



Pit 1 Hydroelectric  
Project 401 Water  
Quality Certification  
Amendment

Federal Energy  
Regulatory  
Commission Project  
No. 2687

Final Environmental  
Impact Report

State Clearinghouse  
No. 2013052053

June 2021



## Document Information

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Amendment

                                 Federal Energy Regulatory Commission Project No. 2687  
                                 Final Environmental Impact Report  
                                 State Clearinghouse No. 2013052053

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## Acronyms & Abbreviations

ADA	Americans with Disabilities Act
ARPA	Archaeological Resources Protection Act
BAOT	boats at one time
Basin Plan	Water Quality Control Plan for the Sacramento River and San Joaquin River Basins
Basin Plans	water quality control plans
BLM	Bureau of Land Management
California Parks	California Department of Parks and Recreation
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
Certification	Section 401 Water Quality Certification
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CNPS	California Native Plant Society
CRHR	California Register of Historic Resources
CWA	Clean Water Act
DHS	Department of Health Services
DO	Dissolved Oxygen
DWR	Department of Water Resources
EIR	Environmental Impact Report
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
MMRP	Mitigation Monitoring and Reporting Program
msl	mean sea level
MW	megawatts
MWh	megawatts per hour

NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Protection Act
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PAOT	persons at one time
PG&E	Pacific Gas and Electric Company
pH	potential of hydrogen
Pit 1 Project	Pit 1 Hydroelectric Project, FERC Project No. 2687
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	California Public Resources Code
QA/QC	quality assurance and control
Regional Water Boards	Regional Water Quality Control Boards
RWDs	Reports of Waste Discharge
SCH	State Clearinghouse and Planning Unit
State Water Board	State Water Resources Control Board
TMDL	total maximum daily load
TRC	Technical Review Committee
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDRs	waste discharge requirements

## Final Environmental Impact Report and Responses to Comments

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This Final Environmental Impact Report (EIR) has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] § 21000 et seq.) and the CEQA Guidelines (California Code of Regulations [CCR] § 15000 et seq.). The Final EIR includes the following:

- **Responses to Comments on the Recirculated Draft EIR** – Appendix G, Final Environmental Impact Report Responses to Comments, Table RTC-1, lists the commenters, provides a summary of enumerated comments received on the Recirculated Draft EIR, and the State Water Resources Control Board (State Water Board) responses to these comments.
- **EIR Clarifications and Modifications** – The Final EIR is provided in its entirety with changes made in responses to comments. There were no changes to the document that constitute a significant change or significant new information. Therefore, no recirculation is required for this Final EIR.



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## Executive Summary

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### Introduction and Background

The Pacific Gas and Electric Company's (PG&E) Pit 1 Hydroelectric Project (Pit 1 Project), Federal Energy Regulatory Commission (FERC or Commission) Project No. 2687, is located on the Pit and Fall Rivers near the communities of Fall River Mills and McArthur in northeastern Shasta County, California (Figure ES-1).

The Commission issued a new license in March 2003 to PG&E for the continued operation of the Pit 1 Project. The license incorporates the State Water Resources Control Board's (State Water Board) Clean Water Act (CWA) Section 401 Water Quality Certification (certification) (33 U.S.C. § 1341) issued by the Executive Director of the State Water Board on December 4, 2001. Pursuant to the new license and certification, PG&E implemented required summer flushing flows between 2003 and 2009 to control the growth of aquatic vegetation and mosquito production on Fall River Pond and monitored surface aquatic vegetation on Fall River Pond from 2005 through 2016.

As required by Condition 14 of the certification, PG&E monitored surface aquatic vegetation and mosquito production on Fall River Pond from 2005 through 2009. Monitoring data since 2005 showed that summer flushing flows were not needed for the control of aquatic vegetation or mosquito production in Fall River Pond because the increased continuous minimum instream flows implemented pursuant to the certification had been controlling the nuisance aquatic vegetation, which in turn controls mosquito production by limiting breeding habitat.

In May 2009, the United States Fish and Wildlife Service (USFWS) expressed concern regarding a decline in endangered Shasta crayfish (*Pacifastacus fortis*) in the Pit 1 Bypass Reach, and PG&E subsequently requested a suspension of the 2009 summer flushing flows at the Pit 1 Project. PG&E was notified that before an amendment of the certification could be considered, the State Water Board must comply with the California Environmental Quality Act (CEQA). Since 2010, FERC and the State Water Board have annually approved the temporary suspension of summer flushing flows as a precaution while the State Water Board completed the necessary CEQA environmental analysis and documentation. The State Water Board concluded that significant effects will not occur from the temporary suspension of summer flushing flows for a limited period.

Amending the certification to (a) permanently remove from the existing certification the requirement for summertime flushing flows and (b) incorporate October whitewater boating flows requires compliance with CEQA based on the potential for significant environmental impacts, particularly to biological resources, tribal cultural resources, cultural resources, water quality and hydrology, and recreation. Refer to Appendix A, Amendment to the Pit 1 Hydroelectric Project Water Quality Certification.

A Draft Environmental Impact Report (EIR) was issued in June 2017, and comments were received from PG&E and American Whitewater. In response to concerns from American Whitewater regarding impacts on whitewater recreation, the Proposed Project has been modified to incorporate enhanced access to the Pit River for boaters, anglers, and other members of the public through parking improvements and other measures intended to improve recreational opportunities. Thus, the Draft EIR was recirculated in order to fully disclose all potential impacts associated with these modifications.

For the purposes of this Final EIR, the Proposed Project is defined as the amendment to the certification, which includes (a) permanently remove from the existing certification requirement for summertime flushing flows and (b) incorporate October whitewater boating flows, as well as the implementation of four new measures proposed by PG&E to minimize impacts on recreational resources, including: 1) providing 12 additional overflow parking spaces at the current Pit River Access at Fall River Mills Put-In; 2) posting information during whitewater release weekends to inform boaters of alternative camping opportunities; 3) conducting whitewater releases during two weekends in October instead of four consecutive days over one weekend in October, which is allowed under the existing FERC Order; and 4) consult with American Whitewater annually before scheduling October release dates.

