



Application for a New License
Major Project – Existing Dam

New Bullards Bar Reservoir
Fish Stocking Plan

Security Level: Public

Yuba River Development Project
FERC Project No. 2246

April 2014

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List of Attachments

None.

GLOSSARY – DEFINITIONS OF TERMS, ACRONYMS AND ABBREVIATIONS

Term	Definition
CDFW	California Department of Fish and Wildlife
F.G.C.	California Fish and Game Code
FERC	Federal Energy Regulatory Commission
Forest Service	United States Department of Agriculture, Forest Service
NFS	National Forest System
Plan	New Bullards Bar Reservoir Fish Stocking Plan
Project	Yuba River Development Project, FERC Project No. 2246
YCWA	Yuba County Water Agency

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SECTION 1.0

INTRODUCTION

In April 2014, the Yuba County Water Agency (YCWA), pursuant to Section (§) 5.18 of Title 18 of the Code of Federal Regulations (C.F.R.), filed with the Federal Energy Regulatory Commission (FERC) an Application for a New License for Major Project – Existing Dam - for YCWA’s 361.9 megawatt Yuba River Development Project, FERC No. 2246 (Project). The initial license for the Project was issued by the Federal Power Commission (FERC’s predecessor) to YCWA on May 16, 1963, effective on May 1, 1963. The Federal Power Commission’s May 6, 1966, Order Amending License changed the license’s effective date to May 1, 1966, for a term ending on April 30, 2016.

YCWA includes in its Application for a New License this New Bullards Bar Reservoir Fish Stocking Plan (Plan).

The United States Department of Agriculture, Forest Service’s (Forest Service) Federal Power Act (FPA) Section 4(e) authority only applies in this Plan to Project facilities on National Forest System (NFS) land. The Forest Service administers the Plumas National Forest (PNF) in conformance with the PNF Land and Resource Management Plan (USDA 1988), as amended, and administers the Tahoe National Forest (TNF) in conformance with TNF Land and Resource Management Plan (USDA 1990), as amended.

1.1 Background

1.1.1 Yuba River Development Project

The Project is 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. Major Project facilities, which range in elevation from 280 feet to 2,049 feet, 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; and 6) appurtenant facilities and features (e.g., administrative buildings, switchyards, roads, trails and gages). 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 include: 1) Hornswoggle Group Campground; 2) Schoolhouse Campground; 3) Dark Day Campground; 4) Cottage Creek Campground;¹ 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

¹ 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.

Point; 10) Dam Overlook; 11) Moran Road Day Use Area; 12) Cottage Creek Boat Launch;² 13) Dark Day Boat Launch, including the Overflow Parking Area; 14) Schoolhouse Trail; 15) Bullards Bar Trail; and 16) floating comfort stations.³ 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.

Figure 1.1-1 shows the Project Vicinity,⁴ proposed Project, and proposed FERC Project Boundary.⁵

² 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.

³ 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 were removed.

⁴ For the purpose of this Plan, "Project Vicinity" refers to the area surrounding the proposed Project on the order of United States Geological Survey (USGS) 1:24,000 quadrangles.

⁵ The FERC Project Boundary is the area that YCWA uses for normal Project operations and maintenance. The Boundary is shown in Exhibit G of YCWA's Application for New License, and may be changed by FERC with cause from time to time during the term of the new license.

