyond simply listing desired outcomes and articulate the project's underlying purpose."[10] DEIR Objective 6 fails to comply with the standard. Objective 6 states the project objectives as: "Continue to generate long-term, predictable revenue for Yuba Water's programs to support Yuba County's disadvantaged communities consistent with Yuba Water's mission."[11] Objectives focused on generating revenue for programs (such as funding for local projects or disadvantaged communities) that are unrelated to the core purpose of the hydroelectric project relicensing improperly expand the project purpose and scope of review. This can artificially limit the analysis of suitable alternatives or mitigation measures in violation of CEQA.

[8] DEIR, p. 2-3
[9] DEIR p. 19
[10] Citing *North Coast Rivers Alliance v. A.G. Kawamura*, (2015) 243 Cal.App.4th 647.
[11] *Id.*

Prioritizing revenue-generating objectives can undermine the project's environmental integrity. While using hydropower revenue for wastewater infrastructure improvements may be a reasonable funding source, such funding should not come at the cost of significant adverse effects on the Yuba River ecosystem. Consequently, the DEIR should be recirculated and must reframe YCWA's objectives to clearly state the core objectives of the project, avoiding a focus on specific outcomes that may be secondary to considerations properly considered during relicensing. FWN-6 cont.

C. The DEIR Improperly Dismisses Alternatives.

The DEIR only evaluates YCWA's preferred project, a No Project Alternative, and a Bay-Delta Alternative. However, additional alternatives were recommended by federal and state agencies commenting on the NOP and should have been evaluated in the DEIR, providing the public with information regarding why such alternatives were dismissed. CEQA's purposes include "disclosing to the public the significant environmental effects of a proposed project, identifying ways to avoid or reduce those effects, and disclosing to the public the reasons why a project was approved if significant effects are involved" (Pub. Res. Code §21003.1) FWN-7

1. The DEIR Omitted Alternatives Requested by the SWRCB.

Because the DEIR will inform the WQC for the relicensing of the Projects under environmental review, the document must be adequately broad to inform the WQC's terms and requirements. The DEIR, as currently drafted, fails to include information specifically requested by the SWRCB for this purpose.

The State Water Resources Control Board (SWRCB) is a responsible agency under CEQA due to its responsibility for issuing a WQC under Section 401 of the Clean Water Act. The CEQA analysis must be sufficient for the SWRCB to base its decision in issuing its WQC. FWN-8

In its December 2, 2024 comments on the NOP, SWRCB staff explicitly requested that the DEIR analyze Yuba Water's proposed operation of a dual intake at New Bullards Bar Reservoir as a stand-alone CEQA alternative, independent of the broader 2022 Offer of Settlement. As SWRCB staff explained: "Use of both intakes at NBBD should be analyzed separately from the remainder of YCWA's October 2022 'Offer of Settlement.' Operation of both NBBD intakes is likely to have a beneficial impact on lower Yuba River water temperature and does not require additional flow contributions from hydropower projects upstream of the Projects."[12] Despite this clear direction, the DEIR analyzes the operation of a dual intake at New Bullards Bar Reservoir only as a component of Alternative 1 (Yuba Water's proposed Settlement Agreement), without any separate evaluation of its potential effectiveness or comparison with

12 See Letter from Adam Cohen, SWRCB, to John James, Yuba Water, December 2, 2024, Attachment p. 4. Available in FERC eLibrary as accession no. 20241203-5008.

other temperature-control strategies. This omission ignores the SWRCB's request, deprives decisionmakers of a meaningful analysis of a feasible, independent measure with clear temperature benefits, and fails to satisfy CEQA's requirement to evaluate a reasonable range of alternatives. FWN-8 cont.

2. The DEIR Improperly Dismissed an Alternative Based on the Joint Flow and Habitat Recommendation Submitted in the FERC Relicensing by the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and the Foothills Water Network.

During the relicensing process, the Network joined with the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (FWS) to develop and present a joint recommendation on flow and physical habitat restoration for the lower Yuba River (downstream of Englebright Dam).

CDFW, FWS and FWN patterned their flow recommendation on the Yuba Accord flow regime, but increased spring flows in 75% of water years. It adopted the SWRCB's percent of unimpaired flow as a metric rather than a requirement. It thus met many of YCWA's interests in limiting effects in the driest water years, avoiding reductions in irrigation deliveries, and avoiding requirements to induce spill at Englebright Dam.

FWN-9

These recommended habitat improvements were designed in part to work with the limited magnitude of Englebright Dam's release capacity, bringing the floodplain down to a level that would be inundated at about 4200 cfs, the maximum non-spill release capacity. This made it in some respects more immediately feasible than a straight percent-of-unimpaired flow requirement such as Alternative 2 in the DEIR. Its implementation would improve mitigation of the limited juvenile rearing habitat along the lower Yuba River and the poor outmigration success of juvenile salmonids from the Yuba River.

Condition 12 of the SWRCB's July 17. 2020 WQC required YCWA to develop a plan to include many of the elements of the CDFW-FWS-FWN joint physical habitat recommendations. But despite this clear indication of the SWRCB's intent to require physical habitat mitigations, the DEIR now omits this type of mitigation in all of the alternatives.

Overall, the DEIR spends four pages dismissing the CDFW-FWS-FWN joint recommendation without bothering to present it as an alternative, based solely on a summary of YCWA's previous conclusory statements about the relative biological and geomorphic value of the recommendation's flow and habitat measures.[13] Included in this dismissal is the repeated recitation of the primacy of marginal reductions in summer water temperatures afforded by the Yuba Accord summer-heavy flow regime over the need for increased spring outflow to improve success in juvenile salmonid rearing and outmigration.

[13] *See* DEIR, pp. 3-19 to 3-23.

One of the narratives dismissing the CDFW-FWS-FWN joint alternative states: "[T]he CDFW-FWS-FWN proposal would upset the careful balance of the Yuba Accord flow schedules by recommending spring floodplain inundation flows, as well as spring and winter pulse flows."14 The "careful balance" refers in part to the fact that under the Yuba Accord Water Purchase Agreement, YCWA has been allowed to sell a portion of its minimum instream flow requirements for the lower Yuba River on the water transfer market for export at the Delta pumps of the State Water Project and the Central Valley Project. During the relicensing process, YCWA did not explicitly raise the interest in selling a portion of required minimum instream flows, and even now only discusses it obliquely in project objective 10: "continued Lower Yuba River Accord transfers to contractors of the Central Valley Project (CVP) and the State Water Project (SWP), and potentially others, under the Lower Yuba River Accord Water Purchase Agreement."15 FWN-9 cont.

A recirculated DEIR should evaluate the CDFW-FWS-FWN joint recommendation as a CEQA alternative.

3. YCWA Failed to Evaluate the FERC -Staff alternative.

The DEIR does not evaluate the FERC Staff Alternative on a stand-alone basis, even though that alternative was selected as the preferred option in FERC's 2019 FEIS. Instead, YCWA collapses the Staff Alternative into "Alternative 1" -- YCWA's preferred alternative. This avoids a direct comparison between the two. At a minimum, a recirculated DEIR should break out the effects of adding YCWA's proposed settlement to FERC's proposed action under NEPA. FWN-10

D. The Bay-Delta Alternative as Presented Overstates Likely Water Supply Impacts.

The DEIR includes Alternative 2, titled "SWRCB Draft Bay-Delta Plan Update Regulatory Pathway Scenario." The inclusion of such an alternative is appropriate and is responsive to Network comments on the NOP.

The chosen scenario includes a 55% unimpaired flow requirement for the Bay-Delta Plan Update, applied to the Middle Yuba River, South Yuba River, and the Yuba River near Marysville. The DEIR notes that while the SWRCB's draft plan includes an "adaptive range of 45 to 65 percent of unimpaired flow," but for simulation purposes, Alternative 2 uses what it terms a "representative operational scenario" with a 21-day running average to simulate compliance while minimizing flow fluctuations and water supply impacts, given the "lack of operational specificity" from the SWRCB. FWN-11

The SWRCB's NOP comments stated: "These options were further refined in the draft Bay-Delta Plan text released on October 25, 2024, which includes additional detail on adaptive

[14] Id., p. 3-21.
[15] *Id.*, p. 5.

management provisions that provide the information necessary to model the inflow requirements in combination with the cold water habitat requirements to minimize impacts to cold water habitat and water supply.... "Modeling of the regulatory pathway should include use of the adaptive management and coldwater habitat provisions as provided for in the draft Bay-Delta Plan to minimize impacts to cold water habitat and water supply."[16] However, the DEIR does not consider any flow reductions in meeting the instream flow objectives in order to meet the sometimes-conflicting coldwater habitat objective. Thus, the DEIR's assumptions about the implementation of Alternative 2 presents what are likely greater impacts to water supply and related developmental uses than might occur should the SWRCB implement a regulatory approach to the update of the Bay-Delta Plan. The July 2025 Draft of the update of the Bay-Delta Plan also included new "water supply adjustments" that, if implemented, would reduce the flows required from each watershed in two-thirds of water years.[17][18] If included in the eventual update, the water supply adjustments would further reduce the water supply impacts of the Bay-Delta Plan.

FWN-11 cont.

V. The DEIR Fails to Include Necessary Mitigation

CEQA requires that when a project will cause or contribute to a significant environmental impact, the EIR must identify and adopt all feasible mitigation measures that would avoid or substantially lessen the impact (Pub. Res. Code §§ 21002, 21002.1, 21081; CEQA Guidelines § 15126.4). Mitigation must be specific, enforceable, and accompanied by performance standards or monitoring to ensure effectiveness (§ 21081.6; Guidelines § 15126.4(a)(2)). Courts have consistently held that an agency cannot simply acknowledge an impact—it must propose actual mitigation or explain, with substantial evidence, why mitigation is infeasible. Nor may a lead agency defer mitigation to future study or to the discretion of another agency without binding commitments and clear performance standards.

FWN-12

A. Mitigation Is Required for the Project's Impacts to Public Access.

The Draft EIR fails to include mitigation for the lack of public access below New Bullards Bar (NBB) Dam, the only feasible put-in for recreational boating and angling on this

FWN-13

[16] *See* FERC eLibrary # 20241203-5047

[17] *See* Revised Sacramento/Delta Draft Updates to the Bay-Delta Plan (July 2025), available at https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/docs/rev-draft-sacdelta-bdplan-updates.pdf. *See* p. 55 and following.

reach of the North Yuba River. This omission is inconsistent with CEQA's requirements to evaluate and mitigate significant impacts to recreation (CEQA Guidelines Appendix G: Recreation; §15126.4).

The Central Valley Basin Plan identifies Water Contact Recreation (REC-1), including "white water activities," and Non-Contact Water Recreation (REC-2) as designated beneficial uses of Yuba River waters.[19] These designations apply throughout the system, including the lower Yuba River downstream of Englebright Dam, and are part of the region's adopted water quality standards. Project operations at NBB Dam directly shape flows and recreation opportunities both in the North Yuba reach immediately below the dam and in the designated lower Yuba reach.

FWN-13 cont.

Improved flows and habitat measures required under the FERC staff alternative (e.g., AR10 baseflows, AR4 spill-recession ramping, gravel augmentation, large woody debris) will increase the suitability of this reach for fishing and whitewater boating. For these reasons, the Network has repeatedly commented in the relicensing process that safe and legal access below the NBB Dam be included. In its Federal Power Act §10(a) recommendations, the USDA Forest Service specifically recognized that whitewater boating below New Bullards Bar Dam would not be feasible without improved access. The Forest Service recommended that the new license include measures to provide managed public access below NBB to make use of the boating flows required by other license conditions. In addition, the SWRCB also included access as a preliminary condition.[20] Yet YCWA's proposal explicitly denies vehicular access to the 0.75-mile road below NBB Dam.[21] This denial of access to the only feasible put-in location effectively forecloses recreation, constituting a significant unmitigated impact to a beneficial use recognized in the Basin Plan.

A recirculated DEIR should evaluate enforceable measures to provide whitewater boating and fishing access to the North Yuba River downstream of New Bullards Bar Dam.

B. The DEIR Fails to Analyze and Propose Mitigation for Ongoing Impacts of Shot Rock.

FWN-14

The DEIR acknowledges the presence of shot rock in the Englebright Dam Reach (EDR), resulting from construction of the dam and related tunnels.[22] However, the DEIR dismisses mitigation on the grounds that these were "historic activities that are not proposed under the Proposed Project" and defers to the Federal Energy Regulatory Commission (FERC) for further

[19] Central Valley Regional Water Quality Control Board, *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan), Table II-1 (designating REC-1 and REC-2 as beneficial uses for Yuba River waters). PDF p. 23 Water Quality Control Plan, Sacramento and San Joaquin River Basins

[20] Final Environmental Impact Statement (FEIS) for the Yuba River Development Project, Project No. 2246-065, issued by the Federal Energy Regulatory Commission (FERC), February 28, 2019, eLibrary no 20190102-3000 FEIS pp. xxxvii

[21] See FERC eLibrary #20180730-5171

[22] DEIR, Ch. 16 (Geology), §16.2.8.

consideration.[23] This approach is inconsistent with CEQA, which requires feasible mitigation for significant, ongoing project-related impacts (Pub. Res. Code §§21002, 21081; CEQA Guidelines §15126.4).[24]

Shot rock is not only a historical artifact. Construction of the Narrows 2 tunnel alone created at least 6,491 cubic yards of shot rock, not including the additional volume from powerhouse excavation.[25] Much of this material was sidecast along the canyon wall to construct and maintain the Narrows 2 Access Road, where it continues to erode and enter the channel.[26] The Access Road embankment remains an active project feature, composed of unstable shot rock. These conditions demonstrate that ongoing mobilization of shot rock is a continuing effect of project facilities and thus within the scope of CEQA review.

Mobilized shot rock degrades salmonid habitat by burying and destabilizing gravels critical for spawning. Pasternack et al. (2010) and ESA (2015) concluded that "shot rock has overwhelmed the river corridor, degrading physical habitat." The Habitat Expansion Plan (2010) determined that gravel augmentation in the EDR would provide "minimal benefits … until the channel is rehabilitated" to address shot rock. Spring-run Chinook salmon and Central Valley steelhead are listed under the federal Endangered Species Act and designated species of special concern under California law; the persistence of shot rock therefore constitutes a significant adverse effect under CEQA (Pub. Res. Code §21068; CEQA Guidelines §15065(a)(1)). FWN-14 cont.

The DEIR's reliance on FERC to consider the impacts of shot rock does not satisfy CEQA. An EIR must itself disclose significant impacts and include enforceable, monitorable mitigation (Pub. Res. Code §21081.6; CEQA Guidelines §15126.4).[27] CEQA does not permit an agency to defer mitigation to another process absent binding commitments, which are lacking here.[28]

A recirculated DEIR must include an enforceable Shot Rock Mitigation Plan, developed in consultation with NMFS, USFWS, CDFW, the SWRCB, and the Army Corps. At a minimum, the plan should require removal or stabilization of existing shot rock deposits associated with project facilities, targeted gravel augmentation, and monitoring following high-flow events. Without this condition, the DEIR fails to mitigate a known, project-related significant impact.

VI. The DEIR Fails to Appropriately Analyze Climate Change and Associated Impacts with the Project FWN-15

[23] Ibid
[24] Pub. Res. Code §§21002, 21081; CEQA Guidelines §15126.4.
[25] FWN Comments to FERC, Dec. 2, 2014, eLibrary no. 20141208-4007.
[26] FWN Comments to FERC, Oct. 30, 2014, eLibrary no. 20141030-5027.
[27] Pub. Res. Code §21081.6; CEQA Guidelines §15126.4.
[28] CEQA Handbook 2025, discussion of mitigation deferral.

The DEIR fails to adequately estimate greenhouse gas emissions from the project. It further claims that operational greenhouse gas emissions associated with the Preferred Project would be *negative*, based on the claim that electricity produced by the Project reduces pressure to produce an equivalent amount of electricity by burning fossil fuels (Page 15-38). However, hydroelectric power is not 'clean and green'. A significant amount of scientific evidence has shown that both reservoirs and hydropower are sources, sometimes significant, of greenhouse gas emissions. For this reason, a cradle-to-grave, life cycle analysis of project greenhouse gas emissions is necessary.

Cradle-to-grave is defined as "the full life cycle assessment from resource extraction ('cradle') to the use phase and disposal phase ('grave')." There is ample precedent for analyzing systems like reservoirs providing ecosystem services through the lens cradle-to-grave, life cycle analysis, including energy systems.[29,30,31,32] More than 770 peer-reviewed studies have been published on the various emissions sources in reservoir systems since they were first identified in 1978. See Appendix 1 for a list of high-impact citations. Assessing the emissions from a project through a more narrowly-defined framework than cradle-to-grave means that significant impacts are left uncounted.

FWN-15 cont.

The DEIR fails to account for the production of greenhouse gases (GHG) through project operations, including of carbon dioxide (CO_2) and methane (CH_4). This production is greatly increased over the natural state by the impoundment of water in the reservoir, leading to increased breakdown of organic material. Hydropower operations also exacerbate methane emissions through degassing by turbines. The International Governmental Panel on Climate Change's 2019 Guidelines for National Greenhouse Gas Inventories[33] provide a thorough and standardized protocol for estimating GHG emissions from projects, including projects impacting aquatic systems. This protocol represents scientific consensus around reasonably foreseeable emissions from project proposals.[34]

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[29] Song, Cuihong, Kevin H. Gardner, Sharon J.W. Klein, Simone Pereira Souza, and Weiwei Mo. "Cradle-to-Grave Greenhouse Gas Emissions from Dams in the United States of America." Renewable and Sustainable Energy Reviews 90 (July 2018): 945–56. https://doi.org/10.1016/j.rser.2018.04.014.

[30] U.S. Environmental Protection Agency. 2024. Life-Cycle GHG Accounting Versus GHG Emission Inventories. https://www.epa.gov/sites/default/files/2016-03/documents/life-cycle-ghg-accounting-versus-ghg-emission-inventories10-28-10.pdf.

[31] National Renewable Energy Laboratory. 2021. Life Cycle Greenhouse Gas Emissions from Electricity Generation: Update. https://www.nrel.gov/docs/fy21osti/80580.pdf.

[32] International Energy Agency. 2023. Life Cycle Upstream Emissions Factors (Pilot Edition). https://www.iea.org/data-and-statistics/data-product/life-cycle-upstream-emission-factors-pilot-edition.

[33] IPCC. 2019. IPCC 2019, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, eds. E. Calvo Buendia, K. Tanabe, A. Kranjc, J. Baasansuren, M. Fukuda, S. Ngarize, A. Osako, Y. Pyrozhenko, P. Shermanau, S. Federici. Switzerland: IPCC.

[34] Authors note that the 2019 IPCC Guidelines represent a baseline for GHG estimations, which should be used as a minimum protocol for conducting such estimates, but that the science behind such emissions estimates has evolved, now demonstrating that the IPCC Guidelines undercount emissions. (*See.* Deemer, BR, JA Harrison, SY Li, JJ Beaulieu, T Delsontro, N Barros, JF Bezerra-Neto, SM Powers, MA dos Santos, and JA Vonk. "Greenhouse Gas

Estimating the contribution of GHGs by a given reservoir or hydropower system is complicated, and impacted by age of the system, characteristics of the reservoir, and the dynamic nature of biological processes that break down organic materials. Nonetheless, a recent report (attached as Appendix 2) has applied the All-Res modeling tool to Englebright Reservoir, and by extension to the larger project, and conservatively estimated annual net production of 110,900 metric tons of carbon dioxide equivalent (MTCO2e).[35] This is by definition an underestimate of YRDP total emissions, because Englebright operations is only one portion of the YRDP project. To have a complete and defensible estimate of project emissions, a life-cycle GHG analysis must be conducted on the whole of the action—in other words, the entire footprint of project operations. At present, the DEIR appears to only estimate emissions from two key sources: (1) construction of the YRDP auxiliary spillway, and (2) maintenance activities (e.g. vehicle emissions from maintenance activities). This partial estimation is piecemealing under CEQA.

In contrast, the DEIR makes the baseless assumption that because the No Project Alternative would result in a complete loss of hydropower production, this would necessarily lead to an additional 124,834 $MTCO_2e$ being released through alternative power generation using fossil fuels (Page 15-52). Again, considering the importance of time scale when estimating CO2 and CH_4 global warming potentials over the next few decades, project emissions, particularly of CH_4, effectively negate the benefits of hydropower production in terms of climate change impacts.

FWN-15 cont.

The primary greenhouse gases that are released by reservoirs and hydropower projects are carbon dioxide (CO_2) and methane (CH_4). A large portion of the CO_2 is released during construction and in the initial period of reservoir operation, decreasing over time. In contrast, CH_4 production becomes relatively more important over time. This longer-term perspective is critical for understanding the climate impacts of hydropower operations. Soued et al. (2023) modeled past, present, and future predicted reservoir emissions patterns (1900-2060).[36] The emission of CO_2 and CH_4 vary with age of the project, since much of the CO_2 is associated with initial construction. Contributions vary over time and strongly differ among reservoirs, in part due to how they are operated. CH_4 emissions will becoming increasingly important contributors to climate change in the future, accounting for >75% of reservoir emissions by 2060 (Soued et al. 2023). Thus, a recirculated DEIR or FEIR should more fully evaluate the potential climate change impacts of the project throughout the full geographic scope of project impacts, and that

Emissions from Reservoir Water Surfaces: A New Global Synthesis." BIOSCIENCE 66, no. 11 (November 2016): 949–64. https://doi.org/10.1093/biosci/biw117.) The All-Res modeling tool incorporates some of the newer science to more accurately estimate project emissions.

[35] Wockner, Gary, Mark Easter, and Gordon McCurry. 2025. Estimate of Greenhouse Gas Emissions caused by the Englebright Dam and Reservoir Facilities using the All-Res Modeling Tool. Appendix 2.

[36] Soued, C., Harrison, J.A., Mercier-Blais, S. *et al.* 2022. Reservoir CO2 and CH4 emissions and their climate impact over the period 1900–2060. *Nat. Geosci.* **15**, 700–705. https://doi.org/10.1038/s41561-022-01004-2.

evaluation should include GHG emissions associated with flooded lands, land use changes, and other emissions pathways outlined in the Englebright All-Res report. FWN-15 cont.

VII. Cumulative Impacts – Incomplete Scope

The DEIR fails to provide an adequate cumulative impact analysis. It does not account for foreseeable upstream and downstream changes, including the Yuba-Bear/Drum-Spaulding relicensings and Bay-Delta Plan amendments. CEQA requires cumulative impact analysis to include reasonably foreseeable projects (14 CCR §15130). By failing to assess how other projects' flow changes could interact with YRDP and Narrows operations, the DEIR understates cumulative effects on fisheries, water supply, and Delta resources. FWN-16

VIII. Conclusion

The Draft EIR for the YRDP and Narrows projects fails to meet CEQA's standards and fails to adequately assess the project's scope and impacts. It omits feasible alternatives and thus does not adequately assess project effects on fisheries, flows, and downstream resources, as addressed in the CDFW-FWS-FWN proposed flow and non-flow measures. The DEIR must be recirculated to provide the public and decisionmakers with the full, accurate evaluation and required mitigation that CEQA requires. FWN-17

Respectfully submitted,



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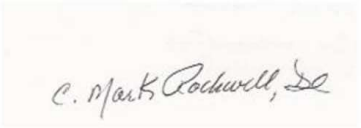

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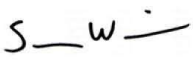

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Appendix 1:

Scientific Studies Documenting Greenhouse Gas Emissions from Dams and Reservoirs: High-impact papers, from 770+ papers since 1978

Appendix 1: Scientific Studies Documenting Greenhouse Gas Emissions from Dams and Reservoirs: High-impact papers, from 770+ papers since 1978

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Appendix 2:

Estimate of Greenhouse Gas Emissions caused by the Englebright Dam and Reservoir Facilities using the All-Res Modeling Tool

Estimate of Greenhouse Gas Emissions caused by the **Englebright Dam and Reservoir Facilities** using the All-Res Modeling Tool



Yuba River below Englebright Dam. Credit: Wikimedia Commons

Prepared by Tell The Dam Truth, Inc.
Funded by Patagonia

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Executive Summary

The hydroelectric facilities connected to Englebright Dam on the Yuba River in California are owned and operated by the Yuba Water Agency. The dam itself is owned by the U.S. Army Corps of Engineers. On its website, Yuba Water Agency claims that its hydropower portfolio is clean energy:

> *Yuba Water Agency owns and operates four separate hydroelectric powerhouses on the Yuba River, including New Colgate Powerhouse, Narrows 1 and 2 Powerhouses and the New Bullards Bar fish release powerhouse.* ***These facilities are ideally suited to provide carbon-free energy and capacity in support of California's resource needs for a reliable, renewable energy grid,*** *and are a flexible complement to solar and wind power*[1]*.*

As described in this report, the statement that these hydroelectric facilities provide "carbon-free energy" is false.