### **Project Objectives**

The objectives of the Proposed Project are to: (a) reduce impacts to the endangered Shasta crayfish from operations of the Pit 1 Project; and (b) maintain the designated beneficial uses, including recreation, for the Pit River as identified in the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*<sup>1</sup> (Basin Plan). These objectives will be achieved through the elimination of the requirement for summer flushing flows, incorporation of the two weekends of October whitewater boating flows, and implementation of several recreational enhancements, all of which require amending the certification.

### **Project Description**

The following summarizes the operational changes to the Pit 1 Project, which comprise the Proposed Project evaluated under CEQA. These modifications primarily entail adjustments to the flow of water through the Fall River Weir into the Pit 1 Bypass Reach. This section also describes the proposed expansion of the Pit River Access at Fall River Mills Put-In and other measures proposed by PG&E to minimize impacts on the recreation beneficial use. See Chapter 2, Project Description for detailed information.

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<sup>1</sup> Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region for the Sacramento River Basin and the San Joaquin River Basin. Fifth Edition. Revised May 2018 (with Approved Amendments).

## **Water Management**

Under current license conditions, summer flushing flows occurred for three weekends (six days per year) between 2003 and 2009. As part of the Proposed Project, summertime flushing flows will be permanently removed from the existing certification. PG&E will continue annual ground-level photo point monitoring of aquatic vegetation on Fall River Pond in June, July, and August. In the event that conditions result in excess aquatic vegetation (i.e., surface aquatic vegetation exceeding 20 percent coverage of Fall River Pond), PG&E will implement vegetation control methods, such as harvesting or non-summer flushing flows. To avoid negative effects to biological resources and their habitat in the Pit 1 Bypass Reach, PG&E will not use summer flushing flows to control aquatic vegetation between May 1 and September 30.

Pursuant to the June 14, 2011, FERC Order<sup>1</sup> approving the schedule for final whitewater boating flows, recreational whitewater releases, which began in 2011, will continue to be implemented in October. Two weekends, or four days of whitewater boating flows, will occur on or before October 30.

## **Planned Outages**

To avoid potential negative effects to Shasta crayfish, PG&E will not conduct planned outages that result in out-of-season spills in the Pit 1 Bypass Reach between May 1 and September 30. PG&E will operate the Pit 1 Project in a manner that does not cause discretionary, out-of-season spills.

## **Recreational Measures**

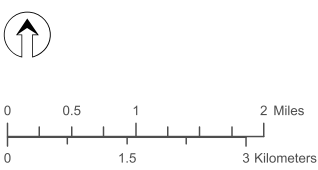
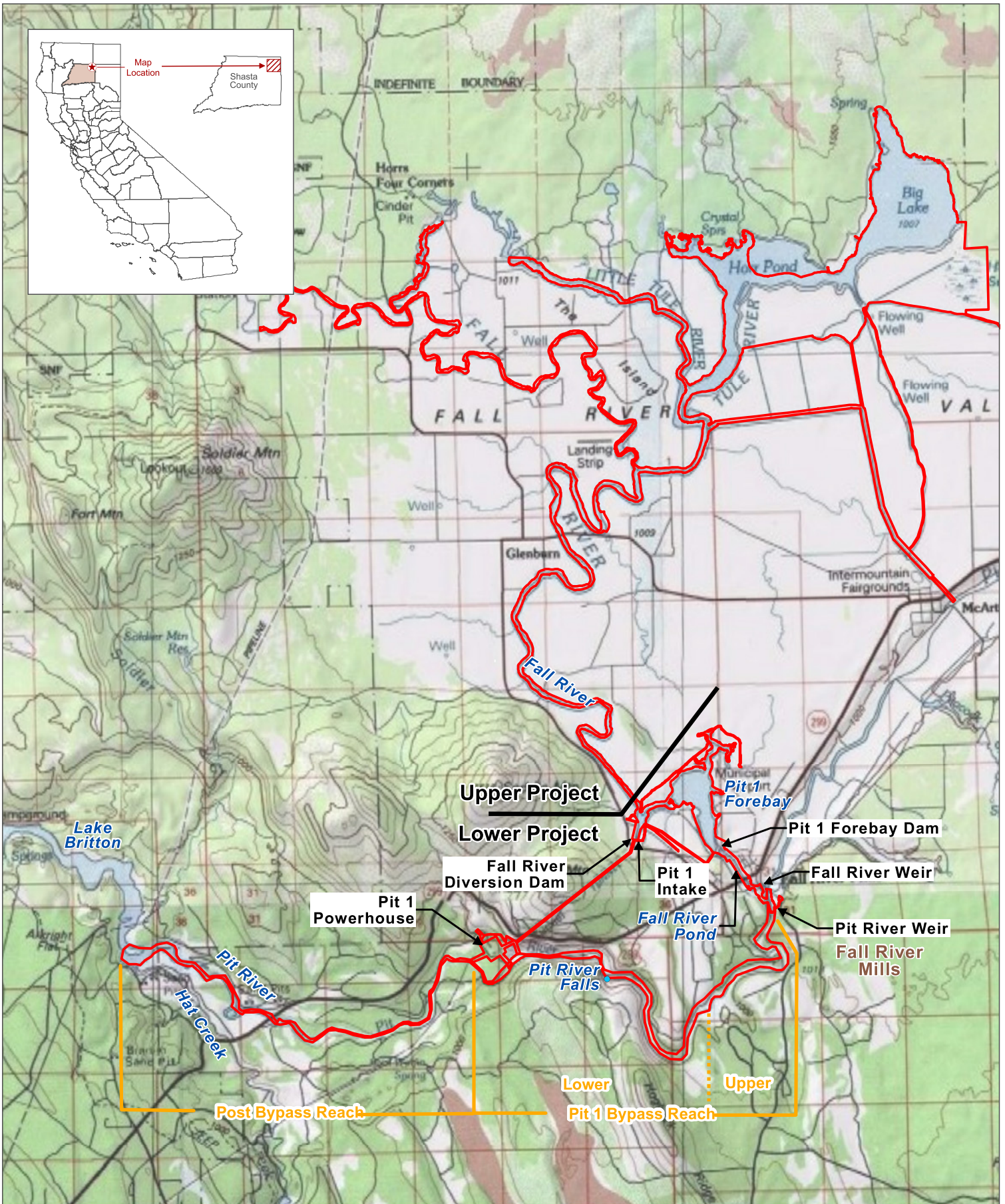
The following measures are proposed by PG&E to minimize impacts on recreational resources and address concerns raised by American Whitewater:

- Provide 12 additional overflow parking spaces adjacent to the current Pit River Access at Fall River Mills Put-In within 2 years of FERC's incorporation of the amended certification into the FERC license;
- Post posters at Bureau of Land Management's (BLM) Pit River Campground during whitewater release weekends informing boaters that there are additional camping opportunities at the nearby Cassel Campground, or use other means to direct campers to this local campground;
- Conduct whitewater releases during two weekends in October instead of four consecutive days over one weekend in October; and
- Informally consult with American Whitewater annually before scheduling the October release dates.

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<sup>1</sup> 135 FERC ¶ 62,215. Order Approving Final Whitewater Boating Flow Schedule (issued June 14, 2011).





Legend

Proposed Project Area

Pit 1 Hydroelectric Project

FIGURE ES-1  
Project Overview

## **Public Involvement**

### **CEQA Scoping**

In accordance with section 15082 of title 14 of the California Code of Regulations (CEQA Guidelines), the State Water Board released a Notice of Preparation (NOP) on May 17, 2013 (Appendix B) for the original Draft EIR. The NOP requested comments on the scope of the EIR including specific issues the EIR should cover and potential alternatives to the Proposed Project. The State Water Board also conducted two CEQA scoping meetings to provide the public with the opportunity to provide input prior to the preparation of the EIR. The meetings took place on June 11, 2013, from 9:00 a.m. to 11:00 a.m. at the Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) office in Redding, California, and from 6:00 p.m. to 8:00 p.m. at the Intermountain Fairgrounds in McArthur, California. New scoping meetings were not required for the Recirculated Draft EIR.

Comments received focused on concerns related to whitewater recreation flows and suggestions that there was a lack of evidence linking the flushing flows with a decline in Shasta crayfish. Several comments also included suggestions on alternatives to the Proposed Project including the continuation of the requirement for summer flushing flows, developing barriers to block invasive crayfish species, and the use of temperature control devices. A summary of the comments received during public scoping is in Appendix C.

### **2017 Draft EIR Public Notice / Public Review**

A Notice of Completion (NOC) was released concurrently with the Notice of Availability (NOA) to provide public notice that the Draft EIR was available for public review and invited comment from the general public, agencies, organizations, and other interested parties. Public comment on the Draft EIR was accepted during a 45-day public review period, which extended from June 26, 2017 to August 15, 2017. (CEQA Guidelines, §§ 15086-15087 and 15105).

Comments on the 2017 Draft EIR were received from PG&E and American Whitewater (see Appendix D). Section 15088.5, subdivision (f)(1) of the CEQA Guidelines provides that when an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period. These comments become part of the administrative record but did not require written responses. New comments were submitted for the Recirculated Draft EIR by PG&E, and the lead agency need only respond to those comments submitted in response to the Recirculated Draft EIR. Although the State Water Board has not prepared formal responses to the comments received on the 2017 Draft EIR, it did direct PG&E to seek further solutions to address the perceived loss of the beneficial use expressed by American Whitewater. In response, in October 2018 PG&E submitted a letter to the



State Water Board addressing the measures recommended by American Whitewater and formally proposed additional measures. Refer to “Areas of Known Controversy” below for additional information.

### **Recirculated Draft EIR Comment Period**

An NOC and NOA for the Recirculated Draft EIR was filed with the State Clearinghouse on April 2, 2021. (Pub. Resources Code, § 21161; CEQA Guidelines, § 15085.) The Recirculated Draft EIR was circulated for 45 days, from April 2, 2021 through May 21, 2021. The State Water Board received comments from PG&E. Responses to all comments are included as Appendix G: Final Environmental Impact Report Responses to Comments. The 2017 Draft EIR, Recirculated Draft EIR, NOAs for both EIRs, the draft certification amendment language, Final EIR, and certification amendment are available for review on the [State Water Board's Pit 1 Project webpage](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.html) (URL Address: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/pit1\\_ferc2687.html](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.html)).

### **Areas of Known Controversy**

The proposed change in summer flushing flows has been met with concerns from the whitewater boating community because eliminating flushing flows will result in reduced incidental whitewater boating opportunities during the summer months on the Pit 1 Bypass Reach. In 2018, at the request of the State Water Board, PG&E informally consulted with American Whitewater to address the issues raised in American Whitewater’s comments on the 2017 Draft EIR. PG&E agreed to some, but not all, of American Whitewater’s requests. In response, American Whitewater submitted a letter to the State Water Board (dated June 29, 2018, see Appendix E) expressing that an agreement with PG&E on loss of summer recreational flows could not be reached and proposing additional measures to address these concerns. In October 2018, PG&E submitted a letter to the State Water Board addressing the measures recommended by American Whitewater and formally proposing the measures described above (see Appendix E). Refer to Chapter 1 for additional information.

After consideration of the record, the State Water Board has determined that the Proposed Project, which includes eliminating the requirement for six days of summer flushing flows and incorporating a requirement for two weekends of fall whitewater flows, in addition to PG&E’s other proposed measures described above, will not create significant impacts to recreation. Refer to Section 3.4, Recreation.

### **Key Issues and Significant Impacts**

No significant impacts have been identified in this Final EIR.



## Alternatives Considered

This Final EIR evaluates three alternatives to the Proposed Project. Each alternative will require amending the certification, as described.

