Appendix C

Aquatic Resources Delineation

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September 30, 2024
Project Number: 21-12210

Jon Yasin, Local Manager
California Water Service
7138 Lake Isabella Boulevard
Lake Isabella, California 93240
Via email: jyasin@calwater.com

Subject: Aquatic Resources Delineation for the Kernville Raw Water Intake Upgrade Project, Kernville, Kern County, California

Dear Mr. Yasin:

This letter report has been prepared by Rincon Consultants, Inc. (Rincon) to assist California Water Service (Cal Water) with planning and permitting for the Kernville Raw Water Intake Upgrade Project (project). Rincon also prepared this letter report for use by the United States Army Corps of Engineers (USACE), the State Water Resources Control Board (SWRCB), and the California Department of Fish and Wildlife (CDFW), to confirm extent of the potential jurisdiction of these agencies under Section 404 of the Clean Water Act (CWA), Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, and California Fish and Game Code (CFGC) Section 1600 et seq, respectively. This Aquatic Resources Delineation identified the Kern River and its associated riparian habitat as potentially subject to agency jurisdiction.

Summary of Project Description

Cal Water is proposing to replace an existing raw water intake system, which diverts water from the north fork of Kern River to the Kernville Water Treatment Plant (WTP). The existing raw water intake system is located on the west side of the Kernville River, just upriver of the Kernville Road Bridge at Cal Water's Kernville Station. The existing raw water intake system, comprised of an infiltration gallery[1] and one 50-horsepower (hp) submersible pump, was designed with a capacity of 1,050 gallons per minute (gpm). However, capacity has been limited due to operational constraints. Due to the limited operational capacity of the intake system, an auxiliary (i.e. emergency) raw water intake system, which utilizes a screened surface water intake (12-inch piping) with wire mesh intake screen and has a pumping capacity of 600 to 700 gpm, was installed approximately 100 feet upriver of the primary intake system to provide additional water supply during the non-winter months and low-flow periods during the winter months. To restore the Kern River water supply capacity, Cal Water is proposing to install a single, reliable 1,000-gpm raw water intake system to replace the existing raw water intake system and emergency intake system. The proposed raw water intake system would be installed adjacent to the location of an existing emergency intake system. Cal Water is permitted to withdraw up to 1,000 acre-feet per year (AFY) of water from the Kern River. The project would not change Cal Water's permitted water allocation.

[1] An infiltration gallery is a horizontal system of perforated pipes located below the riverbed.

The proposed raw water intake system would consist of an in-channel concrete intake structure, a self-cleaning cone screen, and two 50-hp submersible vertical turbine pumps (one primary pump and one backup pump). Water from the Kern River would enter and flow through the concrete intake structure, through the self-cleaning cone screen, through a 12-inch pipe to the two parallel submersible vertical turbine pumps and tie in to the existing 6-inch raw water piping. Raw water would then be conveyed to the Kernville WTP. The concrete intake structure would be a precast concrete structure approximately 5 feet in depth with sides 8 feet and 8 feet in length. The self-cleaning cone screen would be located in the intake structure to prevent fish and smaller debris from entering the turbine pumps. A stainless steel trash rack with 4-inch openings would be located at the inlet of the intake structure to prevent large debris from entering the intake structure and to protect the cone screen from damage.

Project Location and Study Area

The Aquatic Resources Delineation Study Area (Study Area) is located in the census-designated town of Kernville in Kern County, California (Attachment 1, Figure 1). The Study Area is located along the western riverbank of the Kern River, approximately 100 feet northeast of the Sirretta Street and Kernville Road intersection. The Study Area was established to contain disturbance areas associated with all of the project components, as previously outlined in the project description, including construction access and staging areas (i.e., impact areas). The Study Area analyzed in this letter report encompasses approximately 0.53 acres (Attachment 1, Figure 2). The approximate center of the Study Area is located at latitude 35.755815° and -118.422736° longitude (WGS84). The Study Area is depicted on the *Kernville, California*, United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The Public Land Survey System depicts the project within Township 25S, Range 33E, and Section 15, Mount Diablo Meridian.

Methodology

The Aquatic Resources Delineation began with a review of aerial photos and other data sources. After completion of the literature and database review, a field delineation was completed to identify, describe, and map all potential aquatic resources within the Study Area. Fieldwork for this evaluation was conducted by Regulatory Specialist and Biologist Carolynn Honeycutt on September 13, 2022, in accordance with USACE, SWRCB, and CDFW procedures, as outlined below. Following changes to the project description in 2024, a follow-up desktop review of the data collected during the initial survey was conducted. The review included a comparison of the initial Study Area and project description to the updated impact areas and modified project components. These areas were assessed using photographs from the initial field survey as the updated Study Area is generally contiguous with the initial Study Area. In addition, an updated literature and database review was conducted to compare 2022 conditions with current conditions in 2024. Representative photographs within the Study Area are presented in Attachment 2, a data summary of aquatic features and list of plants observed in Attachment 3, and a detailed description of the applicable jurisdictional regulations is found in Attachment 4.

Literature Review

Prior to the field survey and during the subsequent desktop review, Rincon reviewed aerial imagery (Google Earth 2024) depicting the Study Area, the *Kernville, California*, USGS 7.5-minute topographic quadrangle (USGS 2024a), the Web Soil Survey (United States Department of Agriculture [USDA], Natural Resources Conservation Service [NRCS] 2024a), and the Environmental Constraints Analysis for the project (Rincon 2021) to better characterize the nature and extent of aquatic resources and riparian habitats potentially occurring on the Study Area.