Narrows 1 and Narrows 2, which are the hydropower projects connected to Englebright Dam, are currently undergoing a federal permitting process through the Federal Energy Regulatory Commission (FERC). This process, called "relicensing" is a once-in-a-generation undertaking in which FERC evaluates environmental, cultural, recreational, and economic impacts of a hydropower project, and incorporates public input to balance energy production with public interests.

These ongoing relicensing processes will also include actions by the California State Water Resources Control Board. Further yet, so that endangered and threatened species are not jeopardized, the dam facilities on the Yuba River at Daguerre Point (lower Yuba River below Englebright), Englebright, and New Bullards Bar Dam (the largest storage reservoir on the Yuba River, upstream of Englebright Dam) are being considered for expensive and complex fish passage and trap-and-haul programs—all of which will require additional permitting at the state and federal level. As such, this investigation of Englebright Dam and Reservoir's greenhouse gas emissions is both warranted and timely.

Over the last two decades, knowledge about the environmental impacts of dams and reservoirs has increased significantly, with a focus on the greenhouse gas (GHG) emissions they cause. Recent science has shown that dam, reservoir, and

1 https://www.yubawater.org/152/Hydropower-Facilities

hydropower facilities worldwide cause the emission of hundreds of millions of tons of greenhouse gases including carbon dioxide, methane, and nitrous oxide each year. Methane, an extremely potent climate pollutant, is the largest contributor of climate-heating emissions from these facilities.

In this report, we apply the All-Res Modeling Tool ("All-Res") to estimate the cradle-to-grave, life cycle GHG emissions caused by the Englebright Dam facilities. All-Res is an advancement over existing modeling tools and frameworks because it estimates emissions from all known greenhouse gas emission sources attributed to dam, reservoir, and hydropower systems reported in the scientific literature, and evaluates these over a 100-year life cycle time window.

In All-Res, we use the best available data from federal reports and scientific literature. Where there is a lack of data from the Englebright Dam facilities, we utilize conservative estimates from peer-reviewed literature and other sources, so that the emissions the tool reports are not overstated.

The **Englebright Dam System** is estimated to cause the emission of

110,900

METRIC TONS OF CO_2e/YEAR

The **Englebright Dam System** is estimated to cause the same emissions as

25,000

GAS-POWERED AUTOMOBILES DRIVEN FOR ONE YEAR, OR,

123,000,000

POUNDS OF COAL BURNED IN ONE YEAR, OR,

12,500,000

GALLONS OF GASOLINE CONSUMED IN ONE YEAR

*using the U.S. EPA's emissions comparison tool

The EPA requires large facilities to report emissions that exceed 25,000 metric tons of CO2e/year. Over its life, the Englebright Dam System will cause the emission of more than 4 times that threshold annually.

Multiple claims have been made over the decades about the low environmental and climate impact of hydroelectricity. Those claims do not take into account the significant amounts of climate-heating GHG emissions caused by dams and reservoirs throughout their entire life cycle. We strongly encourage decision-makers and public agencies to consider the GHG emissions caused by these dams in any ongoing or future permitting, funding, and infrastructure decisions.

Introduction

Over the last few decades, dam, reservoir, and hydropower projects have come under increasing scientific scrutiny because of the greenhouse gases (GHGs) they cause to be emitted. Since 1974, more than 770 peer-reviewed scientific studies describe GHGs caused by dam and reservoir projects, including those generating hydropower. Some projects built primarily for hydropower production can cause the emission of more GHGs than coal-fired powerplants producing an equal amount of electricity[2,3,4,5].

In 2022 the U.S. Environmental Protection Agency (EPA) began reporting reservoir surface GHG emissions to the United Nations Framework Convention on Climate Change, using guidelines from the Intergovernmental Panel on Climate Change (IPCC). This EPA reporting set the precedent for GHG reporting in the U.S. during dam permitting and re-licensing processes[6].

Using readily available emissions models that estimate GHGs from dam, reservoir, and hydropower projects, and using data provided from public sources including reports from the U.S. Army Corps of Engineers (USACE), U.S. Bureau of Reclamation, U.S. Geological Survey, U.S. Fish and Wildlife Service, water agencies, scientific publications, and news articles, we developed and applied the All-Res Modeling Tool[7] to calculate the total carbon footprint over the lifecycle of the Englebright Dam System. For the purposes of this report, the Englebright Dam System includes the dam, reservoir and hydropower facilities.

Englebright Dam and Reservoir, located on the Yuba River in the Sacramento River Watershed, east-central California, is owned and operated by the USACE with its hydropower facilities owned and operated by the Yuba Water Agency.

2 https://www.climatecentral.org/news/hydropower-as-major-methane-emitter-18246
3 https://www.washingtonpost.com/news/energy-environment/wp/2016/09/28/scientists-just-found-yet-another-way-that-humans-are-creating-greenhouse-gases/
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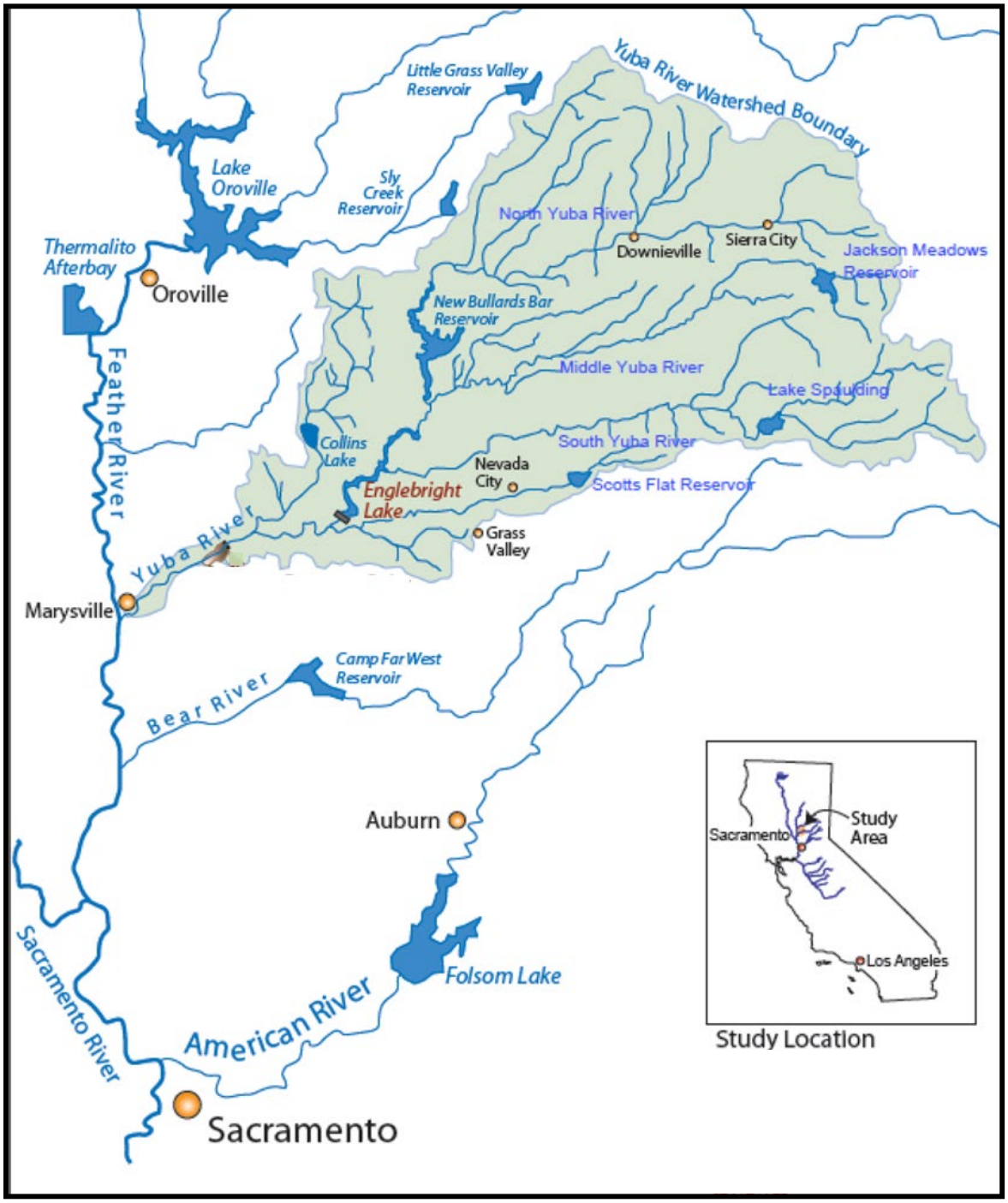
6 https://therevelator.org/dam-emissions-reporting/
7 https://tellthedamtruth.com/all-reservoir-greenhouse-gas-model/

Figure 1:
Vicinity Map
Englebright Dam System



Source: USACE, 2019. Final Interim Feasibility Report & Environmental Assessment, Yuba river Ecosystem Restoration Feasibility Study.

Figure 2: Englebright Dam & Hydropower Facility



Source: Yuba River.org

THE ALL-RES MODELING TOOL

We applied the All-Res Modeling Tool to the Englebright Dam and Reservoir Facility from its initial construction to its inevitable decommissioning, and compared total greenhouse gas emissions to other emissions sources using the U.S. Environmental Protection Agency's emissions comparison calculator[8].

All-Res uses a cradle-to-grave, full life cycle inventory approach to estimate the total carbon footprint of the dams, reservoirs and hydropower systems. All-Res uses a 100-year life cycle period, a common metric in greenhouse gas accounting for these facilities.

All-Res is an advancement over existing modeling tools because it includes all known greenhouse gas emissions attributed to dam, reservoir, and hydropower systems as documented in the peer-reviewed scientific literature. Other existing GHG emissions tools examine only a portion of the life cycle scope and do not include emissions from end-of-life facility decommissioning, downstream emissions due to the impacts on wetland and riparian vegetation, soil and sediment carbon and nitrogen losses caused by the facility, loss of ecosystem function, and the full scope of land-use-change emissions ('carbon leakage').

The following emissions pathways are included in the All-Res Modeling Tool:

- Construction.
- Facility operations and maintenance.
- Facility decommissioning.
- Reservoir surfaces.
- Degassing methane through hydropower turbines and non-hydropower bypasses and spillways.
- Carbon leakage: land use changes away from the reservoir, including deforestation and vegetation changes, to replace inundated farmland, grazing land, and homes.
- Land use changes beneath the reservoir, including loss of carbon sequestration by vegetation that becomes inundated and emissions from anaerobic decay of that vegetation, as well as the lost ecosystem function of future carbon sequestration in the inundated former forest.
- Downstream effects caused by altered river hydrographs and reductions in river flows, including carbon loss from dewatering of wetlands, riparian forests, and estuarian ecosystems

8 USEPA 2025. Greenhouse Gas Equivalencies Calculator. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

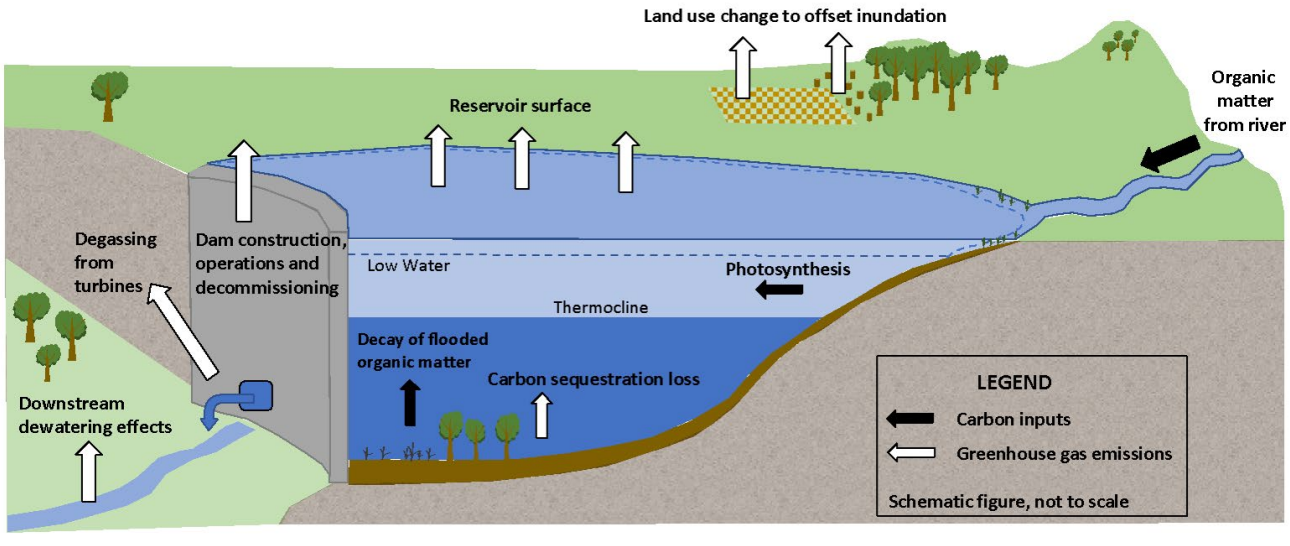
Each of these are described below, including a summary of the key components and methods used to estimate the emissions from each pathway. See Figure 7, below, for a graphical depiction of all emissions sources and pathways.

Per convention as described by the Intergovernmental Panel on Climate Change (IPCC), the tool converts emissions of methane (CH_4) and nitrous oxide (N_2O) emissions into CO_2e (carbon dioxide equivalent) emissions. N_2O emissions are calculated from ecosystem losses downstream, but are not quantified from reservoir surfaces or banks, to avoid the possibility of double-counting emissions already attributed to other sources.

All-Res accounts for the uncertainty of input data and emissions factors by incorporating them into a Monte Carlo simulation to estimate emissions confidence intervals, as recommended by the IPCC[9].

9 Frey, Christopher, Jim Penman, Lisa Hanle, Suvi Monni, and Stephen Ogle. 2003. Chapter 3: Uncertainties, in 2006 IPCC Guidelines for National Greenhouse Gas Inventories. https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/1_Volume1/V1_3_Ch3_Uncertainties.pdf.

Figure 7:
Emissions pathways in a dam and reservoir facility included in All-Res.



EMISSIONS PATHWAYS INCLUDED IN ALL-RES

Construction

Construction is a component of total emissions associated with reservoirs due to the large amount of energy required to manufacture materials such as cement and steel used in construction, as well as the fuel burned by construction equipment on site and to quarry and deliver rock and aggregate used in dam construction.

No records appear to be available that document the amount of concrete, steel, and aggregate used in constructing the dam. The mass of concrete used was estimated based on design diagrams for the dam[10]. The mass of steel used in construction was estimated based on the ratio of steel to concrete used in other dams of comparable size and design[11,12].

Emission factors for fuels burned during construction, and construction materials, are derived from the GREET model[13].

Operations and Maintenance

Emissions from Operations and Maintenance (O&M) activities at the Englebright Dam System include maintenance activities, use of recreational areas around the reservoir, as well as operation of spillways and turbines.

No data were available from the U.S. Army Corps of Engineers or operators of Englebright Dam regarding energy use to operation the Englebright Dam system. The emissions from operations are assumed to be small, considering the small size of the powerplant (58.8 MW, or ~3% of the capacity at Hoover dam) and the small size of the reservoir (3.3 square kilometers, or 0.5% the surface area of Lake Mead Reservoir).

Emissions from recreational use from the reservoir were estimated using U.S. Army Corps of Engineers Fact Sheets on visitation[14], combined with California state modeling standards for estimating emissions from boating activities[15]. Miles traveled to visit the reservoir were estimated from survey data provided by the State of California[16].

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10 U.S. Army Corps of Engineers. 1986. Harry L. Englebright Lake. Yuba River, California. Seismic Evaluation of Englebright Dam. https://apps.dtic.mil/sti/pdfs/ADA436403.pdf

11 U.S. Bureau of Reclamation: https://www.usbr.gov/uc/rm/crsp/gc/

12 Pacca, S. and A. Horvath. 2002. Greenhouse Gas Emissions from Building and Operating Electric Power Plants in the Upper Colorado River Basin. Environ. Sci. Technol. 2002, 36:3194-3200.

13 Wang, M Q. 1996. “Development and use of the GREET model to estimate fuel-cycle energy use and emissions of various transportation technologies and fuels”. United States. https://doi.org/10.2172/230197. https://www.osti.gov/servlets/purl/230197.

14 U.S. Army Corps of Engineers. 2017-2024. Value to the Nation Fast Facts for Englebright Reservoir.

15 California Air Resources Board. Air Quality Planning and Science Division. 2013. Appendix J: Recreational Watercraft Emissions Inventory Methodology. https://ww2.arb.ca.gov/sites/default/files/2023-08/pc2014_technical_document.pdf

16 Sacramento-San Joaquin Delta Boating Needs Assessment. Chapter 4: Statewide Survey Summaries and User Assessment. https://www.waterboards.ca.gov/waterrights/water_issues/programs//bay_delta/california_waterfix/exhibits/docs/petitioners_exhibit/dwr/part2/dwr1097/Chapter%204.pdf

Reservoir Surfaces

Greenhouse gases can enter the atmosphere from the surface of the water body. These gases come from decomposing organic matter that flows into a reservoir from its watershed, from decomposed organic matter in vegetation and soils inundated at the time the reservoir filled, and from organic matter fixed through photosynthesis by aquatic plants and algae in the reservoir. Microbes in the reservoir water column and in reservoir sediments consume the organic matter and release CO_2 in oxygen-rich portions of the reservoir, and produce CH_4 in the oxygen-depleted depths and sediments of the reservoir. The gases move to the surface through diffusion and bubbling (ebullition). CH_4 that is not oxidized by CH_4 -consuming organisms in the water column during diffusion and ebullition are emitted from the reservoir surface. CO_2 not taken up by aquatic plants and algae in the water column is also emitted from the reservoir surface.

Due to the different processes involved in the production of various gases, and to avoid double-counting, All-Res conservatively limits surface emissions estimates to CH_4.

For littoral regions of Englebright Reservoir we applied emissions factors derived from measurements of surface CH_4 reported for temperate hydropower reservoirs by Miller *et al.* (2017)[17]. Littoral regions are defined as regions where sediment accumulates and the water depth is less than 10 meters. This includes areas near reservoir banks, in tributaries that flow into the reservoir, and in the upper reaches of the reservoir. Methane ebullition emissions dominate littoral regions.

Emissions from littoral areas were estimated annually as the reported emissions factor from Miller *et al*. (2017) multiplied by average annual reservoir surface area that was 10m or less depth, derived from bathymetric data reported by Childs *et al* (2003) and Snyder *et al*. (2004)[18]. Changes in water levels in Englebright Reservoir affected the size of the littoral and non-littoral areas. Water levels fluctuated by more than 20m every fall for irrigation water supply until completion of New Bullard Bar Dam in 1970 (Snyder *et al*, 2006). In addition, the sedimentation rates for this reservoir were high, averaging more than 5,000 kg/yr (Curtis *et al*, 2005), causing the bed elevation to rise and littoral areas to increase over time. To obtain accurate life cycle estimates of surface emissions, reservoir littoral areas were

17 Miller, Benjamin L., Evan V. Arntzen, Amy E. Goldman, and Marshall C. Richmond. "Methane Ebullition in Temperate Hydropower Reservoirs and Implications for US Policy on Greenhouse Gas Emissions." Environmental Management 60, no. 4 (October 2017): 615–29. https://doi.org/10.1007/s00267-017-0909-1.

18 Snyder, Noah P., David M. Rubin, Charles N. Alpers, Jonathan R. Childs, Jennifer A. Curtis, Lorraine E. Flint, and Scott A. Wright. "Estimating Accumulation Rates and Physical Properties of Sediment behind a Dam: Englebright Lake, Yuba River, Northern California." Water Resources Research 40, no. 11 (November 2004): 2004WR003279. https://doi.org/10.1029/2004WR003279.

evaluated for four periods (1941-1962, 1962-1970, 1971-2001, and 2001-2040) and for eight zones within the reservoir as defined from coring data by Childs *et al* (2003). Prior to 1971, average annual littoral areas were calculated as the time-weighted littoral areas determined for the high and low reservoir water levels. Water levels have remained relatively steady since 1971, so the average annual littoral area was calculated for the 1971-2001 period using the average water level and estimated bed elevation in 1986, at the midpoint of this period.

Methane emissions from non-littoral (deep water, > 10m) were estimated using satellite-based measurements of chlorophyll a in Englebright Reservoir using the LAGOS-LANDSAT dataset[19]. Surface methane was estimated from a regression model correlating surface methane emissions with chlorophyll a measurements, derived from Deemer *et al*. (2016)[20] [21].

Because All-Res uses a life cycle assessment over a 100-year period as the basis of study, the future areas in littoral and non-littoral portions of the reservoir had to be estimated. For the period of 2002-2040 a linear regression model was developed that extrapolates sediment accumulation in the final years of the period of record (1997-2001) from Snyder *et al*. (2004) through the end of the life cycle period (2040). The projected sediment elevation in 2018, at the midpoint of this period, was used to estimate littoral areas for this final evaluation period.

Turbines and Bypass Tubes

Discharge of reservoir water through turbines or outlets, referred to here as the turbines and bypass tubes pathway, can be a source of significant CH_4 emissions. These emissions are due to degassing of CH_4 -rich water discharged from the oxygen-depleted depths of reservoirs (the hypolimnon) through turbines and bypass tubes. The bypass tubes at Englebright Dam lie below the turbine intakes and are utilized to deliver reservoir water to the river channel downstream after the reservoir elevation drops below power pool or to deliver cooler water downstream to support fish and wildlife habitat[22]. Turbines and bypass tubes release methane due to the rapid drop in hydrostatic pressure when water exits turbines or bypass tubes into the river downstream. CH_4 emissions are much higher for turbine and

19 Hanly, Patrick J., Katherine E. Webster, and Patricia A. Soranno. "LAGOS-US LANDSAT: Remotely Sensed Water Quality Estimates for U.S. Lakes over 4 Ha from 1984 to 2020," May 14, 2024. https://doi.org/10.1101/2024.05.10.593626.

20 Deemer, BR, JA Harrison, SY Li, JJ Beaulieu, T Delsontro, N Barros, JF Bezerra-Neto, SM Powers, MA dos Santos, and JA Vonk. "Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis." BIOSCIENCE 66, no. 11 (November 2016): 949–64. https://doi.org/10.1093/biosci/biw117.

