

Potter Valley Project FERC Project No. 77



Initial Study Report September 2020



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California Trout
Humboldt County
Mendocino County Inland Water and Power Commission
Round Valley Indian Tribes
Sonoma County Water Agency

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POTTER VALLEY PROJECT NOTICE OF INTENT PARTIES

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TABLE OF CONTENTS

SECTION 1.0	INTRODUCTION.....	1-1
1.1	Project Background.....	1-1
1.2	FERC Requirements for Proposed Modification to Approved Studies and New Studies.....	1-4
SECTION 2.0	STATUS OF FERC-APPROVED STUDIES AND PROPOSED STUDY MODIFICATIONS.....	2-1
2.1	AQ 1 – Hydrology.....	2-3
2.2	AQ 2 – Water Temperature.....	2-5
2.3	AQ 3 – Water Quality.....	2-7
2.4	AQ 4 – Fluvial Processes and Geomorphology.....	2-10
2.5	AQ 5 – Instream Flow.....	2-12
2.6	AQ 6 – Lake Pillsbury Fish Habitat.....	2-14
2.7	AQ 7 – Fish Passage.....	2-14
2.8	AQ 8 – Fish Entrainment.....	2-15
2.9	AQ 9 – Fish Populations.....	2-16
2.10	AQ 10 – Special Status Amphibians and Aquatic Reptiles.....	2-17
2.11	AQ 11 – Special Status and Invasive Aquatic Mollusks.....	2-19
2.12	CUL 1 – Cultural Resources.....	2-21
2.13	CUL 2 – Tribal Resources.....	2-22
2.14	LAND 1 – Road and Trails Assessment.....	2-23
2.15	LAND 2 – Visual Resource Assessment.....	2-24
2.16	LAND 3 – Hazardous Fuels Assessment.....	2-25
2.17	REC 1 – Recreation Facility Assessment.....	2-25
2.18	REC 2 – Reservoir Recreation Opportunities.....	2-26
2.19	REC 3 – Whitewater Boating.....	2-26
2.20	TERR 1 – Botanical Resources.....	2-27
2.21	TERR 2 – Wildlife Resources.....	2-28
SECTION 3.0	PROPOSED NEW STUDIES.....	3-1
3.1	AQ 12 – Scott Dam Removal.....	3-1
3.2	SE 1 – Socioeconomics.....	3-2
SECTION 4.0	INITIAL STUDY REPORT MEETING.....	4-1
SECTION 5.0	REFERENCES.....	5-1

LIST OF TABLES

Table 2-1	Status of Study Implementation and Supporting Study Information Availability for Existing FERC-approved Studies for the Potter Valley Hydroelectric Project.....	2-2
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LIST OF ATTACHMENTS

Attachment 1 Volume I -	Technical Study Summaries for Studies AQ 1, AQ 2, AQ 3, AQ 5, and AQ 11
Attachment 1 Volume II -	Technical Study Summary for Study CUL 1 part 1 <i>Privileged and Confidential – Not for Public Distribution</i>
Attachment 1 Volume III -	Technical Study Summary for Study CUL 1 part 2 <i>Privileged and Confidential – Not for Public Distribution</i>
Attachment 1 Volume IV -	Technical Study Summary for Study CUL 1 part 3 <i>Privileged and Confidential – Not for Public Distribution</i>
Attachment 1 Volume V -	Technical Study Summaries for Studies LAND 1, REC 3, and TERR 1
Attachment 1 Vol VI	Technical Study Summaries for Special-Status Species (Studies AQ 10 and TERR 2) <i>Privileged and Confidential – Not for Public Distribution</i>
Attachment 2 -	Tabular Summary Provided by PG&E
Attachment 3 -	Notice of Intent Parties’ Proposed Studies
Attachment 4 -	Proposed Revisions to the FERC-approved Studies in Tracked Changes

DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS

Term	Definition
A	
APE	Area of Potential Effect
C	
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
D	
DLA	Draft License Application
E	
eDNA	environmental DNA
F	
FERC	Federal Energy Regulatory Commission
FYLF	Foothill Yellow Legged Frog
G	
GIS	geographic information system
I	
ILP	Integrated Licensing Process
ISR	Initial Study Report
L	
LWD	large woody debris
N	
NOI	Notice of Intent
NOI Parties	A collaborative partnership which includes Sonoma County Water Agency, Mendocino County Inland Water and Power Commission, California Trout, Inc., County of Humboldt, and Round Valley Indian Tribes
P	
PAD	Pre-Application Document
PG&E	Pacific Gas and Electric Company
Project	Potter Valley Hydroelectric Project, FERC Project 77

Term	Definition
S	
SD3	Scoping Document 3
SHPO	State Historic Preservation Office
SPD	study plan determination
T	
TSS	Technical Study Summary
U	
USGS	U.S. Geological Survey
USFS	U.S. Forest Service
W	
WPT	Western Pond Turtle

SECTION 1.0

Introduction

1.1 Project Background

The Potter Valley Hydroelectric Project, Federal Energy Regulatory Commission (FERC) Project No.77 (Project), is located on the Eel and Russian rivers in northwestern California. The Eel River Power and Irrigation Company began construction of the Project in 1905 and completed Cape Horn Dam and Van Arsdale Diversion in 1908. In 1920, the Snow Mountain Water and Power Company began construction of Scott Dam, completed the dam in 1921, and obtained the Project's first operational license in 1922 (PG&E 2017). Pacific Gas and Electric Company (PG&E) acquired the Project and the license in 1930 and has owned and operated the Project since its acquisition.

PG&E's most recent license to operate the Project expires on April 14, 2022. As such, PG&E filed with FERC on April 6, 2017 its Notice of Intent (NOI) and Pre-application Document (PAD) initiating a renewal of the license. On January 15, 2018, PG&E filed its Revised Study Plan with the FERC for the Project. The purpose of relicensing studies is to gather information that is not otherwise existing and readily available that will be needed to assess Project effects on potentially affected resources and inform requirements in the new license.

On February 15, 2018, FERC staff issued its study plan determination (SPD), approving 17 of 21 studies as proposed, and approving the remaining four studies with modifications. In February 2018, PG&E began implementing the FERC-approved study plan.

On January 25, 2019, PG&E filed a notice of withdrawal of its NOI and PAD, discontinuation of the Integrated Licensing Process (ILP), and termination of its intent to transfer and sell the Project. This withdrawal also suspended implementation of the FERC-approved study plan such that studies were stopped abruptly with studies in various stages of completion. On January 29, 2019, PG&E filed a petition for reorganization under Chapter 11 of the U.S. Bankruptcy Code. PG&E's withdrawal from the relicensing process became effective on February 11, 2019.

Following FERC's solicitation for other interested applicants, on June 28, 2019, Sonoma County Water Agency, Mendocino County Inland Water and Power Commission, California Trout, Inc., and the County of Humboldt filed their intent to apply for a new license for the Project. Shortly thereafter these parties and the Round Valley Indian Tribes entered into a collaborative planning agreement to advance a two-basin solution and are collectively referred to as the NOI Parties.

The NOI Parties are committed to acquiring the Project and operating it in a way that meets the following eight Shared Objectives of a Two-Basin Solution:

1. Minimizing or avoiding adverse impacts to water supply reliability, fisheries, water quality, and recreation in both basins
2. Improving fish passage and habitat on the Eel River sufficient to support recovery of native anadromous fish populations, including passage at existing dam locations
3. Reliance on best available science and engineering analyses to evaluate options for restoration, water delivery, and hydroelectric generation under a new license
4. Collaboration on funding
5. Active participation of tribes and other stakeholders supportive of the Shared Objectives
6. Economic welfare of both basins
7. Continued hydroelectric generation
8. Protecting tribal cultural, economic, and other interests in both basins.

The NOI Parties came together to form a partnership to reduce uncertainty regarding the fate of the Project after PG&E's withdrawal, and to create a positive outcome that meets the shared objectives for stakeholders in both the Eel and Russian river basins. Without the intervention of the NOI Parties, and with no other applicants, the Project was subject to license surrender and decommissioning. This path would have caused substantial uncertainty in outcomes that could potentially affect both Eel and Russian river stakeholders. The NOI Parties intend that a Regional Entity will be formed to file a new license application for the Project, and the new license will reflect modifications to achieve the Shared Objectives of a Two-Basin Solution for the mutual benefit of the Eel River and Russian River basin stakeholders. On August 1, 2019, FERC issued a public notice of the NOI Parties' intent to continue the ILP initiated by PG&E and file a final license application by April 14, 2022.

On May 13, 2020, the NOI Parties filed a Feasibility Study Report that included initial information on the proposed Regional Entity; a "Project Plan" of proposed changes to Project facilities and operations that differ significantly from that which PG&E originally proposed in its PAD; and proposed revisions to the FERC-approved study plan and two new studies to inform the proposed Project. The proposed Project includes removal of Scott Dam and restoration of the Lake Pillsbury area after all Project facilities are removed; modification of the Van Arsdale Diversion; modification of Horn Dam to improve fish passage; and a Revised Operational Plan that includes an instream flow schedule downstream of Cape Horn Dam, a seasonal Project diversion schedule, and associated changes in instream flows on the East Branch Russian River. A plan for decommissioning Scott Dam will be developed to FERC's satisfaction. Results of several studies including, but not limited to, Study AQ 1 – Hydrology, Study AQ 4 – Geomorphology, and Study AQ 12 – Scott Dam Removal will inform sediment management and restoration details of the decommissioning plan. The full breadth of potential effects associated with the removal of Scott

Dam will be evaluated once engineering and design are available, and a detailed decommissioning plan is developed. Once the Lake Pillsbury area has been restored to FERC's approval, the area would be removed from the new license, retaining in the new license only those facilities and areas that are used and useful for power generation. The NOI Parties are committed to the removal of Scott Dam as the best fish passage option into the upper Eel River, and further committed to continued diversion of Eel River water into the Russian River basin to provide a reliable water supply, hydropower generation, and other beneficial uses of water in the Russian River basin.