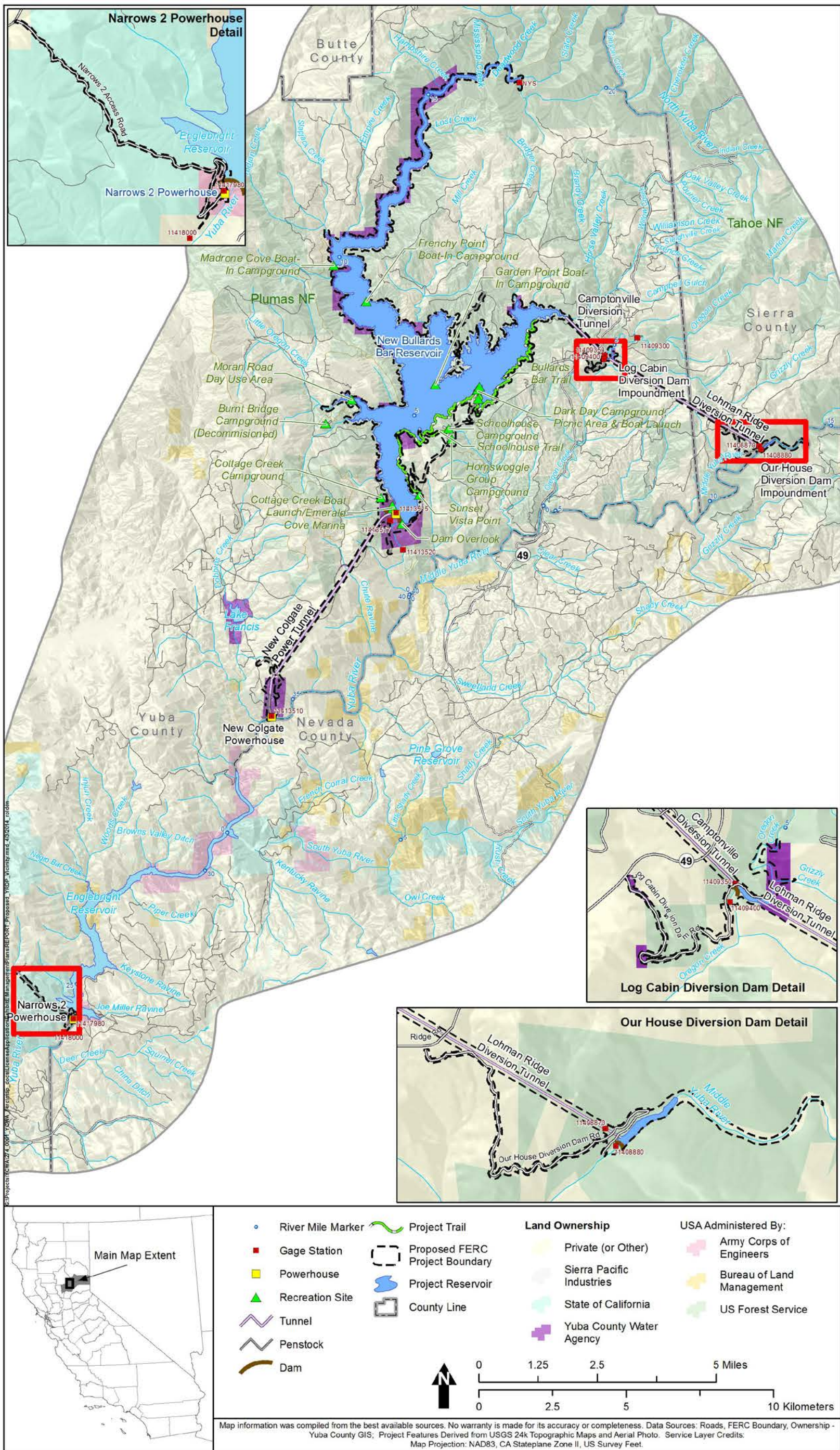


Figure 1.1-1. Yuba County Water Agency's Yuba River Development Project and Project Vicinity.

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1.2 Purpose of the New Bullards Bar Reservoir Fish Stocking Plan

The purpose of the Plan is to establish the fish stocking process, procedures and targets that YCWA will follow when stocking fish in New Bullards Bar Reservoir.

YCWA will coordinate, to the extent appropriate, the efforts required under this Plan with other Project resource efforts, including implementation of other resource management plans and measures included in the new license.

1.3 Objectives of the New Bullards Bar Reservoir Fish Stocking Plan

The objective of the Plan is to describe the fish stocking process and procedures and establish stocking targets that YCWA will follow when stocking fish in New Bullards Bar Reservoir.

1.4 Contents of the New Bullards Bar Reservoir Fish Stocking Plan

This Plan includes the following:

- Section 1.0. Introduction. This section includes introductory information, including a description of the Project and the purpose and goals of the Plan.
- Section 2.0. Regulatory Framework, Fish Assemblage, and Stocking History. This section describes the fish known to occur in New Bullards Bar Reservoir, the recent history of fish stocking in the reservoir, and the regulations and policies relevant to determining fish stocking allotments at the reservoir.
- Section 3.0. Fish Stocking. This section includes the specific procedures and targets for stocking fish at New Bullards Bar Reservoir.
- Section 4.0. Reporting and Plan Revisions. This section describes reporting, consultation and Plan revisions.
- Section 5.0. References Cited. This section lists references cited in this Plan.