21 multiple R2 = 0.78-0.83, F=57.9-81.4, p<0.001

22 Yuba County Water Agency. 2021. Exhibit B: Project Operations and Resource Utilization, in Applicatioon for New License: Major Project – Existing Dam. Narrows Hydroelectric Project, FERC Project No. 1403. https://www.yubawater.org/DocumentCenter/View/4892/21---PAD-App-C-Draft-Exhibit-B-Project-Ops---Final

bypass tube outlets that are situated in the CH_4-rich hypolimnion, due to the anoxic conditions present in those waters. CH_4 emissions at turbine and bypass tube outlets located within the hypolimnion are comparable in scale to reservoir surface emissions[23] [24]. A value of 80% of surface emissions was used in All-Res to conservatively estimate CH_4 emissions through the turbine and bypass tubes pathway, derived from calculations made by Delwiche *et al*. (2022).

Land Use Change

Inundation of vegetated land beneath a reservoir affects greenhouse gas emissions in two pathways: the loss of ecosystem function as future carbon sequestration (uptake) from the land that was inundated[25]; and the production of CO_2 due to decomposition of organic matter in inundated trees, shrubs, and grasses[26], and in the soil at the reservoir bottom[27].

The equivalent emissions of lost carbon sequestration are quantified using the IPCC greenhouse gas inventory guidance for estimating the total carbon stock and the rate of change of carbon stock at the time of inundation.[28,29,30] Riparian forests are estimated to have covered 50% of the reservoir area in the Englebright Dam systems at the time of inundation[31]. Riparian forest carbon was derived from studies from a regional dataset[32]. The remaining area is assumed to have been exposed bedrock due to the incised canyon that was flooded.

Beaulieu *et al*. (2020)[33] and Deemer *et al* (2016)[34] estimated that 73% and 84% (respectively) of the organic matter in trees and soils under a reservoir at the

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23 Delwiche et al, 2022. Estimating Drivers and Pathways for Hydroelectric Reservoir Methane Emissions Using a New Mechanistic Model. JGR Biogeosciences, 127, e2022JG006908. https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2022JG006908

24 Deemer, B. R., Harrison, J.A., Li, Jake J. Beaulieu, Tonya DelSontro, Nathan Barros, José F. Bezerra-Neto, Stephen M. Powers, Marco A. dos Santos, and J. Arie Vonk. "Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis." BioScience 66, no. 11 (November 1, 2016): 949–64. https://doi.org/10.1093/biosci/biw117

25 Eve et al, 2014. Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity□Scale Inventory. Technical Bulletin Number 1939. U.S. Department of Agriculture, Washington, DC. 606 pages. https://www.usda.gov/sites/default/files/documents/USDATB1939_07072014.pdf

26 Beaulieu, JJ, S Waldo, DA Balz, W Barnett, A Hall, MC Platz, and KM White. "Methane and Carbon Dioxide Emissions From Reservoirs: Controls and Upscaling." Journal Of Geophysical Research-Biogeosciences 125, no. 12 (December 2020). https://doi.org/10.1029/2019JG005474.

27 Félix-Faure, J, C Walter, J Balesdent, V Chanudet, JN Avrillier, C Hossann, JM Baudoin, and E Dambrine. "Soils Drowned in Water Impoundments: A New Frontier." Frontiers In Environmental Science 7 (April 24, 2019). https://doi.org/10.3389/fenvs.2019.00053

28 Penman et al, 2003. Good Practice Guidance for Land Use, Land-Use Change and Forestry. IPCC National Greenhouse Gas Inventories Programme. https://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/GPG_LULUCF_FULL.pdf

29 Lasco et al, 2006. Volume 5 Chapter 5, Cropland. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_05_Ch5_Cropland.pdf

30 Lovelock et al. 2019. 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chater 7: Wetlands. https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch07_Wetlands.pdf

31 Holman, Kathleen & Pearson, Christopher & Jasoni, Richard & Huntington, Justin & Volk, John. (2022). Evaporation from Lake Englebright: In-situ Monitoring between 2018 and 2021. DOI: 10.13140/RG.2.2.19477.19684.

32 Dybala, Kristen E., Virginia Matzek, Thomas Gardali, and Nathaniel E. Seavy. 2018. Carbon sequestration in riparian forests: A global synthesis and meta-analysis. Global Change Biology. DOI:10.1111/gcb.14475

33 Beaulieu, JJ, S Waldo, DA Balz, W Barnett, A Hall, MC Platz, and KM White. "Methane and Carbon Dioxide Emissions From Reservoirs: Controls and Upscaling." Journal Of Geophysical Research-Biogeosciences 125, no. 12 (December 2020). https://doi.org/10.1029/2019JG005474

34 Deemer, B. R., Harrison, J.A., Li, Jake J. Beaulieu, Tonya DelSontro, Nathan Barros, José F. Bezerra-Neto, Stephen M. Powers, Marco A. dos Santos, and J. Arie Vonk. "Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis." BioScience 66, no. 11 (November 1, 2016): 949–64. https://doi.org/10.1093/biosci/biw117

time of inundation is decomposed into CO_2. The remainder is estimated to be decomposed into CH_4. The CH_4 emissions from inundated organic matter are included in surface emissions and the CO_2 emissions are included in emissions from land use change, to avoid double-counting. All-Res uses the average percentage of decomposable organic matter from the range listed above.

Land Use Changes Away From The Reservoir (Carbon Leakage)

"Carbon leakage" describes the change in CO_2 emissions that occur due to a land use change away from a reservoir to replace land uses in areas that were inundated.

No studies were found for the Englebright Dam System that documented the extent of settlements or other use by Indigenous peoples or European settlers, nor the land uses under the reservoir footprint at the time the lands were flooded. For the purposes of this study the land was treated as largely uninhabited and so there are no emissions assumed for this category.

Downstream Effects

A reservoir can affect emissions in downstream areas due to changes in river flow. Reservoirs typically decrease river flow downstream due to evaporation from reservoir surfaces and diversions for irrigation, cities, and other uses, which reduces and dries out wetlands and other riparian vegetation downstream. The organic matter in the plants and soils of those lost wetlands decompose, producing CO_2 and N_2O. In addition, hydropower reservoirs can affect downstream emissions due to fluctuating river levels caused by changes in the hydrologic flow regime. The latter effects may be similar to those for shorelines of reservoirs, with additional emissions produced due to the alternating exposure and subsequent inundation of the riverbanks.

Irrigation water was diverted from the Englebright Dam system early in its history, however no irrigation water has been diverted from the dam since 1996 (Snyder *et al*. (2004)). Evaporation from the system was estimated at 989 acre-feet/year based on evaporation rates developed for California reservoirs by Baldocchi *et al*. (2019)[35].

35 Baldocchi, D., Dralle, D., Jiang, C., &Ryu, Y. (2019). How much water isevaporated across California? Amultiyear assessment using abiophysical model forced with satelliteremote sensing data. Water ResourcesResearch, 55, 2722–2741. https://doi.org/10.1029/2018WR023884

The evaporative losses are expected to lead to a loss of approximately 17 acres of freshwater wetlands in the Sacramento River Delta, based on its fraction of annual water flows in the Sacramento River watershed. This degree of loss is considered to be within the margin of error of wetlands modeling systems for the region, and therefore downstream wetland losses are not included in this analysis.

Decommissioning

Decommissioning a reservoir has the potential to produce a significant amount of both CH_4 and CO_2 from the mineralization and decomposition of carbon present in exposed sediments. Methane accumulates in sediments deposited in a reservoir and is held in place by the hydrostatic pressure of the water column, until CH4 gas pressure within the sediments is large enough that ebullition (bubbling) events release CH4 to the reservoir surface. When reservoirs inevitably must be decommissioned, water levels drop to and below the surface of the sediment and the loss of that hydrostatic pressure releases methane stored in the sediments[36,37]. Pacca (2007)[38] and Amani *et al*. (2022) [39] estimated significant emissions from sediments during the reservoir decommissioning process. Evidence indicates that the emissions from decommissioning are directly proportional to the amount of sediment captured by the dam. The longer the dam operates, the more sediment accumulates, and the larger the emissions will be at the time of inevitable decommissioning. Emissions for the Englebright Dam Facilities were estimated using the Pacca (2007) modeling framework based upon the measured sediment accumulation rates and bathymetric data to estimate total sediment load in the reservoir at the time of decommissioning, along with physical and chemical attributes of the sediment documented in scientific literature[40] [41].

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36 Varadharajan, Charuleka, and Harold F. Hemond. “Time‐series Analysis of High‐resolution Ebullition Fluxes from a Stratified, Freshwater Lake.” Journal of Geophysical Research: Biogeosciences 117, no. G2 (June 2012): 2011JG001866. https://doi.org/10.1029/2011JG001866.

37 Beaulieu, Jake J., David A. Balz, M. Keith Birchfield, John A. Harrison, Christopher T. Nietch, Michelle C. Platz, William C. Squier, et al. “Effects of an Experimental Water-Level Drawdown on Methane Emissions from a Eutrophic Reservoir.” Ecosystems 21, no. 4 (June 1, 2018): 657–74. https://doi.org/10.1007/s10021-017-0176-2.

38 Pacca, S., 2007. Impacts from decommissioning of hydroelectric dams: a life cycle perspective. Climatic Change, Vol 84 pp 281-294. https://link.springer.com/article/10.1007/s10584-007-9261-4

39 Amani, M, D von Schiller, I Suárez, M Atristain, A Elosegi, R Marcé, G García-Baquero, and B Obrador. “The Drawdown Phase of Dam Decommissioning Is a Hot Moment of Gaseous Carbon Emissions from a Temperate Reservoir.” INLAND WATERS 12, no. 4 (October 2, 2022): 451–62. https://doi.org/10.1080/20442041.2022.2096977.

40 Curtis, J.A., Flint, L.E., Alpers, C.N., Wright, S.A., and Snyder, N.P., 2006, Use of Sediment Rating Curves and Optical Backscatter Data to Characterize Sediment Transport in the Upper Yuba River Watershed, California, 2001–03: U.S. Geological Survey Scientific Investigations Report 2005–5246, 74 p.

41 Snyder, Noah et al. 2004. “Sediment Grain-Size and Loss-on-Ignition Analysis from 2002 Englebright Lake Coring and Sampling Campaigns.” USGS Open-File Report 2004-1080.

Uncertainty Analyses

The All-Res Modeling Tool includes an uncertainty analysis that utilizes the Monte Carlo processes recommended by the IPCC[42]. The method incorporates published probability distributions of emissions factors, carbon stocks, construction materials, and activity data, based on published means, ranges, and standard deviations. Using a 1000-iteration approach, the resulting emissions are described by their mean and percentile distributions. The uncertainty analysis was not applied to emissions associated with the Operations and Maintenance pathways since data from which those emissions were derived from data in Bureau of Reclamation documentation and scientific reports that provided no confidence intervals[43] [44].

42 Eve et al, 2014. Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity□Scale Inventory. Technical Bulletin Number 1939. U.S. Department of Agriculture, Washington, DC. 606 pages. https://www.usda.gov/sites/default/files/documents/USDATB1939_07072014.pdf

43 U.S. Bureau of Reclamation, Englebright Unit: https://www.usbr.gov/uc/rm/crsp/gc/

44 Pacca, Sergio and Arpad Horvath. 2002. Greenhous Gas Emissions from Guiding and Operating Electric Power Plants in the Upper Colorado River Basin. Environmental Science and Technology (36):3194-3200

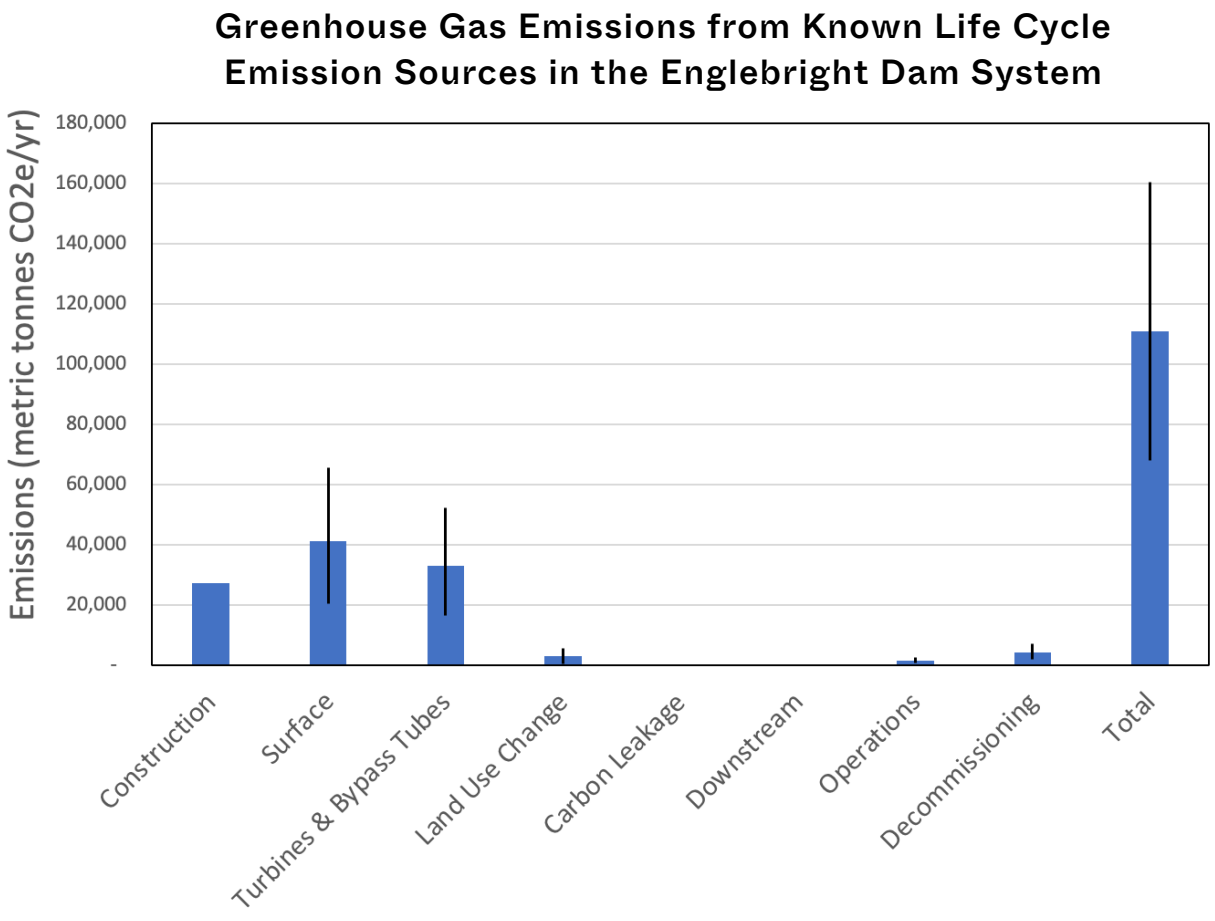
THE ENGLEBRIGHT DAM SYSTEM RESULTS

The Englebright Dam System is estimated to emit approximately 11.1 million metric tons of CO_2e over a 100-year life cycle projection, or approximately 110,900 metric tons of CO2e/year. The statistically-based mean emissions are, in decreasing order approximately (see Table 1 and Figure 8 below):

Table 1:
Estimated Greenhouse Gas Emissions From Known Life Cycle Emissions Sources caused by **Englebright Dam System**

	METRIC TONS OF CO_2e A YEAR
CH_4 from the reservoir surface, turbines, and bypass tubes	74,460
Initial Dam Construction	27,432
Land Use Change & Lost Carbon Sequestration	3,025
Decommissioning	4,298
Operations and Maintenance	1,700

Figure 8: Distribution of estimated emissions of CO2e/year by emissions pathway for the Englebright Dam System. The blue bars show the mean emissions +/- 95% confidence interval.



For comparison, using the EPA's GHG emissions calculator[45], this amount of yearly emissions is equivalent to the emissions described in Figure 9 below.

The values shown below should be considered approximate since they are based on the average emissions developed from the uncertainty analysis for each emissions pathway.

For further comparison, the U.S. Environmental Protection Agency required that certain large emitters in the U.S. report under the EPA's Greenhouse Gas Reporting Program if their emissions equaled or exceeded 25,000 metric tons of CO2e/year[46]. The Englebright Dam System's estimated yearly emissions are approximately four times greater than the EPA's reporting threshold.

Figure 9: Emissions Comparisons From EPA's Greenhouse Gas Equivalencies Calculator

Equivalent emissions for **110,900** metric tons of CO_2

26,000
GAS-POWERED AUTOMOBILES DRIVEN FOR ONE YEAR, OR,

98,000
ELECTRIC-POWERED AUTOMOBILES DRIVEN FOR ONE YEAR, OR,

282,000,000
MILES DRIVEN BY AVERAGE GAS POWERED VEHICLE FOR ONE YEAR, OR,

12,500,000
GALLONS OF GAS CONSUMED FOR ONE YEAR, OR,

11,000,000
GALLONS OF DIESEL CONSUMED FOR ONE YEAR, OR,

123,000,000
POUNDS OF COAL BURNED IN ONE YEAR, OR,

1,500
TANKER TRUCKS' WORTH OF GASOLINE

45 U.S. EPA Greenhouse Gas Equivalencies Calculator. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator
46 U.S. EPA Greenhouse Gas Reporting Program. https://www.epa.gov/ghgreporting

Notes Regarding Conservative Emissions Estimates

The emissions estimated in this report are likely a conservative under-estimate of the actual emissions from the Englebright Dam Systems, for the following reasons:

- The assumption that turbine emissions are 80% of surface emissions is estimated as the lower end of the emissions range reported in the scientific literature.
- Emissions from banks of the Reservoir or the Yuba River downstream of the Englebright Dam are not included. Emissions from these locations are likely due to fluctuating water levels which periodically exposed submerged sediment.
- CO2 emissions from the reaches of the Yuba River and its tributaries that were submerged by Englebright Reservoir.
- Downstream effects. The loss of carbon sequestration downstream of the Reservoir was calculated but not included in the overall emissions due to its small magnitude.

THE AUTHORS

Tell The Dam Truth (TTDT) fights the climate crisis by advocating for the protection and restoration of river ecosystem biodiversity and carbon sequestration. TTDT works to include all of the impacts of dams in all public decision-making around dam permitting, re-licensing, and decommissioning.

TELLTHEDAMTRUTH.COM

Gary Wockner, PhD, is an award-winning environmental activist and author who directs Tell The Dam Truth. Gary has over two decades of experience protecting rivers in Colorado, the Southwest U.S., and across the world. He has written and lectured extensively for public audiences and the media about the greenhouse gas emissions caused by dams and reservoirs.

Mark Easter is an ecologist, retired from Colorado State University, where he worked for over two decades developing and implementing ecosystem greenhouse gas accounting methods and decision support systems for agriculture, forestry, wetlands, and other land uses. He has authored or co-authored more than fifty publications and contributed to multiple others in the field of ecosystem GHG accounting. Mark has a popular science book on the carbon footprint of food titled *The Blue Plate: A Food Lover's Guide to Climate Chaos* in production, scheduled to be released in the summer of 2024. Mark is a TTDT consultant.

Gordon McCurry, PhD, is a hydrologist with more than 35 years of experience with quantitative analyses and modeling of groundwater and surface water systems. He has been involved in evaluating the hydrologic effects of climate change for several decades, focusing on how changes in precipitation and temperature affect both water supply and water demand, and how water management practices need to adapt to our new hydrology. Gordon is a TTDT consultant.

Responses to Comment Letter – Foothills Water Network

FWN-1 This comment provides introductory statements and a summary of following comments regarding the adequacy of the DEIR. This comment is noted, and all topics are addressed in the following responses.

FWN-2 This comment discusses CEQA's role during hydropower project relicensings, including for obtaining a water quality certification from the SWRCB. Chapter 1, Introduction, of the DEIR discusses these and other issues. This comment does not specifically address the contents, analysis, or conclusions of the DEIR, and no further response is required.

FWN-3 The comment states that the DEIR's project description improperly omitted Englebright Dam and Reservoir. This is incorrect, as these facilities are not part of the Proposed Projects. FERC does not have jurisdiction over federal facilities. Therefore, the new licenses to be issued for the YRDP and Narrows Project cannot include Englebright Dam, Reservoir, or the intake and USACE portion of the tunnel that delivers water to the Narrows Project as licensed project works. Rather, FERC licenses only the non-federal facilities of a hydroelectric project (Rivertec Partners LLC, 156 FERC ¶ 62,162 at P 3 n.3 (2016)). Therefore, the USACE's structures, which include Englebright Dam and Englebright Reservoir, are not licensed project works for which FERC has jurisdiction to include a license. Whereas the commentor correctly provides the definition of a "project" as defined by the Federal Power Act, the commentor fails to account for the distinction between federal and non-federal project works, or that nationally, FERC does not designate federal structures or features as project works within a FERC-jurisdictional license.

Although Englebright Dam and Reservoir are not FERC-jurisdictional project works, over the course of the relicensing process, and consistent with FERC's National Environmental Policy Act analysis of the Projects in support of issuance of the new licenses, Yuba Water has performed extensive studies related to flows downstream of Englebright Dam, as well as studies within, and modeling of, Englebright Reservoir. Furthermore, through consultation with CDFW, NMFS, and additional relicensing parties, Yuba Water's Proposed Projects, as well Alternatives 1 and 2, include measures related to flows and ramping rates downstream of Englebright Dam and water elevations within Englebright Reservoir. The DEIR describes Englebright Dam and Reservoir on pages 2-26 to 2-27 and includes Englebright Dam and Reservoir in the geographic scope of the impact analyses. Therefore, the fact that FERC cannot designate USACE structures as project works in the new licenses to be issued for the YRDP and Narrows Project has not limited the DEIR's analysis of resources upstream or downstream of Englebright Dam relative to the issuance of the new licenses.

The capacity of Englebright Reservoir, 50,000 acre-feet, is included in Section 2.3.3.1 of the DEIR. Given that Englebright Reservoir is not a FERC project

works that will be included in the new FERC licenses to be issued for the YRDP or Narrows Project, the capacity is not included in Table 2.3-2.

FWN-4 The comment states that Alternative 1 is speculative and infeasible. See Response to Comment NID-3.

FWN-5 This comment introduces following comments. See Responses to Comments FWN-6, FWN-7, FWN-8, FWN-9, FWN-10, and FWN-11. The comment states that the DEIR only evaluates Alternative 1, Alternative 2, and the No Project Alternative. Yuba Water notes that, in addition to these three alternatives (which are evaluated in the same level of detail as the Proposed Projects), the DEIR identifies and discusses a number of other alternatives that were ultimately eliminated from further consideration (See DEIR, pp. 3-14 to 3-32).

FWN-6 This comment states that the DEIR's project objectives do not comply with CEQA. An EIR's project description must include "[a] statement of the objectives sought by the proposed project," which "should include the underlying purpose of the project and may discuss the project benefits." (CEQA Guidelines § 15124, subd. (b)). Among other things, these objectives "help the lead agency develop a reasonable range of alternatives to evaluate in the EIR" (*Ibid.*). Thus, "a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal." (*In re Bay–Delta etc.* (2008) 43 Cal.4th 1143, 1166.)

Chapter 2, Project Description, identifies the objectives of both the Proposed YRDP Relicensing and the Proposed Narrows Project Relicensing. Consistent with CEQA's requirements, these objectives reflect the underlying purpose of the Proposed Projects (i.e., obtaining new FERC licenses for the YRDP and Narrows Project), as well as the general benefits that Yuba Water hopes to achieve or maintain through the relicensing process. The comment does not demonstrate that Yuba Water's project objectives are unreasonable or that they impermissibly narrowed the scope of alternatives discussed in the DEIR.