Furthermore, the National Wetlands Inventory (NWI) (United States Fish and Wildlife Service [USFWS] 2024) and National Hydrography Dataset (NHD) (USGS 2024b) were reviewed to determine if any wetlands and/or other waters had been previously documented and mapped on or in the vicinity of the Study Area. The National Hydric Soils List by State: California (USDA, NRCS 2024b) was also reviewed to determine if any soil map unit types mapped on or in the vicinity of the Study Area were classified as hydric.

In 2024, Rincon reviewed the results of the 2022 field delineation, detailed below, to reevaluate the presence of potentially jurisdictional aquatic features in the updated Study Area. Field photographs, updated aerial imagery, recent "street view" imagery, and the database sources cited above were assessed to verify the conditions in the Study Area. The updated locations of project components and areas of potential impacts were overlayed with previously collected data to determine changes to previously identified aquatic features.

Field Delineation

On September 13, 2022, Rincon biologists surveyed the Study Area on foot for wetland and non-wetland potentially jurisdictional features, including streams that might exhibit an ordinary high water mark (OHWM) and might constitute other waters of the U.S. and/or state or CDFW-jurisdictional streambeds. Current federal and state policies, methods and guidelines were used to identify and delineate aquatic resources and are described below and in detail in Attachment 4.

During the field delineation, Rincon took photographs of potential aquatic resources and the surrounding areas. General site characteristics were noted, and vegetation present in the Study Area was documented with a focus on vegetation associated with aquatic features (Attachment 3). Vegetation communities were classified using *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009), which establishes systematic classifications and definitions of vegetation communities. For those vegetated areas that could not be classified per MCV2, industry-standard vegetation community names were used. Additionally, land cover types were characterized in areas that lacked vegetation. Data collection focused on areas where the Study Area intersected a potential aquatic feature (specifically, the Kern River) and a sample point was chosen as the best representation of the conditions in the Study Area.

The extent of aquatic features in the field and other spatial data were collected using a Trimble Global Positioning System unit with sub-meter accuracy. All collected data were subsequently transferred to Rincon's geographic information system (GIS) software package.

Wetland Waters of the U.S.

Potential wetland features were evaluated for presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils and wetland hydrology, according to the routine delineation procedure within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valley and Coast Region* (Version 2) (USACE 2010). The *Western Mountains, Valleys & Coast Regional Wetland Plant List* (USACE 2020) was used to determine the indicator status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL).

Non-Wetland Waters of the U.S.

The lateral limits of USACE jurisdiction (i.e., width) for non-wetland waters were determined by the presence of physical characteristics indicative of the OHWM. The OHWM was identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33

CFR 328.4) and Regulatory Guidance Letter 05-05 (USACE 2005), as well as in reference to various relevant technical publications, including, but not limited to, *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008). One OHWM data point was evaluated in the Kern River within the Study Area utilizing the delineation datasheet for OHWM for perennial streams (USACE 2022a).

Additionally, Rincon evaluated sources of water, potential connections and distances to navigable waters, streams that are perennial or intermittent in nature and other factors that affect whether waters qualify as "waters of the U.S." under the current regulations.

CDFW Streambed

The extent of potential streambeds, streambanks, lakes and riparian habitat subject to CDFW jurisdiction under Sections 1600 et seq. of the CFGC was delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features.

Waters of the State

The limits of non-wetland "waters of the state," as defined under the Porter-Cologne Water Quality Control Act, were determined to be coterminous with the USACE waters of the U.S., previously described above, based on current interpretation of jurisdiction by the SWRCB. The delineated boundaries include all streams/channels within the Study Area. Additionally, potential state wetland features were evaluated pursuant to *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board 2019).

Existing Conditions

The Study Area is located within the Southern Sierra Nevada Foothills geographic subregion of California (Baldwin et al. 2012), along the Kern River north of Isabella Lake. The Study Area is surrounded by development with open space further out. Elevation within the Study Area is approximately 2,650 feet above mean sea level.

The climate in this region is influenced by the Sierra Nevada Mountains. The climate in the region is dry summers and winters with snowfall averaging 1.7 inches. The average high temperature during summer months (June through September) is above 94 degrees Fahrenheit (°F) and the average low temperature in winter months (December through March) is 34°F. The average annual precipitation is 12.49 inches, with the majority of rainfall occurring during November through March (Western Regional Climate Center 2024).

The Study Area is heavily disturbed with limited vegetation. The majority of the soils within the Study Area are heavily compacted from access roadways and imported rock and broken concrete have been placed along the bank of the Kern River. Due to a precipitation event that brought less than 0.25 inch within 24 hours of the survey, the ground surface was damp and standing water was observed within depressions throughout the Study Area during the field survey.

Hydrology

The Study Area occurs within the Caldwell Creek-Kern River subwatershed (Hydrologic Unit Code [HUC]: 12- 180300010605) (United States Environmental Protection Agency [USEPA] 2024) (Attachment 1, Figure 3), north of Isabella Lake. Within the Study Area, the NWI and NHD identify the north fork of the Kern River along the eastern side of the Study Area. The north fork of the Kern River begins approximately 70 miles upstream in the Kings-Kern Divide. The north fork of the Kern River

flows through Kern Canyon receiving water from snowmelt at the high elevations of Kern Canyon and from numerous streams including but not limited to: Tyndall Creek, Kern-Kaweah River, Whitney Creek, Golden Trout Creek, Rattlesnake Creek, and Cannell Creek. The Kern River flows through Isabella Lake and down the Sierra foothills to the San Joaquin Valley where it terminates into the California Aqueduct. The north fork and the south fork of the Kern River are designated as a National Wild and Scenic River System under the Wild and Scenic Rivers Act upstream of the Study Area. The north fork carries this designation from the Tulare-Kern County line, approximately 3.5 miles upstream of the Study Area, to its headwaters in Sequoia National Park. The south fork carries this designation from the southern edge of the Domeland Wilderness, approximately 14 miles east of the Study Area, to its headwaters in the Inyo National Forest.