On July 28, 2020, FERC issued Scoping Document 3 (SD3), which invited all interested agencies, Native American tribes, non-governmental organizations, and individuals to participate in the scoping process, which identified issues, concerns, and opportunities for enhancement or mitigation associated with the NOI Parties' proposed Project facilities and operations. In its SD3 document, FERC identified Project milestones and due dates, including the filing of this Initial Study Report (ISR).

As required by 18 CFR Section 5.15(c)(1), this ISR describes the NOI Parties' "overall progress in implementing the study plan and schedule and the data collected, including an explanation of any variance from the study plan and schedule." As such, this is the status of PG&E's data collection for the studies in FERC's SPD that occurred prior to PG&E's formal withdrawal from the relicensing process (see Section 2).

In 2018, prior to withdrawal from the Project, PG&E began implementing the 21 FERC-approved study plans. This included 11 Aquatic Resources studies, two Cultural Resources studies, three Land Resources studies, three Recreation Resources studies, and two Terrestrial Resources studies. Widespread wildfires in and around the Project area in 2018 limited access to study sites and resulted in deferred and disrupted field efforts. PG&E's withdrawal in January 2019 resulted in an abrupt halt to performing the studies, some of which had been delayed due to the wildfires and resulted in studies terminated at varying levels of completion and documentation. Technical Study Summaries (TSSs) were provided by PG&E to the NOI Parties for 11 of 21 studies; however PG&E does not currently have some of the supporting data, analyses, or models for many of the studies, which remain in the possession of its contractor. Thus, without the existing supporting information in-hand, the NOI Parties have a limited ability to accurately estimate the level of effort needed to complete the studies. For some studies, the NOI Parties may need to repeat some, or all, data collection efforts if the PG&E-collected data are not available or were not collected in compliance with the SPD.

As described above, changes to the proposed Project are substantial and have meaningful implications for future Project facilities and operations, as well as the surrounding communities. The changes to the proposed Project necessitate modifications to the studies in the SPD. With the exception of Study AQ 6 – Lake Pillsbury Fish Habitat (now irrelevant under the proposed Project), the NOI Parties propose to complete the remaining FERC-approved studies, with some modifications and clarifications based on the proposed Project (see Section 2). In addition, the NOI Parties propose two new studies to fill information gaps based on the proposed Project: Study AQ 12 – Scott Dam Removal, and Study SE 1 – Socioeconomics (see Section 3). The NOI Parties

are providing proposed FERC-approved studies and new studies in Attachment 3. Modifications to the FERC-approved studies are also provided in Tracked Changes in Attachment 4.

The availability and completeness of data from FERC-approved studies initiated and then terminated by PG&E creates uncertainty in the NOI Parties' approach to complete the existing FERC-approved studies and study components. The NOI Parties are currently working with PG&E to obtain the existing study information collected by PG&E prior to terminating the FERC-approved studies that are not proposed to be modified. If the existing study information cannot be obtained within the necessary timeframe, the NOI Parties will reinitiate study implementation including field data collection. The NOI Parties will be proceeding with study implementation based on this ISR and any modifications required by FERC.

Due to the unanticipated evolution in Project history described above, changes to the timeline for performing and reporting on the studies are unavoidable. The NOI Parties are not proposing any specific changes to the study schedule at this time. Progress completing the NOI Parties' proposed studies, as approved by FERC, will be described in the NOI Parties' Updated Study Report currently scheduled to be filed with FERC by September 14, 2021. Further, while all of the studies in the NOI Parties' proposed studies, as may be approved by FERC, may not be completed by the time the NOI Parties file their Draft License Application (DLA), as stated by FERC on page 2 of its August 9, 2020, letter to the NOI Parties:

Even if all of the [study] information has not been developed by November 15, 2021, the available information included in the PLP or DLA should be sufficient for participants to comment on important issues associated with relicensing the project.

Further, results of each study will be reported in Technical Study Reports and will be distributed as soon as possible as they are completed.

The NOI Parties note that the timeline for completing studies will continue to be subject to refinement as each study progresses and anticipate working with FERC to identify a plan and schedule that will support both the NOI Parties' goals as well as a successful relicensing of the Project.

1.2 FERC Requirements for Proposed Modification to Approved Studies and New Studies

For reference, 18 CFR 5.15(d) and (e) require that any proposal for a modification to a FERC-approved study or proposal for a new study address the following criteria:

- (d) *Criteria for modification of approved study.* Any proposal to modify an ongoing study pursuant to paragraphs (c)(1)-(4) of this Section must be accompanied by a showing of good cause why the proposal should be approved, and must include, as appropriate to the facts of the case, a demonstration that:

- (1) Approved studies were not conducted as provided for in the approved study plan; or
 - (2) The study was conducted under anomalous environmental conditions or that environmental conditions have changed in a material way.
- (e) *Criteria for new study.* Any proposal for new information gathering or studies pursuant to paragraphs (c)(1)-(4) of this Section must be accompanied by a showing of good cause why the proposal should be approved, and must include, as appropriate to the facts of the case, a statement explaining:
- (1) Any material changes in the law or regulations applicable to the information request;
 - (2) Why the goals and objectives of any approved study could not be met with the approved study methodology;
 - (3) Why the request was not made earlier;
 - (4) Significant changes in the project proposal or that significant new information material to the study objectives has become available; and
 - (5) Why the new study request satisfies the study criteria in § 5.9(b).

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SECTION 2.0

Status of FERC-Approved Studies and Proposed Study Modifications

As described in Section 1, the FERC-approved studies are at various stages of implementation (Table 2-1). A few have not yet been initiated, most have achieved some collection of field data, and a few have initiated data analysis, but none have been completed through final analysis and reporting. All studies that were initiated were halted abruptly when PG&E withdrew from the relicensing process in January 2019, and several were already facing scheduling delays due to wildfires during the 2018 field season that precluded access to field sites.

The NOI Parties have proposed significant changes to the Project. However, nearly all of the FERC-approved studies are still pertinent to the newly defined Project. The NOI Parties are proposing to bring the FERC-approved studies to completion, with some modifications or refinements to address the proposed changes in Project facilities and operations, and adjustments to the timeline of when field studies, analyses, and technical reports are completed. These FERC-approved studies are the result of a rigorous public scoping and agency review process that was undertaken in 2018 by PG&E. Therefore, rather than presenting the suite of updated studies as “new studies” under 18 CFR 5.15(e), the NOI Parties propose to complete the studies as “modified studies” under 18 CFR 5.15(d). This will allow for the most appropriate and efficient process for review and input by stakeholders and allow the studies to continue as soon as feasibly possible.

Table 2-1 Status of Study Implementation and Supporting Study Information Availability for Existing FERC-approved Studies for the Potter Valley Hydroelectric Project.

	Field Data Collection Initiated ¹	Analysis and Reporting Completed ¹	Technical Study Summary Available	Study Information Available ²
FERC-approved Study Plan				
AQ 1 - Hydrology and Project Operations Modeling	Y	N	Y	P
AQ 2 - Water Temperature	Y	N	Y	P
AQ 3 - Water Quality	Y	N	Y	Y
AQ 4 - Fluvial Processes and Geomorphology	Y	N	N	Y ³
AQ 5 - Instream Flow	Y	N	Y	P
AQ 6 - Lake Pillsbury Fish Habitat	Y	N	N	N
AQ 7 - Fish Passage	Y	N	N	P ⁴
AQ 8 - Fish Entrainment	Y	N	N	N
AQ 9 - Fish Populations	Y	N	N	Y ³
AQ 10 - Special Status Amphibians and Aquatic Reptiles	Y	N	Y	P
AQ 11 - Special Status and Invasive Aquatic Mollusks	Y	N	Y	P
CUL 1 - Cultural Resources	Y	N	Y	P
CUL 2 - Tribal Resources	Y	N	N	N
LAND 1 - Roads and Trails Assessment	Y	N	Y	Y
LAND 2 - Visual Resource Assessment	N	N	N	N
LAND 3 - Hazardous Fuels Assessment	N	N	N	N
REC 1 - Recreation Facility Assessment	N	N	N	N
REC 2 - Reservoir Recreation Opportunities	N	N	N	N
REC 3 - Whitewater Boating	Y	N	Y	Y
TERR 1 - Botanical Resources	Y	N	Y	Y
TERR 2 - Wildlife Resources	Y	N	Y	P
Total Number "Ys"	17	0	11	6

Y – Yes

N – No (gray shading)

P – Partial

¹ Based in part on technical study plan status information provided by Pacific Gas and Electric Company (PG&E)

² Electronic data files, models, analyses, and reporting products; the accuracy or extent of data has not been fully assessed

³ PG&E did not provide a TSS; however, information on study implementation status is based on first-hand knowledge of Stillwater Sciences (consultant to the NOI Parties)

⁴ Available study information limited to Critical Riffle analysis

For each of the of the 21 existing FERC-approved studies, the following information is summarized below:

Status of Year-1 Study Implementation – Status information summarized below is based on the 11 TSSs provided by PG&E (see Attachment 1) or on first-hand knowledge of Stillwater Sciences (consultant to the NOI Parties). PG&E did not provide a TSS for 8 of the studies, and for some studies first-hand knowledge was unavailable to supplement available information. In these instances, a general study status was inferred from a tabular summary provided by PG&E to the NOI Parties (see Attachment 2). For all studies, PG&E’s withdrawal from relicensing resulted in a schedule variance. Additional study-specific variances are described in the summaries below.

Proposed Study Modifications – The proposed Project, which includes significant changes to Project facilities and operations, constitutes a change in the Project nexus between Project operations and effects on the resources to be studied. The proposed modifications to study plans described below are designed to fill information gaps associated with the change in nexus. These study modifications are justified because the environmental conditions under which the resources may be affected by the Project will be fundamentally different under the proposed Project. Proposed changes to the FERC-approved study plan are tracked and provided in Attachment 4.