- **Proposed Project**, which consists of three components: (1) elimination of the requirement for summer flushing flows; (2) incorporation of two weekends of October whitewater boating flow releases; and (3) implementation of PG&E's additional proposed recreational measures created in response to American Whitewater concerns.
- **Alternative 1 - No Project Alternative**, which consists of two components: (1) continuation of the requirement for summer flushing flows; and (2) incorporation of October whitewater boating flow releases over four consecutive days instead of two weekends, as allowed by the 2011 FERC Order.<sup>1</sup>
- **Alternative 2 – Spring Whitewater Boating Flows**, which consists of three components: (1) elimination of the requirement for summer flushing flows; (2) incorporation of spring whitewater boating flow releases; and (3) incorporation of two weekends of October whitewater boating flow releases.
- **Alternative 3 – Non-native Crayfish Barrier**, which consists of three components: (1) continuation of the requirement for summer flushing flows; (2) incorporation of non-native Crayfish barriers; and (3) incorporation of two weekends of October whitewater boating flow releases.

Based on the merits of the Proposed Project as compared to the other alternatives, the Proposed Project best achieves the Proposed Project objectives of reducing impacts to the endangered Shasta crayfish from the Pit 1 Project, while protecting water quality, including specifically the beneficial uses as designated in the Basin Plan for the Pit River.

## Summary of Impacts and Levels of Significance

The Proposed Project would have no impact on the following resources: aesthetics, agriculture and forestry resources, air quality, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, transportation, utilities and service systems, and wildfire. As summarized in Table ES-1, no significant impacts have been identified from implementation of the Proposed Project

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<sup>1</sup> 135 FERC ¶ 62,215. Order Approving Final Whitewater Boating Flow Schedule (issued June 14, 2011).

**Table ES-1 Summary of Impacts from the Proposed Project**

CEQA Resource Area	Impact – Would the Proposed Project:	Impact Determination	
		Construction	Operations
Aesthetics	<b>No construction or operations impacts will occur.</b>		
Agriculture and Forestry Resources	<b>No construction or operations impacts will occur.</b>		
Air Quality/ Greenhouse Gases	<b>No construction or operations impacts will occur.</b>		
Biological Resources	<b>BIO-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?	Less than significant	Less than significant
Biological Resources	<b>BIO-2:</b> Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW and USFWS?	No impact	Less than significant
Biological Resources	<b>BIO-3:</b> Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No impact	Less than significant
Biological Resources	<b>BIO-4:</b> Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No impact	No Impact

CEQA Resource Area	Impact – Would the Proposed Project:	Impact Determination	
		Construction	Operations
Biological Resources	<b>BIO-5:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No impact	No impact
Biological Resources	<b>BIO-6:</b> Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No impact	No impact
Cultural Resources	<b>CULT-1:</b> Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	Less than significant	Less than significant
Cultural Resources	<b>CULT-2:</b> Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	Less than significant	Less than significant
Cultural Resources	<b>CULT-3:</b> Disturb any human remains, including those interred outside of formal cemeteries?	Less than significant	Less than significant
Tribal Resources	<b>TRIB CULT-1:</b> Cause a substantial adverse change in the significance of a tribal cultural resource which is listed or eligible for listing in the CRHR or local register of historical resources as defined under Public Resources Code Section 5020.1(k)?	Less than significant	Less than significant

CEQA Resource Area	Impact – Would the Proposed Project:	Impact Determination	
		Construction	Operations
Tribal Resources	<b>TRIB CULT-2:</b> Cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	Less than significant	Less than significant
Energy	<b>No construction or operations impacts will occur.</b>		
Geology and Soils	<b>No construction or operations impacts will occur.</b>		
Hazards and Hazardous Materials	<b>No construction or operations impacts will occur.</b>		
Hydrology and Water Quality	<b>HYD-1:</b> Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less than significant	Less than significant
Hydrology and Water Quality	<b>HYD-2:</b> Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No impact	No impact
Hydrology and Water Quality	<b>HYD-3:</b> Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial on- or offsite erosion or siltation?	Less than significant	Less than significant
Hydrology and Water Quality	<b>HYD-4:</b> Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	No impact	No impact

CEQA Resource Area	Impact – Would the Proposed Project:	Impact Determination	
		Construction	Operations
Hydrology and Water Quality	<b>HYD-5:</b> Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	No impact	No impact
Hydrology and Water Quality	<b>HYD-6:</b> Impede or redirect flood flows?	No impact	No impact
Hydrology and Water Quality	<b>HYD-7:</b> In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No impact	No impact
Hydrology and Water Quality	<b>HYD-8:</b> Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No impact	No impact
Land Use and Planning	<b>No construction or operations impacts will occur.</b>		
Mineral Resources	<b>No construction or operations impacts will occur.</b>		
Noise	<b>No construction or operations impacts will occur.</b>		
Population and Housing	<b>No construction or operations impacts will occur.</b>		
Public Services	<b>No construction or operations impacts will occur.</b>		
Recreation	<b>REC-1:</b> Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less than significant	Less than significant
Recreation	<b>REC-2:</b> Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	Less than significant	No Impact

CEQA Resource Area	Impact – Would the Proposed Project:	Impact Determination	
		Construction	Operations
Recreation	<b>REC-3:</b> Conflict with adopted plans, regulations, or agreements?	No impact	No Impact
Recreation	<b>REC 4:</b> Substantially reduce recreational uses?	Less than significant	Less than significant
Recreation	<b>REC-5:</b> Substantially diminish recreational experiences?	No impact	Less than significant
Transportation	<b>No construction or operations impacts will occur.</b>		
Utilities and Service Systems	<b>No construction or operations impacts will occur.</b>		
Wildfire	<b>No construction or operations impacts will occur.</b>		

# 1 Introduction

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This chapter provides the Proposed Project background, discusses the legal authority and purpose of the Environmental Impact Report (EIR), explains the intended uses of the EIR, provides an overview of the California Environmental Quality Act (CEQA) process, and outlines the organization of the EIR. This chapter also includes a summary of the scoping process and identifies key issues of concern.

## 1.1 Background

The Pacific Gas and Electric Company's (PG&E) Pit 1 Hydroelectric Project (Pit 1 Project), Federal Energy Regulatory Commission (FERC or Commission) Project No. 2687, is located on the Pit and Fall Rivers near the communities of Fall River Mills and McArthur in northeastern Shasta County, California. FERC issued a new license<sup>1</sup> on March 19, 2003, to PG&E for the continued operation of the Pit 1 Project. The license incorporates the State Water Resources Control Board's (State Water Board) Clean Water Act (CWA) Section 401 Water Quality Certification (certification) issued on December 4, 2001. Pursuant to the new license and certification, Pacific Gas and Electric Company (PG&E) implemented summer flushing flows between 2003 and 2009 to control the growth of aquatic vegetation and mosquito production on Fall River Pond, and monitoring of surface aquatic vegetation on Fall River Pond from 2005 through 2010.