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SECTION 2.0

REGULATORY FRAMEWORK, FISH ASSEMBLAGE, AND STOCKING HISTORY

2.1 Regulatory Framework for Fish Stocking in New Bullards Bar Reservoir

2.1.1 Forest Service and Cal Fish and Wildlife – Memorandum of Understanding

New Bullards Bar Reservoir occupies lands in both the PNF and the TNF. The Forest Service is authorized to manage the wildlife, fisheries, and plant resources in those forests by Acts of Congress and regulations issued by the Secretary of Agriculture (Forest Service 1996). Cal Fish and Wildlife is recognized by the State of California as the trustee for the conservation, protection and management of fisheries and necessary habitat for biologically sustainable fisheries in the State (Forest Service 1996). As a matter of coordination, the Forest Service and Cal Fish and Wildlife established a Memorandum of Understanding in 1996 (Forest Service 1996) to establish Cal Fish and Wildlife as the lead agency for any introduction, stocking, or translocation activities involving wildlife, fish and plants on NFS land in the State of California.

2.1.2 California Fish and Wildlife Code

Cal Fish and Wildlife is mandated by California state law (California Fish and Game Code, or F.G.C., Section 13007) to stock fish in State waters. The CFWC mandate was reinforced by Assembly Bill 7, passed by the State legislature in 2005, which mandated that one-third of all fees collected from the sale of sport fishing licenses in California be directed to hatchery and fish stocking activities. Assembly Bill 7 requires that Cal Fish and Wildlife stock a minimum of 2.75 pounds of trout per sport fishing license sold by Cal Fish and Wildlife. In addition, the legislation requires one-third of the fees derived from the issuance of sport fishing licenses, with certain exceptions, be deposited into the Hatchery and Inland Fisheries Fund within the State Treasury. These funds are to be used in support of Cal Fish and Wildlife's programs related to the management, maintenance, and capital improvement of California's fish hatcheries and fish stocking.

In 2010, F.G.C. Section 13007 was amended to allow Cal Fish and Wildlife to borrow funds from other revenues and purchase trout from private hatcheries to meet the annual production prescribed in the code. Allocations to this fund exceeded \$14 million in 2010 and 2011. The current target level of annual production and stocking of trout in California waters is just over 5 million pounds.

Another relevant F.G.C. section is 2302(d), which states:

Any entity that owns or manages a reservoir, as defined in Section 6004.5 of the Water Code, except a privately owned reservoir that is not open to the public for recreational, boating, or fishing activities, may refuse the planting of fish in that reservoir by the department unless the department can demonstrate that the fish are not known to be infected with nonnative dreissenid mussels.

California Water Code Section 6004.5 defines a “reservoir” as any reservoir which contains or will contain the water impounded by a dam.

New Bullards Bar is not specifically mentioned anywhere in the F.G.C. or in regulations regarding fish stocking.

The reservoir is located in Yuba County, which is included in the Freshwater Sport Fishing Regulations, Section 6.35, Valley District definition. In addition to all statewide and species specific regulations, district regulations for New Bullards Bar are very limited. Fishing is open year-round with a five fish bag limit regardless of species.

2.1.3 California Department of Fish and Wildlife Policies

Two documents provide guidance regarding fish stocking in California, in addition to the CFWC: the Strategic Plan for Trout Management (Trout Plan) (CDFG 2003) and the Final Hatchery and Stocking Program Environmental Impact Report/Environmental Impact Statement (Hatchery EIR/EIS) (ICF 2010).

2.1.3.1 Strategic Trout Management Plan

The Trout Plan outlines two themes for the management of trout in California’s waters. The first focuses on habitat and native species protection and management. The second is focused on recreational angling, which is the primary objective of stocking at New Bullards Bar Reservoir. The Trout Plan promotes the stocking of fingerling trout and kokanee when natural reproduction is not sufficient to support any given recreational fishery (CDFG 2003). The Trout Plan also states that the purpose of hatchery trout is to create recreational opportunities and recognizes the important role that hatchery fish play in the state’s recreational fisheries.

The Trout Plan (CDFG 2003) describes three fisheries management approaches including: 1) Self-Sustaining Fisheries, which are populations able to persist free of supplementation; 2) Put-and-Grow Fisheries, which are populations with inadequate natural production but good conditions for growth; and 3) Put-and-Take Fisheries, which are populations with high fishing pressure and inadequate conditions for natural production or growth. While YCWA was not able to identify a specific policy for New Bullards Bar, historic stocking records reviewed later in this document indicate Cal Fish and Wildlife’s management approach is a Self-Sustaining Fishery for spotted bass (*Micropterus punctulatus*) and a Put-and-Grow Fishery for Eagle Lake trout (*Onchorhynchus mykiss aquilarum*), rainbow trout (*O. mykiss*) and kokanee (*O. nerka*).

