



TECHNICAL MEMORANDUM 6-3

Wetlands

Yuba River Development Project FERC Project No. 2246

September 2012

©2012, Yuba County Water Agency
All Rights Reserved

TECHNICAL MEMORANDUM 6-3

EXECUTIVE SUMMARY

In 2012, Yuba County Water Agency (Licensee or YCWA) conducted surveys to locate wetlands that could be affected by the Yuba River Development Project (Project).

Surveys began on March 26, 2012 and concluded by July 29, 2012; 1,936 acres (ac) were surveyed. Surveys were conducted in conjunction with botanical relicensing studies, including Special-Status Plants (Study 5.1); Endangered Species Act (ESA)-Listed Plants (Interim Study 7.5), ESA-Listed Wildlife - Valley Elderberry Longhorn Beetle Study (Interim Study 7.4); and California Endangered Species Act (CESA)-Listed Plants (Study 7.5).

No wetlands were located during YCWA's botanical Relicensing studies. In addition, no wetlands were located as incidental observations during YCWA's other relicensing studies performed from 2009 through 2012, and YCWA is unaware of any historic records of wetlands within the existing FERC Project Boundary.

The study was conducted according to the Federal Energy Regulatory Commission (FERC)-approved Wetlands (Study 6.3) (YCWA 2011); no variances occurred.

The study is complete.

Page Left Blank

Table of Contents
Description

Section	Description	Page No.
Executive Summary		ES-1
1.0	Goals and Objectives	1
2.0	Methods.....	1
2.1	Study Area	1
2.2	Gather Data and Prepare for Field Effort.....	3
2.3	Wetland Surveys	3
3.0	Results.....	4
4.0	Discussion.....	4
5.0	Study-Specific Collaboration and Consultation.....	4
6.0	Variances from FERC-Approved Study	4
7.0	Attachments to This Technical Memorandum.....	4
8.0	References Cited	4

List of Figures
Description

Figure No.	Description	Page No.
2.1-1.	Wetlands study area and additional area surveyed.	2

List of Tables
Description

Table No.	Description	Page No.
None.		

List of Attachments

Attachment No.	List of Attachments	Page No.
None.		

Page Left Blank

TECHNICAL MEMORANDUM 6-3

WETLANDS¹

Yuba County Water Agency's (YCWA or Licensee) continued operation and maintenance (O&M) of the Yuba River Development Project, Federal Energy Regulatory Commission (FERC or Commission) Project Number 2246 (Project), may have the potential to affect non-riparian² wetlands.

1.0 Goals and Objectives

The goals of this study were: 1) to document the occurrence and distribution of wetlands within the existing FERC Project Boundary;³ and 2) to assess the condition of wetlands potentially affected by continued Project O&M within the existing FERC Project Boundary.

The objective of this study was to gather the data and information necessary to meet the study goals.

2.0 Methods

The study was conducted in three steps: 1) define the study area; 2) gather data and information to prepare for the field effort, including known wetland occurrences in the Project Vicinity;⁴ and, 3) conduct the surveys for the study area.

2.1 Study Area

The study area was the area within the existing FERC Project Boundary plus an additional buffer of 100 feet extending upslope from the normal maximum water surface elevation of Project reservoirs and impoundments and from the FERC Project Boundary around Project recreation facilities for a total of 3,332 ac, including all Project facilities and features (e.g., dams, Project roads, powerhouses and reservoirs) and Project recreation areas. A map of the study area is provided in Figure 2.1-1.

¹ This technical memorandum presents the results for Study 6.3, Wetlands, which was included in YCWA's September 8, 2011 Revised Study Plan for relicensing of the Yuba River Development Project, and approved by FERC in its September 30, 2011 Study Plan Determination. There were no modifications to Study 6.3 subsequent to FERC's September 30, 2011 Study Determination.

² This technical memorandum focuses on non-riparian wetlands. Riparian applies to the wetlands "...contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic (lakes) and lentic (rivers, streams, or drainage ways) water bodies." (USFWS 1997). Riparian-wetlands are addressed in YCWA's Riparian Habitat Upstream of Englebright Reservoir Study (Study 6.1) and Riparian Habitat Downstream of Englebright Dam Study (Study 6.2).

³ The existing FERC Project Boundary is the area that YCWA uses for normal Project operations and maintenance, and is shown on Exhibits J, K, and G of the current license.

⁴ For the purposes of relicensing, the Project Vicinity is defined as the area surrounding the Project in the order of a county or United States Geological Survey 1:24,000 topographic quadrangle.