The NWI classifies the north fork of the Kern River as R3UBHx (Riverine [R], Upper Perennial [3], Unconsolidated Bottom [UB], and Permanently Flooded [H]) (USFWS 2024c). No wetlands are depicted on the NWI within the Study Area. Site observations were consistent with the mapping classifications identified in the NHD and NWI. The mapping presented in the NHD and NWI provide useful context but are not a completely accurate depiction of current conditions or extent of jurisdiction in the Study Area, particularly regarding alignment and flow regime of streams.

Soils

The USDA, NRCS Web Soil Survey identifies two soil types present in the Study Area: Southlake-Urban land complex, 0 to 15 percent slopes and Aquents-Aquolls-Riverwash complex, 0 to 5 percent slopes, flooded. The description of each soil map unit is presented below (USDA, NRCS 2024a). Site-specific soil observations are consistent with those mapped by the Web Soil Survey. Figure 4 in Attachment 1 provides a map of these soil types within the Study Area.

Southlake-Urban land complex, 0 to 15 percent slopes

Southlake-Urban land soils are alluvium derived from mixed rocks on fan piedmonts and mountain valleys between elevations of 2,700 to 3,500 feet above mean sea level. The depth of the water table is approximately 60 inches below ground surface, the frequency of flooding and ponding is rare, the available water supply is low (about 5.1 inches), and the soils are well drained and categorized as a medium runoff class (USDA, NRCS 2024a). Southlake-Urban land complex is not included on the list of hydric soils (USDA, NRCS 2024b).

Aquents-Aquolls-Riverwash complex, 0 to 5 percent slopes, flooded

Aquents-Aquolls-Riverwash soils are alluvium derived from granite and form on channels, depressions, flood plains, and mountain valleys between elevations of 2,595 to 3,100 feet above mean sea level. The depth of the water table is approximately 60 inches below ground surface, flooding and ponding is frequent, the available water supply is moderate (about 6.5 inches), and the soils are very poorly drained and categorized as a very high runoff class (USDA, NRCS 2024a). Aquents-aquolls-riverwash complex is included on the list of hydric soils (USDA, NRCS 2024b).

Vegetation and Land Cover

Fremont Cottonwood Forest and Woodland (*Populus fremontii-Fraxinus velutina-Salix gooddingii* Forest & Woodland Alliance)

Fremont cottonwood forest and woodland is typically found on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, and in valleys with a dependable subsurface water supply that can vary considerably during the year, between sea level to 7,875 feet (0 to 2,400

meters) in elevation. Fremont cottonwood (*Populus fremontii,* facultative (FAC)) consists of at least 5 percent absolute cover in the tree layer and at least 30 percent relative cover with Goodding's willow (*Salix gooddingii,* Facultative Wetland (FACW)) and California sycamore (*Platanus racemosa,* FAC) co-dominant species. This vegetation community is ranked G4S3 and is classified as sensitive (CDFW 2024).

In the Study Area, this community is found along the upper bank of the northern fork of the Kern River. Mature Fremont cottonwoods are dominant in the tree layer, with mature Goodding's willows common as a subdominant species. The shrub layer is sparse, vegetated with mulefat (*Baccharis salicifolia,* FAC). The herbaceous layer is dominated by white sweetclover (*Melilotus albus,* Facultative Upland [FACU]), Virginia creeper *(Parthenocissus quinquefolia,* FAC), and crabgrass (*Digitaria sanguinalis,* FACU). This habitat is heavily disturbed by development and consistent human presence, and several dead trees and limbs were observed. This vegetation community is shown in Attachment 1 in Figure 5.

Bermudagrass Turfs (*Cynodon dactylon-Crypsis spp.-Paspalum ssp.* Herbaceous Semi-Natural Alliance)

Bermudagrass turfs (*Cynodon dactylon-Crypsis spp.-Paspalum ssp.* Herbaceous Semi-Natural Alliance) are typically found on disturbed levees, disturbed riverbanks and intermittently flooded plains and other disturbed soils in moist setting with flat to sloping topography between sea level and 4,101 feet (0 to 1,250 meters). Bermuda grass (*Cynodon dactylon*, FACU) contributes at least 60 percent relative cover in the herbaceous layer, and the herbaceous layer is open to continuous. Bermuda turfs are not state or globally ranked and are not classified as a CDFW sensitive natural community (CDFW 2024).

The Bermuda grass turfs are present in the northern portion of the Study Area along the Kern River bank. The turfs span approximately two feet in width between the surface water of the Kern River and the imported rock scour protection on the banks of the Kern River. Bermuda grass is overwhelmingly dominant in the herbaceous layer with emergent vegetation including panicled bulrush (*Scirpus microcarpus*, OBL), sticktight (*Bidens frondosa*, FACW) and dotted smartweed (*Persicaria punctata*, OBL) within the Kern River. This vegetation community is shown in Attachment 1 in Figure 5.

Landscaped

Landscaped areas include those areas where ornamental trees have been installed adjacent to buildings and along the bank of the Kern River. Landscaped trees located on the bank of the Kern River were planted Oregon ash (*Fraxinus latifolia*, FACW) that were not associated with the Fremont cottonwood forest and woodland. Landscaped trees located in the barren area devoid of vegetation were tree-of-heaven (*Ailanthus altissima*, FACU). This land cover type is shown in Attachment 1 in Figure 5.