2.1.3.2 Final Hatchery and Stocking Program Environmental Impact Report/Environmental Impact Statement

The Hatchery EIR/EIS (ICF 2010) specifies six factors guiding fish stocking practices:

- State laws and regulations
- F.G.C. and Cal Fish and Wildlife policies and regulations regarding fish stocking
- Historic fish stocking allotments
- Fisheries management practices
- Fish hatchery capability to produce and deliver stocked fish – number of fish, fish size, fish species, timing of fish plants and locations to be stocked
- Public input – County Fish and Game Commissions, local community stakeholders, non-governmental fishing/fisheries organizations, and concerned individuals

Cal Fish and Wildlife relies heavily on the institutional knowledge of its regional fisheries managers in determining annual fish stocking allotments (ICF 2010). Typically, the previous year's allotment provides a baseline for recommended stocking numbers in subsequent years. When recent allotments failed to meet expectations, managers are able to make adjustments based on the shortfall and compensate to facilitate better angler experiences. In most cases, this results in small changes from year to year in an attempt to track long term trends.

F.G.C. policy gives priority to “put-and-grow” fish stocking where feasible and limnological conditions support growth from fingerling or sub-catchable to catchable sizes (ICF 2010). Fingerling stocking occurs where natural fish production is low and where plankton production, water quality conditions, and competition/predation factors support fish growth (ICF 2010). Given these conditions, F.G.C. policy (CFGC 2012) directs hatchery managers to stock fingerling where a population has been destroyed, in lakes where they will establish a new fishery, or to augment an existing fishery. If fingerling growth or survival is found to be a limiting factor, sub-catchable fish are often a successful alternative to produce quality angling. Catchable trout programs are used only when other means of augmentation have proved unsuccessful and angler activity indicates at least 50 percent of planted fish will be harvested.

Annual hatchery fish production is also a factor in determining allotments for stocking. Fingerlings are inexpensive and relatively easy to produce in large numbers. This contributes to the general preference for “put-and-grow” practices. Limiting factors on fingerling stocking include seasonal availability and locations with appropriate conditions for growth (ICF 2010). Catchable trout require a minimum of two years of feeding and care to produce, in addition to initial planning for production. This translates to a 3-year lag time to implement long-term changes in allotments. Short-term changes can be achieved through transfers of allotments between reservoirs, which require sacrifices at one to benefit another (ICF 2010).

Cal Fish and Wildlife also considers public feedback regarding recreational angling on stocked waters. This information is acquired through angler surveys, creel surveys, local fish and game

commissions, angler groups and spontaneous encounters with the general public. All of this information is helpful in determining the success or failure of the stocking programs.

2.1.3.3 Policy Regarding Reservoirs With Access Fees

Cal Fish and Wildlife policy (California Fish and Game Commission [CFGF] 2013) states:

Department shall stock two types of waters: (1) those in which most, if not all, fish are reared and stocked by the Department, and (2) those in which the reservoir or recreation operator, under a Cooperative Stocking Program, plants an equal or greater weight of catchable-sized fish than does the Department.

Under a Cooperative Stocking Program, reservoir operators are allowed to collect fees from anglers to offset the cost of essential services such as bathrooms, roads, parking, gatekeeping, liability insurance and fish habitat improvement projects. Additional fee revenues may also be used to purchase fish to supplement the state allotment at the discretion of the reservoir operator (F.G.C. 2012). A Cooperative Stocking Program is a Memorandum of Understanding (MOU) between Cal Fish and Wildlife and the reservoir operator. The reservoir operator is expected to purchase an amount of fish equal or greater than the annual allotment of Cal Fish and Wildlife each year of the agreement. As the program develops the portion contributed by the reservoir operator is expected to increase as revenues from collected fees increase (F.G.C. 2012). This matching may be delayed in the first year of an agreement to allow for fee revenues to become available to purchase fish. Cal Fish and Wildlife will only continue to stock fish as long as this agreement is being met. Collected fees may only be used for services essential for anglers or the funding of fish stocking and habitat improvement projects (F.G.C. 2012).

2.2 Historic Fish Stocking in New Bullards Bar Reservoir

2.2.1 Fish Stocking Programs

New Bullards Bar Reservoir has a long history of fish stocking activities by Cal Fish and Wildlife dating back to 1959 (Central Valley Fish Hatchery 1959; CDFG 2008). Table 2.2-1 provides relative stocking numbers by species where information was available from 1969 through 2013.

Table 2.2-1. Known stocked fish species in New Bullards Bar Reservoir from 1969 through 2013.