2.1 AQ 1 – Hydrology and Project Operations

Historical data have been compiled and field data collection has been initiated for this study, but analysis, modeling, and reporting are not complete. Some, but not all, of the completed study information and data have been provided by PG&E. While data has been provided for Study AQ 1 – Hydrology and Project Operations in a raw data format, the data has not undergone quality assurance/quality control by the NOI Parties. A TSS was provided by PG&E for Study AQ 1 and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates the following status of AQ 1 study components:

- On-going Project Valley Project Monitoring Studies: Completed. Reservoir storage and streamflow gaging data collection will continue.
- Hydrology Datasets:
 - Creation of a database of historical gage data: Completed. PG&E has provided a Hec-DSS database of historical gage data.
 - Develop an unimpaired hydrology daily flow dataset: The TSS indicates partially complete. However, unimpaired flows are available for Water Year 2011 – 2017

for below Van Arsdale Reservoir, above Tomki Creek, below Tomki Creek, above Outlet Creek, below Outlet Creek, above Middle Fork of the Eel River, at Fern Bridge, at Fort Seward, and at Scotia. In addition, unimpaired inflows to the Eel River are available for the Middle Fork Eel, Outlet Creek, and Tomki Creek. The TSS includes a detailed description of the methodology used to generate these unimpaired flows.

- Climate Change Inflow Hydrology: Incomplete
 - Develop an existing operations daily flow dataset: Completed as part of the Ad-Hoc Committee process. The NOI Parties have this data from the Ad-Hoc Committee for the Water Year 2011–2017 period of record.
 - Installation of stage recorders: Completed. The Round Valley Indian Tribes, in collaboration with the U.S. Fish and Wildlife Service, have installed flow gages in the upstream Eel River, Rice Fork above Lake Pillsbury, as well as Tomki Creek. The stations also measure temperature and turbidity.
- Indicators of Hydrological Alterations or alternate: Incomplete
 - Flood Frequency: Incomplete
 - Lake Pillsbury Spills and Ramping Rates: Incomplete
 - Operations Model development, calibration, and validation: Completed. The Ad-Hoc Committee developed a HEC-ResSim model that the NOI Parties will use for operations modeling.
 - Development of Existing Operations Scenario: Completed. The Ad-Hoc Committee developed a HEC-ResSim model including an Existing Operations run for the 1911–2017 period of record that the NOI Parties will use for operations modeling.
 - Project Simulation Runs: Incomplete
 - Coordination with Sonoma County Water Agency: The TSS indicates partially complete, but as Sonoma County Water Agency is part of the NOI Parties, this will no longer be required.
 - Lower Eel River Low Flow Hydrology Analysis: The TSS indicates partially complete, but PG&E has not provided any data.

The TSS indicates three important outcomes of study implementation: daily unimpaired hydrology has been developed for the Eel River for 10 watersheds; travel time estimates have been developed for the Eel River, and these travel time estimations were used to develop the unimpaired hydrology; unimpaired flow analysis has been completed and provided in .dss format; and watershed accretions have been calculated and provided in .dss format.

Study variances that occurred during the first year of study implementation include voluntarily increasing the spatial extent of the reservoir simulation model to include the lower Eel River from

the Middle Fork Eel to the Scotia Gage (USGS 11477000), and increasing the period of record of the reservoir simulation model to include water years 1911 through 2017 (instead of 1975–2016) (Attachment 1, Table AQ 1-1).

In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose the following modifications to Study AQ 1 to address information gaps associated with the change to the proposed Project facilities and operations:

- Conduct a Hydrograph Component analysis instead of the Indicators of Hydrologic Alteration analysis for the existing, unimpaired, and Proposed Project Plan which includes Scott Dam removal.
- Conduct the flood frequency analysis for the Proposed Project Plan which includes Scott Dam removal.
- Re-evaluate ramping rates downstream of Cape Horn Dam for the Proposed Project Plan that includes Scott Dam removal.
- Modify the existing HEC-ResSim Water Balance/Operations Model to incorporate Scott Dam removal and modified Van Arsdale Diversion.
- Perform calibration and validation as necessary. Develop an operations scenario for Project operations upon Scott Dam removal.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.2 AQ 2 – Water Temperature

Historical data compilation and field data collection have been initiated for this study, but analysis and reporting are not complete. All of the completed study information and data have been provided by PG&E, but monitoring data have not undergone a quality assurance/quality control review, and in-progress data (such as water temperature models) have not been provided. A TSS was provided by PG&E for Study AQ 2 – Water Temperature and is included in Attachment 1. The TSS summarizes study status and work products, and states that the study was terminated before modeling was completed and important outcomes for the first year of study implementation could be identified. The TSS indicates the following status of AQ 2 study components:

- Ongoing Potter Valley Project Monitoring Studies: Completed. Water temperature data were collected and are provided in .csv and Excel files.
- Water Temperature Additional Data Collection: Completed. Vertical array temperature data from a location in Lake Pillsbury near Scott Dam are available for a total of 5 years from 2014 to 2018. Only 2018 data were collected as part of this relicensing effort. Due

- to high flow events the data loggers installed at the Eel River and Rice Fork inlets to Lake Pillsbury were buried in gravel bars and were not retrievable.
- **Water Temperature Data Synthesis:**
 - Database: Complete. Consolidation of existing water temperature monitoring data into a database (Excel spreadsheet or HEC-DSS) has been completed. Temperature data collected from 41 sites in the Eel River and Rice Fork above Lake Pillsbury, Eel River downstream of Lake Pillsbury, and in the East Branch Russian River is provided in Excel files attached to the TSS. Water temperature data collected by the Native Fish Society in 2015, 2016 and 2017 in the Eel River and Rice Fork above Lake Pillsbury is also provided.
 - Summarize temp data in relation to meteorological data, discharge, and storage: Incomplete
 - Analyze pool stratification: Incomplete
 - Summarize existing water temperature monitoring data and potential collection of additional data above Lake Pillsbury below anadromous fish barriers to assist in identification of potential anadromous species habitat: The TSS indicates completed.
 - **Eel River Water Temperature Modeling**
 - Developed a MET dataset for the 1999–2016 period: Completed. The TSS includes a short description of the methodology used to start generating a meteorological dataset for temperature modeling. A meteorological data set for a portion of the model time period (1999–2017 instead of 1975–2016) was completed and provided, based on Soda Creek air temperature data. The TSS also includes air temperatures collected on Lake Pillsbury and nearby at Soda Creek Forest Service Station, which PG&E intended to use to compare Soda Creek air temperatures with actual air temperatures on the lake surface and develop a relationship that would be applied to historical Soda Creek air temperature data.
 - Multiple regression approach or numerical water temperature model for the Eel River: The TSS indicates partially complete, however no model files were provided by PG&E.
 - **Lake Pillsbury Water Temperature Modeling: Incomplete**

Model development, data analysis, and data synthesis are not yet completed, and therefore study outcomes are to be determined. The TSS indicates that no study variances occurred for Study AQ 2 (Attachment 1, Table AQ 2-1). Due to high flow events the data loggers installed at the Eel River and Rice Fork inlets to Lake Pillsbury were buried in gravel bars and were not retrievable.

In addition to completing the study as described in the FERC-approved study, the NOI Parties propose the following modifications to Study AQ 2 to address information gaps associated with the change to the proposed Project facilities and operations:

- Conduct the river water temperature model to characterize water temperature conditions with Scott Dam removal and modified Van Arsdale Diversion.
- Use the river water temperature model to evaluate river water temperatures reflecting Scott Dam removal and revised Project operations for water diversion timing. Use the existing Lake Pillsbury CE-QUAL water temperature model to model different boundary conditions for with and without dam scenarios.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.3 AQ 3 – Water Quality

Field data collection has been initiated for this study, but analysis and reporting are not complete. Study information and data have been provided by PG&E. A TSS was provided by PG&E for Study AQ 3 – Water Quality and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates the following status of AQ 3 study components:

- Study Site Selection: Completed
- Seasonal Water Quality Sampling: The TSS indicates this was completed in 2018, and results are included in word document tables in the TSS. Seasonal water quality sampling was performed at five reservoir and 15 riverine sites during the spring run-off period (May 15–24, 2018) and during the summer/fall low flow period (September 18–27, 2018). Water grab samples were collected and analyzed for general chemistry, nutrients, algae, total and dissolved metals, and hydrocarbons. Attachment B to the TSS includes chains of custody and laboratory reports for seasonal and monthly Lake Pillsbury samples.
- Monthly Lake Pillsbury Water Quality Sampling: The TSS indicates this was completed in 2018, and results are included in word document tables in the TSS. Water samples and inflow data were collected once monthly in May (15–24), June (26–28), September (20–26), October (23–24), and November (13–14), 2018. Attachment B to the TSS includes chains of custody and laboratory reports for seasonal and monthly Lake Pillsbury samples.
- In Situ River Water Quality Sampling: Completed for 2018. In situ data (i.e., water temperature, DO, SpCond., pH, turbidity, chl., and BGA-PC), and inflow data were collected once monthly in May (15–24), June (26–28), September (20–26), October