Monitoring data collected between 2005 and 2010 shows that summer flushing flows are not needed to control surface vegetation or mosquito production, and that increased continuous minimum instream flows implemented pursuant to the certification, as part of the new license, are controlling the nuisance aquatic vegetation and mosquito production in Fall River Pond.

In May 2009, the United States Fish and Wildlife Service (USFWS) expressed concern regarding a decline in Shasta crayfish in the Pit 1 Bypass Reach, and PG&E subsequently requested a suspension of the 2009 summer flushing flows for the Pit 1 Project. The request stated that summer flushing flows released from the Fall River Weir into the Pit 1 Bypass Reach were reducing and eliminating coldwater habitat for the federally and state-listed endangered Shasta crayfish, and providing beneficial habitat for non-native crayfish species. In a letter from the State Water Board dated August 28, 2009, PG&E was notified that before an amendment of the certification can be considered State Water Board must comply with the CEQA.

On April 15, 2010, the State Water Board received a request from FERC to temporarily suspend the summer flushing flow requirements of the certification. On July 6, 2010,

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<sup>1</sup> 102 FERC ¶ 61,309



the State Water Board issued Order WQ 2010-0009-EXEC,<sup>1</sup> which temporarily amended the certification to suspend summer flushing flows for 2 years (2010 and 2011). On August 10, 2010, FERC issued an order<sup>2</sup> temporarily amending the license and incorporating the temporary amendment to the certification.

On March 22, 2012, PG&E submitted a letter to the State Water Board requesting an extension of the suspension of flushing flows for one additional year to allow for implementation of the Shasta crayfish study plan and completion of the CEQA analysis. USFWS provided concurrence of support on July 19, 2012. On June 14, 2012, the State Water Board issued Order WQ 2012-0008-EXEC<sup>3</sup> approving the temporary suspension of flushing flow requirements through 2012. FERC issued an order<sup>4</sup> temporarily amending the license and incorporating the temporary amendment to the certification on July 26, 2012. PG&E issued the final Pit 1 Hydroelectric Project Shasta Crayfish Study Report on January 31, 2013.

On March 28, 2013, April 21, 2014, March 19, 2015, March 31, 2016, April 18, 2017, and February 7, 2018, PG&E submitted letters to the State Water Board requesting additional one-year extensions to the temporary suspension of Pit 1 Project summer flushing flows to allow time for the completion of the Draft EIR. USFWS provided letters of support on May 17, 2013, April 21, 2014, March 19, 2015, June 9, 2016, June 13, 2017, and March 26, 2018, respectively.

On June 20, 2013, June 12, 2014, June 23, 2015, June 28, 2016, June 27, 2017, and June 26, 2018, respectively, the State Water Board issued Orders approving the temporary suspension of summer flushing flow requirements through 2013, 2014, 2015, 2016, 2017, and 2018:

- **WQ 2013-0024-EXEC** (State of California State Water Resources Control Board Order WQ 2013-0024-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2013 Order, issued June 20, 2013]),

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<sup>1</sup> State of California State Water Resources Control Board Order WQ 2010-0009-EXEC Order Approving Temporary Suspension of Flushing Flow Requirements (SWRCB 2010 Order, issued July 6, 2010).

<sup>2</sup> 132 FERC ¶ 62.101. Order Temporarily Amending License and Incorporating Temporary Amendment to Water Quality Certification (issued August 10, 2010).

<sup>3</sup> State of California State Water Resources Control Board Order WQ 2012-0008-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements (SWRCB 2012 Order, issued June 14, 2012).

<sup>4</sup> 140 FERC ¶ 62.080. Order Temporarily Amending License and Incorporating Temporary Amendment to Water Quality Certification (issued July 26, 2012).

- **WQ 2014-0023-EXEC** (State of California State Water Resources Control Board Order WQ 2014-0023-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2014 Order, issued June 12, 2014]),
- **WQ 2015-0076-EXEC** (State of California State Water Resources Control Board Order WQ 2015-0076-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2015 Order, issued June 17, 2015]),
- **WQ 2016-0072-EXEC** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2016 Order, issued June 28, 2016]),
- **WQ 2017-0014-EXEC** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2017 Order, issued June 27, 2017]), and
- **WQ 2018-011-EXEC** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2018 Order, issued June 26, 2018]).

FERC issued orders temporarily amending the license and incorporating the temporary amendment to the certification on:

- **June 27, 2013** (143 FERC ¶ 62,220. Order Temporarily Amending License and Incorporating Temporary Amendment to Water Quality Certification [issued June 27, 2013]),
- **June 19, 2014** (147 FERC ¶ 62,218. Order Temporarily Amending License and Incorporating Temporary Amendment to Water Quality Certification [issued June 19, 2014]),
- **June 24, 2015** (151 FERC ¶ 62,214. Order Modifying and Approving Temporary Flow Variance [issued June 24, 2015]),
- **July 19, 2016** (156 FERC ¶ 62,049. Order Modifying and Approving Temporary Flow Variance [issued July 19, 2016]),
- **July 27, 2017** (156 FERC ¶ 62,049. Order Modifying and Approving Temporary Flow Variance [issued July 17, 2017]),
- **August 13, 2018** (156 FERC ¶ 62,049. Order Modifying and Approving Temporary Flow Variance [issued August 13, 2018]), and,
- **September 16, 2019** (168 FERC ¶ 62,152. Order Approving Temporary Flow Variance [Issued September 16, 2019]) respectively.