Developed

Developed lands are characterized by the presence of development such as buildings, paved roadways and imported materials including rock and broken concrete. Developed lands are located on the eastern side of the Study Area and along the top of the Kern River bank. This land cover type is shown in Attachment 1 in Figure 5.

Barren

Barren lands include areas of imported compacted soils that lack vegetation. These areas are continually maintained and located beyond the top of bank of the Kern River. This land cover type is shown in Attachment 1 in Figure 5.

Water

Open water is characterized by the presence of surface water during the survey, a lack of vegetation and substrate. Within the Study Area, open water occurs in the Kern River.

Field Results and Discussion

Based upon the findings of Rincon's field delineation and subsequent desktop review, the Study Area contains a portion of the north fork of the Kern River. The Kern River within the Study Area is likely subject to USACE, CDFW, and SWRCB jurisdictions, as discussed below, and is illustrated graphically on Figure 6 in Attachment 1. Representative photographs can be found in Attachment 2.

Kern River

The north fork of the Kern River enters the Study Area from the north and continues south under the Kernville Road Bridge before it enters Isabella Lake downstream. During the time of the survey, cool, turbid, and fast flowing water was observed in the Kern River. The river was flowing at an increased velocity of 160 cubic feet per second during the field survey due to a precipitation event within 24 hours of the survey, as documented by the USACE river gauge for the Kern River (USACE 2022b). The river is a perennial system and contains surface flow year-round from storm events and snowmelt at high elevations.

The OHWM of the Kern River is defined by a moderate break in slope, exposed roots from bank undercutting, and a change in vegetation coverage. The OHWM was determined at the edge of the flowing water. The top of bank was clearly defined by the surface relief and maintained access roadways. In the southern extent of the Study Area, the Fremont cottonwood woodland canopy extends beyond the top of bank to the west.

No adjacent or abutting wetlands were observed within the Study Area. All emergent vegetation was observed below the OHWM. Due to the turbidity of the water, the Kern River substrate was not easily observed but assumed to be predominantly gravely with cobbles, sand and deposits of silt. Large boulders were observed within the OHWM and natural and imported boulders were observed along the banks. In addition, large broken slabs of concrete for bank scour protection were observed directly north of the existing raw water intake.

Due to the perennial nature of the Kern River and the traceable hydrologic connection to Isabella Lake, the Kern River is a non-wetland water of the U.S. and state. Therefore, it is likely subject to CWA jurisdiction and expected to be regulated by the USACE and SWRCB pursuant to Sections 404 and 401 of the CWA, respectively. In addition, the Kern River meets the definition of a CDFW-jurisdictional stream and is thus expected to be CDFW jurisdiction pursuant to CFGC 1600 et seq.

Riparian Vegetation

A disturbed riparian corridor, comprised of Fremont cottonwood habitat, occurs adjacent to the Kern River within the Study Area. This habitat is restricted within the top of bank of the Kern River due to development. As previously discussed, the Fremont cottonwood community includes hydrophytic vegetation associated with the Kern River and is thus within the boundary of the riparian limits likely to be regulated by CDFW pursuant to CFGC 1600 et seq.

Summary of Jurisdictional Areas

Potentially aquatic resources within the Study Area are identified below in Table 1 and shown on Figure 6 in Attachment 1.

Table 1 USACE, SWRCB, and CDFW Jurisdictional Areas

	USACE Jurisdiction		SWRCB Jurisdiction		CDFW Jurisdiction
Jurisdictional Area	Non-Wetland Waters of the U.S.[1] (acres/linear feet)	Wetland Waters of the U.S. (acres)	Non-wetland Waters of the State[1] (acres/linear feet)	Wetland Waters of the State (acres)	CDFW Jurisdictional Streambed[2] (acres/linear feet)
Kern River	0.02/163	–	0.02/163	–	0.14/178

[1] Section 401 of the CWA calculated to OHWM

[2] Streambed calculated to top of bank or edge of riparian, whichever is greater; includes culverted streambed

The findings and conclusions presented in this letter report, including the location and extent of areas subject to regulatory jurisdiction, represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary and at final discretion of the applicable resource agency.

Conclusion

The Study Area contains approximately 0.02 acre (163 linear feet) of non-wetland waters of the U.S. and state. The aquatic resources include natural streambed. No wetland waters of the U.S. or state were observed within the Study Area. The Kern River has defined indicators of an OHWM, direct hydrological connectivity to an intrastate water, and is perennial in nature. Therefore, the Kern River is likely a jurisdictional non-wetland water of the U.S. and state, subject to regulation by the USACE and SWRCB. Additionally, the Kern River, as well as the Fremont cottonwood woodland, were delineated as probable CDFW-jurisdictional streambeds and riparian habitat under CFGC 1600 *et seq*. The Study Area contains approximately 0.14 acre (178 linear feet) of CDFW jurisdiction. Project activities resulting in impacts to the bed, bank or channel of the Kern River, or deposition of pollutants or material into the river, will require coordination with the agencies and will likely require regulatory permit acquisition.

Sincerely,
Rincon Consultants, Inc.