- (23–24), and November (13–14), 2018. Results are included in word document tables in the TSS, as well as laboratory reports and chains of custody.
- **Bacteriological Monitoring:** Completed for 2018. Five surface water grab samples were collected within a 30-day period surrounding the July 4th holiday in 2018 at each of the bacteriological study locations. Results are included in word document tables in the TSS, as well as laboratory reports and chains of custody.
 - **Cyanobacteria and Toxins (Harmful Algal Blooms):** Completed for 2018. Surface water samples were collected monthly in June, September and October 2018 at the five cyanobacteria study locations. Results are included in word document tables in the TSS, as well as laboratory reports and chains of custody.
 - **Fish Tissue Mercury Sampling:** Completed. Thirty-two sportfish tissue samples were collected from Lake Pillsbury, and twelve Sacramento pikeminnow were collected from the Eel River and tested for mercury. Total mercury concentrations in Lake Pillsbury sportfish and Eel River Sacramento pikeminnow tissue were generally greater than 0.2 ug/g² (0.2mg/kg) wet weight. Results are included in word document tables in the TSS, but laboratory reports are only provided for sportfish tissue samples, not for the pikeminnow samples.
 - **Lake Pillsbury Water Quality Analysis:** Partially complete.
 - **Hydrogen Sulfide Analysis:** Completed. Hydrogen sulfide concentrations in Lake Pillsbury and in reservoir outflow were analyzed. Summary tables in word as well as laboratory reports are provided in the TSS.
 - **Contingency Benthic Macroinvertebrate Sampling:** Incomplete

Study variances that occurred during the first year of study implementation are described in the TSS and include variances for the following study components: Seasonal Water Quality Sampling, Monthly Lake Pillsbury Water Quality Sampling, Cyanobacteria and Toxins (Harmful Algal Blooms), and In Situ River Water Quality Sampling (Attachment 1, Table AQ 3-1). Restricted access and other safety considerations caused by wildfires resulted in data gaps during summer sampling period. Monthly Lake Pillsbury water quality, hydrogen sulfide, cyanobacteria and toxin data were not collected during July and August 2018. Algae species identification was not completed prior to January 25, 2019, the date that PG&E filed a notice with FERC stating that they would no longer be relicensing the Project. Due to PG&E's January 25, 2019 notice of withdrawal from relicensing of the Project, nutrient and in situ water quality parameters were not collected during January 2019 in Lake Pillsbury and at the Lake Pillsbury inflows and outflow. Continuous flow data collected in the Eel River and Rice Fork tributaries to Lake Pillsbury collected during 2018 was not initiated until late summer. These data were not submitted with the AQ 1 TSS or AQ 3 TSS and are currently unavailable. Continuous turbidity data collected at the Eel River below Lake Pillsbury, Eel River below Van Arsdale Reservoir, Eel River above Lake Pillsbury, and Rice Fork were not submitted with the AQ 3 TSS and are currently unavailable. DO, pH, temperature, and specific conductance data at collected for a 24-hour cycle to identify

diel water quality issues at the Eel River below Lake Pillsbury, Eel River below Van Arsdale were not submitted with the AQ 3 TSS and are currently unavailable.

The TSS indicates the following preliminary outcomes:

- Seasonal thermal stratification and hypoxia occurred in the Lake Pillsbury Arm (Site LP1) and Lake Pillsbury near Scott Dam (Site LP3) (Attachment 1, Table AQ 3-5 and Attachment A), which may have implications for the productions of hydrogen sulfide, internal cycling of algal nutrients, as well as trace metals affected by oxidation-reduction conditions.
- Total hardness and total alkalinity were greater at the Rice Fork and Eel River sites above Lake Pillsbury compared to the Lake Pillsbury, Eel River between Scott Dam and Middle Fork Eel River, and the East Branch Russian River sites (Attachment 1, Table AQ3-6).
- In Lake Pillsbury, nutrients and chlorophyll-a concentrations were highest during September and October and BOD was highest in September. Nutrient concentrations (i.e., ammonia, total Kjeldahl nitrogen, orthophosphate, and total phosphorus) were generally highest in the bottom waters at Lake Pillsbury near Scott Dam (Site LP3) (Attachment 1, Table AQ3-7).
- Aluminum (total and dissolved), arsenic (total and dissolved), barium (total and dissolved), chromium (total), cobalt (total), copper (total and dissolved), iron (total), manganese (total), mercury (total and dissolved), molybdenum (total and dissolved), nickel (total and dissolved), and zinc (total and dissolved) were detected at one or more sites within the Project Area. Of the detected metals, the concentrations were generally highest in the bottom water at Lake Pillsbury near Scott Dam (Site LP3) and Lake Pillsbury in the Eel River Arm (Site LP1) (Attachment 1, Tables AQ3-8, 9a, 9b, 10a, and 10b).
- Low levels of mercury and methylmercury concentrations were detected in all samples collected during seasonal and monthly sampling efforts. Concentrations were highest during October in the bottom waters at Lake Pillsbury near Scott Dam (Site LP3) (Table AQ3-8).
- Fecal coliforms concentrations were low (geometric mean < 20 MPN/100ml) surrounding the July 4th holiday. The concentrations were highest at Van Arsdale beach below the bridge (Site VA1) (Attachment 1, Table AQ3-13).
- Cyanobacteria toxins (i.e. total microcystins, anatoxin-a, and cylindrospermopsin) were not detected in Lake Pillsbury or in the Eel River downstream of Scott Dam to Van Arsdale Reservoir (Attachment 1, Table AQ 3-15).
- Total mercury concentrations in Lake Pillsbury sportfish and Eel River Sacramento pikeminnow tissue were generally greater than 0.2 micrograms per gram (ug/g; [0.2mg/kg]) wet weight (Attachment 1, Tables AQ3-16 and 17).

- Hydrogen sulfide gas was detected (10.2 parts per million [ppm]) during September and sulfide was quantifiable (0.16 milligrams per liter [mg/L]) during October 2018 in the hypolimnion (bottom) of Lake Pillsbury near Scott Dam (Site LP3) (Attachment 1, Table AQ3-18).

In addition to completing the study as described in the FERC-approved study, the NOI Parties propose the following modification to Study AQ 3 to address information gaps associated with the change to the proposed Project facilities and operations:

- Evaluate the effects of Scott Dam removal on water quality by using results from reference sites upstream of Lake Pillsbury as well as water temperature modeling (Study AQ 2 – Water Temperature) to infer changes to water quality parameters in the Eel River.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.4 AQ 4 – Fluvial Processes and Geomorphology

Historical data has been compiled and field data collection has been initiated for this study, but analysis and reporting are incomplete. Study information and data are available for use. PG&E did not provide a TSS for Study AQ 4 – Fluvial Processes and Geomorphology; however, information on study implementation status based on first-hand knowledge of Stillwater Sciences (consultant to NOI Parties) for specific study components is summarized below. There were no study variances for these specific study components.

- Project Related Sources of Sedimentation: Historical data synthesis and field data collection are complete and data is available, but analysis and reporting incomplete.
- Reservoir Sedimentation and Sediment Yield: Synthesis of historical information is complete and analysis is partially complete. Reporting is incomplete.
- Hydrology: Data synthesis, analysis, and reporting are incomplete. Hydrology data has been collected in a HEC-DSS database as part of the provided data for Study AQ 1 - Hydrology.
- Map Spawning Gravel and Large Woody Debris (LWD): Criteria development is complete and the majority of field data collection is complete, however, analysis and reporting are incomplete.
- Delineate Geomorphic River Reaches: reach delineation was completed, reviewed, and approved by technical work groups, and used to inform field data collection; reporting is incomplete.
- Select Intensive Geomorphic and Riparian Study Sites: Data collection is complete and available; data have not yet been summarized.

- Eel River Geomorphology and Riparian Vegetation:
 - Field data collection is complete, but analysis and reporting are incomplete for Spawning Gravel Particle Size Composition and Fine Sediment Content, Fine Sediment in Pools, Geomorphology and Bed Material, and Project Effects on Fluvial Processes, Geomorphology, and Riparian
 - Field data collection, analysis, and reporting are incomplete for Riparian Woody Vegetation.
- East Branch Russian River Geomorphology: Field data collection is complete, but analysis and reporting are incomplete.
- Large Woody Debris in Project Reservoirs and Affected River Reaches: historical data synthesis, field data collection, analysis, and reporting are incomplete.

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose the following modifications to Study AQ 4 to address information gaps associated with the change to the proposed Project facilities and operations, and to clarify study methodology:

- Develop a sediment budget that estimates average annual sediment supply rate and sediment transport capacity at key locations in the mainstem channel from Scott Dam to the Middle Fork Eel River (i.e., sediment budget nodes) and at select downstream long-term gaging sites (Dos Rios, Fort Seward, and Scotia) under existing conditions.
 - Estimate total average annual sediment yield to Lake Pillsbury based on reservoir sedimentation rates through time (1959, 1984, 2005, and 2015). Use information obtained from investigation of reservoir sediment deposits and bulk sampling of channel bed material to partition the total sediment yield into relevant grain size fractions.
 - Estimate sediment supply by relevant grain size fractions to select locations (i.e., sediment budget nodes) in affected reaches of the Eel River (Scott Dam to the Middle Fork Eel River confluence) based on reservoir sediment yield, sediment source inventories, sediment loads measured at select mainstem gaging stations, and information about the bed material grain size distribution in the mainstem Eel River and major tributaries.
 - Estimate sediment transport capacity at select locations (i.e., sediment budget nodes) in affected reaches of the Eel River (Scott Dam to the Middle Fork Eel River confluence), in coordination with hydrodynamic and sediment transport modeling conducted as part of AQ12– Scott Dam Removal Assessment.
 - Compute annual mass balance at key locations in the mainstem channel from Scott Dam to the Middle Fork Eel River (i.e. sediment budget nodes) and at select

downstream long-term gaging sites (Dos Rios, Fort Seward, and Scotia) under existing conditions.