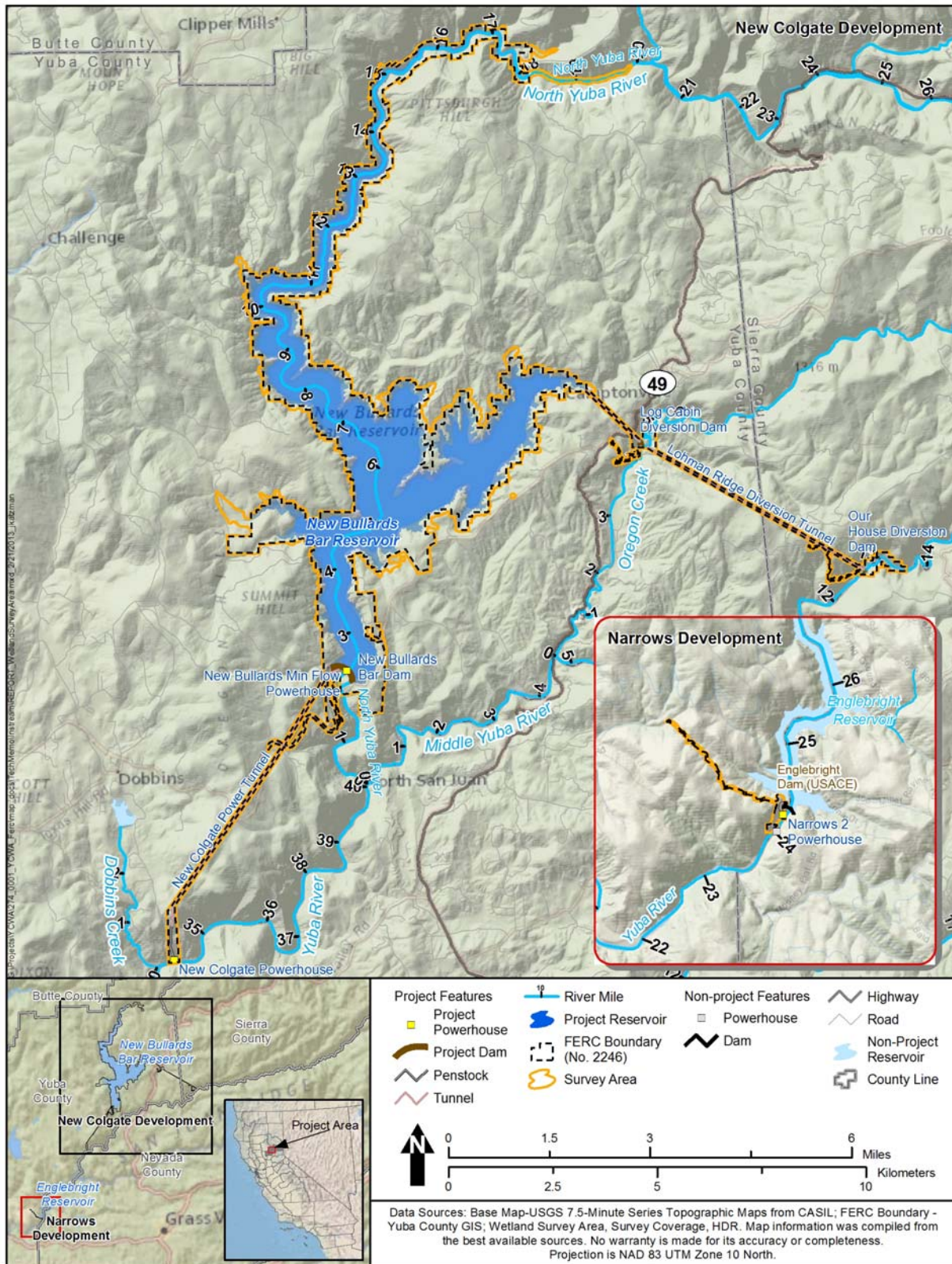


Figure 2.1-1. Wetlands study area, illustrated by the FERC Boundary and additional area surveyed.

2.2 Gather Data and Prepare for Field Effort

To identify wetlands potentially occurring within the study area, YCWA: 1) examined National Wetland Inventory (NWI) maps (USFWS 1987) for existing wetlands; 2) analyzed aerial photographic maps (GoogleMaps 2012) for areas with potential to support wetland vegetation; 3) performed reconnaissance; and, 4) consulted with the Forest Service (pers. comm. Van Zuuk 2012) regarding existing records of wetlands occurring within the study area.

With the exception of NWI maps (1987), YCWA did not identify any potential wetlands in the study area. NWI maps report approximately 5 acres and 8,323 feet along the water’s edge of palustrine wetlands within the study area (see Table 2.2-1).