Fish Species		Year(s) Planted	Estimated Yearly Mean	Estimated Total
Common Name	Scientific Name			
Rainbow trout (various origin)	<i>Onchorhynchus mykiss</i>	1969 - 2013	50,000	1,800,000
Eagle Lake rainbow trout	<i>O. mykiss aquilarum</i>	1979, 1982, 1983, 1985, 1999, 2000, 2001, 2007, 2008, 2009, 2011, & 2012	40,704	--
Kamloops rainbow trout	<i>O. mykiss kamloops</i>	Unknown	--	--
Kokanee	<i>O. nerka</i>	1969 - 2013	75,000	5,200,000
Cutthroat trout	<i>O. clarkia</i>	1971	200	200
Brook trout	<i>Salvelinus fontinalis</i>	1992	40,215	40,215
Spotted bass	<i>Micropterus punctulatus</i>	1984	185	185

Sources: CDFG 2008.

YCWA was unable to locate an official Cal Fish and Wildlife policy for stocking fish at New Bullards Bar. However, as mentioned above, historic records (CDFG 2008, CDFW 2013a) indicate that the reservoir is managed as a Self-Sustaining Fishery for spotted bass and a Put-and-Grow Fishery for Eagle Lake trout, rainbow trout and kokanee. Table 2.2-2 shows a history of fingerling stocking for all three salmonid species from 2001 to 2013.

Table 2.2-2. Annual fish stocking at New Bullards Bar Reservoir including number, pounds of fish, size, hatchery origin and strain.

Year	Month	Species ¹	Number	Weight (lbs.)	Fish/pound	Size	Hatchery/Strain	Strain
2001	March, May	Kokanee	75,630	273.0	277	F	American River	OR, TC
	June	Eagle Lake trout	50,424	132.0	382	F	American River	H
2002	March, May	Kokanee	82,636	337.0	245	F	American River	SR, TC
	April	Rainbow trout	50,220	2,700.0	18	F ²	American River	H
2003	May	Kokanee	48,972	252.0	194	F	American River	SR, TC
	September	Rainbow trout	50,000	2,000.0	25	F ²	Clear Lake	S
2004	May	Kokanee	47,718	280.0	170	F	American River	OR, SR
	February	Rainbow trout	68,000	2,000.0	34	F ²	American River	H
2005	May	Kokanee	50,165	79.0	635	F	Silverado Fisheries Base	WA
	October	Eagle Lake trout	50,000	1,162.0	43	F	American River	H
2006	April	Kokanee	20,000	31.3	639	F	American River	TC
	August	Eagle Lake trout	50,000	510.2	98	F	American River	H
2007	May	Kokanee	32,896	133.0	247	F	Silverado Fisheries Base	OR, WA
	July	Eagle Lake trout	50,085	477.0	105	F	American River	H
2008	March	Kokanee	50,086	158.5	316	F	American River	SR
	July	Eagle Lake trout	50,020	244.0	205	F	American River	H
2009	April	Kokanee	49,982	221.2	226	F	American River	TC
	June	Eagle Lake trout	49,955	202.0	247	F	American River	H
	April, May	Rainbow trout	7,397	2,998.1	3	C	American River	C, W
2010	May	Kokanee	99,992	540.5	185	F	Silverado Fisheries Base	TC
	June	Rainbow trout	50,040	1,112.0	45	F	American River	C
2011	May	Kokanee	100,096	736.0	136	F	Silverado Fisheries Base	TC
	May	Eagle Lake trout	50,000	171.2	292	F	American River	H
2012	May	Kokanee	99,997	526.3	190	F	Silverado Fisheries Base	TC
	July	Eagle Lake trout	49,911	470.9	106	F	American River	H
2013	May	Kokanee	81,018	693.0	117	F	Silverado Fisheries Base	SR, TC
	May	Rainbow trout	25,000	200.0	125	F	American River	H
Average	--	Kokanee	64,553	328	197	--	--	--
		<i>O. mykiss</i>	49,512	875	57	--	--	--

Source: CDFW 2013a

Key:

Size: C=Catchable, F=Fingerling

Strain: C= Coleman, H=Hatchery, OR=Oregon, S=Shasta, SR=Stampede Reservoir, TC=Taylor Creek, W=Whiskeytown, WA=Washington

¹ Eagle Lake trout and rainbow trout were aggregated to yield a single annual average.

² These fish may have been in the sub-catchable size category, but this was not reflected in the records provided by Cal Fish and Wildlife.