- Identify mass wasting features and potentially unstable slopes within the rim of Lake Pillsbury.
 - Review existing bedrock and surficial geologic mapping in the vicinity of Lake Pillsbury.
 - Identify geologic map units and stratigraphic relationships that are prone to instability and/or may be destabilized by rapid reservoir drawdown.
 - Map existing and historical mass wasting features and potentially unstable slopes from available topography, LiDAR, and aerial photography.
 - Field verify mapping of mass wasting features and potential unstable slopes, as necessary and appropriate.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.5 AQ 5 – Instream Flow

Historical data has been compiled and field data collection has been initiated for this study, but analysis, reporting, and model development are not complete. Study information and data have not been provided by PG&E with the exception of the documentation of the East Branch Russian River minimum flows site visit. A TSS was provided by PG&E for Study AQ 5 – Instream Flow and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates that no study variances occurred for Study AQ 5 (Attachment 1, Table AQ 5-1) and indicates the following status of study components:

- Eel River Geomorphic Segments and Mesohabitat Mapping: The TSS indicates completed, but PG&E has not provided the data in the TSS.
- Selection of Target Species and/or Guilds: The TSS indicates this component was completed, but PG&E has not provided the data in the TSS.
 - Develop life stage periodicity chart: Incomplete
- Species and Lifestage Habitat Suitability: Partially complete, however no data was provided in the TSS.
- Instream Flow Modeling
 - Eel River 1-D PHABSIM Modeling: Partially Complete.
 - The TSS indicates that review of historical PHABSIM hydraulic modeling and cross-sections was completed, and the TSS includes plots of comparisons of

modeled to observed water surface elevations, but the raw data and model files have not been provided.

- Fish Stranding and Stage-Change / Ramping Rates: Incomplete
- Effective Spawning Habitat: Incomplete
- Eel River Juvenile Out-Migration: Incomplete
- Foothill Yellow Legged Frog (FYLF) Habitat Modeling: Incomplete
 - Selected four FYLF sites and collected data on bed geometry, substrate, and vegetation: The TSS indicates completed, but neither the selected sites nor the raw data are provided in the TSS.
 - Selected the most applicable FYLF modeling approach: Completed. The TSS indicates that 2D hydrodynamic/habitat modeling was selected in coordination with the stakeholders as the most applicable modeling approach for FYLF habitat modeling.
- Assessment of East Branch Russian River Minimum Flows: PG&E completed a site visit with stakeholders in the East Branch Russian River during summer and winter 2018 to assess minimum flows. Stakeholders agreed minimum flows provided good trout habitat and adequate for recreation (i.e. swimming). The TSS indicates that qualitative data was collected at the fish snorkeling study sites to characterize pool depth and pool-to-pool connectivity at minimum flow, but this data was not provided in the TSS.

The TSS indicates the East Branch Russian River minimum flow field visit participants all agreed that the observed flow was good for trout habitat and adequate for recreation (e.g., swimming). In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose the following modifications to Study AQ 5 to address information gaps associated with the change to the proposed Project facilities and operations:

- Run PHABSIM model for the updated hydrology scenario results (Study AQ 1 – Hydrology), developed to reflect Scott Dam removal and updated Van Arsdale Diversion. Produce time series analysis for updated hydrology and water temperature scenarios.
- Run fish stranding and stage analysis with the updated hydrology from (Study AQ 1 – Hydrology).
- Run effective spawning habitat at each instream flow study site with the updated hydrology from (Study AQ 1 – Hydrology).

See Attachment 3 for the NOI Parties’ proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.6 AQ 6 – Lake Pillsbury Fish Habitat

Field data collection has been initiated for this study, but analysis and reporting are not complete. PG&E did not provide study information, data, a TSS, or information on study variances that may have occurred during the first year implementing Study AQ 6 – Lake Pillsbury Fish Habitat.

The NOI Parties propose this study be eliminated because it is no longer pertinent under the proposed Project, which involves the removal of Scott Dam and the associated draining of Lake Pillsbury and restoration of previously inundated land. The study would provide no information in addition to existing information that would be useful in assessing Project effects for informing requirements in the new license.

2.7 AQ 7 – Fish Passage

Historical data compilation and field data collection has been initiated for this study, but analysis and reporting are not complete. Only DIDSON fish count data was provided by PG&E. PG&E did not provide a TSS for Study AQ 7 – Fish Passage or information on study variances that may have occurred during the first year of study. Additional information on study implementation status is summarized below for specific AQ 7 study components based on first-hand knowledge of Stillwater Sciences (consultant to NOI Parties) for specific study components. There were no study variances for these specific study components.

- Passage Technical Working Group: A fish passage technical working group was established.
- Critical Riffle Fish Passage: Site selection and prioritization are complete. Historical data review and synthesis, field data collection to map passage opportunities, passage criteria development, and analysis and reporting are incomplete.
- Tributary Confluence Fish Passage: Status not reported.
- Adult Anadromous Species Upstream Passage at Cape Horn Dam: Compilation, synthesis, and analysis of historical data, operational records, and other relevant information informing salmonid and lamprey passage are incomplete.
- Downstream Juvenile Anadromous Fish Species Passage at Cape Horn Dam: Historical data are available; analysis and synthesis are incomplete.
- Anadromous Fish Habitat Upstream of Lake Pillsbury:
 - Field data collection on the distribution and relative abundance of Sacramento Pikeminnow in tributaries upstream of Lake Pillsbury is complete, but analyses and reporting are incomplete.
- Mapping gravel deposits and LWD downstream of barriers: Mapping is partially complete, field verification in mapped reaches upstream of Lake Pillsbury is complete, but data analysis and reporting are incomplete.

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose the following modification to Study AQ 7 to address the removal of Scott Dam:

- Remove evaluation of options for fish passage at Scott Dam.

The NOI Parties propose the following modifications to the FERC-approved study plan to accommodate the planned redesign of fish passage facilities at Cape Horn Dam:

- Evaluate improved upstream and downstream fish passage alternatives (including conceptual designs, costs, and estimated efficacy) at Cape Horn Dam.
- Remove monitoring of adult fish passage through the ladder using video or sonar (or similar technology) at the bottom of the ladder for one season, in combination with the video camera operated by California Department of Fish and Wildlife (CDFW) at Van Arsdale Fisheries Station to identify the number of fish entering the ladder, passing through the ladder, or falling-back at the ladder (including any mortality at the ladder).
- Remove evaluations of downstream juvenile anadromous fish passage and the potential for steelhead passage injury at Cape Horn Dam.
- Eliminate installation of sonar fish counting station in the Eel River upstream of the South Fork Eel River confluence because two years of escapement information has already been collected to inform escapement levels.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.8 AQ 8 – Fish Entrainment

Historical data compilation and field data collection have been initiated for this study, but analysis and reporting are not complete. PG&E did not provide study information, data, a TSS, or information on study variances that may have occurred during the first year of implementation for Study AQ 8 – Fish Entrainment. The summary provided by PG&E (see Attachment 2) indicates the following:

- Historical and Data Compilation: Partially complete, but data has not been provided by PG&E.
- Key Decisions with Stakeholders regarding Study Elements: Complete, but documentation has not been provided by PG&E.
- Field Surveys and Data Collection: Complete, but data has not been provided by PG&E.

- Data Analysis and Synthesis: Partially complete, but data has not been provided by PG&E.
- Reporting: Incomplete

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose the following modification to Study AQ 8 to address information gaps associated with the change to the proposed Project facilities and operations:

- Evaluate potential fish entrainment risk at Van Arsdale Diversion under proposed Project operations (seasonal diversions based on the results of Study AQ 1 - Hydrology and Study AQ 5 – Instream Flow).

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.9 AQ 9 – Fish Populations

Historical data have been compiled and field data collection has been initiated for this study, but analysis and reporting are not complete. PG&E did not provide a TSS for Study AQ 9; however, available information on the study status and any variances are summarized below for specific study components based on first-hand knowledge of Stillwater Sciences (consultant to NOI Parties).

- Eel River Fish Species Composition, Distribution, Timing, and Abundance Synthesis: Initial data requests to PG&E and their contractors were made and substantial relevant data informing fish distribution, timing, and abundance was received and available to use. Additional data requests will be needed to complete task. Data compilation, synthesis, and reporting are incomplete.
- Pikeminnow (and other Predatory Fish) Suppression and Predation Hotspots: A predatory fish working group was established. Information on predatory fish suppression techniques, effectiveness, and cost has not been summarized. Field data collection, including snorkel surveys and video monitoring, and data entry for the predator hotspot surveys in the vicinity of Van Arsdale Reservoir facilities are complete and data are available for use. Data analysis and reporting are incomplete.
- Pikeminnow (and other Predatory Fish) Distribution and Relative Abundance Upstream of Lake Pillsbury: Snorkel surveys were conducted at six sites in the mainstem Eel River (including three sites upstream of Bloody Roughs), four sites in the Rice Fork, and in the lower reaches of select tributaries adjacent to study sites. Field data collection and data entry are complete. Data summary, analyses, and reporting are incomplete.

- Lake Pillsbury Fish Species Composition, Relative Abundance, and Size: Field data collection and data entry complete and data are available. Gillnetting was conducted at five sites, boat electrofishing at seven sites, and minnow trapping at six sites in Lake Pillsbury. Data summary, analysis, and reporting are incomplete.
- East Branch Russian River Fish Population Characterization: Field data collection and data entry are complete. Snorkel surveys, habitat type classification, trout spawning gravel surveys, and large woody debris surveys were conducted at two sites, one representative of the upper, low-gradient valley sub-reach and one representative of the lower, higher-gradient, and confined sub-reach. Data summary, analysis, and reporting are incomplete.
- Conceptual Life Cycle Model and Analysis Framework for Anadromous Salmonids: Status not reported.

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. Study variances for the Pikeminnow (and other Predatory Fish) Suppression and Predation Hotspots include (1) conducting snorkel surveys in mid-July rather than snorkeling as soon as water clarity allows in the late spring/early summer, and (2) underwater camera use to survey some infrastructure that could not be conducted safely by snorkeling. A study variance for the Lake Pillsbury Fish Species Composition, Relative Abundance, and Size was that fin clips of rainbow trout were not collected as specified in the study methods because no trout were captured during sampling.