The comment characterizes objective 5 for the Proposed YRDP Relicensing as "outcome-specific" and states that the objective "unlawfully introduces YCWA's specific viewpoint regarding the equitable allocation of protective activities into the preferred alternative." This is incorrect. Yuba Water developed objective 5 in direct response to FERC's recognition that "upper basin transfers restrict YCWA's ability to maintain cooler water in the river from July through November during drier years when water temperatures are more constraining for listed fish" and resulting request that Yuba Water, NID, and PG&E develop a proposal for "the equitable allocation of the water that is needed in the Yuba River basin to protect ESA-listed fish species and their designated critical habitat." In any event, CEQA does not prohibit a lead agency from having a "specific viewpoint" about the types of benefits that it

hopes to achieve in carrying out its proposed project, as the comment suggests. (*California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App.4th 227, 276–277 ["CEQA does not restrict an agency's discretion to identify and pursue a particular project designed to meet a particular set of objectives"]; see also *San Diego Citizenry Group v. County of San Diego* (2013) 219 Cal.App.4th 1, 14 [rejecting argument that objectives have been given "an impermissibly narrow construction" to limit discussion of mitigation measures].)

Moreover, objective 5 does not operate to "relieve YCWA of its obligation to mitigate the impacts of the YRDP and the Narrows Project," as the comment suggests. The DEIR evaluated the environmental impacts associated with Yuba Water's acceptance and implementation of new FERC licenses for the YRDP and Narrows Project under the Proposed Projects, Alternative 1, and Alternative 2, and identified mitigation measures for potentially significant impacts where appropriate and feasible. Objective 5 did not in any way constrain that analysis or otherwise preclude Yuba Water from identifying and considering feasible mitigation for potentially significant impacts of the Proposed Projects, as required by CEQA.

Finally, the comment states that objective 5 is fatally flawed because Alternative 1 is "conditional and subject to FERC's acceptance and implementation." See Response to Comment NID-3.

The comment states that objective 6 for the Proposed YRDP Relicensing is improperly "focused on generating revenue for programs (such as funding for local projects or disadvantaged communities) that are unrelated to the core purpose of the hydroelectric project relicensing." This is incorrect. Generating revenue from hydropower generation is plainly an element and benefit of relicensing. CEQA does not prohibit Yuba Water from considering how the relicensings (and associated changes in existing hydropower revenues) may affect the longevity of beneficial programs that Yuba Water is currently funding. (*Surfrider Foundation v. California Regional Water Quality Control Bd.* (2012) 211 Cal.App.4th 557, 583 [holding it was not improper to consider economic objectives]; see also *California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App.4th 227, 276–277 ["CEQA does not restrict an agency's discretion to identify and pursue a particular project designed to meet a particular set of objectives"].)

Importantly, although the comment suggests that objectives 5 and 6 improperly narrowed the DEIR's scope of review, Yuba Water points out that the DEIR did not eliminate any alternatives from further analysis simply based on a failure to meet these objectives. The comment does not demonstrate that the DEIR's inclusion of these objectives resulted in the omission of any alternatives that could feasibly avoid or reduce the Proposed Projects' impacts or otherwise tainted the DEIR's analysis.

FWN-7 The comment introduces following comments. See Responses to Comments FWN-8, FWN-9, and FWN-10.

FWN-8 The comment states that "the DEIR analyzes the operation of a dual intake at New Bullards Bar Reservoir only as a component of Alternative 1," despite the SWRCB's request that Yuba Water analyze the dual intake separately from Alternative 1. The comment is incorrect. At the SWRCB's request, and as confirmed in the SWRCB's own comments on the DEIR, Yuba Water included the use of both intakes at New Bullards Bar in the Proposed Projects as well as in Alternative 1 and Alternative 2 (as a proposed WQC condition for the YRDP Relicensing), and therefore an additional alternative including the dual intake is unnecessary. Moreover, because the Proposed Projects would not result in significant environmental impacts associated with water temperatures, no further analysis of alternatives or mitigation measures proposing "other temperature-control strategies" is required.

FWN-9 This comment states that the DEIR improperly rejected the proposed CDFW-FWS-FWN Floodplain and FPA Section 10(j) Flow Recommendations Alternative. Although Yuba Water ultimately eliminated this alternative from further consideration, the DEIR includes a four-page discussion that describes the alternative, cites Yuba Water's relevant prior technical analyses, explains why the potential environmental benefits would be limited, identifies various environmental and financial feasibility considerations, and evaluates the alternative's consistency with the project objectives. As explained in the DEIR, Yuba Water's decision to eliminate this alternative from further review is consistent with FERC's earlier determination, based on its preparation of the 2019 FEIS for the YRDP Relicensing, that the alternative did not have merit and should not be adopted.

Yuba Water thoughtfully considered the proposed alternative and properly rejected it from further consideration for a variety of reasons. While the comment generally disagrees with the DEIR's analysis of this alternative, it does not specifically undermine the DEIR's reasoning for eliminating the alternative from further analysis, nor does the comment provide substantial evidence that the proposed alternative would avoid or lessen any of the potential environmental impacts of the Proposed Projects. Moreover, Yuba Water notes that, while the proposed alternative was initially developed in consultation with CDFW and USFWS, neither of those agencies raised this issue in comments on the DEIR.

FWN-10 This comment states that the DEIR "does not evaluate the FERC Staff Alternative on a stand-alone basis" and instead "collapses the Staff Alternative into 'Alternative 1'" to avoid a direct comparison between the two. This is incorrect. The Proposed Projects include the license measures proposed by Yuba Water as well as "FERC Staff recommended modifications of Yuba

Water's proposal and additional measures" (i.e., the FERC Staff Alternative) (DEIR, p. 2-1; see DEIR, pp. 2-40 to 2-111).

FWN-11 This comment states that "The DEIR does not consider flow reductions in meeting instream flow objectives in order to meet the sometimes-conflicting coldwater habitat objective." And that, as a result, the assessment associated with Alternative 2 likely overstates potential impacts to water supply. The comment also states that the July 2025 Draft Bay-Delta Plan update's Water Supply Adjustments would reduce required flows.

Since the SWRCB did not provide specific guidance for implementing the unimpaired flow requirement, Yuba Water used its discretion to interpret the SWRCB's direction in the October 2024 Bay-Delta Plan. As described in NID 28, Yuba Water's implementation of the unimpaired flow requirements was consistent with the SWRCB's own SacWAM modeling, and as described in NID-30, the SWRCB stated Yuba Water's implementation of Alternative 2 was consistent with the October 2024 regulatory pathway.

As described in Response to Comment SB-7, Yuba Water is providing additional modeling representing the July 2025 Bay-Delta Plan update in Appendix 1 to the FEIR. Response to Comment SB-7 does not change the DEIR analyses or impact conclusions for the Proposed Projects or the alternatives, and the additional modeling and evaluation is provided only to respond to the SWRCB's request. Moreover, as explained in Response to Comments SB-7 and NID-6, Yuba Water's future compliance with a possible Bay-Delta Plan Update regulatory pathway is not a true alternative to the Proposed Projects and was evaluated in the DEIR for informational purposes only.

FWN-12 This comment introduces following comments. See Responses to Comments FWN-13 and FWN-14.

FWN-13 The comment states that mitigation is required for impacts to public access. As an initial matter, Yuba Water does not consider access to recreation opportunities, on its own, to be an environmental impact. (*Save Our Access etc. v. Watershed Conservation Authority* (2021) 68 Cal.App.5th 8, 26–29 [reducing access to recreation sites may be "an adverse social impact for those who must recreate elsewhere," but not a physical environmental impact].)

Regardless, the "lack of public access" for recreation below New Bullards Bar Dam discussed in the comment is not a new impact of the Proposed Projects. The comment is requesting that Yuba Water provide increased access beyond what is currently available; it is not proposing measures intended to make up for a decrease in existing access that would occur because of the Proposed Projects. CEQA does not require lead agencies to adopt mitigation measures for existing conditions that are "part of the baseline condition, rather than a Project-related impact." (*Save the El Dorado Canal v. El Dorado Irrigation*

Dist. (2022) 75 Cal.App.5th 239, 259–264; see also *Planning & Conservation League v. Department of Water Resources* (2024) 98 Cal.App.5th 726, 749 ["Where a project involves ongoing operations or a continuation of past activity, the established levels of a particular use and the physical impacts thereof are considered to be part of the existing environmental baseline"]; *Citizens for East Shore Parks v. State Lands Com.* (2011) 202 Cal.App.4th 549, 561 ["baseline must include existing conditions, even when those conditions have never been reviewed and are unlawful"]; Public Resources Code § 21100, subd. (d) [environmental impacts refer to *changes* in the environment].) Accordingly, the comment that lack of recreation access below New Bullards Bar Dam is "a significant unmitigated impact" is incorrect.

FWN-14

The comment states that the DEIR fails to analyze and propose mitigation for "ongoing" impacts of shot rock. This is incorrect. CEQA does not require mitigation for impacts that are part of the baseline. See Response to Comment FWN-13.

The comment refers to various existing adverse effects of shot rock. As explained in the DEIR, shot rock has been generated from historic activities and is therefore part of the existing condition. (*North Coast Rivers Alliance v. Westlands Water Dist.* (2014) 227 Cal.App.4th 832, 872–874 ["Where a project involves ongoing operations or a continuation of a past activity, the established levels of a particular use and the physical impacts thereof are considered to be part of the existing environmental baseline"].) The Proposed Project would not cause a substantial adverse change in this condition and therefore would not result in significant shot rock impacts requiring mitigation.

The comment states that the DEIR does not adequately evaluate climate change impacts. The comment states that "a cradle-to-grave, life cycle analysis of project greenhouse gas emissions is necessary." This is incorrect. The YRDP and Narrows Project are existing projects. For purposes of CEQA review, the existing facilities and associated operations and maintenance activities are part of the baseline. See Responses to Comments FWN-13 and FWN-14.

FWN-15

The comment states that the DEIR only evaluates emissions from ARC Spillway construction and existing maintenance activities. This is incorrect. Yuba Water evaluated the impacts associated with construction of the ARC Spillway in a separate EIR. In the DEIR for the Proposed Projects, Yuba Water evaluated the potential emissions associated with new construction activities specifically associated with the Proposed YRDP Relicensing, changes in existing YRDP and Narrows Project operations and maintenance activities, and increased reliance on non-renewable power sources to make up for reductions in existing YRDP and Narrows Project hydropower generation. The DEIR determined that the direct and indirect greenhouse gas emissions resulting from the Proposed YRDP Relicensing would be significant and unavoidable.

The comment and associated appendices do not constitute substantial evidence of new or worse significant impacts beyond those that are already disclosed in the DEIR, for the following additional reasons.

The comment states that the DEIR fails to account for the production of GHG through project operations and claims the GHG emissions have increased over the natural state by the impoundment of water in the reservoir. As explained above, however, emissions that may have occurred due to the impounding of water over 50 years ago are part of the baseline and are not attributable to the relicensings. Additionally, scientifically validated methods do not presently exist to enable discernment of emissions above the natural state that may be occurring at present from the project impoundment, nor are there methods to guide actions that may reduce such emissions (if they exist).

Both the USEPA and the U.S. Department of Energy have concluded that estimating the contribution of GHGs is dependent on several factors including water temperature, sedimentation rate, organic matter inputs, and the shape, size, and depth of a reservoir (USDE 2025, USEPA 2025). Water bodies, such as reservoirs, have complex three-dimensional shapes that create shallow and deep regions, stagnant and flowing regions, and regions of streamlined and tumultuous flows. Diurnal (night and day), seasonal, and longer-term climate cycles and long-term trends in climate add time-varying complexity to these spatial variations. The spatial complexity and temporal variation of water quality, including carbon fate and transport, follows from this geometric and hydrodynamic complexity, create a formidable challenge for researchers attempting to characterize the overall effect of a reservoir as a carbon source. Without an adequate sensor network—one appropriately positioned throughout a reservoir to capture spatial complexity and appropriately sampled through time to capture gradual and rapid changes in conditions, field researchers may significantly overestimate or underestimate emissions and the role of the water body in carbon cycling.

The comment acknowledges this by stating, “Estimating the contribution of GHG’s by a given reservoir is complicated and impacted by age of the system, characteristics of the reservoir, and the dynamic nature of biological process that break down organic material.” Nevertheless, the comment cites a report that used the All-Res modeling tool to generate approximately 110,900 metric tons of carbon dioxide equivalent ($MTCO_2e$) for the Englebright Reservoir and the project (Appendix 2). However, the All-RES model is not an approved model by any of the California regulatory agencies, air districts, including the Feather River Air Quality Management District or the Northern Sierra Air Quality Management District for which the project is located, or the USEPA. While the All-RES modeling tool description (Save the World’s Rivers 2025) references peer-reviewed scientific literature, it does not provide description of the technical formulation of the model in sufficient detail to enable scientific peer review or quantitative validation.

According to Deemer (2016), reservoirs in temperate regions (regions such as the lower 48 states of the U.S. that lie between equatorial and sub-arctic regions) have lower water temperature and lower biomass/carbon production per unit area than reservoirs in sub-tropical and tropical regions, and thus less potential for GHG emissions, all other factors equal (Deemer, et. al 2016).

Lastly, as noted in Response to FWN-3, the Englebright Reservoir is not a project work to be included in the new licenses to be issued for the YRDP or Narrows Project.

According to the US Department of Energy, although it is important to accurately estimate GHGs emitted from different energy sources, including hydropower, recent data has shown that current methods used to quantify the carbon footprint of hydropower facilities may be insufficient. The USEPA is currently studying GHG emission from reservoirs distributed across 41 continuous states and the nine major ecoregions (areas where climate, ecological features, and plant and animal communities are similar) (USEPA 2025). Once completed, this study will help inform future research modeling efforts. However, as of today, there are no scientific models that are currently approved by a regulatory agency that is capable of estimating GHG emissions at a specific reservoir given its site-specific characteristics and eco-hydrodynamics.

Accordingly, none of the information in the comment or appendices constitutes substantial evidence of environmental impacts associated with the Proposed Projects beyond what was previously disclosed in the DEIR. The GHG emissions actually attributable to the Proposed Projects were properly evaluated using the available information and methodologies, and substantial evidence supports the DEIR's analysis and conclusions.

FWN-16 This comment states that the cumulative impacts analysis did not adequately account for changes associated with the YB/DS relicensings and the Bay-Delta Plan amendments. As an initial matter, Yuba Water notes that the DEIR identified these cumulative projects (DEIR, pp. 4-33, 4-37) and discussed them in its cumulative analyses for each resource area, as appropriate (e.g., DEIR, pp. 5-66 to 5-70). The comment does not identify any specific errors in how the DEIR treated these projects in its cumulative analysis.

Moreover, in addition to including these projects in the cumulative analysis, Yuba Water also structured its individual impact analysis for the Proposed Projects, Alternative 1, and Alternative 2 in a way that was specifically intended to evaluate and accurately disclose their associated impacts within the context of these cumulative projects (See, e.g., DEIR, p. 5-33 [showing how the modeling accounted for the YB/DS relicensings and Bay-Delta Plan Update]). The DEIR accounted for potential changes associated with the upstream YB/DS relicensings through its use of both the existing condition baseline and a future baseline (where the latter included new license conditions

for the YB/DS projects) and by evaluating the indirect upstream impacts that could result from YB/DS operations upstream of Yuba Water's projects under Alternative 1. See Responses to Comments NID-7 and NID-14.

Additionally, the DEIR accounted for potential changes associated with the Bay-Delta Plan Update through its analysis of Alternative 2, which reflects how Yuba Water (and the upstream projects) would operate under a potential regulatory pathway identified in the SWRCB's October 2024 draft Bay-Delta Plan Update. See Response to Comment NID-6. The comment's suggestion that the DEIR nevertheless "fail[s] to assess how other projects' flow changes could interact with YRDP and Narrows operations" is therefore patently false.

FWN-17 This comment summarizes previous comments and states that the DEIR must be recirculated. As discussed above, none of the preceding comments identify legal errors in the DEIR or provide substantial evidence of impacts beyond the scope of those disclosed in the DEIR.

A lead agency need not recirculate an EIR unless the agency adds "significant new information" to the public draft EIR before certification (Public Resources Code § 21092.1; CEQA Guidelines § 15088.5). As explained by the California Supreme Court, recirculation is "an exception, rather than the general rule," and the requirements for recirculation are therefore not intended to subject an EIR to "endless rounds of revision and recirculation." (*Laurel Heights Improvement Assn. v. Regents of University of California* (1993) 6 Cal.4th 1112, 1132.) Consistent with these principles, new information added to a public draft EIR is not "significant" unless the changes to the EIR "deprive[] the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect." (*Id*. at p. 1130; accord CEQA Guidelines § 15088.5, subd. (a)).

This FEIR includes new information submitted by public commenters, as well as Yuba Water's responses to those comments and minor revisions to the DEIR. As explained throughout Yuba Water's responses to comments on the DEIR, although some public comments purport to identify significant environmental impacts beyond those disclosed in the DEIR, substantial evidence demonstrates that the Proposed Projects would not result in any additional or more severe impacts beyond those already identified and analyzed in the DEIR. Similarly, while several comments purport to identify feasible and effective alternatives or mitigation measures, substantial evidence demonstrates that those alternatives or mitigation measures are not feasible, effective, and/or necessary to avoid or reduce any significant impacts of the Proposed Projects. Accordingly, the FEIR does not contain "significant new information," and recirculation is not required.

2.3.7 Comment Letter – Pacific Gas & Electric Company

PGE Letter

Pacific Gas and Electric Company

Power Generation

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September 22, 2025

Via E-Mail
jjames@yubawater.org

Mr. John James, Director of Resource Planning
Yuba County Water Agency
1220 F Street
Marysville, CA 95901

Subject: PG&E's Comments on YCWA's Yuba River Development Project & Narrows Joint DEIR Dated July 2025

Dear Mr. James:

This letter provides Pacific Gas and Electric's ("PG&E") timely comments on Yuba County Water Agency's ("YCWA") July 2025 Yuba River Development Project and Narrows Joint Draft Environmental Impact Statement ("DEIR") that YCWA circulated with the intent of satisfying the requirements of the California Environmental Quality Act ("CEQA") for relicensings of YCWA's Yuba River Development Project, Federal Energy Regulatory Commission ("FERC") Project Number ("No.") 2246 ("YRDP" or "P-2246"), and YCWA's Narrows Hydroelectric Project, FERC Project No. 1403 ("Narrows Project" or "P-1403"). These two projects are collectively referred to as "YCWA's projects'" in this letter.

PGE-1

PG&E owns and operates the Upper Drum-Spaulding Hydroelectric Project, FERC Project No. 2310 ("Upper Drum-Spaulding Project") and Lower Drum Hydroelectric Project, FERC Project No. 14531 ("Lower Drum Project"). PG&E closely coordinates the operation of the abovementioned projects with Nevada Irrigation District's ("NID") Yuba-Bear Hydroelectric Project, FERC Project No. 2266 ("Yuba-Bear Project") and the Deer Creek Hydroelectric Project, FERC Project No. 14530 ("Deer Creek Project"). These four projects are collectively referred to as "upstream projects" in this letter.

PG&E provides the following legal and technical comments on YCWA's DEIR. PG&E requests that YCWA consider these legal and technical comments before issuing and adopting its final EIR ("FEIR").

I. LEGAL COMMENTS

A. The DEIR's Alternative 1 is Not Feasible for Implementation by YCWA.

The DEIR evaluates Alternative 1 (YCWA's October 31, 2022, Offer of Settlement for the YRDP) as one of three alternatives to the Proposed Projects, in addition to the "No Project Alternative". However, the DEIR acknowledges that Alternative 1 is not a "feasible alternative" under CEQA: "Because Yuba Water cannot impose operational changes on PG&E's and NID's upstream projects, Alternative 1 is a conditional alternative that is subject to FERC's acceptance and implementation." (DEIR pg. 19). Furthermore, the DEIR acknowledges that YCWA "cannot forecast whether FERC would approve Alternative 1 and include the above proposed conditions in new licenses for the YRDP and the YB/DS projects". (DEIR pg. 3-7). The DEIR also notes that the upstream projects relicensings are subject to their own CEQA review process, and any impacts outside the scope of YCWA's DEIR would require subsequent project-level CEQA review before PG&E and NID accept new licenses that would include the measures described in Alternative 1 of the DEIR.

Under CEQA, an EIR must "describe and evaluate a range of reasonable alternatives to the project or to the location of a project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen significant project impacts". (Cal Code Regs. tit.14 Section 15126.6.). An alternative is considered "feasible" if it is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors". (*Ibid.*; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553). A key aspect of infeasibility is when there is "no way to legally implement it". (Cal. Code Regs. Tit. 14 section 15364). PGE-2

The DEIR demonstrates that YCWA lacks the authority to implement a core component of Alternative 1—namely, imposing operational changes on the upstream projects. The fact that these actions are "subject to FERC's acceptance and implementation," are not supported by the record in the FERC proceeding for the upstream projects and cannot be "forecast" by YCWA means that YCWA cannot, on its own or through its direct legal authority, ensure the successful accomplishment of this alternative. In addition, YCWA's statement that "subsequent project-level CEQA review" is required before PG&E accepts any new licenses is incorrect; such review is not required before PG&E accepts any new licenses.

Given that YCWA explicitly states it "cannot impose operational changes on PG&E's and NID's upstream projects," the inclusion of Alternative 1 in the DEIR as a feasible alternative to YCWA's discretionary decision to accept any FERC license issued to YCWA is legally unsound, and renders the DEIR's Alternative 1 analysis defective because it relies on core project elements that the lead agency (.e., YCWA) itself cannot legally guarantee or implement.

B. The DEIR's Analysis of Alternative 1 Constitutes Improper Piecemealing

CEQA mandates a comprehensive review of a project's environmental impacts, explicitly forbidding "piecemeal" review. This principle ensures that "environmental considerations do not PGE-3

become submerged by chopping a large project into many little ones." (*Citizens Assn. for Sensible Dev. of Bishop Area v. Cnty. of Inyo* (1985) 172 Cal. App. 3d 151, 165.)

The definition of a "project" under CEQA is broad, encompassing "the whole of an action" with the potential for direct or indirect physical environmental change. (Cal. Code Regs. Tit. 14, Section 15378.) The requirements of CEQA "cannot be avoided by 'chopping up' a proposed project into 'bitesize pieces' that, when individually considered, may not have a significant impact on the environment". *Citizens Assn. for Sensible Dev. of Bishop Area, supra, at* 165.

1. Piecemealing of Alternative 1 Analysis

Alternative 1, as presented in the DEIR, is described as an "integrated suite of measures to be implemented by Yuba Water, PG&E, and NID, in coordination with each other". (DEIR at pg. 19). A key component of this alternative is the proposed "reoperation and release of an additional 15,600 acre-feet (ac-ft) of water from the Yuba-Bear/Drum-Spaulding (YB/DS) projects [PG&E and NID projects] during Dry and Critically Dry years" to enhance water temperatures in the lower Yuba River for ESA-listed fishes. (DEIR at pg. 19).