From 2001 through 2013, Cal Fish and Wildlife annually stocked New Bullards Bar with an average of 49,512 trout (Eagle Lake or other rainbow trout strain) and 64,553 fingerling kokanee (CDFW 2013a). In 2009, Cal Fish and Wildlife released trout from two different size classes; 49,955 fingerling Eagle Lake trout and 7,397 catchable rainbow trout. In records provided by Cal Fish and Wildlife, catchable trout were considered larger than three fish per pound (Table

2.2-2). Rainbow trout fingerling and sub-catchable fish averaged 57 fish per pound (range = 18 to 382) and Kokanee fingerling averaged 197 (range = 117 to 639) (CDFW 2013a).

The American River Hatchery was the primary source of fish, with additional fish coming from the Crystal Lake Hatchery and the Silverado Fish Base. Stocked kokanee were of the Oregon, Taylor Creek, Stampede Reservoir and Washington strains. Rainbow trout were from the Coleman, Eagle Lake (hatchery), Shasta and Whitney strains. Kokanee were stocked in March, April or May. Rainbow trout were generally stocked in the spring, but occasionally as late as October (CDFW 2013a).

2.3 New Bullards Bar Reservoir Fish Assemblage

The fish assemblage of New Bullards Bar Reservoir is dominated by non-native species (Table 2.3-1). Of the 26 reported species, only five are native to California (YCWA 2013a). Hardhead (*Mylopharodon conocephalus*) is the only fish reported to occur in the reservoir that is listed by Cal Fish and Wildlife as a Species of Special Concern and by the Forest Service as a Sensitive Species (CDFW 2012).

Table 2.3-1. Fishes reported to occur in New Bullards Bar Reservoir.

Fish Species		Origin
Common Name	Scientific Name	Native (N) or Introduced (I) to California
SUCKERS (CATASTOMIDAE)		
Sacramento sucker	<i>Catostomus occidentalis</i>	N
SUNFISHES (CENTRARCHIDAE)		
Black crappie	<i>Pomoxis nigromaculatus</i>	I
White crappie	<i>P. annularis</i>	I
Bluegill	<i>Lepomis macrochirus</i>	I
Warmouth	<i>L. gulosus</i>	I
Green sunfish	<i>L. cyanellus</i>	I
Redear sunfish	<i>L. microlophus</i>	N
Largemouth bass	<i>Micropterus salmoides</i>	I
Spotted bass ¹	<i>M. punctulatus</i>	I
Smallmouth bass	<i>M. dolomieu</i>	I
HERRINGS (CLUPEIDAE)		
Threadfin shad	<i>Dorosoma petenense</i>	I
MINNOWS (CYPRINIDAE)		
Common carp	<i>Cyprinus carpio</i>	I
Fathead minnow	<i>Pimephales promelas</i>	I
Golden shiner	<i>Notemigonus crysoleucas</i>	I
Hardhead ²	<i>Mylopharodon conocephalus</i>	N
Sacramento pikeminnow	<i>Ptychocheilus grandis</i>	N
CATFISHES (ICTALURIDAE)		
Brown bullhead	<i>Ameiurus nebulosus</i>	I
White catfish	<i>A. catus</i>	I
Channel catfish	<i>Ictalurus punctatus</i>	I
TROUTS AND SALMON (SALMONIDAE)		
Brook trout ¹	<i>Salvelinus fontinalis</i>	I
Cutthroat trout ¹	<i>Onchorhynchus clarkia</i>	I
Kokanee ¹	<i>O. nerka</i>	I
Rainbow trout ¹	<i>O. mykiss</i>	N
Rainbow trout – Eagle Lake subspecies ¹	<i>O. mykiss aquilarum</i>	I

Table 2.3-1. (continued)

Fish Species		Origin
Common Name	Scientific Name	Native (N) or Introduced (I) to California
TROUTS AND SALMON (SALMONIDAE)		
Rainbow trout - Kamloops strain ¹	<i>O. mykiss gairdneri (Kamloops strain)</i>	N
Brown trout	<i>Salmo trutta</i>	I
<i>Subtotal – Native</i>		6
<i>Subtotal – Introduced</i>		20
<i>Subtotal - Stocked</i>		5
Total		26

¹ Stocked in New Bullards Bar Reservoir by Cal Fish and Wildlife (see Table 2.2-1).

² Hardhead is listed as a Species of Special Concern by Cal Fish and Wildlife and a Sensitive Species by the Forest Service.

2.4 Fishing at New Bullards Bar Reservoir

2.4.1 Creel Surveys

Creel survey data can provide information regarding the level of fishing pressure and the degree to which stocked fish return to anglers' creels. This information is of most importance in years when hatchery production is unable to fully meet demand. Cal Fish and Wildlife (K. Kundargi, pers. comm., 2013) allotments for a given reservoir may be adjusted in any given year depending on the supply of hatchery fish and the relative level of fishing pressure.

