

SECTION 1.0

INTRODUCTION

1.1 Purpose of the Applicant-Prepared Draft Biological Assessment

This Applicant-Prepared Draft Biological Assessment (Applicant-Prepared Draft BA) is prepared by Yuba County Water Agency (YCWA) to facilitate the preparation by the Federal Energy Regulatory Commission (FERC or Commission) of a Biological Assessment (BA) pursuant to Section 7(c)(1) of the Endangered Species Act (ESA) (16 U.S.C. § 1536(c)(1)) and the applicable regulation (50 C.F.R. § 402.12) for YCWA's relicensing of the Yuba River Development Project (Project), FERC Project No. 2246. This Applicant-Prepared Draft BA describes the relationship between FERC's proposed relicensing of the Project and the Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionarily Significant Unit (ESU), Central Valley steelhead (*O. mykiss*) Distinct Population Segment (DPS), and the Southern DPS of North American green sturgeon (*Acipenser medirostris*) in the vicinity of the Project, and it evaluates the potential effects of this Proposed Action on these species and their ESA-designated critical habitats. This Applicant-Prepared Draft BA provides the basis upon which consultation may be conducted between FERC and the United States Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) pursuant to Section 7(a) of the ESA (16 U.S.C. § 1536(a)).

1.2 Proposed Action

The Yuba River Development Project is a hydroelectric Project located in Yuba, Sierra and Nevada counties, California, on the main stems of the Yuba River, the North Yuba River and the Middle Yuba River, and on Oregon Creek, a tributary to the Middle Yuba River.

A portion of the existing FERC Project Boundary¹ encompasses land owned by the United States (i.e., federal land). The federal land includes National Forest System (NFS) land managed by the United States Department of Agriculture, Forest Service (Forest Service) as part of the Tahoe National Forest (TNF) and the Plumas National Forest (PNF). The TNF is managed consistent with the 1990 TNF Land and Resource Management Plan (TNF LRMP) (Forest Service 1990), and the PNF is managed consistent with the 1988 PNF Land and Resource Management Plan (PNF LRMP) (Forest Service 1988). These plans were each amended by the 2004 Sierra Nevada Forest Plan Amendment (Forest Service 2004) and the 2007 Sierra Nevada Forests Management Indicator Species Amendment (Forest Service 2007)². The FERC Project Boundary also

¹ The existing FERC Project Boundary is the area that YCWA uses for normal Project operations and maintenance (O&M). The existing Project Boundary and YCWA's proposed Project Boundary are shown in Amended Exhibit G of YCWA's Amended FLA.

² For the purposes of this Applicant-Prepared Draft BA, whenever the TNF LRMP, as amended, and the PNF LRMP, as amended, is referenced, it is understood that the LRMPs are as amended by at least the 2004 Sierra Nevada Forest Plan Amendment and the 2007 Sierra Nevada Forests Management Indicator Species Amendment.

includes federal land administered by the United States Army Corps of Engineers (USACE) as part of Englebright Dam and Reservoir.³ All other lands within the Project Boundary are privately-owned, mostly by YCWA.⁴

Existing Project facilities include: 1) New Bullards Bar Dam and Reservoir; 2) Our House and Log Cabin diversion dams; 3) Lohman Ridge and Camptonville diversion tunnels; 4) New Colgate and Narrows 2 power tunnels and penstocks; 5) New Colgate, New Bullards Minimum Flow and Narrows 2 powerhouses; 6) Narrows 2 Powerhouse Full Bypass (Full Bypass); and 7) appurtenant facilities and features (e.g., administrative buildings, switchyards, roads, trails and gates). The existing Project ranges in elevation from approximately 2,030 feet (ft) at the upstream end of the Our House Diversion Dam impoundment to approximately 290 ft at the base of the Narrows 2 Powerhouse. The existing Project does not include any aboveground open water conduits (e.g., canals or flumes) or any transmission lines.