Owen Routt
Senior Biologist/Project Manager

Steven J. Hongola
Principal Biologist

Attachments

Attachment 1 Figures
Attachment 2 Representative Site Photographs
Attachment 3 Summary of Aquatic Resources, Plant Species Observed, and OHWM Form
Attachment 4 Regulatory Framework

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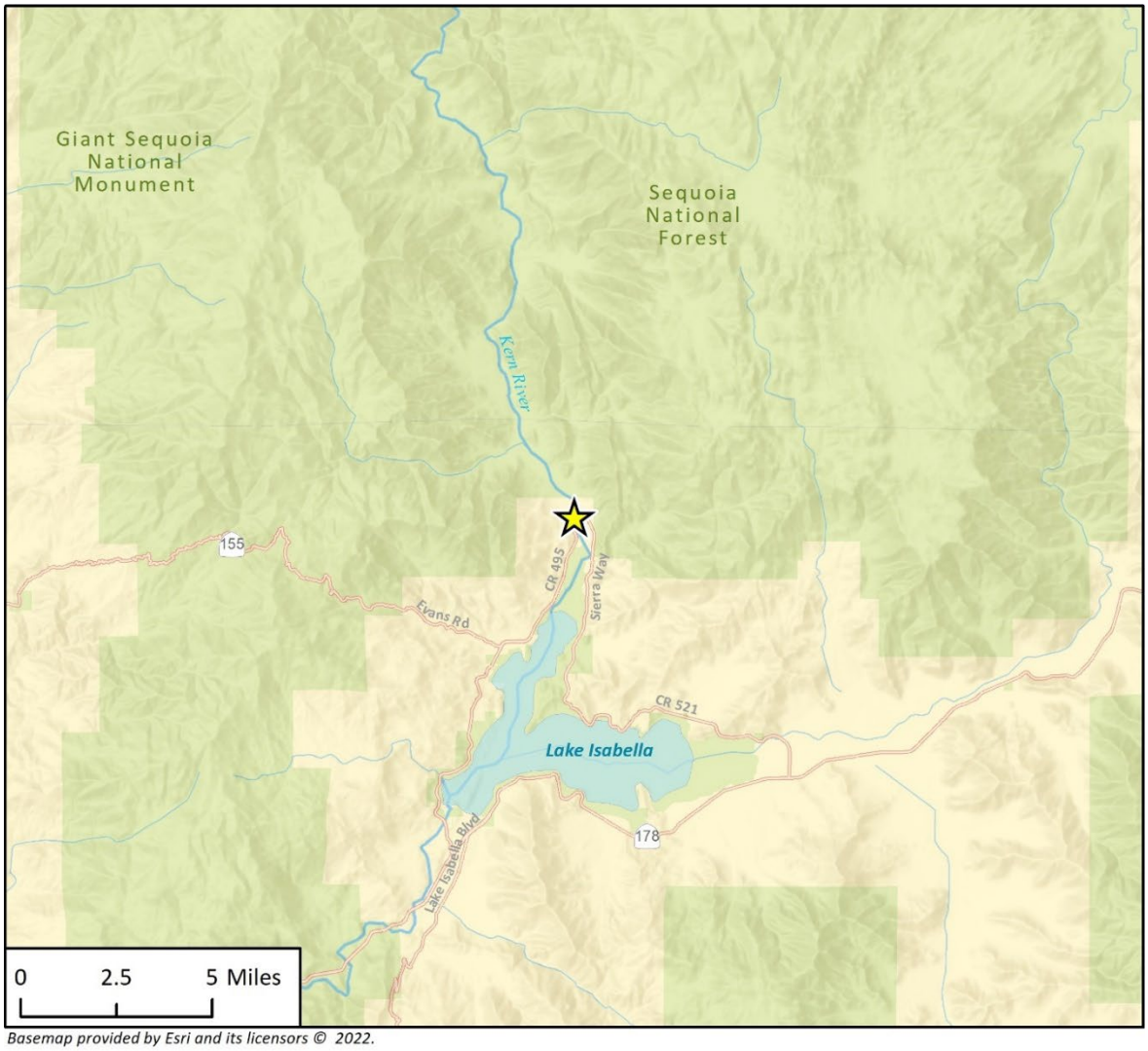
Attachment 1