However, the DEIR itself acknowledges a critical limitation: "Because Yuba Water cannot impose operational changes on PG&E's and NID's upstream projects, Alternative 1 is a conditional alternative that is subject to FERC's acceptance and implementation". (DEIR at pg. 19). The DEIR further states that YCWA "cannot forecast whether FERC would approve Alternative 1" and clarifies that the upstream projects relicensings are subject to "their own CEQA review process," with any impacts beyond the scope of this DEIR requiring "subsequent project-level CEQA review" before PG&E and NID accept new licenses. (DEIR pg. 3-7.) The DEIR even characterizes its evaluation of the indirect impacts from these upstream projects contributions as occurring "at a programmatic level". (DEIR at pg. 3-7).

PGE-3 cont.

This approach to Alternative 1 constitutes improper piecemealing, directly conflicting with CEQA's core principles for the following reasons:

- **Failure to Analyze the "Whole of the Action":** By presenting Alternative 1 as an "integrated suite" of measures involving PG&E and NID's operations of the upstream projects, the DEIR implicitly defines the "whole of this action" to include the effects of these upstream flows. However, by deferring detailed analysis of the impacts from the upstream projects' contributions to a future "subsequent project-level CEQA review," the DEIR is effectively "chopping up" this integrated alternative into smaller, unanalyzed pieces. Further, there is no subsequent project-level CEQA review associated with PG&E's projects. If a necessary element of a project (or in this case, Alternative 1) is excluded from the DEIR's description and its effects ignored, and the project cannot go forward without it, then the "total project" (or alternative) includes both the proposed action and the necessary contributing elements, requiring full analysis.

- **Violation of CEQA's Informational Requirements and the "Analytic Route" Test:** An EIR must provide "detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project". *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 510. It must contain facts and analysis, not merely bare conclusions or opinions. Crucially, an EIR must "disclose 'the analytic route the ... agency traveled from evidence to action'". Cal. Pub. Res. Code §§ 21002, 21081; Cal. Code Regs. tit. 14, § 15126.6(e)(2), *Save the Hill Grp. v. City of Livermore*, 76 Cal. App. 5th 1092, 292 Cal. Rptr. 3d 120 (2022) By stating that potential impacts from the upstream projects' operations are analyzed only "programmatically" or will be addressed in "subsequent project-level CEQA review", the DEIR fails to fully disclose the environmental consequences of this integral part of Alternative 1. This prevents a complete understanding of Alternative 1's impacts and the analytic route taken, thereby violating CEQA's informational mandate.
- **Improper Deferral of Analysis and Mitigation:** CEQA's demand for meaningful information "is not satisfied by simply stating that information will be provided in the future". *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, 40 Cal. 4th 412, 441, 150 P.3d 709, 726 (2007), as modified (Apr. 18, 2007). An EIR is considered inadequate if "[t]he success or failure of mitigation efforts . . . may largely depend upon management plans that have not yet been formulated and have not been subject to analysis and review within the EIR'". *Pres. Wild Santee v. City of Santee*, 210 Cal. App. 4th 260, 281, 148 Cal. Rptr. 3d 310, 325 (2012). While the DEIR discusses "available protective measures developed in collaboration with regulatory agencies" for the upstream projects' operations, the very need for "subsequent project-level CEQA review" indicates that a full analysis of reasonably foreseeable significant environmental effects, including specific mitigation, has been improperly deferred. As noted, no such review will occur for PG&E to accept its licenses.
- **Prejudicial Omission of Information:** A failure to include relevant information in an EIR is deemed prejudicial if it "preclude[s] informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process". *Save Our Capitol! v. Dep't of Gen. Servs.*, 87 Cal. App. 5th 655, 674, 303 Cal. Rptr. 3d 761, 777 (2023). By treating the upstream projects contributions to Alternative 1 in a programmatic or deferred manner, the DEIR prevents decision-makers and the public from fully understanding the environmental implications of this "integrated" alternative as a cohesive whole.

PGE-3 cont.

- **These Deficiencies Apply to the Majority of Impact Analyses.** Throughout the impact analyses sections, YCWA repeats the following inaccurate sentence: "To the extent that YB/DS operations under new FERC licenses would have impacts that are beyond the scope of those disclosed in this EIR or other CEQA documents, those impacts may need to be addressed through subsequent project-level CEQA review as more concrete information about those operations becomes available." *See* Chapter 5 – Surface Water Impacts (DEIR at p. 5-30); Chapter 6 – Groundwater Impacts (DEIR at

p. 6-36); Chapter 8 – Water Quality Impacts (DEIR at p. 8-83); Chapter 9 – Fisheries (DEIR at p. 9-126); Chapter 10 – Special Status Species (DEIR at p. 10-148); Chapter 15 – Greenhouse Gas Emissions (DEIR at p. 15-26).

PGE-3 cont.

Given that Alternative 1 is presented as a potential alternative to achieve specific environmental benefits, the final EIR must comprehensively analyze all its components and their associated impacts, including the operational changes required of the upstream projects. Deferring this analysis to future CEQA documents or providing only programmatic detail for an "integrated suite of measures" undermines the foundational purpose of an EIR to inform current decision-making and public participation.

C. Insufficient Cumulative Impacts Analysis of Alternative 1

The DEIR identifies Alternative 1 as a proposal where YCWA and upstream projects would cooperatively reoperate to release an additional 15,600 ac-ft of water during Dry and Critically Dry years. This water is intended to provide cooler water temperatures in the lower Yuba River for ESA-listed fishes from July through November.

While the DEIR acknowledges this significant release, its analysis of the impacts associated with the 15,600 ac-ft from these upstream reservoirs, particularly in a cumulative context, presents several deficiencies:

- **Programmatic and Deferred Analysis**: The DEIR explicitly states that the analysis of indirect impacts from the upstream projects operations under Alternative 1 is conducted at a programmatic level, based on available information and reasonably foreseeable assumptions. Crucially, the DEIR notes that the upstream projects' relicensings were subject to their own CEQA process associated with preparation of the SWRCB's water quality certifications. It specifies that impacts beyond the scope of this DEIR or other CEQA documents would need to be addressed through subsequent project-level CEQA review before PG&E and NID accept their new licenses. This deferral (or lack of future CEQA review) renders the DEIR's cumulative impacts analysis inadequate, as CEQA requires an EIR to "include details sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project". *Sierra Club v. Cnty. of Fresno* (2018) 6 Cal. 5th 502, 510.

PGE-4

- **Lack of Specificity and Reliance on Future Determinations**: The DEIR highlights that the "actual distribution and timing of the additional block of water would be subject to FERC's determination and consultation with applicable regulatory agencies".(DEIR 5.5.1.5, pg. 5-43). This suggests a lack of concrete detail within the DEIR regarding how this substantial water release will be managed and its precise impacts. While the programmatic analysis makes assumptions about protective measures being developed in collaboration with regulatory agencies to minimize impacts (e.g., for groundwater, energy, water supply, water quality, and non-fisheries biological resources), such assumptions without specific plans or detailed analysis can be seen as conclusory.

CEQA demands "facts and analysis, not just the agency's bare conclusions or opinions" and a disclosure of the "analytic route the agency traveled from evidence to action". *Habitat & Watershed Caretakers v. City of Santa Cruz*, 213 Cal. App. 4th 1277, 1303, 152 Cal. Rptr. 3d 888, 909 (2013).

- **Generalized Impact Conclusions for the 15,600 Ac-Ft Release**: Surface Water Resources: The programmatic analysis for Alternative 1 assumes reductions in out-of-basin diversions could result in reductions in water supply deliveries to NID and Placer County Water Agency (PCWA) customers, but the overall impact to surface water resources is concluded as "less-than-significant". The document lacks substantial evidence to support this conclusion.
- **Groundwater Resources:** Indirect groundwater impacts from upstream projects operations under Alternative 1 are deemed "less-than-significant" programmatically, assuming protective measures developed in collaboration with regulatory agencies. The document lacks substantial evidence to support this conclusion.
- **Energy Production and Consumption:** Potential reductions in energy generation from upstream projects due to the 15,600 ac-ft release are also concluded as "less-than-significant", with the assumption that California Independent System Operator (CAISO) would procure additional generation from other resources. The document lacks substantial evidence to support this conclusion.
- **Surface Water Quality**: Indirect water quality impacts in waterbodies upstream of the YRDP associated with this component of Alternative 1 are determined to be "less-than-significant" programmatically, again relying on the assumption of protective measures and stating that operations are unlikely to substantially alter drainage patterns. The document lacks substantial evidence to support this conclusion.
- **Biological Resources:** The programmatic analysis of indirect impacts on non-fisheries biological resources from upstream projects operations under Alternative 1 concludes them as "less-than-significant" and potentially "beneficial", assuming protective measures and managed releases will increase habitat availability. For fisheries, it suggests generally similar or relatively small changes in species-specific habitat availability, and YRDP's incremental contribution to cumulative impacts on fisheries is considered not cumulatively considerable. The document lacks substantial evidence to support this conclusion.

PGE-4 cont.

The DEIR's approach of analyzing these specific impacts at a programmatic level and deferring detailed, project-level CEQA review (that may never occur) to other agencies, while simultaneously concluding the cumulative contribution as "less-than-significant" for the YRDP, could be viewed as an attempt to minimize cumulative impacts, which CEQA advises against. This methodology does not provide the public or decision-makers with the comprehensive, detailed, and non-speculative information required for informed decision-making regarding the environmental consequences of such substantial water reallocation from upstream reservoirs.

D. The 'No Project Alternative' Assumes the Upstream Projects Operate In Accordance with All FERC Requirements, Contracts, and Water Supply Obligations.

The purpose of the No Project Alternative is to provide a comparison of the environmental impacts that would result if the project were not approved with those that would occur if the project were approved. (14 Cal Code Regs tit.14, Section 15126.6(e)(1). The No Project Alternative comparison should provide a forecast of what reasonably would be expected to occur in the foreseeable future if the project is not approved. (14 Cal Code Regs section 15126.6(e)(3)(A).) Here, the DEIR fails to accurately describe the 'No Project Alternative' because it is completely silent on the project operations associated with the Upstream Projects under the identified scenarios. The DEIR describes this scenario exclusively in terms of actions that Yuba may or may not take. However, the 'No Project Alternative' is equally dependent on the assumption that the upstream projects will continue to operate in accordance with all existing FERC requirements, water supply obligations, and contract commitments. The No Project alternative as currently defined is inadequate and incomplete because it is silent on these key project components. Importantly, this deficiency undermines the analyses for the other Project alternatives because it contemplates an incomplete project baseline.

PGE-5

E. The DEIR's Reduced Water Transfer Exports Alternative Should Have Been Evaluated in Further Detail.

The DEIR falls short of the legal requirement to "contain sufficient information about each alternative to permit an evaluation of the relative merits of the alternatives and the project" with respect to the 'Reduced Water Transfer Export Alternative.' (14 Cal Code Regs section 15126.6(a); DEIR at p. 3-23). The DEIR prematurely abandoned the Reduced Water Transfer Export Alternative based on considerations that are conclusory and hypothetical in violation of CEQA requirements. (*See Laurel Heights Improvement ass'n v. Regents of Univ. Of Cal.* (1988) 47 Cal 3d 376, 404).

PGE-6

Here, the DEIR deemed the Reduced Water Transfer Exports Alternative to not merit further review by reference to YCWA's Draft SEIR for the Accord Extension, and the analysis therein which concluded transfers would not likely occur if the State Water Board adopted unimpaired flow requirements under the Bay Delta Water Quality Control Plan. (DEIR at p. 3-24). This issue is largely irrelevant to the alternatives analysis for this relicensing DEIR. For example, the Draft SEIR does not address whether the Draft SEIR for the Accord Extension analyzed YCWA's proposed 'Offer of Settlement' demand for the upstream projects to release an additional 15,600 ac-ft of water supply during certain year types.

Meanwhile, under the truncated analysis of implementation of this alternative "outside of a situation in which the SWRCB had adopted unimpaired flow requirements," the DEIR focuses exclusively on whether CVP and SWP water right holders would divert water previously transferred under the Accord.

The analysis of the Reduced Water Transfer Alternative fails to evaluate whether YCWA's reduction of water transfers in certain year types would obviate the alleged value of YCWA's Alternative 1.

The "Reduced Water Transfer Alternative" is fatally flawed because it is premised on the State Water Board's adoption of an unimpaired flow standard (even though DEIR Alternative 1 does not assume this condition) and fails to evaluate whether the alternative would meet Project Objectives under other reasonably foreseeable regulatory scenarios. In this regard, the DEIR discussion of this alternative fails to meet basic CEQA requirements. (*San Bernadino Valley Audobon Soc'y v. County of San Bernadino* (1984) 155 Cal App 3d 738, 750.) PGE-6 cont.

Unlike Alternative 1, which is infeasible for Yuba County Water Agency to implement because they are predicated on PG&E and NID accepting revised FERC license conditions, the Reduced Water Transfer Alternative is completely within Yuba County Water Agency's authority to approve and implement.

F. The Draft EIR's Analysis of the Narrows 1 or Narrows 2 Intake Extension Alternatives is Inadequate

The Draft EIR falls short of the legal requirement to "contain sufficient information about each alternative to permit an evaluation of the relative merits of the alternatives and the project" with respect to the 'Narrows 1 or Narrows 2 Intake Extension Considerations.' (14 Cal Code Regs section 15126.6(a); DEIR at p. 3-26). The DEIR prematurely abandoned the Narrows 1 or Narrows 2 Intake Extension Alternative based on considerations that are conclusory and hypothetical in violation of CEQA requirements. (*See Laurel Heights Improvement ass'n v. Regents of Univ. Of Cal.* (1988) 47 Cal 3d 376, 404). PGE-7

Revised State Water Board Water Right Decision 1644 and Corrected Water Right Order No. 2008-0014 require YCWA to diligently pursue development of a Narrows 2 intake extension in coordination with federal and state agencies. The truncated analysis of this requirement in the DEIR fails to satisfy this requirement. Among other defects, the DEIR asserts that the Narrows 2 intake extension is not feasible because Narrows 2 is shut down for maintenance in September and October when temperature reduction benefits associated with the intake extension are most needed. This contention is striking because it is the first time in the nearly 20 years since the State Board first imposed the Narrows 2 intake extension that Yuba County Water Agency has asserted the Narrows 2 facility is "shut down for maintenance" during the critical time period. YCWA's own Additional Information Response and 2023 memorandum evaluating feasibility did not raise this key point.

II. TECHNICAL COMMENTS

Page 4-12 of the DEIR describes the two baselines used in the DEIR to compare to the Proposed Project, Alternative 1, and Alternative 2. The first is the Existing Condition Baseline, which assumes the existing operations of YCWA's projects and the upper projects. The second is Future Baseline, which assumes existing operations of YCWA's projects, but future operations of PGE-8

the upper projects as described in FERC's FEIS for the upstream projects (i.e., operations under new licenses for the upper projects).

A. Baseline - Technical Comments

1. <u>The FEIR Should Explicitly State that the Existing Condition Baseline Includes Existing Water Demands, Contracts, and Agreements Associated with the Upstream Projects.</u>

Page 4-12 of the DEIR describes the Existing Condition Baseline but neglects to state that the Existing Conditions Baseline includes existing water demands, contracts, and agreements associated with the upstream projects, not just conditions in the FEIS. The FEIR should make this disclosure and, if the modeled Existing Condition Baseline does not include existing water demands, contracts, and agreements associated with the upstream projects, the Existing Conditions Baseline should be revised in the FEIR to do so. PGE-8 cont.

2. <u>The FEIR Should Include Only the Existing Condition Baseline for Comparison to the Proposed Projects, Alternative 1, and Alternative 2.</u>

The DEIR's inclusion of a Future Baseline, as described at page 4-12 of the DEIR, is clearly prejudicial to the upper projects when compared to Alternatives 1 and 2 because it assumes the upper projects flow releases have increased, as compared to the Existing Condition Baseline, while the YRDP and narrows project flow releases have not. In that case, flows from the upper projects have already been added to the YCWA projects. Further, it is highly unlikely that YCWA's projects would operate under existing conditions while the upper projects operate under new licenses, and vice versa, since one of FERC's explicit stated goals in issuing new licenses is that all new licenses in a watershed have concurrent terms. Therefore, comparison of the Proposed Project, Alternative 1, and Alternative 2 to a Future Baseline is unnecessary at best and misleading at worst. The FEIR should include only the Existing Condition Baseline.

B. Alternative 1 - Technical Comments

Page 3-6 of the DEIR states Alternative 1 assumes an "integrated suite of measures to be implemented by Yuba Water, PG&E, and NID, in coordination with each other," specifically requiring the release of an additional 15,600 ac-ft of water from the upstream projects (consistent with YCWA's October 31, 2022, Offer of Settlement for the YRDP) from April 1 through May 10 during Dry and Critically Dry water years excluding extreme Critically Dry water years[1] so PGE-9

[1] Page 5-43 of the DEIR states, "While Yuba Water has modeled these operations with 5,000 acre-feet on the Middle Yuba River and 10,600 acre-feet from the South Yuba River as a block of flow on top of minimum flows in April" and "To the extent possible, the additional release from the Middle Yuba River would be diverted into the Lohman Ridge Tunnel and into New Bullards Bar Reservoir for release later in the year. If the tunnel was already full, the water would be released down the Middle Yuba River and would displace similar releases from New Bullards Bar Reservoir, if operations were for flow requirements below Englebright Dam."

that YCWA can provide from its projects cooler water from July through November in the lower Yuba River for Endangered Species Act (ESA)- listed anadromous fishes.

1. <u>The FEIR Should Disclose that the Additional 15,600 ac-ft Release from the Upstream Projects Would Not Occur If NID and/or PG&E Reject New Licenses for the Upstream Projects and Discuss How such Rejections Would Affect Alternative 1.</u>

Page 3-76 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1; however, at this time, Yuba Water cannot forecast whether FERC would approve Alternative 1 and include the above proposed conditions in new licenses for the YRDP and the YB/DS projects." YCWA has neglected to add that the 15,600 ac-ft release from the upstream projects would not be made if PG&E rejected new licenses for the Upper Drum-Spaulding and Lower Drum projects or if NID rejected new licenses for the Yuba-Bear and Deer Creek projects or both, which are actions outside the control of YCWA. The FEIR should disclose this possibility and discuss how it would affect Alternative 1. PGE-9 cont.

2. <u>The FEIR Alternative 1 Project Area for Indirect Impacts and Indirect Cumulative Impacts Should Include PG&E's Fordyce Lake and Lake Spaulding as well as NID's Jackson, French, Faucherie, Sawmill lakes, Rollins Reservoir and the Resources Evaluated Should Include Non-Fisheries Biological Resources, and Recreation Resources</u>.

Page 4-6 of the DEIR states, "Due to the potential for indirect impacts and indirect cumulative impacts that may occur as a result of potential YB/DS operational changes associated with the provision of 15.6 TAF under Alternative 1 (see Chapter 3 of this DEIR), the following additional areas are included in the Project Area for certain environmental resources (i.e., surface water resources, surface water quality and fisheries)." The listed areas on page 4-6 include: 1) Jackson Meadows Reservoir; 2) Middle Yuba River below Jackson Meadows Dam and Milton Diversion Dam to the OHDD Impoundment; 3) Bowman Lake; 4) Canyon Creek below Bowman Lake and Bowman-Spaulding Diversion Dam to its confluence with the South Yuba River; 5) Fordyce Lake; 6) Fordyce Creek from Fordyce Lake to Lake Spaulding; 7) Lake Spaulding; and 8) South Yuba River below Lake Spaulding to Englebright Reservoir. Even though page 5-43 of the DEIR states "Yuba Water's analysis assumes the increased flows for Alternative 1 would be a result of decreased storage in Jackson Meadows, Bowman, and Spaulding reservoirs rather than any modification to out-of-basin diversions or from other Yuba-Bear and Drum-Spaulding project reservoirs", reductions in storage in these reservoirs have the potential to affect storage in other upper projects' reservoirs, such as Yuba-Bear Projects' Jackson, French, Faucherie, and Sawmill lakes and Rollins Reservoir and PG&E's Fordyce Lake. Therefore, in the FEIR, the Alternative 1 Project Area for indirect impacts and indirect cumulative impacts should include these reservoirs. PGE-10

In addition, reduced storage in Jackson Meadows, Bowman, Fordyce, and Spaulding reservoirs, as well as other upper projects' reservoirs listed above may affect resources besides "surface water resources, surface water quality and fisheries". Therefore, in the FEIR, the Alternative 1 resources evaluated for the upper projects should include Non-Fisheries Biological Resources, and Recreation.

3. The FEIR Should List and Discuss PG&E's and NID's FERC Filings Regarding Alternative 1 That Includes YCWA's Proposed Offer of Settlement.

Pages 4-27 and 4-28 of the DEIR lists various documents on which YCWA states it relied when preparing the DEIR. With regards to Alternative 1, YCWA's list omits the following important documents: 1) NID's November 18, 2022, Reply to YCWA's Offer of Settlement (NID 2022[2]) as supplemented by NID on March 15, 2023 (NID 2023[3]); and 2) PG&E's November 21, 2022, Reply to YCWA's Offer of Settlement (PG&E 2022[4]) as supplemented by PG&E on February 27, 2023 (PG&E 2023[5]). The filings provide relevant information regarding Alternative 1 and each should be listed, reviewed, and discussed in the FEIR. Review and discussion of these documents are particularly relevant because page 3-6 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1" and NID's and PG&E's filings assess the impacts of YCWA's proposed Offer of Settlement on the upstream projects and associated resources. PGE-11

4. The FEIR Should Fully Describe the Complete Water Rights on the Yuba River, Among PG&E, NID, and YCWA.

Page 5-9 of the DEIR states, "Yuba Water is a major water-right holder on the Yuba River. Yuba Water holds pre-1914 appropriative rights dating from 1897 and post-1914 appropriative water rights confirmed by water-right licenses." While this description is correct to an extent, it fails to describe the full picture of water rights in the Yuba watershed. PG&E's (or the predecessor water right holders') diversion of water from the South Yuba River and its tributaries began as early as 1850. Similarly, NID's diversion of water from the Middle Yuba River began as early as 1927. The FEIR should fully describe water rights and related agreements on the Yuba River and their implication on Alternative 1. PGE-12

5. Table 5.3-5 in the FEIR Should Include the Period When YCWA Released Water for Each Water Transfer.

On page 5-22 of the DEIR, Table 5.3-5, provides information regarding YCWA's water transfers from 2007 through 2024. However, the table provides no information regarding when (i.e., start date and end date) the transfers are made each year. For full disclosure and to inform decision-makers, the table included in the FEIR should show the start and end dates of transfers in each year when transfers were made. PGE-13

6. The FEIR Should Estimate and Evaluate the Compensation YCWA Would Make to PG&E and NID for Additional Water Releases and for Headwater Benefits[6]. PGE-14

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[2] NID's Reply is available online in FERC's ELibrary at accession number 2022118-5100.
[3] NID's supplement to its Reply is available online in FERC's ELibrary at accession number 20230315-5196.
[4] PG&E's Reply is available online in FERC's ELibrary at accession number 20221121-5189.
[5] PG&E's supplement to its Reply is available online in FERC's ELibrary at accession number 20230227-5265.
[6] Under Section 10(f) of the Federal Power Act, an owner of a hydropower project is required to reimburse upstream headwater project owners for an equitable part of the benefits it receives. These benefits, referred to as Headwater Benefits, are the additional energy production possible at a downstream hydropower project resulting from the regulation of river flows by an upstream storage reservoir. See also 18 CFR § 11.10.