In a February 19, 2020 letter to the USFWS, PG&E requested informal Section 7 consultation for a temporary suspension of the flushing flow requirement in 2020. This letter requested concurrence with the determination that the temporary suspension of the requirement is not likely to adversely affect Shasta crayfish. On March 24, 2020, PG&E submitted a letter to the State Water Board requesting temporary suspension of the flushing flow requirement. On April 7, 2020 the USFWS<sup>1</sup> concurred and on June 24, 2020<sup>2</sup> the State Water Board approved the request.

The State Water Board concluded that there would not be significant effects if the requirements for summer flushing flows were suspended for a limited period, with adequate safeguards to prevent the suspension from becoming permanent. Amendment of the certification will permanently remove from the existing certification the requirement for summer flushing flows, which requires compliance with CEQA based on the potential for significant environmental impacts to occur, particularly to water quality and hydrology, biological resources, and recreation.

The State Water Board issued a Draft EIR in June 2017 and received comments from PG&E and American Whitewater. In response to concerns from American Whitewater regarding impacts on whitewater recreation, PG&E modified the Proposed Project to incorporate enhanced access to the Pit River for boaters, anglers, and other members of the public through parking improvements and other measures intended to improve recreational opportunities. Thus, the Draft EIR was recirculated in order to fully disclose all potential impacts associated with these modifications. The 2017 Draft EIR, Recirculated Draft EIR, NOAs for both EIRs, the draft certification amendment language, Final EIR, and final certification amendment are available for review at: [State Water Board Project Webpage](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.html) (URL Address: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/pit1\\_ferc2687.html](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.html))

## **1.2 Areas of Known Controversy**

To comply with the State Water Board's 2001 certification, which was incorporated into the FERC License, PG&E historically released six days of summer flushing flows from 2003 to 2009 to abate aquatic vegetation and mosquitos in the Pit 1 bypass reach. During this time, recreationalists utilized these flushing flows for incidental summer whitewater boating. This use was not a condition of the FERC License or State Water Board certification.

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<sup>1</sup> United States Fish and Wildlife Service concurrence letter regarding Informal Section 7 Consultation for the Temporary Suspension of the Flushing Flow Requirement at the Pit No. 1 Hydroelectric Project (FERC Project No. 2687), Shasta. Issued April 7, 2020.

<sup>2</sup> State of California State Water Resources Control Board ORDER WQ 2020-0011-EXEC Order Approving Temporary Suspension of Flushing Flow Requirements (SWRCB 2010 Order, issued June 24, 2020).

As required under the Pit 1 Project's FERC License Article 24, studies were carried out to evaluate whitewater recreational interests and competing beneficial uses. In 2011, FERC adopted the recommendation of four fall days of whitewater flows *in lieu* of any previously scheduled May/June, July, and August flushing flows. FERC considered the four days of fall flows (and other proposed improvements) to be adequate compensation for the loss of summer flushing flows. Fall whitewater flow releases began in 2011 and have continued annually.

The proposed change in summer flushing flows has been met with concerns from the whitewater boating community because eliminating flushing flows would result in reduced incidental whitewater boating opportunities during the summer months on the Pit 1 bypass reach. American Whitewater has stated 60 percent of whitewater boating opportunity will be eliminated by the Proposed Project (Appendix D). In 2018, at the request of the State Water Board, PG&E informally consulted with American Whitewater to address the issues raised in American Whitewater's comments on the 2017 Draft EIR. PG&E agreed to several measures, but not all, of American Whitewater's requests. In response, American Whitewater submitted a letter to the State Water Board (dated June 29, 2018, see Appendix E) expressing that an agreement with PG&E on "appropriate mitigations for the loss of six days of summer recreational flows" could not be reached and proposing additional measures to address these concerns. In October 2018, PG&E submitted a letter to the State Water Board addressing the measures recommended by American Whitewater and formally proposing the additional measures described above (see Appendix E).

### **1.3 Purpose of the EIR**

The State Water Board will use the results of the CEQA analysis contained in this EIR to support conditions and requirements of the Proposed Project certification amendment. In particular, the analysis focuses on the impacts to water quality and designated beneficial uses identified in the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan),<sup>1</sup> as well as the impacts of the proposed recreation improvements. This EIR is being prepared under the direction of the State Water Board to comply with the requirements of CEQA.

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<sup>1</sup> Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region for the Sacramento River Basin and the San Joaquin River Basin. Fifth Edition. Revised May 2018 (with Approved Amendments).

## **1.4 Project Overview**

### **1.4.1 Project Objectives**

The objectives of the Proposed Project are to: (a) reduce impacts to the endangered Shasta crayfish from operations of the Pit 1 Project; and (b) maintain the designated beneficial uses of the Pit River, including recreation as identified in the Basin Plan. These objectives will be achieved by eliminating the requirement for summer flushing flows, incorporating two weekends of October whitewater boating flows, and implementing several recreational enhancements into the certification. These include:

- Providing 12 additional overflow parking spaces adjacent to the current Pit River Access at Fall River Mills Put-In within 2 years of FERC's incorporation of the amended certification into the FERC license.
- Posting posters at BLM's Pit River Campground during whitewater release weekends informing boaters that there are additional camping opportunities at the nearby Cassel Campground, or using other means to direct campers to this local campground.
- Performing whitewater releases over two weekends in October rather than four consecutive days over one weekend as allowed by the FERC license (both scenarios were addressed in the 2017 Draft EIR; thus, impacts were previously evaluated and remain unchanged).
- Informally consulting with American Whitewater annually before scheduling the October release dates.