Figures

Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

Project Location

N

Figure 2 Project Study Area

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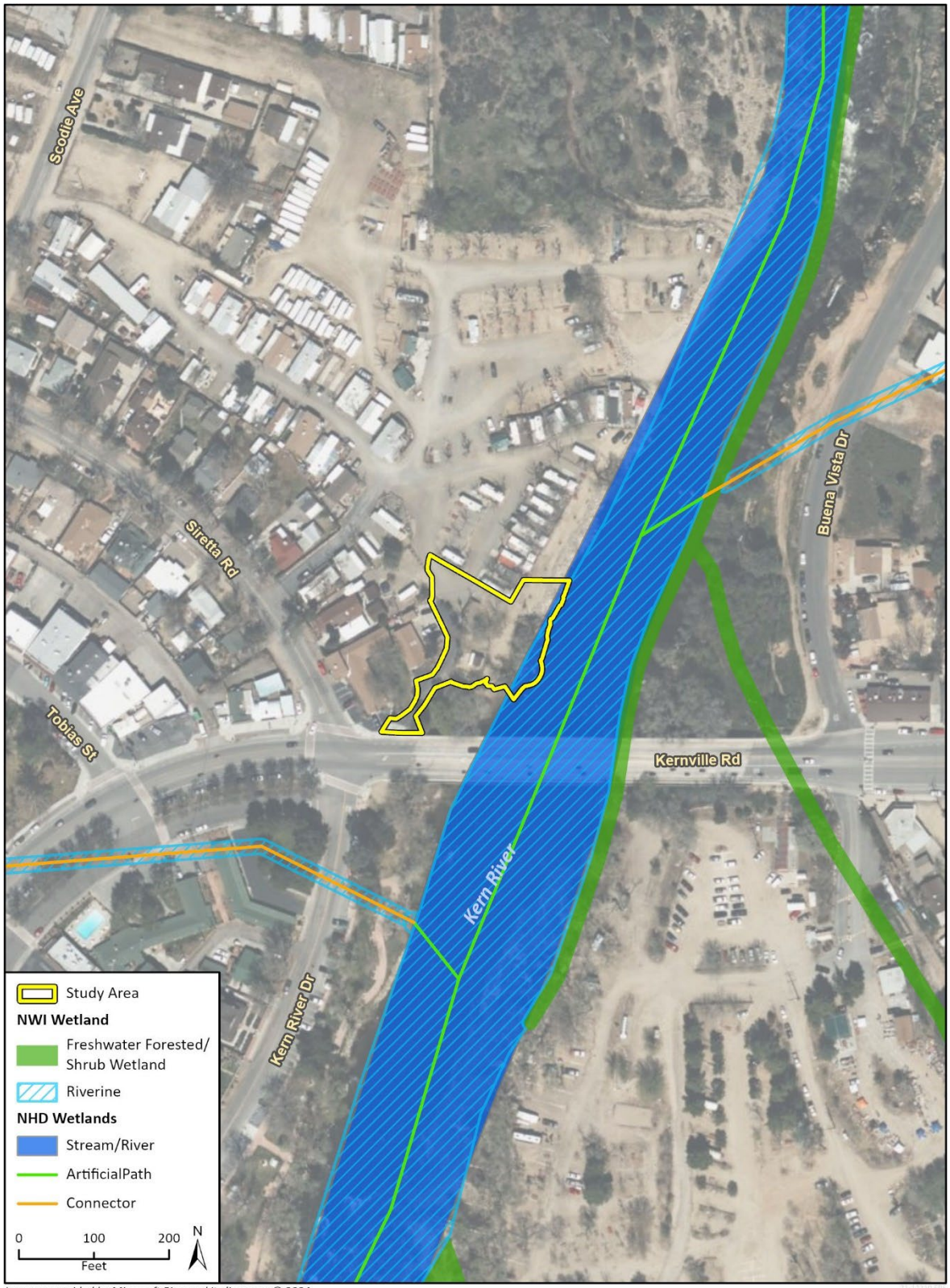
Figure 3 NHD and NWI Mapped Features near the Study Area



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Additional data provided by U.S. Fish & Wildlife Service National Wetlands Inventory and U.S. Geological Survey National Hydrography Dataset

Fig X NHD and NWI

Figure 4 Mapped Soil Units within the Study Area

Imagery provided by Microsoft Bing and its licensors © 2024.
Additional data provided by Natural Resource Conservation Service Soil Survey Geographic

