

Study 3.2

AQUATIC MACROINVERTEBRATES DOWNSTREAM OF ENGLEBRIGHT DAM

November 2010

1.0 Project Nexus

Yuba County Water Agency's (YCWA or Licensee) continued operation and maintenance (O&M) of the existing Yuba River Development Project (Project) has a potential to affect aquatic macroinvertebrates (BMI) downstream of Engelbright Dam.¹

2.0 Resource Management Goals of Agencies with Jurisdiction Over the Resource to be Studied

[Relicensing Participants - This section is a placeholder in the Pre-Application Document (PAD). Section 5.11(d)(2) of 18 CFR states that an applicant for a new license must in its proposed study "Address any known resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied." During 2010 study proposal development meetings, agencies advised Licensee that they would provide a brief written description of their jurisdiction over the resource to be addressed in this study. If provided before Licensee files its Proposed Study Plan and Licensee agrees with the description, Licensee will insert the brief description here stating the description was provided by that agency. If not, prior to issuing the Proposed Study Plan, Licensee will describe to the best of its knowledge and understanding the management goals of agencies that have jurisdiction over the resource addressed in this study. Licensee]

3.0 Existing Information and Need for Additional Information

Limited information regarding BMI in the Yuba River downstream of Englebright Dam is available. The South Yuba River Citizens League (SYRCL) collected some BMI information at Parks Bar in 2006 and 2007 using the California Stream Bioassessment Protocol (SWAMP).

4.0 Study Goals and Objectives

The goal of the study is to characterize, to the extent necessary for Relicensing, BMI assemblages in the Yuba River downstream of Englebright Dam.

¹ Englebright Dam was constructed by the California Debris Commission in 1941, is owned, operated and maintained by the United States Army Corps of Engineers; and is not included as a Project facility in FERC licenses for the Yuba-River Development Project.

The objective of the study is to collect aquatic macroinvertebrate and physical data to meet the study goals.

5.0 Study Methods and Analysis

5.1 Study Area

For the purpose of this study, the study area includes the Yuba River from Englebright Dam to USACE's Daguerre Point Dam.

If YCWA proposes an addition to the Project, the study area will be expanded if necessary to include areas potentially affected by the addition.

5.2 General Concepts and Procedures

The following general concepts and practices apply to the study:

- Personal safety is the most important consideration of each fieldwork team.
- Licensee will make a good faith effort to obtain permission to access private property where needed well in advance of entering the property.
- Field crews may make minor variances to the FERC-approved study in the field to accommodate actual field conditions and unforeseen problems. When minor variances are made, Licensee's field crew will follow the protocols in the FERC-approved study.
- When Licensee becomes aware of major variances to the FERC-approved study, Licensee will issue an e-mail to the Relicensing Contact List describing the variance and reason for the variance. Licensee will contact by phone the Forest Service (if the variance is on National Forest System land), USFWS, SWRCB and CDFG to provide an opportunity for input regarding how to address the variance. Licensee will issue an e-mail to the Relicensing Contact List advising them of the resolution of the variance. Licensee will summarize in the final study report all variances and resolutions.
- Licensee's performance of the study does not presume that Licensee is responsible in whole or in part for measures that may arise from the study.
- Global Positioning System (GPS) data will be collected using either a Map Grade Trimble GPS (sub-meter data collection accuracy under ideal conditions), a Recreation Grade Garmin GPS unit (3 meter data collection accuracy under ideal conditions), or similar units. GPS data will be post-processed and exported from the GPS unit into Geographic Information System (GIS) compatible file format in an appropriate coordinate system using desktop software. The resulting GIS file will then be reviewed by both field staff and Licensee's relicensing GIS analyst. Metadata will be developed for deliverable GIS data sets.
- Licensee's field crews will record incidental observations of aquatic and wildlife species observed during the performance of this study. All incidental observations will be reported in the appropriate Licensee report (e.g., incidental observations of special-status fish recorded

during fieldwork for the Special-Status Turtles – Western Pond Turtle Study will be reported in Licensee’s Stream Fish Populations Study report). The purpose of this effort is not to conduct a focus study (i.e., no effort in addition the specific field tasks identified for the specific study) or to make all field crews experts in identifying all species, but only to opportunistically gather data during the performance of the study.

- Field crews will be trained on and provided with materials (e.g., Quat) for decontaminating their boots, waders, and other equipment between study sites. Major concerns are amphibian chytrid fungus, and invasive invertebrates (e.g., zebra mussel, *Dreissena polymorpha*). This is of primary importance when moving: 1) between tributaries and mainstem reaches; 2) between basins (e.g., Middle Yuba River, Yuba River, and North Yuba River); and 3) between isolated wetlands or ponds and river or stream environments.

5.3 Study Methods

[Relicensing Participants – Licensee has discussed with Relicensing Participants the possibility of using the SWAMP protocol, or a modification of the protocol, for sampling BMI in the Yuba River downstream of Englebright Dam. Licensee is concerned that using SWAMP or the discussed modification of the protocol may be impractical due to water depths and velocity. Further, more discussion is needed regarding the selection of sampling sites, number of samples collected, and data analysis. Licensee is committed to collecting BMI data in the Yuba River downstream of Englebright Dam to the extent necessary to support Relicensing, and intends to discuss methods and analysis with Relicensing Participants and include in Licensee’s Proposed Study Plan a detailed study proposal for Aquatic Macroinvertebrates Downstream of Englebright Dam. Licensee]

6.0 Study Proposal Consultation

[Relicensing Participants – To be completed. Licensee]

7.0 Schedule

[Relicensing Participants – To be completed. However, Licensee expects the study to begin in October 2011 following FERC’s Study Determination and be completed by October 2012, when Licensee files with FERC its Initial Study Report. Licensee]

8.0 Consistency of Methodology with Generally Accepted Scientific Practices

[Relicensing Participants – To be completed. Licensee]

9.0 Level of Effort and Cost

[Relicensing Participants – YCWA will include a cost range estimate for this study in its Proposed Study Plan. Licensee]

10.0 References Cited

[Relicensing Participants – To be completed. Licensee]