In addition, the Project includes 16 developed recreation facilities. These facilities are: 1) Hornswoggle Group Campground; 2) Schoolhouse Campground; 3) Dark Day Campground; 4) Cottage Creek Campground⁵; 5) Garden Point Boat-in Campground; 6) Madrone Cove Boat-in Campground; 7) Frenchy Point Boat-in Campground; 8) Dark Day Picnic Area; 9) Sunset Vista Point; 10) Dam Overlook; 11) Moran Road Day Use Area; 12) Cottage Creek Boat Launch⁶; 13) Dark Day Boat Launch, including the Overflow Parking Area; 14) Schoolhouse Trail; 15) Bullards Bar Trail; and 16) floating comfort stations⁷. All of the recreation facilities are located on NFS land, with the exception of the Dam Overlook, Cottage Creek Boat Launch and small portions of the Bullards Bar Trail, which are located on land owned by YCWA. All of the developed recreation facilities are located within the existing FERC Project Boundary, except for a few short segments of the Bullards Bar Trail to the east of the Dark Day Boat Launch. In addition, the Project includes two undeveloped recreation sites at Our House and Log Cabin diversion dams, both located on NFS land and within the existing FERC Project Boundary.

The existing Project is operated primarily for flood control, water supply, power generation, recreation and environmental enhancement, especially for anadromous salmonids downstream of Narrows 2 Powerhouse. YCWA operates New Bullards Bar Reservoir for storage by capturing winter and spring runoff from rain and snowmelt, and augmenting storage by diversions from the Middle Yuba River and Oregon Creek. The reservoir reaches its peak storage at the end of the

³ For the purpose of this Applicant-Prepared Draft BA, if the federal land is composed solely of NFS land, it may be referred to as “NFS lands.” If the land is composed solely of federal land administered by USACE, it may be referred to as “USACE lands.”

⁴ While YCWA is a public agency, its land holdings are considered private property. These land holdings may be referred to as “YCWA land” in this Applicant-Prepared Draft BA.

⁵ Cottage Creek Campground was burned in 2010 and has not been rebuilt. YCWA is in discussions with the Forest Service regarding rebuilding the burned campground.

⁶ Emerald Cove Marina provides visitor services at Cottage Creek Boat Launch, including houseboat and boat rentals, boat slips and moorings, fuel and a general store. The marina is operated under a lease from YCWA by a private company.

⁷ The Project recreation facilities included one campground that is no longer part of the Project. Burnt Bridge Campground was closed initially by the Forest Service in 1979 due to low use levels. FERC, in an August 19, 1993 Order, which approved YCWA’s Revised Recreation Plan, directed YCWA to remove all improvements and restore the Burnt Bridge Campground to the condition it was in prior to development of the facility. YCWA consulted with the Forest Service and all that remains of Burnt Bridge Campground today is the circulation road and vehicle spurs; all other facilities have been removed.

spring runoff season, and then is gradually drawn down until it reaches its lowest elevation in early to mid-winter. New Bullards Bar Reservoir has mandatory reserved flood storage space criteria from mid-September through the end of May that limit maximum authorized storage. The New Colgate Powerhouse is a highly versatile facility and is used for a combination of peaking and base generation, and at many times, provides a significant percentage of the required ancillary service for grid regulation of the region. The New Bullards Bar Minimum Flow and Narrows 2 powerhouses are operated primarily as base load facilities.

YCWA proposes seven general changes to existing Project facilities: 1) addition of a Tailwater Depression System (TDS) at New Colgate Powerhouse; 2) addition of a new Auxiliary Flood Control Outlet at New Bullards Bar Reservoir; 3) modification to the Our House Diversion Dam fish release outlet; 4) modification to the Log Cabin Diversion Dam fish release outlet; 5) modification to the Lohman Ridge Diversion Tunnel Intake; 6) modifications to recreation facilities at New Bullards Bar Reservoir⁸; and 7) modifications to Project roads. In addition, YCWA proposes to modify the existing FERC Project Boundary.

The Project does not include the USACE's Englebright Dam and Reservoir, Daguerre Point Dam, or Pacific Gas and Electric Company's (PG&E) Narrows 1 Powerhouse.

Figure 1.2-1 illustrates the general regional location of the Yuba River watershed. Figure 1.2-2 shows the Project Vicinity,⁹ Project facilities, and the proposed FERC Project Boundary.