Fig X Soils

Figure 5 Vegetation Communities and Land Cover within the Study Area

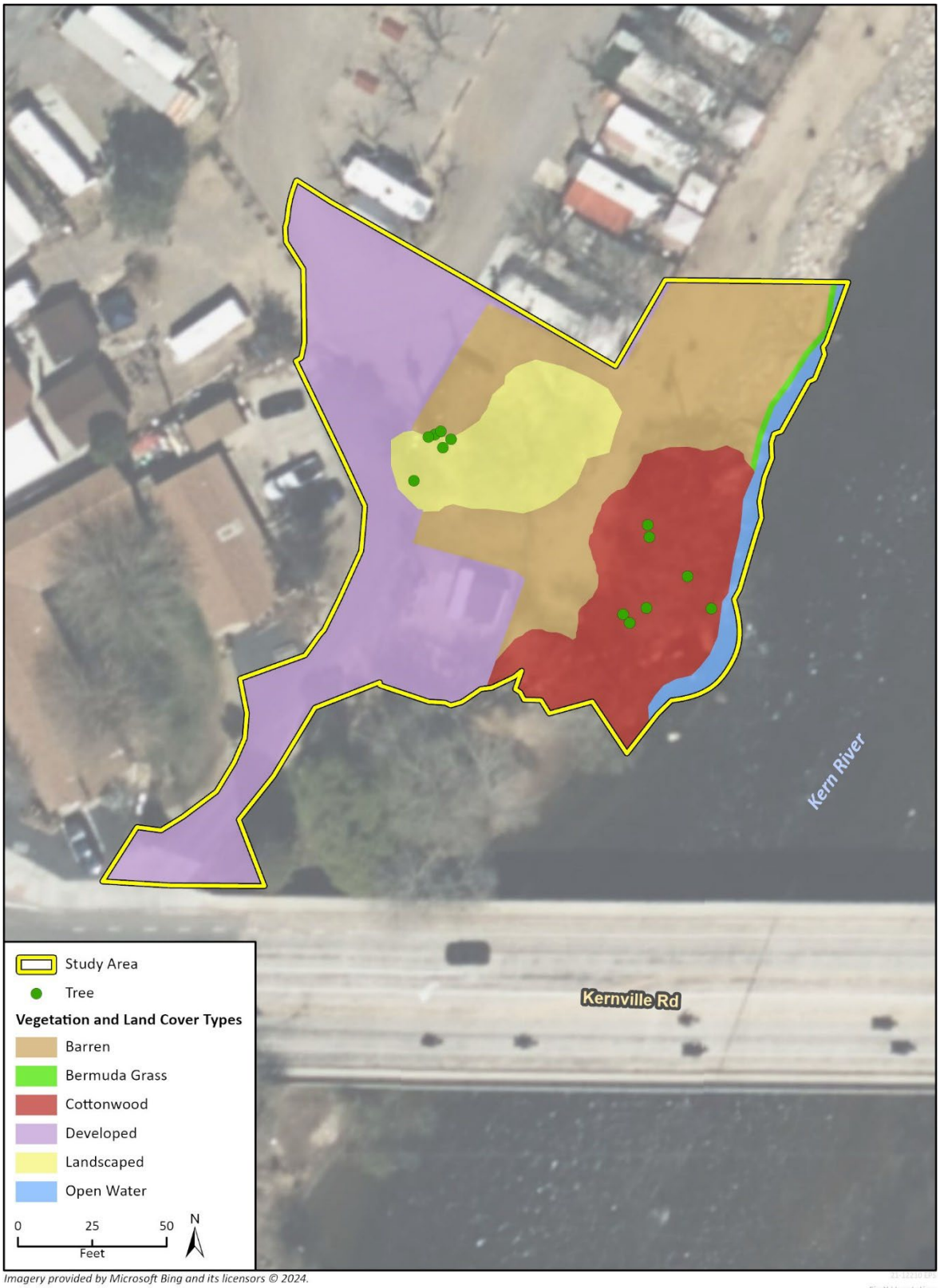

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Figure 6 Aquatic Resources Delineated within the Study Area

Attachment 2

Representative Site Photographs

Photograph 1. Barren land cover with landscaped trees and the existing Cal Water station, facing southwest. September 13, 2022.

Photograph 2. Existing raw water intake with disturbed Fremont cottonwood woodland at the top of bank of the Kern River in the background, facing east. September 13, 2022.

Photograph 3. The existing raw water intake pipe exiting the Kern River and traveling up the bank. Broken concrete and disturbed Fremont cottonwood woodland along the bank slope, facing south. September 13, 2022.

Photograph 4. Broken concrete and imported rocks with landscaped trees for scour protection along the Kern River bank slope, facing northeast. September 13, 2022.

Photograph 5. Defined OHWM along the Kern River north of the existing raw water intake, facing north. September 13, 2022.

Photograph 6. The Kern River with in-channel vegetation and Bermudagrass turf along the Kern River bank, and broken concrete and imported rock for scour protection, facing south. September 13, 2022.

Photograph 7. Disturbed Fremont cottonwood woodland adjacent to the Kern River with natural in-channel boulders, facing northeast. September 13, 2022.

Photograph 8. Kern River and bank south and east of the Study Area, facing south. September 13, 2022.

Attachment 3

Summary of Aquatic Resources and Plant Species Observed

Data Summary by Aquatic Resources

Aquatic Resource	Area (acre)	Cowardin Class	Summary	Latitude	Longitude
Fremont Cottonwood Forest and Woodland	0.10	Lotic riparian (RP1)	Fragmented Fremont cottonwood dominated riparian area directly adjacent to the Kern River.	35.755749°	-118.422706°
Kern River	0.02	Upper Perennial Riverine (R3)	A perennial riverine feature connected to an intrastate water.	35.755892°	-118.422517°

Plant Species Observed within the Study Area

Scientific Name	Common Name	Wetland Status[1]	Native or Introduced with Cal-IPC ranking[2]
Trees			
Ailanthus altissima	tree-of-heaven	FACU	Introduced. Moderate
Fraxinus latifolia	Oregon ash	FACW	Native
Platanus racemosa	California sycamore	FACW	Native
Populus fremontii	Fremont cottonwood	FAC	Native
Salix gooddingii	Gooding's willow	FACW	Native
Shrubs			
Baccharis salicifolia	mulefat	FACW	Native
Herbs			
Bidens frondosa	sticktight	FACW	Native
Datura wrightii	Jimsonweed	UPL	Native
Melilotus albus	white sweetclover	FACU	Introduced
Parthenocissus quinquefolia	Virginia creeper	FAC	Introduced
Persicaria punctata	dotted smartweed	OBL	Native
Tribulus terrestris	puncture vine	UPL	Introduced, Limited
Xanthium strumarium	cocklebur	FAC	Native
Grasses			
Cynodon dactylon	Bermuda grass	FACU	Introduced, Moderate
Cyperus eragrostis	tall flatsedge	FACW	Native
Digitaria sanguinalis	crabgrass	FACU	Introduced
Scirpus microcarpus	panicled bulrush	OBL	Native

List Info Sources:

[1] USACE 2022. National Wetlands Plant List (Version 3.5), Western Mountains, Valley, and Coast Region.

[2] California Invasive Plant Council 2022. Cal-IPC Inventory, Sierra Nevada region.

OHWM Data Sheet

OHWM Delineation Cover Sheet Page 1 of 2

Project: Kernville water Intake **Date:** 9/13/22

Location: Kernville, CA **Investigator(s):** Carolynn Honeycutt

Project Description: Replacement of a water intake pipe. the existing intake pipe will be removed and replaced with a concrete intake structure that will be Placed w/in the Kern River and natural flow of the river through the structure.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
The existing 8 inch intake pipe enters the water from the top of bank. Broken concrete slabs w/ rebar placed along bank north of pipeline. and large boulder riprap Placed on north bank. River bank disturbed by pedestrian paths.