Page 5-44 of the DEIR states, "To the extent possible, the [Yuba-Bear Project's] additional release from the Middle Yuba River would be diverted into the Lohman Ridge Tunnel and into New Bullards Bar Reservoir for release later in the year." If YCWA receives monetary benefit (i.e., generation and capacity) from the upstream projects' additional releases, the incremental benefit should be passed on to PG&E and NID. YCWA should not benefit financially, whether from power or water sales, from additional releases. In addition, if the upstream projects are required to make additional releases, PG&E and NID should be fairly compensated by YCWA for headwater benefits. The FEIR should clearly state and estimate the compensation YCWA would make to PG&E and NID for the additional releases and under headwater benefits. PGE-14 cont.

7. <u>The FEIR Should Disclose the Impacts to PG&E and NID Water Deliveries and Associated Revenue under Alternative 1.</u>

Page 5-36 of the DEIR states, "Operations under Alternative 1 could lead to reductions in diversions by PG&E and NID through PG&E's Drum Canal and NID's South Yuba Canal, combined in modeling as Spaulding Canals. This programmatic analysis assumes that PG&E's and NID's diversions during dry and critical years would provide water supply to NID and PCWA water users. Consequently, reductions in Spaulding Canals' diversions during these years could indicate reductions in water supply deliveries."

In addition, Section 5.6.2 on page 5-71 of the DEIR describes the cumulative impacts of Alternative 1 on surface water resources water deliveries as compared to existing conditions. Notwithstanding the statement on page 3-76 of the DEIR, PG&E did not find impacts to the upstream projects water deliveries addressed in Section 5.6.2. PGE-15

PG&E and NID have previously filed with FERC the impacts to water deliveries under YCWA's proposed Offer of Settlement (PG&E 2022 and 2023). Without the additional release of 15,600 ac-ft of water, combined water delivery impacts to NID and PCWA totaling 143,000 ac-ft occurred over three years under FEIS conditions. The additional releases proposed by YCWA in Alternative 1 would exacerbate these impacts by expanding combined water delivery deficits to four years, totaling 169,000 ac-ft an increase of 26,000 ac-ft over four years (Table 9 of PG&E's 2023 Attachment 1, Modeling Information).

8. <u>The FEIR Should Disclose the Impacts to PG&E and NID Power Production and Associated Revenue under Alternative 1.</u>

Page 7-15 of the DEIR states "This impact analysis utilizes information from NID (NID 2023) regarding changes in average annual generation in dry and critically dry years between NID's Scenario 2, All FEIS and NID's Alternative 1, YCWA Proposal, to characterize potential changes to PG&E and NID generation that could occur under Alternative 1 at a programmatic level." However, although page 3-76 of the DEIR states, "This DEIR fully evaluates the impacts of Alternative 1", and Section 7.6.2 on page 7-56 of the DEIR purports to address the cumulative impacts of Alternative 1 on power production. PG&E did not find impacts to the upstream projects' energy production described in detail, other than a statement that "Overall, power production would not significantly change under the Cumulative Condition, including Alternative 1, relative PGE-16

to the Existing Condition. For these reasons, under the Cumulative Condition, including Alternative 1, there would not be a significant impact on power production or energy consumption." PG&E finds this statement to be in error and provides below the effects of Alternative 1 on the upstream projects' power production and associated lost revenue (Table 1 and 2).

Table 1. Summary of power production and associated revenue for PG&E's Upper Drum-Spaulding (UD) and Lower Drum (LD) Projects Under YCWA's Alternative 1 compared to FEIS in Dry and Critically Dry WYs.

FEIS Conditions	YCWA's Alternative 1 Conditions	
AVERAGE ANNUAL ENERGY GENERATION		
(GWh/yr)	(GWh/yr)	% Difference
UD - 410.3	399.4	-2.7
LD – 114.1	112.4	-1.5
AVERAGE ANNUAL POWER VALUE		
(2020 $/yr)	(2020 $)	% Difference
(UD +LD) $60,596,199	$58,760,105	-3.1

Source: Tables 4 and 5 of Attachment 1 (Modeling information) and Table 2 of Supplemental Information from PG&E's March 15, 2023 filing.

PGE-16 cont.

Table 2. Summary of energy generation and associated revenue for NID's Yuba-Bear Project Under YCWA's Alternative 1 compared to FEIS in Dry and Critically Dry WYs.

FEIS Conditions	YCWA's Alternative 1	
AVERAGE ANNUAL ENERGY GENERATION		
(GWh/yr)	(GWh/yr)	% Difference
141.9	138.7	-2.2%
AVERAGE ANNUAL POWER VALUE		
(2020 $/yr)	(2020 $)	% Difference
$16,340,451	$15,854,935	-3.0%

Source: Table 7 NID (2023 (Attachment 2 Modeling information)) and Table 2 NID (2023 (Supplemental information summary)).

Section 7.6.2 in the FEIR should fully disclose and discuss the impacts, which PG&E considers significant, under Alternative 1 to power production and lost revenue at the upstream projects in Section 7.6.2.

9. <u>The FEIR Should Fully Discuss Impacts to Fisheries Resources Upstream of YCWA's Projects due to YCWA's Alternative 1 Proposed Additional Release of 15,600 ac-ft from the Upstream Projects.</u>

The DEIR's Alternative 1 discussion of impacts to fisheries resources in the streams and reservoirs upstream of YCWA's projects in inadequate for two reasons. First, the DEIR's assumption at page 9-44, which states, "Because the intent of Alternative 1 is only to provide 15.6 TAF of water during April-May of Dry and Critical WYs, the evaluation of potential impacts to fisheries resources in YB/DS areas upstream of the YRDP under Alternative 1 focuses on changes that could occur during April and May of Dry and Critical WYs." is insufficient. The analysis should include the entire year because increased releases in April and May affect the amount of water available in later months that, in turn, affect habitat and water temperatures for fisheries resources upstream of YCWA's projects.

PGE-17

Second, page 9-128 of the DEIR concludes that under Alternative 1 habitat conditions for fishes upstream of the YRDP projects would not be substantially affected under Alternative 1 because of "(1) operational flexibility (e.g., geographic source) of the YB/DS reservoirs in providing the 15.6 TAF; (2) permutations in the allocation (e.g., variable amounts) among YB/DS reservoirs; (3) the potential for provision of the 15.6 TAF through reductions in diversions (and exports out of the upper Yuba River Watershed), releases from storage, or a combination thereof; (4) implementation of ramping rates (both increases and decreases); and (5) resource agency technical assistance in fashioning the releases to minimize impacts to aquatic species." In essence, the DEIR punted. PGE-17 cont.

In contrast, PG&E and NID evaluated the effects on fishes due to the additional release of 15,600 ac-ft from the upstream projects and provided their analysis to FERC and YCWA. In summary, the flow difference between a high April release and lower March and May flows could lead to stranding events for aquatic species like resident rainbow trout.

Section 9.5.2 in the FEIR should fully disclose and discuss the impacts, which PG&E considers significant, to fisheries resources associated with the upstream projects.

10. <u>The FEIR Should Fully Discuss Impacts to Specials-Status Species Upstream of YCWA's Projects due to YCWA's Alternative 1 Proposed Additional Release of 15,600 ac-ft from the Upstream Projects.</u>

The DEIR's Alternative 1 treatment of impacts in Section 10.5.3 (beginning on page 10-136) and Section 10.5.4 to special-status species and in particular to Sierra Nevada yellow-legged frog (SNYLF) and its ESA-designated Critical Habitat, California red-legged frog (CRLF) and its ESA-designated Critical Habitat, foothill-yellow legged frog (FYLF), northwestern pond turtle (NPT), and little willow flycatcher (LWF) in the streams and reservoirs upstream of the YCWA projects is inadequate for the same reasons described in Section II.B.10 of this letter. In short, the DEIR only addresses changes in flow in April and May of Dry and Critically Dry WYs but should include the entire year because increased releases in April and May of Dry and Critically Dry WYs affect the amount of water available in later months that, in turn, affect habitat and water temperatures for special-status species. In addition, the DEIR assumes that Alternative 1 will not affect the above species because PG&E and NID could avoid and impacts, and even enhance habitat for the species, through operational flexibility and consultation with agencies but provides no details on how that would be accomplished. PGE-18

PG&E and NID have previously filed with FERC information regarding the effects on the above species due to the additional release of 15,600 ac-ft from the upstream projects. After careful consideration of the FYLF information and extensive consultation, the Forest Service, USFWS, CDFW, PG&E, and NID agreed on flow requirements, which were included by the Forest Service in its Federal Power Act Section 4(e) final terms and conditions and recommended by FERC staff in the 2014 FEIS to be protective of FYLF. Increasing minimum flows below Lake Spaulding Dam in Critically Dry and Dry water years in March from 25 to 30 cfs to up to 262 cfs for up to 45 days, and then to 40 to 60 cfs in May would have substantial impacts on FYLF in the South Yuba River because these are often the months when breeding begins and egg masses are deposited

in the river. Egg masses deposited in March, prior to a large increase of flows, could be swept away by the increasing flows or be more susceptible to predation by fish if the water becomes deeper. Egg masses that are deposited during these much higher flows could become desiccated once flows decrease to minimum requirements in May. The flow difference between a high April release and lower March and May flows could also lead to stranding events for any FYLF tadpoles, as well as other aquatic species like resident rainbow trout. PGE-18 cont.

Sections 10.5-3 and 10.5.4 in the FEIR should fully disclose and discuss the impacts, which PG&E considers significant, to the above species in streams and reservoirs potentially affected by the upstream projects.

11. <u>The FEIR Should Fully Discuss Impacts to Recreation Upstream of YCWA's Projects under Alternative 1.</u>

During relicensing, PG&E, NID, and resource agencies, especially the United States Department of Agriculture, Forest Service (Forest Service), identified recreation at PG&E's projects and NID's projects as a major public resource to be protected and enhanced. As such, detailed recreation studies were completed, and robust recreation management plans were developed and submitted to FERC. The management plans anticipate significant increases in user demand at the projects' facilities and, as such, include new and expanded facilities at several reservoirs and nearby campgrounds. Under YCWA's Alternative 1, significant impacts to recreation opportunities would occur at NID's and PG&E's project reservoirs. At PG&E's Lake Spaulding, the boat ramp would become inaccessible 11 days earlier on average and as many as 30 days earlier under YCWA's Alternative 1 as compared to FEIS Conditions during dry and critically dry years (Table 3). At NID's Jackson Meadows Reservoir, the Pass Creek boat Launch would become inaccessible an average of 17 days sooner and up to 38 days sooner in dry and critically dry years under Alternative 1 as compared to the FEIS conditions (Table 4 and 5). At NID's Rollins Reservoir, the boat launches would become inaccessible an average of six days sooner in and up to 25 days sooner in dry and critically dry years under YCWA's Alternative 1 as compared to FEIS Conditions (Tables 6, 7, and 8). In addition, NID's Jackson Meadows Reservoir, Bowman Lake and Rollins Lake shoreline recreationists would experience impacts under YCWA's Alternative 1 due to reservoir drawdown caused by the additional releases. Tables 10 through 15 shows when boat ramps at Lake Spaulding, Jackson Meadows, and Rollins Reservoir would no longer be usable after Memorial Day, which is considered the start of the recreation season. A boat ramp is considered usable when the median reservoir water surface elevation is no less than three feet above the end of the constructed ramp. A boat ramp is considered usable when the median reservoir water surface elevation is no less than three feet above the end of the constructed ramp.[7] PGE-19

[7] California Department of Boating and Waterways. 1991. Layout, Design and Construction Handbook for Small Craft Boat Launching Facilities. Sacramento, California.

Table 3. Date when the Lake Spaulding Boat Launch, El. 4942.6 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	No Usable Dates	No Usable Dates
1981	8/26/1981	8/14/1981 (-12 days)
1985	8/30/1985	8/30/1985 (0 days)
1987	8/1/1987	7/2/1987 (-30 days)
1988	7/8/1988	6/19/1988 (-19 days)
1990	9/13/1990	9/5/1990 (-8 days)
1991	11/12/1991	11/8/1991 (-4 days)
1992	7/22/1992	7/2/1992 (-20 days)
1994	8/20/1994	7/29/1994 (-22 days)
2001	8/22/2001	8/17/2001 (-5 days)
2007	8/24/2007	8/24/2007 (0 days)
2008	9/11/2008	9/6/2008 (-5 days)

Source: Table 10 in NID (2023 Attachment 2 – Modeling information)
[1] Water Year type is Dry (D) or Critically Dry (CD).

Table 4. Date when the Jackson Meadows' Pass Creek Boat Launch, El. 5,996.5 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	8/10/1976	7/23/1976 (-18 days)
1981	9/18/1981	9/2/1981 (-16 days)
1985	10/15/1985	10/4/1985 (-11 days)
1987	7/30/1987	7/6/1987 (-24 days)
1988	No Usable Dates	No Usable Dates
1990	10/3/1990	10/2/1990 (-1 days)
1991	9/8/1991	8/22/1991 (-17 days)
1992	No Usable Dates	No Usable Dates
1994	9/2/1994	8/17/1994 (-16 days)
2001	7/18/2001	No Usable Dates
2007	9/19/2007	9/3/2007 (-16 days)
2008	8/26/2008	7/19/2008 (-38 days)

Source: Table 11 in NID (2023 Attachment 2 – Modeling information)
[1] Water Year type is Dry (D) or Critically Dry (CD).

PGE-19 cont.

Table 5. Date when the Jackson Meadows' Woodcamp Boat Launch, El. 6,016.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	No Usable Dates	No Usable Dates
1981	7/26/1981	7/2/1981 (-24 days)
1985	8/21/1985	8/11/1985 (-10 days)
1987	No Usable Dates	No Usable Dates
1988	No Usable Dates	No Usable Dates
1990	8/9/1990	8/8/1990 (-1 days)

Table 5. (Continued)

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1991	7/9/1991	No Usable Dates
1992	No Usable Dates	No Usable Dates
1994	No Usable Dates	No Usable Dates
2001	No Usable Dates	No Usable Dates
2007	7/26/2007	No Usable Dates
2008	No Usable Dates	No Usable Dates

Source: Table 12 in NID (2023 Attachment 2 – Modeling information)
[1] Water Year type is Dry (D) or Critically Dry (CD).

Table 6. Date when the Rollins' Orchard Springs and Greenhorn Boat Launches, El. 2,133.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	7/20/1976	7/7/1976 (-13 days)
1981	10/11/1981	10/11/1981 (-0 days)
1985	10/11/1985	10/11/1985 (-0 days)
1987	10/11/1987	9/21/1987 (-20 days)
1988	9/22/1988	8/28/1988 (-25 days)
1990	10/11/1990	10/11/1990 (-0 days)
1991	10/11/1991	10/11/1991 (-0 days)
1992	10/7/1992	9/20/1992 (-17 days)
1994	10/11/1994	10/11/1994 (-0 days)
2001	10/11/2001	10/11/2001 (-0 days)
2007	10/11/2007	10/11/2007 (-0 days)
2008	9/30/2008	9/30/2008 (-0 days)

Source: Table 13 in NID (2023 Attachment 2 – Modeling information)
[1] Water Year type is Dry (D) or Critically Dry (CD).

PGE-19 cont.

Table 7. Date when the Rollins' Long Ravine Boat Launch, El. 2,137.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	7/16/1976	7/3/1976 (-13 days)
1981	10/6/1981	10/6/1981 (-0 days)
1985	10/6/1985	10/6/1985 (-0 days)
1987	10/6/1987	9/18/1987 (-18 days)
1988	9/20/1988	8/24/1988 (-27 days)
1990	10/6/1990	10/6/1990 (-0 days)
1991	10/6/1991	10/6/1991 (-0 days)
1992	9/30/1992	9/17/1992 (-13 days)

Table 7. (Continued)

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1994	10/6/1994	10/4/1994 (-2 days)
2001	10/6/2001	10/6/2001 (-0 days)
2007	10/6/2007	10/6/2007 (-0 days)
2008	9/30/2008	9/30/2008 (-0 days)

Source: Table 14 in NID (2023 Attachment 2 – Modeling information)
[1] Water Year type is Dry (D) or Critically Dry (CD).

Table 8. Date when the Rollins' Peninsula Boat Launch, El. 2,146.0 ft., is no longer usable in Dry and Critically Dry WYs.

D/CD Year[1]	Date When Boat Ramp is No Longer Usable	
	FEIS	FEIS + 5,000 AF from NID + 10,600 AF from PG&E
1976	7/7/1976	No Usable Dates
1981	9/27/1981	9/27/1981 (-0 days)
1985	9/27/1985	9/27/1985 (-0 days)
1987	9/27/1987	9/8/1987 (-19 days)
1988	9/13/1988	8/16/1988 (-28 days)
1990	9/27/1990	9/27/1990 (-0 days)
1991	9/27/1991	9/27/1991 (-0 days)
1992	9/23/1992	9/10/1992 (-13 days)
1994	9/27/1994	9/25/1994 (-2 days)
2001	9/27/2001	9/27/2001 (-0 days)
2007	9/27/2007	9/27/2007 (-0 days)
2008	9/26/2008	9/26/2008 (-0 days)

Source: Table 15 in NID (2023 Attachment 2 – Modeling information)
[1] Water Year type is Dry (D) or Critically Dry (CD).

PGE-19 cont.

Section 11.6.3, in the FEIR should fully disclose and discuss the impacts, which PG&E considers significant, under Alternative 1 to recreation at the upstream projects in Section 11.6.3.

If you have any questions regarding this letter, please contact Jennifer Hartman, PG&E Relicensing Project Manager, at (415) 654-3955 or jennifer.hartman@pge.com.

Sincerely,

Janet Walther
Director, Hydro Licensing

Responses to Comment Letter – Pacific Gas & Electric Company

PGE-1 The comment contains introductory statements and does not specifically address the contents, analysis, or conclusions of the DEIR. The comment is noted, and no further response is required.

PGE-2 See Response to Comment NID-3.

The comment states that no further CEQA review will be required before PG&E accepts any new FERC licenses. This, however, is not necessarily accurate. While the SWRCB, as the CEQA lead agency for the proposed relicensing of PG&E's projects, adopted an initial study/mitigated negative declaration (IS/MND) and issued a WQC for those relicensings in 2021, multiple parties, including Yuba Water and Placer County Water Agency, filed timely petitions for reconsideration of the 2021 WQC and, to the best of Yuba Water's knowledge, the SWRCB has never acted on those petitions. Under the California Supreme Court's decision in *Cal. Correctional Peace Officers Assn. v. State Personnel Bd.* (1995) 10 Cal.4th 1133, the SWRCB's legal position is that it does not lose jurisdiction to act on petitions for reconsideration after the 90 days allotted by Water Code section 13330, subdivision (a). Accordingly, the 2021 WQC is not final and remains subject to possible modification based on the pending petitions for reconsideration. In addition, the WQC contains reopener terms that allow the SWRCB to modify terms as significant as minimum streamflow requirements, including based on the SWRCB's ongoing update of the Bay-Delta water quality control plan. Finally, the IS/MND evaluated the environmental impacts of the new PG&E licenses characterized in FERC's 2014 FEIS; however, when the SWRCB prepared the IS/MND, FERC had not yet (and still has not) issued a license for PG&E's projects.

After the SWRCB adopted the IS/MND and issued the WQC, FERC stated that it would be supplementing its 2014 FEIS. During its supplemental NEPA review process, FERC may consider additional alternatives beyond those originally evaluated in the 2014 FEIS, including an alternative imposing on PG&E's projects the license conditions proposed in the DEIR as part of Alternative 1.

The SWRCB's WQC for the PG&E relicensings includes various conditions intended "to ensure that the Projects operate to meet water quality standards as anticipated, to ensure compliance with other relevant state and federal laws, and to ensure that the Projects will continue to meet state water quality standards and other appropriate requirements of state law over their lifetime." Among other things, PG&E must submit any changes to the projects which could materially affect the findings,

conclusions, or conditions of the WQC for the SWRCB's review and approval.

Based on all of the above, it is distinctly possible that the SWRCB may modify the 2021 WQC. If it were to consider doing so, at that time, the SWRCB would need to consider conducting further CEQA review if it determines the requirements in CEQA Guidelines § 15162 (relating to subsequent CEQA review for projects for which a negative declaration has been adopted) have been met. As explained in the DEIR's analysis of Alternative 1 and in responses to comments NID-8, NID-21, NID-22, NID-23, NID-24, and NID-25, however, new license provisions for the upstream YB/DS projects that require the provision of 15,600 acre-feet in dry and critically dry years are unlikely to result in significant environmental impacts to surface water supplies, groundwater, power production, fisheries, non-fisheries biological resources, or recreation.

PGE-3 See Responses to Comments NID-7 and PGE-2.

PGE-4 See Responses to Comments NID-8 and PGE-2.

PGE-5 See Response to Comment NID-11.

PGE-6 See Response to Comment NID-12.

PGE-7 See Response to Comment NID-13.

PGE-8 See Response to Comment NID-14.

PGE-9 See Response to Comment NID-15.

PGE-10 See Response to Comment NID-16.

PGE-11 See Response to Comment NID-17.

PGE-12 See Response to Comment NID-18.

PGE-13 See Response to Comment NID-19.

PGE-14 See Response to Comment NID-20.

PGE-15 See Response to Comment NID-21.

PGE-16 See Response to Comment NID-22.

PGE-17 See Response to Comment NID-23.

PGE-18 See Response to Comment NID-24.

PGE-19 See Response to Comment NID-25.

CHAPTER 3

REVISIONS TO THE DRAFT EIR

3.1 Introduction

This chapter presents text changes to the DEIR that have been made in response to the public review and comment process. Changes made in response to comments or other revisions initiated by Yuba Water are identified in Chapter 2 and shown in detail in Section 3.2 below. DEIR changes are presented in the order they would appear in the DEIR, and page numbers are provided to assist in identifying the location of the revisions.

This chapter provides excerpts of all text from the DEIR that have changed as a result of the comments and responses identified in Chapter 2. Revisions to the DEIR are shown with ~~strikethrough~~ text for deletions and <u>underlined</u> text for additions. DEIR page numbers are also identified for ease of reference. All page references are to the DEIR page numbers.

The information contained within this chapter clarifies and expands on information in the DEIR. It does not constitute "significant new information" requiring recirculation of the DEIR per Public Resources Code Section 21092.1 and CEQA Guidelines Section 15088.5.

3.2 Changes and Corrections to the DEIR

3.2.1 Revisions to "Table of Contents"

No revisions to this section.

3.2.2 Revisions to "Executive Summary"

The following edits are made to Page 23:

> Copies of the Draft EIR are also available at the county offices of Yuba, Nevada, and Sierra Counties, and at the Yuba County Library in Marysville and the Nevada County Library in Grass Valley. The public review period for providing comments on this DEIR is from August ~~1~~8, 2025 until close of business at 5:00 p.m. on September ~~15~~22, 2025. Written comments or questions concerning the DEIR must be directed to the name and address below via postal mail or email by no later than 4:00 p.m. on September ~~15~~22, 2025:

3.2.3 Revisions to Chapter 1, "Introduction"

The following edit is made to Page 1-1:

> Similarly, the Federal Power Commission issued an original license for the Narrows Project (FERC Project No. 1403) to the Pacific Gas and Electric Company (PG&E) on August 1, 1941,3 and FERC issued a new project license to PG&E on February 11, 1993, for the period from February 1, 1993 through January 31, 2023. On January 26, 2018, FERC approved

PG&E's request to extend the license term to January 31, 2026. On May 2, 2019, FERC approved the transfer of the license from PG&E to Yuba Water. On November 14, 2023, Yuba Water filed an application for a new license with FERC to continue to operate and maintain the Narrows Project (YCWA 2023a).