⁸ YCWA has completed all FERC-approved studies, and filed the results with FERC. However, YCWA's Proposed Condition RR1, *Recreation Facilities Plan*, includes the construction and operation of a new Kelly Ridge Campground and a new recreation vehicle (RV) dump station. Since the facilities were agreed to very late in the relicensing and, as conceived at this time, would be located on approximately 57 ac of NFS lands outside the existing Project boundary, YCWA's relicensing studies did not include the area where the new Kelly Ridge Campground and the new RV dump station would be located, which are shown in the *Recreation Facilities Plan*. Therefore, YCWA will perform botanical and cultural studies (i.e., water and aquatic studies are not proposed because the area does not include and is not adjacent to any surface water) in these areas in 2017 and will file with FERC the results of the studies when they are available. The additional cultural studies may require that YCWA modify its previously filed *Historic Properties Management Plan* (HPMP). If so, YCWA anticipates the modified HPMP would be filed with FERC by the end of 2017.

⁹ For the purpose of this Applicant-Prepared Draft BA, "Project Vicinity" refers to the area surrounding the proposed Project on the order of United States Geological Survey (USGS) 1:24,000 quadrangles.



Figure 1.2-1. Yuba River watershed in relation to the Feather River and other tributaries to the Sacramento River.

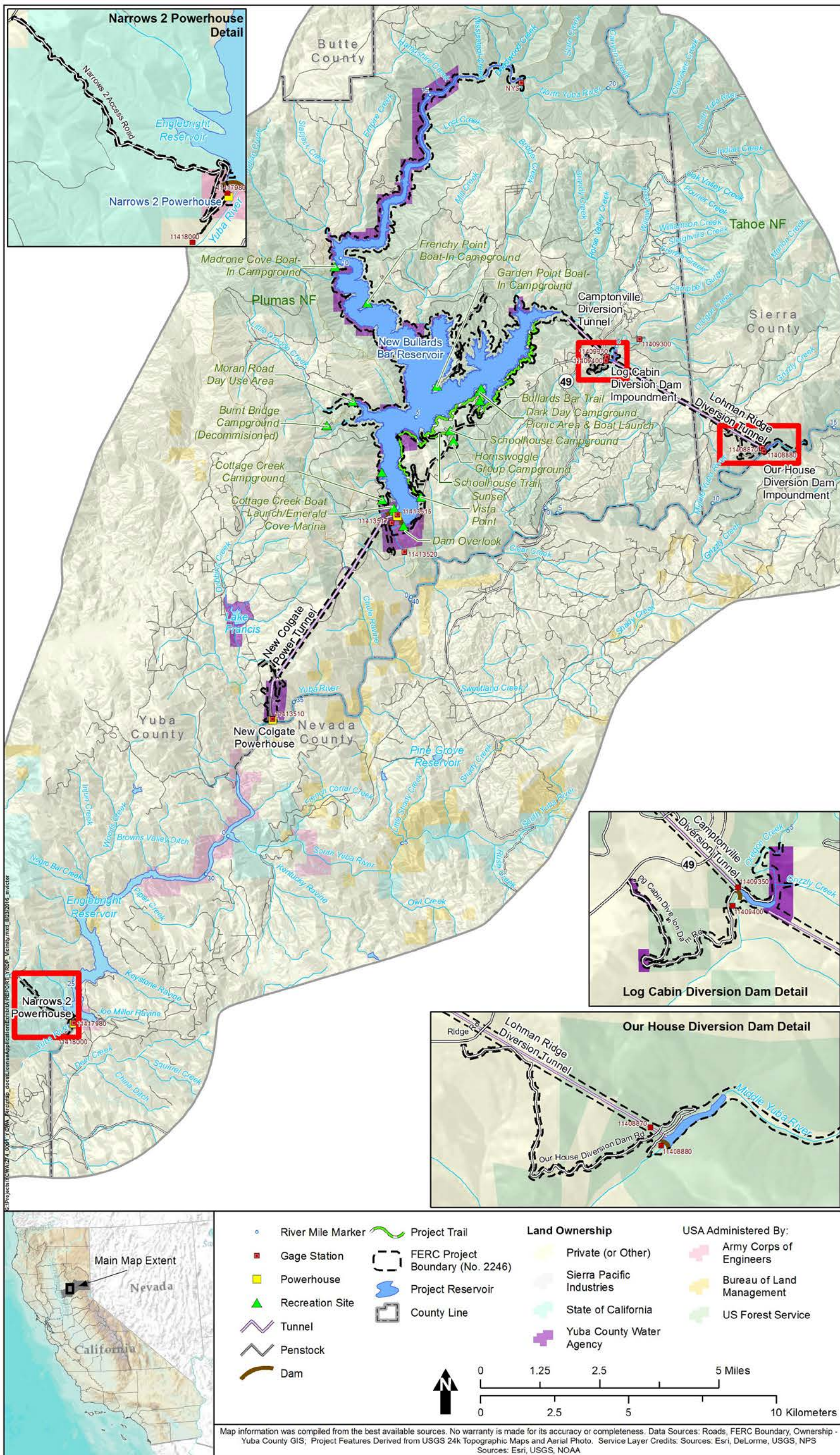


Figure 1.2-2. Yuba County Water Agency's Yuba River Development Project and Project Vicinity.

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YCWA's proposed Project would be able to continue to provide reliable flood control for downstream areas and surface water supplies under YCWA's water right permits to YCWA's eight member units – Brophy Water District (BWD), Browns Valley Irrigation District (BVID), Cordua Irrigation District (CID), Dry Creek Mutual Water Company (DCMWC), Hallwood Irrigation Company (HIC), Ramirez Water District (RWD), South Yuba Water District (SYWD) and Wheatland Water District (WWD) – that deliver water to their service territories, which collectively encompass approximately 90,000 acres (ac) in western Yuba County.¹⁰ The proposed Project would also continue to provide substantial protection and enhancement for anadromous salmonids in the Yuba River downstream of Narrows 2 Powerhouse.