In addition to completing the study as described in the FERC-approved study plan, the NOI Parties following modification to Study AQ 9 to address information gaps associated with the change to the proposed Project facilities and operations:

- Develop a conceptual model for effective pikeminnow suppression that integrates their life history, habitat requirements, and distribution with those of salmonids, Pacific Lamprey, and Sacramento Suckers to identify prey vulnerabilities and predator hot spots.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.10 AQ 10 – Special Status Amphibians and Aquatic Reptiles

Historical data has been compiled and field data collection has been initiated for this study, but analysis and reporting are not complete. A TSS was provided by PG&E for Study AQ 10 – Special Status Amphibians and Aquatic Reptiles and summarizes study status, work products, and important outcomes for the first year of study implementation (see Attachment 1). The TSS indicates the following status of study components:

- Foothill Yellow-Legged Frog
 - Study Sites: Completed. Maps are provided showing survey locations, but not sites selected for habitat modeling.
 - Habitat Characterization: Completed. All breeding sites (i.e. cobble bars, pool tail outs, etc.) where egg masses were found were geolocated. At four breeding sites in the Eel River, channel topography was surveyed and individual egg mass locations were mapped so that flow habitat relationships could be modelled. The TSS includes the specific locations (latitudes and longitudes) where breeding and oviposition were observed in each study reach and the depth and velocities measured at each clutch in summary word files (Appendix A), but raw data files have not been provided.
 - Distribution and Abundance Surveys: Completed. At least two surveys for breeding in spring (April–early June) were conducted at each study site. Surveyed hatchling quadrat and tadpole data are presented in the TSS. One survey for metamorphosed young of the year was conducted in late summer/early fall at each study site. The TSS provides observed clutch data, hatchling quadrat and tadpole data, and young data in summary tables, but raw data files have not been provided.
 - Timing and Length of Breeding Season: The TSS indicates completed, but no summary synthesis data included in the TSS. Initiation and duration of breeding in the Project area was monitored by searching for eggmasses on the margins of the channel for approximately 1 km in each study reach. At least two surveys for breeding in spring (April–early June) were conducted at each study site.
 - Coordination to Determine Stage, Velocity, and Temperature Effects: Incomplete
 - Coordination with Geomorphological Studies: Incomplete
- Western Pond Turtle (WPT)
 - Study Sites: Completed. Maps are provided showing survey locations, but sites selected for habitat modeling are not shown.
 - Habitat Characterization: The TSS indicates completed, but no geographic information system (GIS) map of WPT nesting habitat locations was provided in the TSS.
 - Distribution and Abundance Surveys: Completed. WPT surveys were conducted by boat and potential nesting habitat was evaluated by hiking up hillslopes. In addition, protocol level visual encounter surveys were conducted in the spring summer and fall. The TSS includes summary tables of WPT observations from surveys as well as incidental observations of other amphibians and reptiles, but raw data files have not been provided.
 - Water Temperature: Incomplete

The TSS indicates the following preliminary outcomes:

- FYLF abundance was greatest upstream of Lake Pillsbury in the Rice Fork Eel River reference site.
- Among the Project reaches, there was a sizeable population of frogs in the vicinity of Benmore Creek and they bred in the mainstem Eel as well as in the tributary. However, conditions in the Eel River appear to be not conducive for rapid larval development. This was supported by the observation that more than three fourths of the young of the year identified at that site were still tadpoles by the third week of September in 2018.
- FYLF were present and breeding in the East Branch Russian River, but at very low densities compared to East Branch tributaries such as Mewhennie Creek.
- Where bullfrogs and Sacramento Pikeminnow were observed, FYLF were sparse or absent, even in free-flowing tributaries such as Tomki and Outlet Creeks.
- Disturbance and trampling of egg masses and larvae was observed at the breeding sites in the vicinity of Van Arsdale Bridge, an area which is heavily used by recreation visitors.
- At least in the short term, FYLF appear to be resilient to the effects of wildfire. Many adults and metamorphs were observed in heavily burned areas in the immediate aftermath of the wildfire. Continued monitoring would be required to determine if post fire changes to the river channels due to sediment inputs will have a time-lagged impact on their populations.
- WPT were found throughout a majority of the Project area. Hatchlings and small juveniles were found in several of the tributaries and along the southern margins of Lake Pillsbury. WPT were absent from the northern survey site of Lake Pillsbury.

No variances were reported for Study AQ 10 (Attachment 1, Table AQ 10-1), apart from vandalized or looted temperature loggers. The FERC-approved study plan needs to be completed; minor refinements were made to the nexus statement for clarification. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.11 AQ 11 – Special Status and Invasive Aquatic Mollusks

Field data collection has been initiated for this study, but analysis and reporting are incomplete. Some but not all study information and data have been provided by PG&E, with missing data including environmental DNA (eDNA) and ongoing mussel monitoring results. A TSS was provided by PG&E for Study AQ 11 – Special Status and Invasive Aquatic Mollusks and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation. The TSS indicates the following status of AQ 11 study components:

- Ongoing Potter Valley Project Invasive Mussel Monitoring Studies: Completed. PG&E conducts an ongoing Quagga/Zebra Mussel Prevention Program for Lake Pillsbury, which began in 2009. Monitoring is performed monthly between May and October as weather and road conditions permit. The monitoring includes shoreline surveys, inspection of artificial substrate (settling plates), vertical plankton tows, and in-situ water quality (temperature, pH, and dissolved oxygen). Results are reported under PG&E's Invasive Mussel Monitoring program.
- Special Status Aquatic Mollusk Study Sites: Completed. The study sites for special-status aquatic mollusks were co-located with the FYLF sampling sites in Study AQ 10, and the TSS includes a table with these site coordinates, although a GIS file is not included.
- Special-Status Aquatic Mollusks Sampling: Completed. Physical habitat characteristics were collected (mesohabitat type, water temperature, substrate composition, water velocity, and estimated channel gradient, width, and mean depth) at each study site. Field data collection for mollusks was completed at all sites during September 18–22, 2018. Data is provided in the TSS in summary tables, but raw data files have not been provided.
- Environmental DNA: eDNA samples were collected at three locations (Lake Pillsbury, Eel River below Lake Pillsbury, and Eel River below Van Arsdale Reservoir) to detect presence of special-status mollusks for which DNA primers are available. eDNA samples were in the process of being analyzed when work on this project was stopped. Therefore, eDNA results are not provided in this report.

The TSS indicates the following preliminary outcomes:

- *Margaritifera falcata* was the only mollusk with special-status designation that was observed in the Study Area. The current California Natural Diversity Database (CNDDDB) status rank for *Margaritifera falcata* is S1S2, which indicates that the species is imperiled to critically imperiled in California (CDFW 2018). Suitable habitat for *Margaritifera falcata* was present in the East Branch Russian River and in the Scott Dam to Van Arsdale Reach of the Eel River. Flow in the Eel River from Cape Horn Dam to the Middle Fork appeared to be too low relative to the channel width to provide adequate current required for *Margaritifera falcata* to respire and feed.
- The invasive Asian clam (*Corbicula fluminea*) was present throughout the Project-affected river reaches and the invasive New Zealand mud snail (*Potamopyrgus antipodarum*) was present at the lower East Branch Russian River site. The potential for spread of both species into Lake Pillsbury and other waters within and outside of the Study Area is high.

No study variances were reported for Study AQ 11 (Attachment 1, Table AQ 11-1). The FERC-approved study plan needs to be completed; minor refinements were made to the nexus statement

for clarification. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.12 CUL 1 – Cultural Resources

Field data collection has been initiated for this study and the cultural resources inventory is complete, but field data collection, analysis, and reporting are incomplete. A TSS was provided by PG&E for Study CUL 1 – Cultural Resources and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation. The TSS for Study CUL 1 indicates the following status of study components:

- Establish Area of Potential Effects (APE): Completed. Map included in TSS, and GIS files have been provided.
- Previous Studies and Site Records: Completed. Adobe files of both new and updated site records have been provided in the TSS.
- Archival Research: Completed. A summary of the references that were compiled and reviewed for archival research is included along with a brief memo documenting how the archival research was completed.
- Field Surveys: Completed. The TSS identifies on a map which areas had a complete survey, a general survey, or which areas were not surveyed due to site constraints.
- Built Environment Inventory: Complete. A list of archaeological resources is included in the TSS along with resources potentially affected by Project-related operation and maintenance activities.
- National Register of Historic Places and California Register of Historical Resources Evaluations: Incomplete. A table is included in the TSS that identifies all resources and their National Register of Historic Places current eligibility status, as well as site records and condition assessments. In addition, consultation with the State Historic Preservation Officer as well as Native American tribes and the Mendocino National Forest was conducted and documentation is included in the TSS.

The TSS indicates the following preliminary outcomes:

- The cultural resources inventory for the proposed APE is complete.
- The next steps in the study are to: (1) identify resources that could potentially be affected by Project-related operation and maintenance activities; and (2) evaluate those resources to determine if they are eligible for the National Register of Historic Places and the California Register of Historical Resources.

Study variances that occurred during the first year of study implementation are described in the TSS and include variances for Record Search and Literature Review Area and Schedule (year -1)

study components (Attachment 1, Table CUL1-1). Variances included expanding the records search and literature review to ½ mile radius around the APE, per the State Historic Preservation Office's (SHPO) request, as well as conducting the archaeological field surveys in December 2018 instead of August–November 2018 due to the Ranch Fire.