Table 2.2-1. NWI¹ palustrine wetland classes mapped within the study area.²

Type	Definition	Acres/Feet within FERC Project Boundary	Location and Description of Existing Conditions
PSSY	Palustrine scrub-shrub, saturated/semi-permanent/seasonal	375.28 feet	NWI mapped upstream of Log Cabin Diversion Dam; flowing water and riparian-wetland vegetation present.
PFOY	Palustrine forested, saturated/semi-permanent/seasonal	7,947.76 feet	NWI mapped on drainages leading into New Bullards Bar Reservoir (Deadwood Creek, Slapjack Creek, Empire Creek, Burnt Bridge Creek, Little Oregon Creek, and Bridger Creek); within the FERC Project Boundary, each of these support ephemeral to perennial flow, with either riparian-wetland or upland conditions.
POWK Y	Palustrine open water, artificially flooded, saturated/semi-permanent/seasonal	5.09 acres	Log Cabin Diversion Dam impoundment; this area supports flowing water seasonally and riparian-wetland vegetation.

¹ USFWS 1987

² This table does not include the 4,635 acres of open water reservoir habitat that may qualify as jurisdictional wetlands under Section 404 of the federal Clean Water Act.

YCWA used wetland hydrology and hydrophytic vegetation indicators (Environmental Laboratory 1987, USACE 2008), and microtopographic depressions to search for non-riparian⁵ wetlands within the study area.

2.3 Wetland Surveys

YCWA performed surveys to locate wetlands potentially occurring in the study area between March 26, 2012 and July 29, 2012. Surveys were performed by several teams of qualified biologists, working simultaneously throughout the study area. Surveys were comprehensive over all safely accessible portions of the study area using systematic field techniques to ensure thorough coverage. The surveys included site visits to the wetland areas indicated by the NWI maps.

⁵ Riparian applies to the wetlands “...contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic (lakes) and lentic (rivers, streams, or drainage ways) water bodies.” (USFWS 1997). Riparian-wetlands are addressed by YCWA’s Riparian Habitat Upstream of Englebright Reservoir Study (Study 6.1) and Riparian Habitat Downstream of Englebright Dam Study (Study 6.2). Although the term has traditionally been applied only to lotic systems, in the western United States “riparian” is also used to describe the distinctive vegetation associated with the moister conditions around lentic reservoirs.

3.0 Results

A total of 1,746 ac within the 2,909-acre, study area were surveyed; 1,159 acres were not surveyed because of unsafe terrain. An additional 190 ac were surveyed in conjunction with botanical relicensing studies. YCWA excluded from the study area 3.3 acres surrounding a known bald eagle (*Haliaeetus leucocephalus*) nest in compliance with the United States Department of the Interior, Fish and Wildlife Service's (USFWS) National Bald Eagle Management Guidelines (2007); this area is unlikely to support wetlands.

No occurrences of wetlands were located. YCWA's field reconnaissance found that the NWI mapped areas support riparian-wetland conditions, and not palustrine wetlands.

In addition, YCWA's field teams performing other relicensing studies from 2009 through 2012 did not record any incidental observations of wetlands. No maps of wetlands were developed for the study area, no assessments of wetlands were performed, and no consultation with Project O&M staff was required.

4.0 Discussion

No wetlands were located during YCWA's studies. Field surveys indicate that the steep terrain is unlikely to support wetland conditions within the wetlands study area.

Information gathered during the pre-field review suggests that these findings are consistent with previous observations.

5.0 Study-Specific Collaboration and Consultation

The FERC-approved study did not require study-specific consultation.

6.0 Variations from FERC-Approved Study

This study was conducted according to the FERC-approved Wetlands Study (Study 6.3). No variations occurred.

7.0 Attachments to This Technical Memorandum

None.

8.0 References Cited

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

- GoogleMaps. 2012. New Bullards Bar, California. Map. Available at: <https://maps.google.com/>. Accessed on March 19, 2012 through March 21, 2012.
- United States Army Corps of Engineers (USACE). 2008. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (ERDC\EL TR-08-13). U.S. Army Corps of Engineers. U. S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS.
- United States Department of Interior, Fish and Wildlife Service (USFWS). 1987. National Wetlands Inventory (NWI) maps. US Department of the Interior, USFWS, Region 1. Portland, OR.
- Van Zuuk., K. 2012. Personal communication between United States Department of Agriculture (USDA), Tahoe National Forest (TNF) (Forest Service) botanist, Kathy Van Zuuk and HDR Scientist, Gaea Bailey. Email communication March 22, 2012 to March 26, 2012.
- Yuba County Water Agency (YCWA). 2011. Yuba River Development Project Revised Study Plan. <http://www.ycwa-relicensing.com>.

Page Left Blank