The following edit is made to Page 1-2:

Pursuant to the National Environmental Policy Act (NEPA) of 1969, FERC must consider the environmental impacts of proposed major Federal actions as part of its decision-making process, including issuance of new FERC licenses to Yuba Water for continued O&M of the YRDP and the Narrows Project. In 2019, FERC, along with the USACE as a cooperating agency, issued a Final Environmental Impact (FEIS) Statement for Hydropower License, YRDP, Project No. 2246-065 – California in accordance with NEPA and FERC regulations (Title 18 Code of Federal Regulations Part 380). The FERC ~~and USACE~~ (2019) FEIS included detailed environmental analyses of the YRDP, including licensee-proposed PM&E measures recommended for inclusion in the new license for continued operation of the YRDP.

The following edit is made to Page 1-18:

As part of reinitiating the AB 52 process for the YRDP relicensing with simultaneous review of the Narrows Project relicensing, Yuba Water sent emails to each potentially interested California Native American Tribe on October 18, 2024, regarding an early engagement opportunity to discuss the Proposed Projects prior to formal AB 52 consultation notification. Yuba Water formally re-initiated the CEQA and AB52 processes and procedures for the YRDP relicensing along with the Narrows Project relicensing by sending letters on October 31, 2024, via email and United States Postal Service of the opportunity to consult to Native American tribes that requested formal notification, and courtesy notification to other potentially interested California Native American tribes identified by the NAHC. United Auburn Indian Community (UAIC) and Enterprise Rancheria Estom Yumeka Maidu (Enterprise Rancheria) have each requested consultation for the proposed Project in response to the notice of opportunity. Consultation with these tribes has been concluded with no outstanding concerns presented.

The following edit is made to Page 1-28:

YCWA. 2014. Application For New License Major Project – Existing Dam: Yuba River Development Project, FERC Project No. 2246. Submitted April 28, 2014.

3.2.4 Revisions to Chapter 2, "Project Description"

The following edit is made to Page 2-31, footnote 29:

[29] As described in ~~Yuba Water~~ YCWA et al. (2007), a Member Unit is any municipality, town, or district wholly or partially within or contiguous to Yuba Water that is empowered to appropriate and deliver water and which contracts with the agency for payment of construction costs or for delivery of water, as defined in Section 2(g) of the Agency Act. Yuba Water provides surface water to eight Member Units, including: Brophy Water District, Browns Valley Irrigation District, Cordua Irrigation District, Dry Creek Mutual Water Company, Hallwood Irrigation Company, Ramirez Water District, South Yuba Water District, and Wheatland Water District.

The following edit is made to Page 2-116:

YCWA, Department of Water Resources, and Bureau of Reclamation. 2007. Draft Environmental Impact Report/Environmental Impact Statement for the Proposed Lower Yuba River Accord. June 2007.

3.2.5 Revisions to Chapter 3, "Alternatives"

The following edits are made to Page 3-7:

For these reasons, this DEIR evaluates indirect impacts of Alternative 1 that would occur upstream of the YRDP and Narrows Project due to~~associated with~~ the flow contributions from the YB/DS projects at a programmatic level, based on the information that is currently available to Yuba Water and reasonably foreseeable assumptions about how those non-Yuba Water operations would occur to meet Federal and California regulatory requirements. The YB/DS relicensings are also subject to their own CEQA review process. To the extent that YB/DS operations under new FERC licenses would have impacts that are outside the scope of those disclosed in this EIR or in the CEQA document(s) prepared by NID or PG&E for the new YB/DS FERC licenses, those impacts will need to be addressed through subsequent project-level CEQA review before NID and PG&E accept the new licenses. That CEQA review may incorporate information from this EIR and other relevant CEQA documents, as appropriate.

In addition to the programmatic analysis of YB/DS operational impacts upstream of Yuba Water's projects, ~~T~~this DEIR fully evaluates the impacts ~~of~~ directly attributable to Yuba Water's operations under Alternative 1 at a project level, consistent with the Proposed Projects' analysis.~~.~~; ~~h~~However, at this time, Yuba Water cannot forecast whether FERC would approve Alternative 1 and include the above proposed conditions in new licenses for the YRDP and the YB/DS projects.

The following edit is made to Page 3-20, footnote 30:

[30] Available in FERC's ~~F~~y eLibrary at Accession No. 20111228-3031 (Filed on December 28, 2011)

The following edit is made to Page 3-27:

3.6.3.4.1 Lower Yuba River Water Temperatures

To investigate the efficacy of non-flow actions to lower water temperatures in the lower Yuba River, Yuba Water previously evaluated a Narrows 1 Powerhouse intake extension. A Narrows 1 intake extension would involve modifications at the ~~USACE's~~ Narrows 1 Tunnel ~~i~~Intake in Englebright Reservoir. Narrows 1 was selected as the powerhouse for further analysis of an intake extension rather than Narrows 2 for the following reasons.

The following edit is made to Page 3-33:

~~Pacific Gas & Electric Company (PG&E). 2023. Letter titled "*Upper Drum-Spaulding Hydroelectric Project, FERC No. 2310-193 – California, Lower Drum Hydroelectric Project, FERC Project No. 14531-000 – California, Deer Creek Hydroelectric Project, FERC Project No. 14530-000 – California, Additional Information Related to FERC's March 8, 2021, Additional Information Request*" from Jennifer Hartman, Relicensing Project Manager, Hydro Licensing (PG&E) to Kimberly D. Bose, Secretary (FERC). March 15, 2023.~~

3.2.6 Revisions to Chapter 4, "Framework for the Environmental Analysis"

The following edit is made to Page 4-6:

The geographic area that could be affected by the Narrows Project and that has been identified for this DEIR includes the lower Yuba River and facilities that could be affected by changes in Yuba River outflow to the Feather River. These areas include:

- Lower Yuba River to the confluence with the Feather River.
- Englebright Reservoir.

The following edit is made to Page 4-33, Table 4.9-1 (Yuba-Bear Hydroelectric Project):

NID is applying for a new license for the Yuba-Bear Project (FERC Project No. 2266), and PG&E is applying for the Drum-Spaulding Project (FERC Project Nos. 2310 and 14531). The Yuba-Bear Project is located on the Middle and South Yuba rivers, Bear River, and Jackson and Canyon creeks. Concurrently, PG&E is applying for a license renewal for the Drum-Spaulding Project. The Upper Drum-Spaulding Project is located in Nevada and Placer counties, and consists of 24 dams and reservoirs, 7 powerhouses, 4 overhead transmission lines, 1 diversion dam, and various water conduits, recreation facilities, and other associated facilities and structures. The Upper Drum-Spaulding Hydroelectric Project's dams are located on the South Yuba River, Bear River, Fordyce Creek, North Fork of the North Fork American River, and associated tributaries. The Lower Drum Project facilities are in Placer County and consist of 5 dams and reservoirs, 4 powerhouses, and various water conduits, recreation facilities, and other associated facilities and structures. The Lower Drum Project dams are located on the Bear River, Dry Creek, Rock Creek, Auburn Ravine, Mormon Ravine, and associated tributaries. PG&E closely coordinates the operations of the Drum-Spaulding Project with NID's Yuba-Bear Project. The proposed 5.7-MW Deer Creek Project would include the existing Deer Creek development with the exception of the upper 1.57 miles of the South Yuba Canal, which would be part of the Upper Drum-Spaulding Project. The two projects overlap in part in the Yuba River and Bear River basins, and many of the facilities are hydraulically interconnected, including facilities that are used to meet water supply demands in Nevada and Placer counties. The FERC relicensing processes for these projects is underway. Final WQC for PG&E's Upper Drum-Spaulding and Lower Drum Projects were issued by SWRCB in 2021 (SWRCB 2021). NID and PG&E are awaiting the FERC license renewal.

The following edit is made to Page 4-33, Table 4.9-1 (Yuba River Resilience Initiative):

~~In May 2023, YCWA, CDFW, and NMFS signed a term sheet to partner on an extension program to implement habitat restoration measures on the lower Yuba River and the North Yuba River. The Term Sheet sets forth a framework for a Settlement Agreement to implement certain restoration measures, including the potential for construction of a new fishway and modernized water diversion at Daguerre Point and initiation of a comprehensive program to reintroduce spring-run Chinook salmon to the North Yuba River. At the time this Final EIR was prepared, negotiations for implementation of the Term Sheet have been progressing and the parties~~

~~involved are seeking to resolve the remaining issues, complete CEQA review as discussed below, and execute the agreement by the end of 2024.~~ On April 25, 2025, Yuba Water, CDFW and NMFS approved the Yuba River Resilience Initiative (YRRI) Agreement, which details one of the most ambitious watershed recovery efforts in California while safeguarding water supplies from the Yuba River. The YRRI Agreement includes two major components – construction of a Nature-Like Fishway (NLF) at Daguerre Point and development of a Reintroduction Program. The NLF provides an effective, long-term passage solution on the lower Yuba River at Daguerre Point by providing unimpeded volitional passage under a broad range of flow conditions for the target listed species of spring-run Chinook salmon, steelhead, and green sturgeon, and the other target anadromous fish species of Pacific lamprey, fall-run Chinook salmon, and white sturgeon. The NLF also includes relocating the diversion and modernizing the fish screening facility for the South Canal Diversion to meet NMFS and CDFW screening criteria. The NLF (including the relocated modernized fish screen) component of the YRRI has been partially funded through a $30 million grant from CDFW, and a commitment from Yuba Water to pay $30 million during the term of the YRRI Agreement. The YRRI Agreement further states that Yuba Water will provide necessary funding to complete construction of the NLF if additional funding has not been acquired. The Reintroduction Program component of the YRRI Agreement outlines a framework for conducting pilot studies to inform development of a Reintroduction Program for reintroducing spring-run Chinook salmon into the North Yuba River upstream of New Bullards Bar Reservoir. The Reintroduction Program is under development, and there currently is no timeline for completion of the program and plan.

The following edit is made to Page 4-34, Table 4.9-1:

YCWA proposes to construct, operate, and maintain a second spillway (i.e., the ARC Spillway) at NBB Dam. Releases from the ARC Spillway would be made in anticipation of large storms to provide increased evacuated storage capacity in New Bullard's Bar Reservoir prior to and during high-precipitation events and large storm peak inflows to reduce the peak outflow. The ARC Spillway Project would be operated conjunctively with the existing Primary Spillway at the dam and New Colgate Powerhouse to meet NBDD overall target releases and to efficiently release flows downstream, including earlier passage of flows during large storm events. The existing concrete dam and Primary Spillway would not be altered by the ARC Spillway Project. Flood control in the Yuba River is mainly provided by 170,000 AF of seasonally dedicated storage in NBB Reservoir. YCWA provides overall reservoir operations although USACE flood management operations are directed through its 1959 Master Manual of Reservoir Regulation, Sacramento River Basin, California (USACE 1959), and, specifically, by the NBB Reservoir Water Control Manual (WCM) (USACE 1972). Operational flood rules dictate the amount of variable flood space made available seasonally. No flood space is required from June 1 to September 15. During the peak flood season (November 1 – March 31), the flood control space is a USACE-mandated 170,000 AF. The primary benefit of the ARC Spillway Project is operational flexibility for managing outflow at the dam, significantly reducing flood risk downstream at Marysville and the Feather-Yuba River confluence and providing public safety benefits.

The following edit is made to Page 4-36, Table 4.9-1:

The project would develop a new diversion and conveyance facilities in the Delta to restore and protect the reliability of SWP water deliveries, and potentially CVP water deliveries south of the Delta, consistent with the state's Water Resilience Portfolio. It would modernize the state's water infrastructure to: (1) capture and move more water during wet seasons to better endure dry seasons; (2) minimize future losses from climate-driven weather extremes; (3) protect against earthquakes disrupting water supplies; and (4) continue meeting regulatory water quality and fishery requirements, and add new operating rules for further fishery protections, among others (DWR 2023). DWR selected the Bethany Reservoir alignment at 6,000 cfs conveyance capacity as the proposed project. The Bethany Reservoir alignment consists of the construction, operation, and maintenance of new SWP water diversion and conveyance facilities in the Delta that would be operated in coordination with the existing SWP facilities. The new water conveyance facilities would divert up to 6,000 cfs of water from two new north Delta intakes through state-of-the-art fish screens and convey it via a single tunnel on an eastern alignment directly to a new pumping plant and aqueduct complex between Byron Highway and Mountain House Road near Mountain House in the south Delta, discharging it to the Bethany Reservoir for delivery to existing SWP export facilities. A Draft EIR was issued by DWR in 2022 and a certified Final EIR was issued in 2023. A Draft EIS was issued by USACE in 2022 (USACE 2022) and a Final EIS has not yet been issued (USACE 2023).

The following edit is made to Page 4-37, Table 4.9-1:

> Water quality and flow objectives to meet water quality criteria are included in the Water Quality Control Plan or the San Francisco Bay/Sacramento–San Joaquin Delta Estuary (Bay-Delta Plan) (SWRCB 2006). The SWRCB is actively engaged in the process of updating the Bay-Delta Plan through two separate processes (Plan amendments) – first (Phase 1) efforts focusing on the lower San Joaquin River flows and Southern Delta salinity, and later (Phase 2) efforts focusing on the Sacramento River and its tributaries, Delta eastside tributaries, Delta outflows, and interior Delta inflows. In 2018, the SWRCB completed the Phase 1 efforts by adopting Bay-Delta Plan amendments focused on flows in the Lower San Joaquin River and its three major tributaries (the Stanislaus, Tuolumne, and Merced Rivers) for the protection of fish and wildlife, and establishing a new salinity objective for the reasonable protection of agricultural uses in the southern Delta. The SWRCB initiated Phase 2 to evaluate updating portions of the Bay-Delta Plan including criteria for Delta outflow, Sacramento and non-San Joaquin River tributaries inflow, Suisun Marsh salinity, Delta Cross Channel Gate closure, Delta export limits, and reverse flows in Old and Middle River. In 2016, the SWRCB issued a working Draft Scientific Basis Report, which was finalized during October 2017, to evaluate possible Sacramento/Delta updates to the Bay-Delta Plan. Subsequently in July 2018, the SWRCB released the *Framework for the Sacramento/Delta Updates to the Bay-Delta Plan* (Framework) (SWRCB 2018).

The following edit is made to Page 4-44:

> ~~_____. 2022. Restoration Projects Statewide Order Program Environmental Impact Report – Consolidated Final. Prepared with ESA. August 16, 2022. Available at: https://acceleratingrestoration.org/permits/srgo-ceqa-peir/.~~

The following edit is made to Page 4-45:

> ~~United States Department of Agriculture (USDA) Forest Service (USFS). 2022. November 16, 2022 letter titled "*Forest Service Revised Final Terms and Conditions - Yuba River Development Project, FERC No. 2246-065 Yuba County Water Agency*" from Jennifer Eberlien (USFS) to Kimberly D. Bose (FERC). Pacific Southwest Region. Filed with FERC on December 2, 2022. Document Accession #: 20221202-5193.~~

3.2.7 Revisions to Chapter 5, "Surface Water Resources"

The following edit is made to Page 5-4, footnote 1:

> [1] Placer County Water Agency has two water supply contracts that allow for purchase of up to 125,400 acre-feet of water annually from PG&E: 100,400 ac-ft annually for Zone 1, and 25,000 ac-ft for Zone 3 (PCWA ~~2006~~2021).~~;~~

The following edit is made to Page 5-9, footnote 7:

> [7] Yuba County Water Agency. 2018. Yuba County Integrated Regional Water Management Plan. Accessed October 2024. CONTENTS (yubawater.org)

The following edit is made to Page 5-32:

> Yuba Accord water transfers play an important role in statewide water supply. Yuba Water transfers are measured at the Marysville gage relative to a defined baseline operation. Those transfers therefore generally involve an increment of water that Yuba Water releases to meet

minimum Yuba River flows, rather than an additional release specifically for transfers. Accounting for transfers includes a determination of the baseline flow and the accounting for refill of New Bullards Bar Reservoir after the transfer. This accounting is typically conducted in real-time and includes consideration of SWP and CVP operations. For purposes of this analysis, companion Baseline operations are simulated using the YRDPM to represent operations under similar hydrological conditions, but according to Baseline operations defined in the Yuba Accord Water Purchase Agreement (~~Yuba Water~~YCWA and DWR 2007).

The following edit is made to Page 5-37:

decreases in annual water supply availability or increases in flow requirements in the Yuba River below Englebright Dam, at an increased frequency and magnitude that, assuming the Yuba Water Member Units elected to pump a similar volume groundwater to replace the reduced surface water delivery, would result in groundwater levels below the local management levels defined in the Yuba Groundwater Sustainability Plan (~~Yuba Water~~YCWA 2024b), would be considered significant. Effects of increases in groundwater pumping are evaluated in Chapter 6, Groundwater Resources.

The following edit is made to Page 5-42:

Yuba Accord Transfers

The portion of the Proposed Projects flow considered potentially transferable is based on measured flows at the Marysville gage above the Transfer Baseline flow. Transfer Baseline operations for the Proposed Projects would be based on the same inflows to the YRDP and Narrows Project as the Existing Conditions, but with operations for the Transfer Baseline requirements, as defined in the Yuba Accord Water Purchase Agreement (~~Yuba Water~~YCWA and Reclamation 2007), rather than for the Proposed Projects' requirements. Operations to provide Yuba Accord transfers would be unaffected by the Proposed Project.

The following edit is made to Page 5-68:

Ecosystem Restoration and Fisheries Improvement Projects

- Bay-Delta Water Quality Control Plan Update – Healthy Rivers and Landscapes (HR & L)

The following edits are made to Page 5-73:

U.S. Army Corps of Engineers (USACE). 1959 Master Manual of Reservoir Regulation, Sacramento River Basin, California. March 1959.

~~_____. 2024. National Levee Database. Map View. Available: https://levees.sec.usace.army.mil/. Accessed October 2024.~~

Yuba County Water Agency and California Department of Water Resources. (~~Yuba Water~~YCWA and DWR). 2007. Agreement for the Long-Term Purchase of Water From Yuba County Water Agency by the Department of Water Resources. December 4, 2007.

Yuba County Water Agency (~~Yuba Water~~YCWA). 2024a. Final Supplemental EIR for the Extension of the Yuba Accord Long-Term Water Transfer Program. Retrieved October 17, 2024, from https://www.yubawater.org/DocumentCenter/View/7419/Yuba-Accord-Final-Supplemental-Environmental-Impact-Report-PDF

The following edits are made to Page 5-74:

_____. ~~2024c~~2018. Yuba County Integrated Regional Water Management Plan. Available: https://www.yubawater.org/281/Integrated-Regional-Water-Management. Accessed October 2024.

Yuba County Water Agency (YCWA) and Reclamation. 2007. Proposed Lower Yuba River Accord, Draft EIR/EIS.

Personal Communications:

Tom Engler, P.E. Three Rivers Levee Improvement Authority January 22, 2022.

3.2.8 Revisions to Chapter 6, "Groundwater Resources"

The following edit is made to Page 6-7:

As a result of hydraulic mining between 1852 and 1884, the Yuba River was filled with more debris than all the other tributaries of the Sacramento River combined. The 684 million cubic yards of gold-bearing material that washed into the Yuba River represent more than triple the volume of earth excavated during the construction of the Panama Canal (Bezerra and West 2005). Efforts to manage the debris included the 1899 Project, which included, among other components, the storage of mining debris in the Yuba River and the construction of training walls to confine the river channel within well-defined limits (USACE 1981; MBK Engineers 2018).

The following edit is made to Page 6-46:

MBK Engineers. 2018. Goldfields North Training Wall. Letter to Curt Aikens, Yuba County Water Agency. August 10, 2018.

3.2.9 Revisions to Chapter 7, "Energy"

The following edit is made to Page 7-4, Figure 7.2-1:

Source: CAISO 2024a

The following edit is made to Page 7-5, Figure 7.2-2:

Source: CAISO 2024c

3.2.10 Revisions to Chapter 8, "Surface Water Quality"

The following edit is made to Pages 8-2 and 8-3:

8.2.2 Yuba River Watershed

In general, water quality of Project Area waterbodies in the Yuba River watershed is high within and between seasons. Most analyte concentrations have been at non-detect levels or just above the analytical reporting limit. Waters are generally clear, with an average turbidity less than 36 Nephelometric Turbidity Units (NTU) ~~and dissolved oxygen concentrations near or at saturation levels~~. Alkalinity is generally low (<100 milligrams per liter [mg/L] as $CaCO_3$) and pH is near neutral. Fecal coliform bacteria are not found near potential sources. *E. coli* levels are either less than detection levels or less than EPA's (2012) recommended water quality criteria for protection of recreation uses and the SWRCB's (2019) statewide water quality objectives for bacteria, which are based on EPA's criteria. Dissolved oxygen levels are typically greater than 7 mg/L. Dissolved oxygen levels have infrequently been less than 7 mg/L in the hypolimnion of New Bullards Bar Reservoir and Englebright Reservoir during the summer when the reservoirs thermally stratify. In those instances, dissolved oxygen concentrations greater than 5 mg/L at the bottom and greater than 7 mg/L at the surface, indicating the reservoirs were sufficiently oxygenated to support beneficial uses. Trace metals concentrations are typically well below California Toxics Rule criteria for protection of freshwater aquatic life (U.S. Environmental Protection Agency 2000). Concentrations of methylmercury in fish tissues exceed sport fish objectives in New Bullards Bar Reservoir, Englebright Reservoir, the Yuba River downstream of the confluence of the North and Middle Yuba Rivers, Yuba River downstream of Englebright Reservoir, Lake Spaulding, and South Yuba River. Nutrient levels are low with nitrogen compound concentrations less than 0.2 mg/L as nitrogen (N), ortho-phosphate concentrations less than 0.10 mg/L as phosphorus, and total phosphorous concentrations generally less than 1 mg/L.

The following edits are made to Pages 8-121 through 8-124:

8.7 Literature Cited

State Water Resources Control Board. 2019. Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy. February.

U.S. Environmental Protection Agency. 2012. Recreational Water Quality Criteria. 820-F-12-058. Office of Water. Available at: https://www.epa.gov/wqc/recreational-water-quality-criteria-and-methods.

U.S. Environmental Protection Agency. 2000. 40 CFR Part 131–Water Quality Standards; Establishment of Numeric Criteria for 25 Priority Toxic Pollutants for the State of California; Rule. Vol. 65, No. 97.

3.2.11 Revisions to Chapter 9, "Fisheries Resources"

The following edits are made to Page 9-52:

Narrows 2 Power Tunnel Intake and Narrows 1 Tunnel ~~via USACE's Englebright~~ Intake

As described in Yuba Water (2017) and Yuba Water (2023b), water is supplied to YRDP's Narrows 2 Power Tunnel via the Narrows 2 Power Tunnel Intake, and to the Narrows Project's Narrows Tunnel via ~~USACE's Englebright~~ the Narrows 1 Tunnel Intake. The invert elevations of Yuba Water's YRDP Narrows 2 Power Tunnel Intake and the ~~USACE's Englebright~~ Narrows 1 Tunnel Intake (which supplies water to the Narrows Tunnel) are 439 and 460 ft, respectively. As part of its YRDP relicensing, Yuba Water deployed gill nets in Englebright Reservoir, with some nets near the intakes and at similar depths (Yuba Water 2017). The analysis of potential effects to fish from entrainment into the Narrows 2 Power Tunnel and Narrows Tunnel in this DEIR is based on the results of Yuba Water's relicensing gill net sampling in Englebright Reservoir, as well as evaluations of the extent to which YRDP operations would affect Englebright Reservoir water surface elevations.

The following edit is made to Page 9-71:

9.4.3.2.2 Englebright Reservoir

Other operations-related impact indicators for reservoir fisheries included changes in simulated mean monthly Englebright Reservoir WSEs of sufficient magnitude and frequency to substantially affect entrainment of fish into the Narrows 2 Power Tunnel or to substantially affect entrainment of fish into ~~USACE's Englebright~~ Narrows 1 Tunnel Intake, in consideration of Yuba Water's gill net sampling in Englebright Reservoir.