In addition to completing the study as described in the FERC-approved study, the NOI Parties propose to re-consult with the tribes, U.S. Forest Service (USFS), and SHPO regarding the appropriateness of the APE for identification of historic properties with respect to the proposed Project. Additionally, the following modifications to Study CUL 1 are proposed to address information gaps associated with the change to the proposed Project facilities and operations:

- Include inundated Lake Pillsbury lands in the APE description.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.13 CUL 2 – Tribal Resources

Field data collection has been initiated for this study, but analysis and reporting are not complete. PG&E did not provide study information, data, a TSS, or information on study variances for Study CUL 2 that may have occurred during the first year of study. The summary provided by PG&E (see Attachment 2) indicates the following:

- Historical and Data Compilation: complete, but data has not been provided by PG&E
- Key Decisions with Stakeholders regarding Study Elements: complete, but no documentation has been provided
- Field Surveys and Data Collection: complete, but data has not been provided by PG&E
- Data Analysis and Synthesis: incomplete
- Reporting: incomplete

Data analysis and synthesis are not yet completed, and therefore study outcomes are to be determined. In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose to re-consult with SHPO regarding the appropriateness of the APE and contextual study area for identification of Traditional Cultural Properties with respect to the proposed Project. Additionally, the following modifications to Study CUL 2 are proposed to address information gaps associated with the change to the proposed Project facilities and operations:

- Include inundated Lake Pillsbury lands in the APE description.
- Expand the contextual study area to include the Eel River between Cape Horn Dam and the mouth of the river at the Pacific Ocean.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.14 LAND 1 – Road and Trails Assessment

Historical data compilation was in progress and field data collection has been initiated for this study, but analysis and reporting are not complete. Study information and data have been provided by PG&E, except for in-progress data such as identifying current maintenance agreements and water quality Best Management Practices. A TSS was provided by PG&E for Study LAND 1 and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates the following status of LAND 1 study components:

- **Road Condition Assessment:** Current maintenance levels and standards for all Project Facility Access Roads and Recreation Facility Access Roads were identified in consultation with the USFS and Lake and Mendocino County road specialists, assessed the current condition of Project Facility Access Roads and Recreation Facility Access Roads relative to prescribed maintenance level and standards, and photographed and located road features using a GPS system and incorporated data into a GIS database for mapping. Data has been provided including in raw data format (GIS). Incomplete elements include mapping the location of environmental and/or cultural resources that may occur along roads.
- **Trail Condition Assessment:** Completed except for mapping the location of environmental and/or cultural resources that may occur along trails. Data has been provided including in raw data format (GIS).
- **Maintenance and Use Characterization:** Partially complete. Identified and characterized PG&E's maintenance practices and activities and characterized PG&E's and the public's use of Project roads and trails, including season of use and level of use. Data were provided in the TSS. However, collecting current maintenance agreements and water quality Best Management Practices were partially complete and so that data has not been provided.
- **User-Created Roads and Trails:** Incomplete

The TSS indicates the following preliminary outcomes:

- With two exceptions, all the Project Facility Access Roads that were surveyed as part of this effort are in "good" condition. Scott Dam Road is in "fair" condition due to thinning aggregate and vegetation encroachment. The surface of the Gage E2 Access Road is in poor condition with broken asphalt and deep, extensive rutting. The Gage E2 Access Road surface should be repaired to avoid continued erosion and deterioration.

- With two exceptions, all the Project Recreation Facility Access Roads that were surveyed as part of this effort are in “good” condition and all of meet or exceed USFS objective maintenance levels.
 - Oak Flat Campground Road was rated as being in “fair” condition due to worn chip seal and loose aggregate.
 - The Pillsbury Pines Day Use Area and Boat Launch Access Road was rated as being in “fair” condition due to the presence of potholes and cracking. In addition, a portion of the loop segment of the road is experiencing excessive erosion. Specifically, the edge of the road has been undermined, eroding the road base resulting in failure of the road surface. At the time of the surveys, this portion of the loop was barricaded to prohibit access. This segment should be repaired as soon as possible to arrest continued degradation of the road and to avoid sedimentation into the lake.
 - The two Project trails were rated as being in “fair” condition due to erosion, steep slopes and vegetation encroachment.
 - The two Project Recreation trails were rated as being in “fair” condition due to erosion, steep slopes and vegetation encroachment. Neither trail meets accessibility requirements.

The TSS indicates that no study variances occurred during the first year of study implementation. The FERC-approved study needs to be completed; minor refinements were made to the nexus statement for clarification. See Attachment 3 for the NOI Parties’ proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.15 LAND 2 – Visual Resource Assessment

While historical data have been compiled, field data collection has not been initiated for this study, and analysis and reporting are not complete. PG&E did not provide a TSS or study information and data, if available, for Study LAND 2 or information on study variances that may have occurred during the first year of study. The summary provided by PG&E (see Attachment 2) indicates the following:

- Historical and Data Compilation: complete, but data has not been provided by PG&E
- Key Decisions with Stakeholders regarding Study Elements: complete, but no documentation has been provided by PG&E
- Field Surveys and Data Collection: incomplete
- Data Analysis and Synthesis: incomplete
- Reporting: incomplete

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose to characterize changes in landscape character under Scott Dam removal and post-dam viewsheds once engineering and design and a decommissioning plan are further developed. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.16 LAND 3 – Hazardous Fuels Assessment

While historical data have been compiled, field data collection has not been initiated for this study, and analysis and reporting are not complete. PG&E has not provided a TSS or study information and data, if available, for Study LAND 3 or information on study variances that may have occurred during the first year of study. The summary provided by PG&E (see Attachment 2) indicates the following:

- Historical and Data Compilation: complete, but data has not been provided by PG&E
- Key Decisions with Stakeholders regarding Study Elements: incomplete
- Field Surveys and Data Collection: incomplete
- Data Analysis and Synthesis: incomplete
- Reporting: incomplete

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. In addition to completing the study as described in the FERC-approved study plan, the NOI Parties propose the following modification to Study LAND 3 to address information gaps associated with the change to the proposed Project facilities and operations:

- Identify alternative water drafting sites in the Study Area that might be used for fire suppression in the absence of Lake Pillsbury.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.17 REC 1 – Recreation Facility Assessment

Historical data compilation was in progress, field data collection has not been initiated for this study, and analysis and reporting are not complete. PG&E has not provided a TSS or study information and data, if available, for Study REC 1 or information on study variances that may have occurred during the first year of study. The summary provided by PG&E (see Attachment 2) indicates the following:

- Historical and Data Compilation: partially complete, but data has not been provided by PG&E
- Key Decisions with Stakeholders regarding Study Elements: partially complete, but documentation has not been provided by PG&E
- Field Surveys and Data Collection: incomplete
- Data Analysis and Synthesis: incomplete
- Reporting: incomplete

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. The FERC-approved study plan needs to be completed. The NOI Parties do not propose any modifications to Study REC 1. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.18 REC 2 – Reservoir Recreation Opportunities

Field data collection has not been initiated for this study, and analysis and reporting are not complete. PG&E has not provided a TSS or study information and data, if available, for Study REC 2 or information on study variances that may have occurred during the first year of study. The summary provided by PG&E (see Attachment 2) indicates the following:

- Key Decisions with Stakeholders regarding Study Elements: partially complete, but documentation has not been provided by PG&E
- Field Surveys and Data Collection: incomplete
- Data Analysis and Synthesis: incomplete
- Reporting: incomplete

Data analysis and data synthesis are not yet completed, and therefore study outcomes are to be determined. The FERC-approved study needs to be completed; minor refinements were made to the nexus statement for clarification. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.19 REC 3 – Whitewater Boating

Historical data has been compiled and field data has been collected and analyzed, but reporting is not complete. Study information and data have been provided by PG&E, including the results of interviews and a focus group session, and hydrology data from Study AQ 1. A TSS was provided by PG&E for Study REC 3 and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates the following status of REC 3 study components:

- Hydrology Assessment: Mapping of stream gaging stations, hydrology summary, description of how existing operations modify flows, and a summary of water surface elevations were completed based on data from Study AQ 1 - Hydrology. This data is provided with the TSS for Study AQ 1.
- Interviews and Focus Group Session: Complete. The TSS for Study REC 3 includes meeting materials from the Whitewater Boating Focus Group Session and interviews on October 29, 2018, and a map showing the four runs considered in the study.
- Site Visit: Incomplete
- Potential Whitewater Boating Flow Study(s) – Contingency Study: Determined not needed.

The TSS indicates the following preliminary outcomes:

- As documented in the meeting notes (Attachment A), the Whitewater Boating Focus Group Meeting participants determined that a site visit would be necessary to assess access conditions at the following locations: put-in at Benmore Creek; take-out at Bucknell Creek; and put-in below Cape Horn Dam. The site visit was not conducted.
- The TSS indicated that a whitewater boating flow study may be conducted, pending the results of the Whitewater Boating Focus Group Meeting and site visit. However, as documented in the meeting notes (Attachment A), the Focus Group participants collectively agreed that a whitewater boating flow study was not necessary.

The TSS lists and describes one study variance that occurred during the first year of study implementation for the Extent of Study Area (Attachment 1, Table REC 3-1); to expand the study area to include the East Branch Russian River from Three Rocks Falls to Lake Mendocino (referred to as the East Branch Run) after the boaters identified this run during the research phase of the study and because the Project influences flows on this run. The Whitewater Boating Focus Group determined that a site visit to evaluate access is needed, whereas a whitewater flow study is not necessary. The FERC-approved study needs to be completed; minor refinements were made to the nexus statement for clarification. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.20 TERR 1 – Botanical Resources

Historical data have been compiled and field data collection has been initiated for this study, but analysis and reporting are not complete. A TSS was provided by PG&E for Study TERR 1 and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates the following status of TERR 1 study components:

- Vegetation Community Mapping: Completed except for summary reporting and analysis. Data is available.

- Riparian and Wetland Surveys: Completed except for summary reporting and analysis. Data is available.
- Special-Status and Invasive Plant Surveys: Completed except for analysis and reporting. The TSS includes a list of the special-status species that have the potential to occur in the area from CNDDDB, the study area that was surveyed, a list of the special-status plants identified, and shapefiles of special-status plant populations.