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☒ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

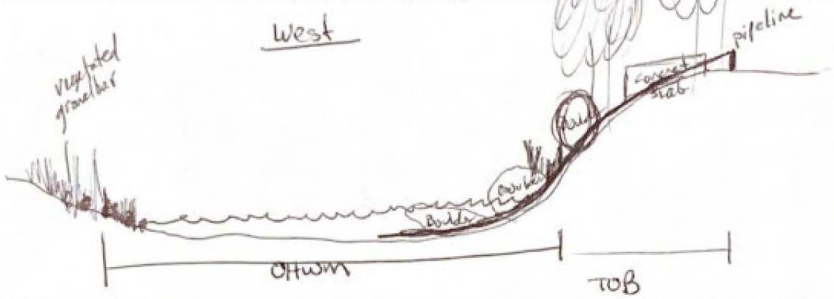
Hydrologic/hydraulic information acquired? ☐ **Yes** ☒ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:
River section above regulated dam but a Southern California Edison hydroplant upstream may release but not significant water level typically dependent on snowpack or rain events upstream.

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # _____ **OHWM Delineation Datasheet** Page 2 of 2

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☒ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:
Break in slope bth sharp and moderate on northside of project and more gentle near bridge at southside

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	X		X		X	
Below OHWM	X	X			X	

Notes/Description:
Riverbed difficult to see with tubed waters but presumed sandy with clay/silt along the edge with in channel boulders. Boulders are also placed above ohwm along the bank and gravel mixed with silt observed.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	25	25	50	20
Below OHWM			10	90

Notes/Description:
Small patches of emergent vegetation directly adjacent to river is observed below OHWM. Bare ground from pedestrian traffic and grasses w/in 5 ft of water transitions to shrubs and trees up bankslope.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation
Water mark lines observed on boulders in channel at edge of river and wrack was observed approx. 20ft. from water edge approximately 2/3 feet in height. Both that was just from large flood event. Soil damp w/in 6in of water level.

Attachment 4

Regulatory Framework

Regulatory Framework

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure which guide the protection of jurisdictional features. Agencies with the responsibility for protection of jurisdictional features within the Study Area include:

- United States Army Corps of Engineers (non-wetland waters and wetlands of the United States)
- Regional Water Quality Control Board (waters of the state)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes)

United States Army Corps of Engineers Jurisdiction

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and US Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges which have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

Waters of the U.S.

In summary, USACE and USEPA regulations define "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    iii. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1-6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

Wetland Waters of the U.S.

The USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). The USACE's delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the United States Fish and Wildlife Service's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Limitations on Jurisdiction based on Sackett v. USEPA Supreme Court Decision

On May 25, 2023, the Supreme Court issued its decision on the petition from the Sacketts, a family in Idaho that was subject to a compliance order from the USEPA for backfilling their lot near Priest Lake, which the USEPA claimed contained federally regulated wetlands. The wetlands in question were adjacent to a ditch that fed a creek that ultimately drained into Priest Lake, a navigable water body. The USEPA asserted that the Sacketts had violated the law by filling the wetlands on their property without a permit. The Court's decision addressed controversy over whether, and under what conditions, the CWA reaches navigable waters' tributaries or adjacent wetlands. The Supreme Court's decision in *Sackett* provides definitive guidance to the agencies in determining the limits of their Clean Water Act authority. Major tenets of the decision have been incorporated into the agencies' current regulations through the September 2023 Conforming Rule.

The Court decided:

> "Adjacent wetlands" are WOTUS only if there is a continuous surface connection between the wetland and a navigable or relatively permanent water body, such that it is difficult to determine the boundary between the wetland and the water body. The opinion notes that "temporary interruptions to surface connection may sometimes occur because of phenomena like low tides or dry spells." The agencies addressed this element by defining the term "adjacent" to mean "having a continuous surface connection" in the Conforming Rule.
>
> The Significant Nexus Standard, introduced by the Court in prior decisions, is not mentioned in the Clean Water Act and should not be used. The Court determined that the standard applies ecological factors whose use in determining jurisdiction is not supported by the statute. The Conforming Rule removed significant nexus considerations from the definition.

> Although jurisdiction over tributaries was not addressed by the Court, the decision stated that "…the [Clean Water Act's] use of "waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." The Conforming Rule makes clear that only relatively permanent tributaries qualify as "waters of the United States."

Regional Water Quality Control Board Jurisdiction

The State Water Resources Control Board (SWRCB) and local Regional Water Quality Control Board (RWQCB) have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state.

The SWRCB has not established regulations for field determinations of waters of the state except for wetlands currently. For non-wetland waters, each local RWQCB may delineate boundaries differently based on their interpretations of jurisdiction. The RWQCBs generally use United State Army Corps of Engineers (USACE) delineation methods and delineates waters of the State to the ordinary high water mark (OHWM).

Wetland waters of the State are defined under the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State,* which went into effect May 28, 2020.The SWRCB defines an area as wetland if, under normal circumstances:

(i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(ii) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(iii) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCB (based on hydrogeologic barriers) regions and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCB have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

California Department of Fish and Wildlife Jurisdiction

The California Department of Fish and Wildlife (CDFW) has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. Considering this, four sources of information were reviewed and considered in determining the appropriate limits of CDFW jurisdiction within the site, as discussed below. The principles presented in these materials were used to guide the delineation of on-site streams, with consideration given to the relevance (i.e., jurisdiction, applicability) of each source to the project and resources at hand.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"

- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation

- **Guidance documents**, including A Field Guide to Lake and Streambed Alteration Agreements (CDFG 1994) and Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied in desert environments. Coastal drainages are delineated predominately based on the following factors:

- Areas that exhibited evidence of hydrologic activity, such as scour, formation of banks, and/or deposition of sediment or material
- Areas where the vegetation community was adapted to the presence of elevated soil moisture levels (i.e., contained mostly hydrophytic species)