YCWA obtained creel survey⁶ information from Cal Fish and Wildlife for the years 2000 through 2009. Survey efforts were focused on anglers targeting kokanee. The resulting information is summarized in Table 2.4-1.

Table 2.4-1. Creel survey data for anglers targeting Kokanee at New Bullards Bar for the period 2000 through 2009.

Year	Days Sampled	Anglers	Total Hours Fished	Total Catch	Number Kept	Number Released	CPUE
2000	13	135	628.00	368	259	109	0.59
2001	16	86	366.50	182	144	38	0.50
2002	16	109	467.50	527	387	140	1.13
2003	28	225	931.50	870	713	157	0.93
2004	30	269	1,134.00	854	757	97	0.75
2005	24	173	717.75	586	443	143	0.82
2006	18	99	385.00	318	282	36	0.83
2007	15	49	254.50	83	59	24	0.33
2008	No surveys conducted						
2009	16	2	9.00	0	0	0	0.00
Average	18	115	489	379	304	74	0.59

Source: CDFW 2013b

During the 9 years sampled, the number of days sampled ranged from 13 through 30 days with an average of 18 days. Surveyors interviewed an average of 115 anglers per year (range = 2

⁶ A creel survey is the collection of data concerning the number of fish caught by sport fishermen on a particular stream or in a particular reservoir for the purpose of determining the effects of fish stocking and planning future catch limits for various fishes.

through 269) and found that anglers caught an average of 0.59 fish per hour (range = 0.33 through 1.13). Additional information recorded included the total hours fished, total kokanee caught, the number kept, and number released (CDFW 2013b).

2.4.2 Fisherman Use and Preferences

YCWA's recreation surveys during 2012 collected information regarding user activities during their visit to New Bullards Bar facilities. Forty-three percent of overnight visitors reported that they had fished during their stay although only 6 percent indicated that fishing was the primary purpose of their visit. Among day-use visitors, 36 percent participated in fishing and 26 percent claimed that was the primary reason for their visit to New Bullards Bar. Fishing was the number one "primary reason" for day-use visitors among those surveyed. Target species were not specified by these surveys (YCWA 2013b).

New Bullards Bar is also known for good black bass fishing. In particular, fisherman have recently noted that the spotted bass at New Bullards Bar Reservoir have increased in size in recent years and the reservoir is being targeted as a destination for trophy size spotted bass (Kellogg 2010). The Fish Sniffer (S. Bright pers. comm. 2013) reports a variety of bass tournaments sponsored by local clubs take place at New Bullards Bar throughout the year.

SECTION 3.0

FISH STOCKING

3.1 Fish Stocking at New Bullards Bar Reservoir

YCWA reviewed historic stocking allotments, creel census data, and the relevant regulations and policies to determine target levels for fish stocking at New Bullards Bar Reservoir. Cal Fish and Wildlife annual stocking allotments for kokanee ranged from 20,000 to 100,096 fingerlings (average: 64,553) between 2001 and 2013 (CDFW 2013b). Cal Fish and Wildlife also stocked trout, alternating between Eagle Lake and rainbow trout, in most years. Trout allotments, ranged from 25,000 to 68,000 fingerlings from 2001 to 2013 (average: 49,512) (CDFW 2013a). Creel survey data from 2000 to 2009 showed a consistent level of effort and increasing catch per unit levels averaging 0.59 fish per hour over a similar period, indicating satisfactory angler success (CDFW 2013b). Cal Fish and Wildlife uses a catch per unit effort of 0.5 fish per hour as a benchmark for acceptable creel returns for a put and grow stocking program (K. Thomas, pers. comm., 2013). In addition, fishing was also the most common primary activity of day use visitors at New Bullards Bar (YCWA 2013b).

YCWA will continue to stock New Bullards Bar at the average annual historic levels of:

- 65,000 fingerling kokanee (i.e., approximately 200 fish per pound)
- 50,000 fingerling rainbow trout (i.e., approximately 60 fish per pound)

It should be noted that these numbers are average annual targets that may fluctuate from year to year, but will be restricted within the historic ranges mentioned above. These averages will be measured on a 5-year running average in order to ensure consistent stocking over the life of the license. While it is YCWA's intention to stock the average numbers in any given year, the supply of fish in any given year is subject to a degree of uncertainty that YCWA cannot control.

If Cal Fish and Wildlife, outside this Plan, stocks fish in the reservoir in any year, YCWA's stocking efforts will make up the difference between what is stocked by Cal Fish and Wildlife and the total annual fish stocking targets described above (i.e., average of 65,000 fingerling kokanee and 50,000 fingerling rainbow trout each year).