In general, YCWA proposes to continue to operate the Project as it has operated historically (i.e., since 2006 when the Lower Yuba River Accord (Yuba Accord) went into effect), with the addition of a number of operation and management activities to: 1) protect or mitigate impacts from continued operation and maintenance (O&M) of the Project; and 2) enhance resources affected by continued Project O&M of the Project. These activities are collectively referred to as protection, mitigation and enhancement (PM&E). Implementation of most of YCWA's PM&Es will not affect spring-run Chinook salmon, steelhead, and North American green sturgeon or their critical habitats.

Proposed minimum streamflow requirements, corresponding to Yuba Accord schedules, are presented in Proposed Condition AR3 of Appendix E2 in YCWA's Amended Application for New License for Major Project – Existing Dam – (Amended FLA)¹¹. For Schedule 1 through Schedule 6 years, the proposed minimum streamflows in Table 1 of Proposed Condition AR3 are the same as the corresponding minimum instream flow requirements in the Yuba Accord's Fisheries Agreement, as ordered by the State Water Resources Control Board (SWRCB) in its Corrected Order WR 2008-0024 on pages 56-57 in term 1. (See also, SWRCB Corrected Order WR 2008-0014, fig. 2.) For Conference Years, there are some differences between YCWA's proposed condition and the corresponding requirements in Corrected Order WR 2008-0014. (See SWRCB Corrected Order WR 2008-0014, p. 57 and fig. 7.) If implemented, then the new proposed requirements will have some significant benefits over the current Conference Year requirements. For a complete discussion of additional benefits, please see Proposed Condition AR3 of Appendix E2 in the Amended FLA.

Additionally, four of YCWA's Proposed Conditions were designed specifically to address Threatened and Endangered (ESA-listed) Species: 1) WR7, Implement Water Temperature Monitoring Plan; 2) AR8, Implement Lower Yuba River Aquatic Monitoring Plan; 3) GEN1, Organize Ecological Group and Host Meetings; and 4) AR9, Control Project Ramping and Flow Fluctuations Downstream of Englebright Dam.

¹⁰ For the purpose of this Applicant-Prepared Draft BA, "existing Project" refers to the existing Project as configured and operated since 2006 when the Lower Yuba River Accord went into effect as a pilot program before being subsequently adopted through changes to YCWA's water right permits in 2008 (see State Water Resources Control Board Corrected Order WR 2008-0014). The "proposed Project" refers to the Project proposed by YCWA in its Application for New License, including with YCWA's proposed PM&E measures. The word "Project" is used at times in this amended exhibit where the reference can reasonably be to either the existing Project or the proposed Project.