The following edits are made to Page 9-105:

Narrows 2 Power Tunnel Intake and Narrows 1 Tunnel ~~via USACE's Englebright~~ Intake

The invert elevations of Yuba Water's YRDP Narrows 2 Power Tunnel Intake and the ~~USACE's Englebright~~ Narrows 1 Tunnel Intake (which supplies water to the Narrows Tunnel) are 439 and 460 ft, respectively. As part of its YRDP relicensing, Yuba Water deployed gill nets in Englebright Reservoir, with some nets near and at water depths similar to the depths of the intakes (Yuba Water 2017). The gill nets near the intakes captured only three adult fish – two rainbow trout and one brown trout – with the majority of fish captured by gillnets occurring in shallow and near-shore samples in Englebright Reservoir. In addition, the study found that juvenile and adult trout have swim and burst speeds that would allow them to easily avoid impingement on the intakes and escape intake velocities. The study also found that if any fish were entrained, the chance of survival was high since the Narrows 2 Powerhouse contains a Francis turbine18, as does the Narrows 1 Powerhouse. For these reasons, FERC and USACE (2019) concluded that the effect of operating the Narrows 2 Powerhouse on reservoir fishes was minimal under existing operations. The results of Yuba Water's 2011 YRDP entrainment study are directly applicable to the ~~USACE Englebright~~ Narrows 1 Tunnel Intake. Additionally, neither the Proposed Projects (existing) nor Proposed Projects (future) would

result in substantial changes in Englebright Reservoir water surface elevations relative to the bases of comparison (see Table C1-Reservoir-4 in Appendix 4C and Table C2-Reservoir-4 in Appendix 4C, respectively). Because YRDP and Narrows Project operations under the Proposed Projects would not result in substantial changes in Englebright Reservoir water surface elevations relative to the bases of comparison, these scenarios would not be expected to result in an increase in fish entrainment into the Narrows 2 Power Tunnel and Narrows Tunnel relative to the bases of comparison.

The following edit is made to Page 9-138:

Narrows 2 Power Tunnel Intake and Narrows 1 Tunnel ~~via USACE's Englebright~~ Intake

The following edit is made to Page 9-160:

Narrows 2 Power Tunnel Intake and Narrows 1 Tunnel ~~via USACE's Englebright~~ Intake

The following edits are made to Page 9-189:

California Department of Fish and Game (CDFG). 2015. Sacramento Splittail (*Pogonichthys macrolepidotus*). Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=104370. Accessed April 3, 2023.

_____. 2010. Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta. Draft document, September 2010.

3.2.12 Revisions to Chapter 10, "Non-Fisheries Biological Resources"

The following edit is made to Page 10-180:

Nevada Irrigation District (NID). 2023. Yuba-Bear Hydroelectric Project, FERC Project No. 2266-102, Response to FERC's April 12, 2023 Additional Information Request. Letter from J. Lunch (NID) to Kimberly D. Bose (FERC) dated May 11, 2023.

3.2.13 Revisions to Chapter 11, "Recreation"

The following edit is made to Page 11-20:

conducted during the construction and operation of the YRDP facilities would include a comprehensive set of Best Management Practices (BMPs) to control erosion. These measures are designed to minimize potential environmental impacts (e.g., preserving existing vegetation, minimizing the amount of soil exposed during construction activity, minimizing the disturbance of steep slopes, minimizing soil compaction in areas other than where the intended function of a specific area dictates that it be compacted, and reestablishing vegetation or non-vegetative erosion controls as soon as practicable) (SWRCB 2022).

Also, as discussed in Chapter 16, construction of recreation facilities would require a Construction General Permit, issued by SWRCB. Dischargers are required to obtain coverage under the permit for discharges of stormwater associated with construction activity whose

projects disturb one or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. As part of the Construction General Permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared by the permittee, identifies Best Management Practices (BMPs) that must be implemented during construction to reduce and prevent potential impacts on the water quality of downstream water bodies. Given that the construction or expansion of the individual recreation facilities would be part of a larger common plan, a comprehensive SWPPP or individual plans would be developed for the construction or expansion of each recreation facility resulting from the issuance of the new FERC license for YRDP.

The following edits are made to Page 11-33:

Relative to the Future Baseline, YB/DS operations under Alternative 1 could reduce the availability of the Yuba-Bear and Drum-Spaulding projects boat ramps during the peak recreation season (May through September) in Dry and Critical water years due to potential changes in reservoir storage and thus, reservoir water surface elevations at these reservoirs. This could occur at the ~~two~~three reservoirs, Jackson Meadows Reservoir, Rollins Reservoir, and Lake Spaulding, with developed boat ramps and where reservoir boating is a popular recreational activity.

The following edits are made to Page 11-48:

Nevada Irrigation District (NID). 2023. Yuba-Bear Hydroelectric Project, FERC Project No. 2266-102, Response to FERC's April 12, 2023 Additional Information Request. Letter from J. Lunch (NID) to Kimberly D. Bose (FERC) dated May 11, 2023.

Nevada Irrigation District and Pacific Gas & Electric (NID and PG&E). 2010. Technical Memorandum 3-2. Instream Flow. Yuba-Bear Hydroelectric Project (FERC Project No. 2266-096) and Drum-Spaulding Project (FERC Project No. 2310-173).

3.2.14 Revisions to Chapter 12, "Visual Resources"

The following edit is made to Page 12-3:

Views of the reservoir are available from the dam and along segments of Marysville Road, including from a designated Dam Overlook site off Marysville Road east of the dam. Views are also available from some of the YRDP recreation facilities: Madrone Cove and Garden Point boat-in campgrounds, select campsites at Dark Day Campground, and Moran Road Day Use Area (YCWA 2012). Chapter ~~12~~11, Recreation, discusses these facilities in more detail.

The following edit is made to Page 12-4:

Since the Project Area is predominantly rural, there are relatively few built features in the visual landscape. However, a prominent built feature is New Bullards Bar Dam. As described in Chapter 2, Project Description, New Bullards Bar Dam is a concrete arch dam approximately 645 feet in height, with a spillway and the New Bullards Bar Minimum Flow Powerhouse, the latter in front of the dam. New Bullards Bar Dam is visible from several locations along

Marysville Road, which crosses the dam at its crest. Other built features on or near New Bullards Bar Reservoir include Emerald Cove Marina with parking lot, several campgrounds, and boat launches. Chapter ~~12~~11, Recreation, describes these in more detail. The marina is near the dam, while the campgrounds are in the more forested areas around the reservoir.

The following edits are made to Page 12-10:

The Yuba County 2030 General Plan has broad goals to maintain or enhance the visual quality of the lands within the county with an emphasis on a policy that states: "encourage the preservation and enhancement of the natural features of the County, including rivers and areas of scenic beauty, and native vegetation." The General Plan emphasizes protecting views from scenic highways and other important highways, specifically, Marysville Road and State Highway 49 (Yuba County 2011~~b~~a).

The Natural Resources Element of the Yuba County 2030 General Plan contains goals and policies relevant to visual resources. The following goals and policies of the Natural Resources Element are applicable to the Proposed Projects (Yuba County 2011~~b~~a):

The following edit is made to Page 12-13:

A desktop analysis was completed to collect and analyze data related to visual resources in the lower Yuba River area. Some of this data was used to supplement information on visual resources in the area upstream of Englebright Dam. For the purposes of this analysis, information related to visual resources was collected using the following sources:

- Yuba County General Plan
- Yuba County General Plan 2030 Draft Environmental Impact Report (Yuba County 2011b)
- Nevada County General Plan
- Sierra County General Plan
- Narrows Project FLA

The following edits are made to Page 12-39:

Yuba County. 2011a. ~~Final Yuba County 2030 General Plan Environmental Impact Report. May 2011.~~ Yuba County 2030 General Plan.

_____. 2011b. ~~Yuba County 2030 General Plan.~~ Final Yuba County 2030 General Plan Environmental Impact Report. May 2011.

3.2.15 Revisions to Chapter 13, "Cultural Resources"

The following edit is made to Page 13-37:

> Ruth, Monica. 2025<u>4</u>. Tribal Cultural Resources Study for Yuba County Water Agency in Yuba, Nevada, and Sierra Counties, California. Applied Earthworks, Inc., Fresno, California. Submitted to Yuba County Water Agency.

3.2.16 Revisions to Chapter 14, "Tribal Cultural Resources"

The following edit is made to Page 14-5:

> To date, the methodologies, techniques, and values of "whitestream" (Denis 1997:13) archaeological and ethnographic Cultural Resource Management (CRM) investigations have dominated NHPA reviews and cultural resource surveys and inventories of the Project Area.1 As no previous CEQA TCR reviews were conducted prior to the issuance of the FEIS, Yuba Water conducted a TCR study for the YRDP <u>(Ruth 2025)</u>. Results of the TCR study are confidential and provided under separate cover that is not available to the public.

The following edits are made to Page 14-9:

> Honoring and abiding by the lessons and insights of Indigenous Knowledge for the Proposed Project area was facilitated by taking a cultural geographic view of known and extant ancestral material recorded as "archaeological" and methodologically employing a "contextual approach" to these and other tangible landmark and wider landscape PTRCIs <u>(Zedeño et al. 1997)</u>. This contextual approach builds from "progressive contextualization" methods advanced in human ecology and "advocates the analysis of one type of resource or interaction, widening progressively as interconnections between resources and interactions become manifest" <u>(Zedeño et al. 1997)</u>. The appropriate applicability of this approach to adequately ethnographically diagram tribal relationships and concerns with and to the Proposed Project area specifically and Yuba Water service district lands and waters more generally was conveyed by UAIC traditional knowledge bearer and cultural practitioner Alan Wallace, who shared that "[t]hese sites all in here [in the Yuba Water service district] would have been all connected" (Alan Wallace, interview September 28, 2023).

The following edits are made to Page 14-12:

> As part of reinitiating the AB 52 process in 2024, Yuba Water sent emails to each potentially interested California Native American Tribe on October 18, 2024, of an early engagement opportunity to discuss the Proposed Projects prior to formal AB 52 consultation notification. Yuba Water formally re-initiated the CEQA and AB52 processes and procedures by sending letters on October 31, 2024, via email and United States Postal Service of the opportunity to consult to Native American tribes that requested formal notification, and courtesy notification to other potentially interested California Native American tribes identified by the NAHC. UAIC and Enterprise Rancheria Estom Yumeka Maidu (Enterprise Rancheria) have each requested consultation for the Proposed Projects in response to the notice of opportunity. Yuba

Water provided requested information to each Enterprise Rancheria and UAIC in November 2024 and updated information in March and July 2025. ~~Consultation with Enterprise Rancheria and UAIC has not yet concluded in accordance with PRC 21080.3.2(b). The results of the consultation shall be presented in the Final EIR for the project.~~

On August 1, 2025, the Draft EIR was distributed to consulting tribes and interested Native American Tribes as part of the 45-day public review period. On September 18, 2025, Yuba Water proposed to each consulting tribe via email conclusion of consultation pursuant to PRC § 21080.3.2(b), as the revised HPMP will guide resource protection for all TCRs, there are no significant impacts to TCRs that require mitigation/avoidance, and there are no outstanding concerns presented by consulting tribes. UAIC agreed to conclusion of consultation in an email dated September 24, 2025. No response has been received from Enterprise Rancheria to date. As such, consultation has been concluded pursuant to PRC § 21080.3.2(b).

Additionally, as part of the public review period, a comment letter from Mooretown Rancheria dated August 21, 2025, was received by Yuba Water. A copy of the letter is included in Chapter 2, along with acknowledgement of the information provided. No AB 52 consultation was requested by Mooretown Rancheria.

The following edits are made to Page 14-17:

Rehabilitation proposed at Garden Point Boat-in Campground has the potential to impact CA-YUB-22, a contributing TCR of the defined component TCL of the Yuba Water service district (Ruth 2025) and historical resource (Dunnigan 2025), through ground disturbing activities that may cause a substantial adverse change in its significance (PRC § 21048.3(b)). Additional nearby TCR include CA-YUB-1761, CA-YUB-1763, and CA-YUB-1764/H. Each of these resources are currently inundated by the New Bullards Bar Reservoir and would not be subject to disturbance from the rehabilitation.

As described in Chapter 13, Cultural Resources, Project O&M is not anticipated to cause significant fluctuations in water levels and/or wave action that would increase erosion of site sediments on the shore of New Bullards Bar. Under the Existing Condition, Project O&M (recreational wave action) has contributed to erosion at five contributing TCR of the defined component TCL of the Yuba Water service district (Ruth 2025) (CA-YUB-1728; CA-YUB-1761; CA-YUB-1763; CA-YUB-1764/H; and CA-YUB-1767), as well as vegetation management, facilities management, and recreational activities and potential for looting at three of these same TCRs (CA-YUB- 1728, CA-YUB-1761, and CA-YUB-1767) (Dunnigan 2025; Ramsey et al. 2016). Accordingly, the Proposed YRDP Project would not cause a substantial adverse change in the significance of a TCR.

The following edit is made to Page 14-21:

Analyzing cumulative effects is more challenging [than direct or indirect adverse effects], primarily because of the difficulty of defining the geographic (spatial) and time (temporal) boundaries. For example, if the boundaries are defined too broadly, the analysis becomes

unwieldy; if they are defined too narrowly, significant issues may be missed, and decision makers will be incompletely informed about the consequences of their actions [CEQ~~A~~ 1997:v].

The following edits are made to Page 14-25:

Council on Environmental Quality (CEQ). 1997:v. *Considering cumulative effects under the National Environmental Policy Act*. https://ceq.doe.gov/docs/ceq-publications/ccenepa/exec.pdf

Dunnigan, James. 2025. *Supplemental Archaeological Inventory for the Yuba River Development Project Nevada, Sierra, and Yuba Counties, California*. Prepared by Applied EarthWorks, Inc. San Luis Obispo, California. Prepared for Yuba County Water Agency, Marysville, California.

The following edits are made to Page 14-26:

Ruth, Monica Elisa Theodosia. 2025. *Tribal Cultural Resources Study for Yuba County Water Agency in Yuba, Nevada, and Sierra Counties, California*. Applied EarthWorks, Inc. San Luis Obispo, California. Prepared for Yuba County Water Agency, Marysville, California.

Zedeño, M. Nieves, Diane Austin, and Richard Stoffle. 1997. Landmark and Landscape: A Contextual Approach to the Management of American Indian Resources. *Culture & Agriculture* 19(3):123–129.

3.2.17 Revisions to Chapter 15, "Air Quality and Greenhouse Gas Emissions"

The following edit is made to Page 15-63:

_____. 2022. "What are Hazardous Air Pollutants?" December 19, 2022. Accessed October 19, 2023. https://www.epa.gov/haps/what-are-hazardous-air-pollutants

Yuba County. 2011. Yuba County 2030 General Plan. Public Health and Safety Element. June 7, 2011. https://www.yuba.org/departments/community_development/planning_department/general_plan.php

3.2.18 Revisions to Chapter 16, "Geology and Soils"

The following edit is made to Page 16-15:

The Office of Energy Projects (OEP) has prepared the FERC Engineering Guidelines for the Evaluation of Power Projects to provide guidance to the technical staff in the processing of applications for license and in the evaluation of dams under Part 12 of the Commission's regulations. These Guidelines will also be used to evaluate proposed modifications or additions to existing projects under the jurisdiction of FERC. The guidelines outline applicable engineering and geotechnical standards for the management of dams and other water conveyance structures (FERC 2024).

The following edit is made to Page 16-43:

Federal Energy Regulatory Commission (FERC). 2019. Final Environmental Impact Statement (FEIS) for Hydropower License for the Yuba River Development Project (P-2246-065). Prepared by FERC and the U.S. Army Corps of Engineers (USACE). FERC/EIS-0281F. January 2019.

_____. 2024. FERC Engineering Guidelines for the Evaluation of Hydropower Projects. Accessed May 2, 2025. Available online: https://www.ferc.gov/industriesdata/hydropower/dam-safety-and-inspections/eng-guidelines

3.2.19 Revisions to Chapter 17, "Hazards and Hazardous Materials"

The following edit is made to Page 17-9:

The following goals and policies from the Yuba County 2030 General Plan Public Health and Safety Element are relevant to the proposed project (Yuba County 2011~~b~~).

The following edit is made to Page 17-24:

~~_____. 2023c. Yuba River Development Project, FERC Project No. 2246, CEQA Supplement. Fire Prevention and Response Plan. December 2023.~~

3.2.20 Revisions to Chapter 18, "Wildfire"

The following edit is made to Page 18-17, footnote 2:

[2] CEQA Guidelines, Appendix G, IX(g). This Guidance focuses on these key wildfire-related questions in Sections IX(g) and XX of the checklist, but in conducting environmental review, lead agencies must continue to thoroughly address the other questions identified in Section XX and the checklist more generally (~~State of~~ California Attorney General 2022).

The following edit is made to Page 18-41:

~~_____. 2019. Community Wildfire Prevention and Mitigation Report. February 22, 2019.~~

3.2.21 Revisions to Chapter 19, "Transportation"

The following edits are made to Page 19-15:

The Sierra County General Plan has established a target LOS of "C" on all State and County roadways. ~~The~~ Sierra County has not established LOS traffic volume thresholds in its General Plan (Sierra County 2012). As noted, the use of LOS to analyze the CEQA environmental impacts of a project has been superseded by the use of VMT.

3.2.22 Revisions to Chapter 20, "Noise"

No revisions to this chapter.

3.2.23 Revisions to Chapter 21, "Agriculture and Forestry Resources"

The following edit is made to Page 21-2:

> related activities to crop production, harvesting, and processing, and timber management and harvesting are considered uses by right in all General Plan designations and zoning districts that permit agriculture (~~Yuba Water~~YCWA et al. 2007).

3.2.24 Revisions to Chapter 22, "Land Use and Planning"

The following edit is made to Page 22-1:

> Land in the Project Area consists of mostly federal and Yuba Water lands, along with some State and private lands. Land above 2,000 feet elevation in the Project Area consists of National Forest land, timber company lands (e.g., Sierra Pacific Industries) and other private lands, and lands owned by Yuba Water. Land around facilities below 2,000 feet elevation along the North Yuba, Middle Yuba, and Yuba Rivers to Englebright Lake consists of public land managed by the Corps and the State of California, and private land near urban areas (FERC ~~and USACE~~ 2019).

3.2.25 Revisions to Chapter 23, "Public Services"

No revisions to this chapter.

3.2.26 Revisions to Chapter 24, "Utilities and Service Systems"

The following edit is made to Page 24-25:

> Yuba County Water Agency (YCWA). ~~2023. Draft Environmental Impact Report, New Bullards Bar Dam Atmospheric River Control (ARC) Spillway Project. June 23, 2023.~~

3.2.27 Revisions to Chapter 25, "Other CEQA Considerations"

The following edits are made to Page 25-55:

> Recently, DWR published the *State Water Project Delivery Capability Report (DCR) 2023* (DWR 2024b), which included CalSim 3 modeling representing several potential climate change conditions. Yuba Water's approach for the sensitivity analysis in this DEIR is based upon analyses completed by DWR ~~(2024)~~, which served as a basis for developing climate change hydrology for the Yuba River Watershed that is used to provide information about projected effects of climate change as related to the YRDP and the Narrows Project.

The following edit has been made on page 25-58:

> The San Francisco Bay Area's average annual maximum temperature has increased by 1.7°F from 1950-2005, and sea level in the Bay Area has risen over 8 inches in the last 100 years (Ackerly et al. 2018~~9~~).

The following edit has been made on page 25-59:

> The potential effects of a warmer climate on the seasonality of runoff from snowmelt in the Central Valley have been well-studied and results suggest that melt runoff will likely shift from spring and summer to earlier periods in the water year (Vanrheenen et al. 2004~~1~~).

The following references have been added to Section 25.8, Literature Cited:

> Ackerly, David, Andrew Jones, Mark Stacey, Bruce Riordan. 2018. San Francisco Bay Area Summary Report. California's Fourth Climate Change Assessment.
>
> Barnett, T.P., J.C. Adam, and D.P. Lettenmaier. 2005. Potential Impacts of a Warming Climate on Water Availability in Snow-Dominated Regions. Nature, Vol. 438. 17 November 2005.
>
> Barnett, Tim P., David W. Pierce, Hugo G. Hidalgo, Celine Bonfils, Benjamin D. Santer, Tapash Das, Govindasamy Bala, Andrew W. Wood, Toru Nozawa, Arthur A. Mirin, Daniel R. Cayan, and Michael D. Dettinger. 2008. Human-Induced Changes in the Hydrology of the Western United States. Science, Vol 319. 22 February 2008.
>
> Berg, N. and Hall, A. 2017. Anthropogenic Warming Impacts on California Snowpack During Drought. Geophysical Research Letters, 44, 2511–2518. March 2017.
>
> Dettinger, Michael. 2011. Climate Change, Atmospheric Rivers, and Floods in California - A Multimodel Analysis of Storm Frequency and Magnitude Changes. Journal of the American Water Resources Association 47(3), 514–523. June 2011.
>
> Houlton, Benjamin and Jay Lund. 2018. Sacramento Summary Report. California's Fourth Climate Change Assessment.
>
> Kiparsky, Michael and Peter H. Gleick. 2003. Climate Change and California Water Resources: A Survey and Summary of the Literature. Pacific Institute, July 2003.
>
> Moser, S., G. Franco, S. Pittiglio, W. Chou, and D. Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Climate Change Center Rep. CEC-500-2008-071.
>
> National Aeronautics and Space Administration (NASA). 2025. What Is Climate Change? https://science.nasa.gov/climate-change/what-is-climate-change/.
>
> Ralph, F.M., James, J., Leahigh, J., Anderson, M., Forbis, J., Haynes, A., Jasperse, J., Lindley, S., Talbot, C., & White, M. 2022. Yuba-Feather Forecast Informed Reservoir Operations: Preliminary Viability Assessment. UC San Diego. https://escholarship.org/uc/item/8x57n58b.
>
> Ralph, F.M. and M.D. Dettinger. 2011. Storms, Floods, and the Science of Atmospheric Rivers. Eos, Vol. 92, No. 32. 9 August 2011.

State of California. 2025. Sacramento Valley Region - California Climate Adaptation Strategy. https://climateresilience.ca.gov/regions/sacramento-valley.html.

Swain, D.L., B. Langenbrunner, J. D. Neelin and A. Hall. 2018. Increasing Precipitation Volatility in Twenty-First Century California. Nature Climate Change. Volume 8, pages 427–433. April 2018.

Vanrheenen, Nathan T., Andrew W. Wood, Richard N. Palmer, and Dennis P. Lettenmaier. 2004. Potential Implications of PCM Climate Change Scenarios for Sacramento–San Joaquin River Basin Hydrology and Water Resources. Climatic Change 62: 257-281.

YCWA. 2025. About Fish Habitat Enhancement. https://www.yubawater.org/155/About-Fish-Habitat-Enhancement.

3.2.28 Revisions to Chapter 26, "References"

Revisions made to references in Chapters 1-25 above also apply to this chapter.

3.2.29 Revisions to Chapter 27, "List of Preparers"

No revisions to this chapter.

CHAPTER 4

REFERENCES

The references listed in this chapter are those cited in Chapter 1, Introduction, and Chapter 2, Comment Letters and Responses to Comments. Chapter 3, Revisions to the Draft EIR, contains reference additions and changes pertaining to the DEIR. As such, Chapter 3 references are not included here.

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