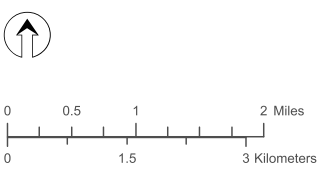
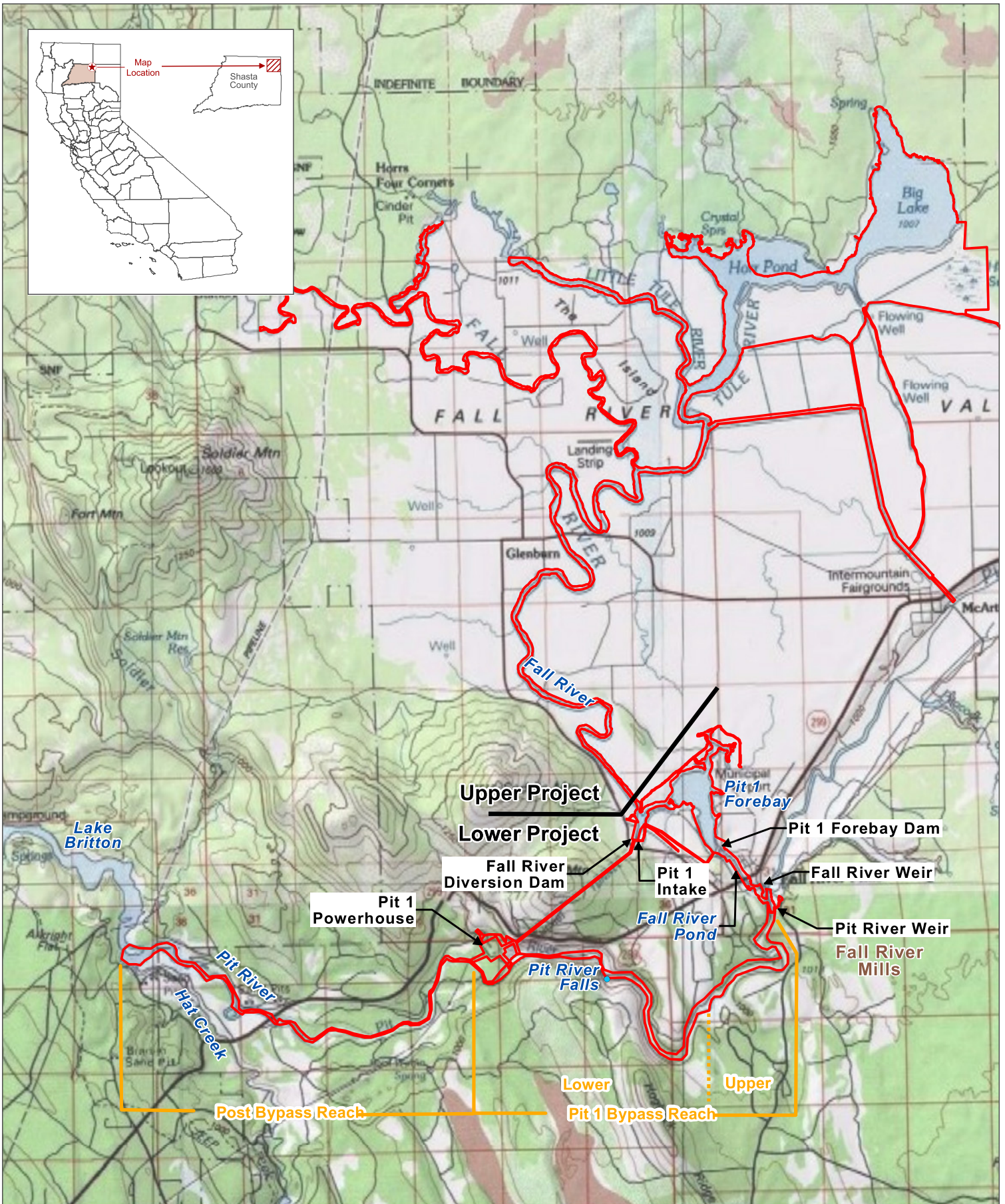
PG&E's proposed measures have been incorporated into this Final EIR as part of the Proposed Project (Chapter 2).

### **1.4.2 Project Area**

The Pit 1 Project is located on the Pit and Fall Rivers in northeastern Shasta County, near the communities of Fall River Mills and McArthur (7.5-minute United States Geological Survey [USGS] quadrangles Cassel, Hogback Ridge and Fall River Mills). The Pit 1 Project area is defined by the FERC boundary as shown in Figure 1.3-1.

The Pit 1 Project area is divided into the Lower Pit 1 Bypass Reach and Upper Pit 1 Bypass Reach. The Upper Pit 1 Bypass Reach includes Big Eddy (the largest pool in the Pit 1 Project area), and the Lower Bypass Reach includes a canyon section with a waterfall by the name of Pit River Falls, as well as Fall River Pond downstream through the Pit 1 Bypass Reach (Figure 1.3-2). Fall River flows through the flat Fall River Valley to the Pit 1 Forebay and Fall River Pond. Downstream of Fall River Pond, Fall River cascades approximately 57 feet to its confluence with the Pit River. As shown in Figure 1.3-1, water is diverted from Fall River to the Pit 1 Powerhouse, which is located on Pit River approximately 7 miles downstream of the confluence with Fall River. This arrangement bypasses 0.9 miles of lower Fall River and 6.6 miles of Pit River (Pit 1 Bypass Reach).