¹¹ YCWA filed with FERC an Application for a New License Major Project – Existing Dam – (Final License Application, or FLA) for the Project on April 27, 2014.

The Proposed Action for this Applicant-Prepared Draft BA and the related ESA consultation is the issuance by FERC of a new license to YCWA for the continued O&M of the Yuba River Development Project as described in YCWA's Amended FLA. YCWA-proposed new Project facilities and ongoing and proposed Project activities with a potential to affect spring-run Chinook salmon, steelhead, and North American green sturgeon and their critical habitats are discussed in detail in Section 3.0 of this Applicant-Prepared Draft BA.

1.3 Regulatory Framework

1.3.1 Endangered Species Act

Under Section 7(a)(2) of the ESA (16 U.S.C. § 1536(a)(2)), a federal action agency that authorizes, permits, licenses, funds, or carries out an activity must consult with United States Department of Interior, Fish and Wildlife Service (USFWS) or NMFS, as appropriate, depending on the ESA-listed species that may be affected by the Proposed Action to ensure that the action agency's Proposed Action is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of the critical habitat of any such species. A federal agency is required to conduct such consultation if its Proposed Action "*may affect*" any such listed species or its designated critical habitat. (50 C.F.R. § 402.14(a).)

For such actions, the federal action agency prepares a BA for the ESA Section 7 consultation process to describe a Proposed Action and to determine whether the Proposed Action is likely to adversely affect any listed species, species proposed for listing, designated critical habitat or proposed critical habitat. (50 C.F.R. § 402.12(a).) The BA may include the following information: 1) the results of an on-site inspection of the area affected by the Proposed Action to determine if listed or proposed species are present or occur seasonally; 2) the views of recognized experts on the species at issue; 3) a review of the literature and other information; 4) an analysis of the effects of the action on the species and habitat, including consideration of cumulative effects, and the results of any related studies; and 5) an analysis of alternate actions considered by the federal agency for the Proposed Action. (50 C.F.R. § 402.12(f).) The federal action agency then uses the BA to determine whether formal ESA consultation under ESA Section 7(a) is required. (50 C.F.R. § 402.12(k).)

When a federal action agency determines, through its BA or other review, that its proposed action "*may affect*" a listed species or critical habitat, then the agency must submit a request for formal consultation to USFWS or NMFS, as appropriate. (50 C.F.R. § 402.14(a).) ESA Section 7(b) (16 U.S.C. § 1536(b)) provides 90 days for this formal consultation, with provisions to extend it for another 60 days for proposed actions involving a permit or license applicant. ESA Section 7(b) also provides that, "[p]romptly after the conclusion of consultation," USFWS or NMFS will complete its Biological Opinion (BO) and provide it to the federal action agency. An ESA regulation provides that USFWS or NMFS shall deliver the BO to the federal action agency and any applicant within 45 days after concluding the formal consultation (50 C.F.R. § 402.14(e).). The BO must set forth USFWS' or NMFS' opinion, summarize the information on which the opinion is based, and detail how the Proposed Action will affect the listed species or their critical habitats. (16 U.S.C. § 1536(b)(3)(A).) If a "*jeopardy*" or "*adverse modification*"

determination is made, then the BO must suggest any reasonable and prudent alternative (RPA) actions that could satisfy the purpose and need for the Proposed Action while reducing the proposed action's effects on listed species and designated critical habitats.

The BO may include an incidental take statement. In this statement USFWS or NMFS estimates the amount of incidental take of listed species that may result from the Proposed Action and authorize such take. The incidental take statement will include a statement that the listed species described in the incidental take statement will not be jeopardized by the Proposed Action. The incidental take statement must contain clear terms and conditions designed to reduce the effect of the anticipated take, and the action agency must comply with these terms to receive protection by the incidental take authorization.

This Applicant-Prepared Draft BA has been prepared in accordance with the USFWS and NMFS ESA Consultation Handbook titled *Procedures for Conducting Consultation and Conference Activities under Section 7 of the Endangered Species Act* (USFWS and NMFS 1998).