These allotments are consistent with the Strategic Trout Management Plan (CDFG 2003) and the Cal Fish and Wildlife Hatchery EIR-EIS (ICF 2010).

Historic fish stocking events have fluctuated between the beginning of March and the end of October. YCWA will stock fish in:

- two to four events between March 1 and October 31 of each year (one to two events per species), and, in continuing Cal Fish and Wildlife's practices, the fish will be released at the Cottage Creek Boat Launch.

3.2 Hatchery Considerations

YCWA's preferred approach is to contract with Cal Fish and Wildlife to raise and plant the average target number and weight of fish each year. If this approach cannot be established, YCWA will acquire fish from one or more State-registered private hatcheries. If fish are supplied by private hatcheries, YCWA will ensure that fish are drawn from at least one of four rotations of different strains for each species to maintain the genetic variation practiced by Cal Fish and Wildlife. Eagle Lake trout will be included as an additional strain of rainbow trout used for stocking.

YCWA reserves the right to deny delivery of any fish, regardless of the sources, if YCWA suspects the fish contain harmful pathogens or parasites that could impact resident fish populations at New Bullards Bar Reservoir.

3.3 Monitoring

YCWA will collect angler data during the Recreation User Survey, to be conducted every twelfth year of the license, under Section 4.2.3 of YCWA's Recreation Facilities Plan, included in the FERC license. The survey will include questions related to; the quality of the angling experience, species sought, species captured, timing and duration of fishing trips, and methods. The stocking program is intended to enhance fish populations in waters lacking sufficient production to support levels of angling for a positive overall angling experience. As mentioned in Section 2.4.2, fishing is the first ranked "primary" activity for day users at New Bullards Bar Reservoir. Technical Memorandum 8-1 *Recreation Use and Visitors Surveys*, indicated that annual use at New Bullards Bar has fluctuated between 66,745 and 125,627 recreation days per year (average = 109,079) (YCWA 2013b) between 2002 and 2012, with a total change in Project use of 13 percent. CPUEs presented in Table 2.4-1 for the period from 2000 to 2009 show that historic stocking levels have been supportive of the fishing experience at New Bullards Bar. Flat annual use and satisfactory CPUE from creel surveys indicates that historic stocking efforts have been supportive of the fishery.

For each year in which a Recreation User Surveys is conducted, YCWA will review the results of the surveys with Cal Fish and Wildlife and the Forest Service after the final report is completed, and discuss if stocking allotments continue to support the level of fishing pressure at the reservoir. A report of the stocking allotment, including any YCWA recommended changes, for each year that fish are stocked will be prepared and submitted to Cal Fish and Wildlife as discussed in Section 4.1.

3.4 Fee Option

YCWA reserves the right to implement a fee for anglers at New Bullard Bar Reservoir to support the fish stocking program. The primary use of collected fees will be the purchase of fish for stocking. Surplus annual fees, if any, will be used for the purchase of fish in subsequent years or the improvement of services and facilities at New Bullards Bar Reservoir as they relate to

fishing. YCWA will utilize these funds in the manner that best supports the fish stocking program and the angling experience at New Bullards Bar Reservoir.

Further, YCWA reserves the right to enter into an MOU, consistent with this Plan, with Cal Fish and Wildlife for a Cooperative Stocking Program.

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SECTION 4.0

REPORTING AND PLAN REVISIONS

4.1 Reporting

By December 31 of each year during the term of the new license, YCWA shall make available a brief report documenting New Bullards Bar Reservoir fish stocking in that calendar year, and any YCWA recommended changes. Electronic copies will be made available to Cal Fish and Wildlife and the Forest Service, and filed with FERC. For each stocked species, the report will include strain, size class, total number of fish stocked, when they were stocked, where they were stocked, method of stocking (e.g., truck), and the hatchery(ies) of origin. The report will also include YCWA plans for stocking in the next calendar year.

4.2 Plan Revisions

YCWA, in consultation with Cal Fish and Wildlife and the Forest Service, will review, update and/or revise the Plan, as needed. Sixty days will be allowed for Cal Fish and Wildlife and the Forest Service to provide written comments and recommendations before YCWA files an updated Plan for FERC's approval. YCWA will include all relevant documentation of coordination and consultation with the updated Plan filed with FERC. If YCWA does not adopt a particular recommendation by Cal Fish and Wildlife or the Forest Service, the filing will include Project-specific reasoning for the decision. YCWA will implement the Plan as approved by FERC.⁷

⁷ The Plan will not be considered revised until FERC issues its approval.

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SECTION 5.0

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