The TSS indicates the following preliminary outcomes:

- Four special-status plants (i.e., *Calystegia collina* subsp. *tridactylosa* [three-fingered morning-glory], *Erigeron greenei* [Greene's narrow-leaved daisy], *Hesperolinon adenophyllum* [glandular western flax] and *Sulcaria badia* [groovy beard lichen]) were documented in the Study Area during the 2018 botanical surveys.
- Measures to avoid special-status plants within the Study Area during work activities should be followed, including conducting pre-activity surveys and flagging special-status plant species for avoidance prior to work commencing. In addition, all work should remain within the identified work area, existing roads, foot paths, or other paved areas. Detailed mitigation measures should be developed for any special-status plants where avoidance is not feasible.

The TSS indicates that no study variances occurred during the first year of study implementation (Attachment 1, Table TERR 1-1). The FERC-approved study needs to be completed; minor refinements were made to the nexus statement for clarification. See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

2.21 TERR 2 – Wildlife Resources

Historical data have been compiled and field data collection has been initiated for this study, but analysis and reporting are not complete. Most of the study information and data have been provided by PG&E. A TSS was provided by PG&E for Study TERR 2 – Wildlife Resources and is included in Attachment 1. The TSS summarizes study status, work products, and important outcomes for the first year of study implementation and indicates the following status of TERR 2 study components:

- Special-Status Wildlife: Surveys were completed, but a list of special-status wildlife potentially occurring is outstanding. Survey results and mapping are included in the TSS, including raw data files (GIS format).
- Special-Status Birds
 - Northern Goshawk and Northern Spotted Owl: Surveys and preliminary nesting / roosting habitat mapping was completed, but analysis of ground-truth surveys and developing a final map is outstanding. Survey results and mapping are included in the TSS, including raw data files (GIS format).

- Bald Eagle: Nesting survey synthesis and mapping was completed. A final map is outstanding. Survey results and mapping are included in the TSS, including raw data files (GIS format).
- Special-Status Furbearers: Preliminary mapping and surveys were completed, but analysis of survey results and developing a final map is outstanding. Survey results and mapping are included in the TSS, including raw data files (GIS format).
- Special-Status Bats: Visual assessment and Acoustic sampling was completed. Note that mist net sampling was not conducted because bat species were adequately identified during the visual assessment and acoustic sampling. Survey results are included in the TSS, including raw data files.
- Tule Elk: Vegetation sampling along three representative tule elk foraging transects was completed, but characterization and analysis of potential tule elk foraging habitat along the Lake Pillsbury shoreline is outstanding. Survey results are included in the TSS, including raw data files.

The TSS indicates the following preliminary outcomes:

- Resource agency approval of habitat criteria and detailed survey methodology for northern spotted owl nesting/roosting habitat, northern goshawk nesting habitat, fisher denning habitat and pacific martin denning habitat
- Resource agency approval of tule elk forage characterization vegetation sampling transect locations and detailed survey methodology

The TSS indicates that no study variances occurred during the first year of study implementation (Attachment 1, Table TERR 2-1). In addition to completing the FERC-approved study, the NOI Parties propose the following modification to Study TERR 2 to address the removal of Scott Dam and associated draining of Lake Pillsbury:

- Propose consultation with resource agencies to determine appropriate modifications to existing methodologies for an evaluation of Tule Elk habitat under the proposed removal of Scott Dam and Lake Pillsbury.

See Attachment 3 for the NOI Parties' proposed study plan and Attachment 4 for the FERC-approved study with changes tracked.

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SECTION 3.0

Proposed New Studies

As described in Section 1, the proposed Project, which includes removal of Scott Dam, necessitates new studies as justified under 18 CFR 5.15 (e). The removal of Scott Dam and the associated release of sediment from Lake Pillsbury would have effects on downstream riverine ecology and infrastructure. Additionally, the changes to Project infrastructure and operations, may have socioeconomic effects on the communities in the two basins. Therefore, the NOI Parties are proposing two new studies: Study AQ – 12 Scott Dam Removal, and Study SE – 1 Socioeconomics. These two new studies are summarized in the subsections below and provided in Attachment 3.

3.1 AQ 12 – Scott Dam Removal

The NOI Parties propose a new study (AQ 12 – Scott Dam Removal) to evaluate the potential effects of Scott Dam removal, including (1) the geomorphic and ecological tradeoffs of different approaches to Scott Dam removal and associated sediment management; (2) revegetation in the Lake Pillsbury footprint; and (3) effects on downstream riverine ecology and infrastructure. There are approximately 21 million cubic yards of sediment stored in Lake Pillsbury, of which approximately 12 million cubic yards are considered susceptible to mobilization and transport downstream as Scott Dam is removed. Transport and deposition of this sediment will have downstream effects which will need to be considered, and several data collection efforts are necessary to allow future analysis of effects. As the Project has changed to include Scott Dam removal since FERC’s approval of the original study plans, there are additional effects to consider that were not included in the FERC-approved studies. Accordingly, the goals of this new study – analyzing Scott Dam removal - cannot be met using the FERC-approved study methodology from Study AQ 4 – Fluvial Processes and Geomorphology.

Potential information gaps include information about the geotechnical, physical, and chemical properties of sediment deposits in Lake Pillsbury; timing and volume of erosion, and downstream deposition of those sediments; downstream suspended sediment concentrations associated with dam removal and reservoir sediment erosion and transport; the potential for sedimentation or erosion to affect downstream facilities including the Van Arsdale Diversion infrastructure, Cape Horn Dam fish ladder; other downstream surface water diversions, or other infrastructure facilities; and the potential for the draining of Lake Pillsbury to affect groundwater wells of adjacent properties. To address this, Study AQ 12 – Scott Dam Removal includes developing a hydrodynamic and sediment transport model, sediment supply computations, suspended sediment concentration calculations, and modeling of anticipated changes in channel morphology. Detailed modeling around key infrastructure will allow assessment of sediment impacts on that infrastructure. Study AQ 12 will include data collection on available groundwater well locations to inform future analysis of potential effects of the proposed Project. Finally, the draining of Lake

Pillsbury will change the physical and vegetative landscape within the Lake Pillsbury inundation zone, and data collection is necessary to inform restoration. Data to be collected includes existing conditions data regarding sediments (grain size, volumes, depths), summarizing sediment and revegetation management efforts from other dam removal activities, and revegetation information needs (solar radiation, seedbank, height of vegetation above water, riparian phenology data, and pre-dam vegetation conditions). More detail can be found in Attachment 3.

3.2 SE 1 – Socioeconomics

The NOI Parties propose a new study (SE 1 – Socioeconomics) to evaluate the socioeconomic effects of Scott Dam removal on communities and economic resources near the Eel River and Russian River, specifically Eel River from Scott Dam to Van Arsdale Reservoir, Eel River from Cape Horn Dam to Middle Fork Eel River, Middle Fork Eel River to the Pacific Ocean, East Branch Russian River from Potter Valley Powerhouse Tailrace to Lake Mendocino, and Lake Mendocino to the Pacific Ocean. Potential resource issues evaluated by this study include the direct value of changes in the base case and the proposed Project on the direct and indirect effects of water resources and associated effects on the wider economy, including but not limited to changes in water supply, flood hazard reduction, fisheries, other recreation (non-fishing), property, tribal interests beyond fisheries (non-fishing), and infrastructure construction. More detail can be found in Attachment 3.

SECTION 4.0

Initial Study Report Meeting

Pursuant to FERC's ILP regulations, the NOI Parties will hold a meeting with interested parties and FERC staff within 15 days following the filing of this ISR. The purpose of this meeting is: (1) for the NOI Parties to answer questions about the results and status of the relicensing studies as described in this ISR; (2) for the NOI Parties to answer questions concerning their proposed study modifications and new studies; and (3) to discuss the proposals of other Relicensing Participants, if any, to modify or add to the studies in the SPD.

The Relicensing Participants agreed the NOI Parties will hold the ISR meeting as follows:

DATE: Tuesday, September 29, 2020

TIME: 9:00 am – 4:00 pm

LOCATION: Please register in advance for this webinar:
https://cbuilding.zoom.us/webinar/register/WN_z53eSlqNSVG5KU-UI3Jsow

After registering, you will receive a confirmation email containing information about joining the webinar.

A draft meeting agenda is provided below:

Welcome, Introductions and Background

ISR Overview

Study Plan Introduction

Sediment:

- AQ 4: Fluvial Processes and Geomorphology
- AQ 12: Dam Removal

Break

Socioeconomics:

- SE 1 - Socioeconomics

Water Quantity and Quality:

- AQ 1: Hydrology
- AQ 2: Water Temperature
- AQ 3: Water Quality
- AQ 5: Instream Flow

Lunch

Fisheries:

- AQ 7: Fish Passage
- AQ 8: Fish Entrainment
- AQ 9: Fish Populations

Other Aquatic Species:

- AQ 10: Special Status Amphibians and Aquatic Reptiles,
- AQ 11: Special Status and Invasive Aquatic Mollusks

Cultural Resources:

- CUL 1: Cultural Resources
- CUL 2: Tribal Resources

Break

Land:

- LAND 1: Roads and Trails Assessment
- LAND 2: Visual Resource Assessment
- LAND 3: Hazardous Fuels Assessment

Recreation:

- REC 1: Recreation Facility Assessment
- REC 2: Reservoir Recreation Opportunities
- REC 3: Whitewater Boating

Terrestrial Resources:

- TERR 1: Botanical Resources
- TERR 2: Wildlife Resources

Conclusion and Next Steps

Adjourn

Within 15 days following the ISR meeting, the NOI Parties will file a meeting summary with FERC. The summary will highlight the topics discussed at the meeting and identify changes, if any, to the studies the NOI Parties propose in the ISR. The meeting summary is not intended to be a meeting transcript or to characterize each Relicensing Participants' position on a topic.

SECTION 5.0

References

PG&E (Pacific Gas and Electric Company). 2017. Pre-Application Document. Volume I: Public Information, Sections 1-7. April.

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