YCWA has consulted with USFWS regarding the need for a separate Applicant-Prepared Draft BA for ESA-listed species under USFWS' jurisdiction, and YCWA has concluded that ESA-listed species under USFWS' jurisdiction may be addressed directly in the Amended FLA (i.e., a separate Applicant-Prepared Draft BA is not needed for those species).

1.3.2 Magnuson-Stevens Fishery Conservation and Management Act

Besides complying with ESA Section 7, the federal action agency also must comply with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). (16 U.S.C. §§ 1801-1891d; see 50 C.F.R. pt. 600.) The primary purposes of the MSA are: 1) to take immediate action to conserve and manage fishery resources off the coasts of the United States; 2) to support the implementation and enforcement of international fishery agreements for the conservation and management of highly migratory species; 3) to promote domestic commercial and recreational fishing under sound conservation and management principles; 4) to provide for preparation and implementation of fishery management plans to achieve and maintain the optimum yield of each fishery on a continuing basis; 5) to establish Regional Fishery Management Councils to protect fishery resources through preparation, monitoring, and revision of plans that allow for the participation of states, tribes, the fishing industry, and consumer and environmental organizations; 6) to encourage the development of underutilized United States fisheries; and 7) to promote the protection of Essential Fish Habitat (EFH). (16 U.S.C. § 1801(b).) Consultation with NMFS is required when any action authorized, funded, undertaken, or proposed to be authorized, funded, or undertaken may adversely affect any EFH. (16 U.S.C. § 1855(b)(2).)

YCWA has prepared an Applicant-Prepared Draft EFH Assessment for fisheries managed under the Pacific Salmon Fishery Management Plan as a separate document, which is included in Volume IV of YCWA's Amended FLA.

1.4 Interrelated and Interdependent Actions

Interrelated actions are those actions that are part of a larger action and depend on the larger action for their justification (50 C.F.R. § 402.02), while interdependent actions are those actions having no independent utility apart from the Proposed Action (50 C.F.R. § 402.02). If a particular private activity would not occur “*but for*” the occurrence of the proposed federal action, the effects of that private action are interdependent and interrelated to the federal action, and the effects of that private action are attributable to the federal action for consultation purposes. To the contrary, activities that would occur anyway, with or without the occurrence of the federal action at issue, are not interdependent or interrelated to the proposed federal action. USFWS and NMFS (1998) further clarify that if a project would exist independently of a Proposed Action, it cannot be considered “*interrelated*” or “*interdependent*,” even if the Proposed Action is required to bring the existing facility into compliance with federal law.

There are no anticipated interrelated or interdependent actions associated with the Proposed Action described in this Applicant-Prepared Draft BA.

1.5 Species Evaluated

On April 9, 2009, YCWA identified federally listed threatened and endangered species that may be affected by the Proposed Action by generating an official list of threatened and endangered species that occur, or are suspected to occur, within the 7.5-minute United States Geological Survey (USGS) topographic quadrangles that include the vicinity of the Project (i.e., Strawberry Valley (574D, 1994), Clipper Mills (574C, 1994), Challenge (558B, 1995), Camptonville (558A, 1995), Pike (557B, 1975), French Corral (558C, 1995), Oregon House (559D, 1995), and Smartsville (543A, 1995) (USFWS 2009). YCWA used the on-line request service available at USFWS’s website (http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm) to generate the list.

The only federally-listed fish species and critical habitats identified as having the potential to occur within the Action Area and potentially affected by the Proposed Action are spring-run Chinook salmon, steelhead, and green sturgeon and their critical habitats. Accordingly, only these species and their designated critical habitats are addressed in this Applicant-Prepared Draft BA.

An additional Proposed Condition in the Amended FLA for the Project, of which this Applicant-Prepared Draft BA is a part, is GEN2, Annual Review of Special-Status Species Lists and Assessment of New Species on NFS Lands. Inclusion of this Proposed Condition in a New License for the Project will ensure that any anadromous fish species listed in the future that might occur on NFS lands in the Project area and that may be directly affected by Project operations will be assessed and subject to future consultation with appropriate resource agencies.