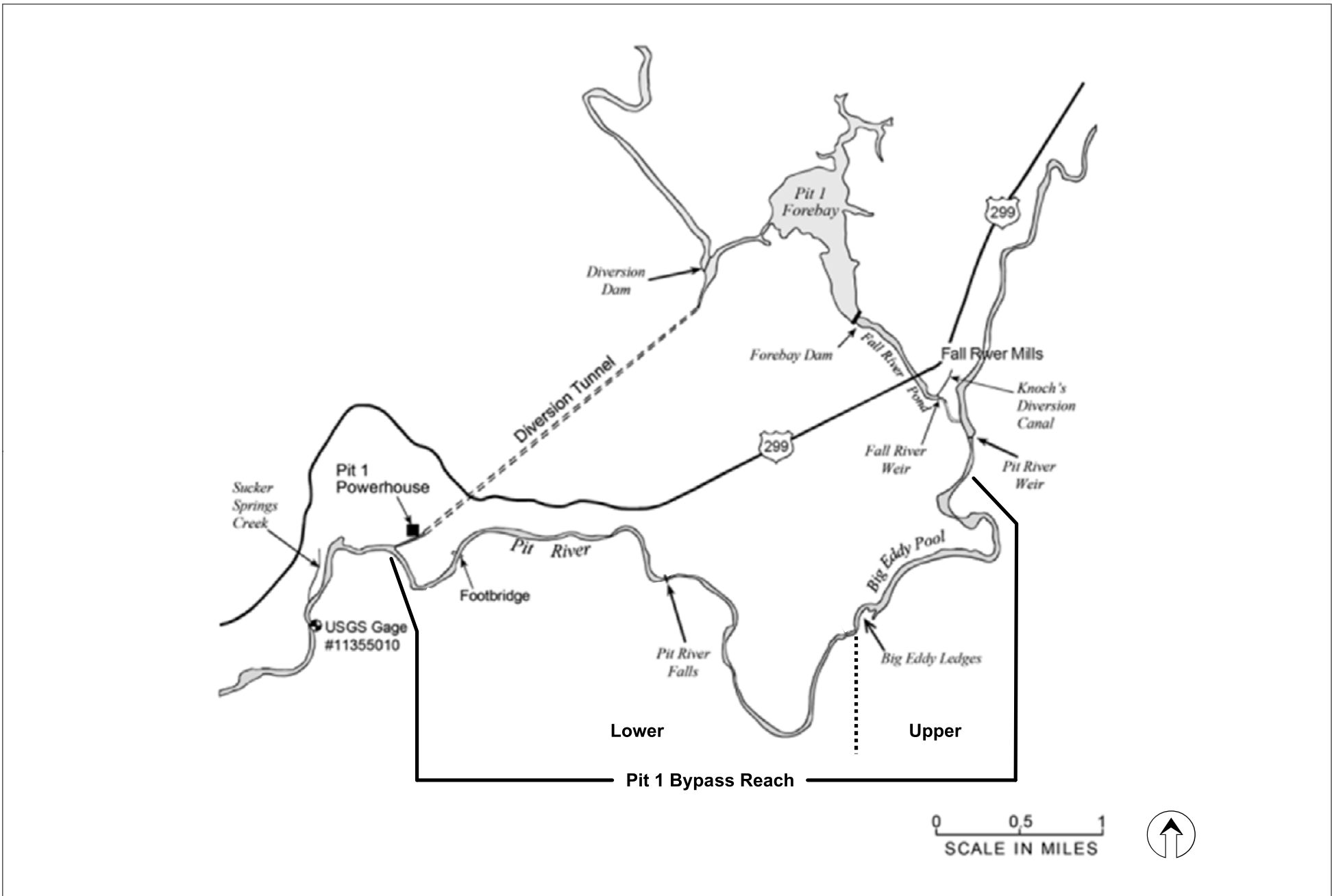
Legend

Proposed Project Area

Pit 1 Hydroelectric Project

FIGURE 1.3-1  
Project Overview

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Pit 1 Hydroelectric Project



FIGURE 1.3-2  
Pit 1 Project Facilities and CEQA Project Area



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**Legend**

-  New Parking Facility Boundary
-  Proposed Project Area

Pit 1 Hydroelectric Project

FIGURE 1.3-3  
Pit 1 New Parking Facility

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Fall River Pond and the Pit 1 Bypass Reach are the two aquatic resources that will most directly be affected by the permanent elimination of the requirement for summer flushing flows from the Proposed Project. The Pit River portion of the Pit 1 Project area evaluated in this Draft EIR extends from the confluence with Fall River downstream through the Pit 1 Bypass Reach and includes Pit River between the Pit 1 Powerhouse and the river's confluence with Hat Creek in the upper portion of Lake Britton.

### **1.4.3 Type of EIR: Project EIR**

CEQA, enacted in 1970 (Pub. Resources Code, § 21000 et seq.), is a statute that requires state and local agencies to identify the significant environmental impacts of actions and to avoid or mitigate those impacts, if feasible. A public agency must comply with CEQA when it carries out or approves an activity defined by CEQA as a "project." A project is the activity, or public agency discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) of that activity, which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

CEQA requires public agencies to consider the potential environmental impacts of their proposed discretionary actions. Before PG&E can modify Pit 1 Project operations, it must request to amend the existing certification from the State Water Board in accordance with Section 401 of the CWA. As the lead agency under CEQA, the State Water Board must consider whether amending the certification will have an adverse effect on the environment.

Prior to developing this Final EIR, the State Water Board prepared a Draft EIR (2017) and a Recirculated Draft EIR (2021). CEQA Guidelines, section 15088.5, specify that a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR for public review under section 15087 but before certification of the EIR. The term "information" can refer to changes in the project, such as the proposed modifications addressing issues raised by American Whitewater. The CEQA Guidelines were updated since the 2017 Draft EIR was prepared, and the Recirculated Draft EIR incorporates these updates and PG&E's changes to the Proposed Project description.

This Final EIR has been prepared in accordance with California Code of Regulations, title 14, section 15161, and provides a project-specific analysis of the physical changes in the environment that would result from implementation of the Proposed Project. Pursuant to CEQA, the EIR must examine all phases of the project including planning, construction, and operation. (CEQA Guidelines, § 15161.)

#### **1.4.4 Scope and Intent of the Document**

This EIR was developed for the State Water Board, responsible and trustee agencies, and interested parties to understand the potential environmental effects of the Proposed Project. The EIR will be used for the following purposes:

- To disclose to the public, decision-makers, elected officials and other stakeholders the potential environmental effects associated with implementation of the Proposed Project, and to solicit input on the potential environmental effects;
- To identify ways to avoid or minimize potential environmental effects of the Proposed Project, including alternatives;
- To provide the State Water Board with a technically and legally adequate environmental document to be used as one basis for its decision-making process for the amended certification; and
- To provide responsible and trustee regulatory agencies with information necessary to evaluate Proposed Project permitting requirements.

A list of agencies expected to use this EIR for subsequent approvals for the Proposed Project is presented in Chapter 2. The State Water Board must consider the Final EIR in deciding whether or how to approve the Proposed Project.

### **1.5 Public Involvement**

#### **1.5.1 CEQA Scoping**

##### **1.5.1.1 *Scoping Process***

In accordance with CEQA Guidelines section 15082, the State Water Board prepared an NOP for the original Draft EIR, (Appendix B) and sent it to the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, responsible and trustee agencies, and interested persons on May 17, 2013. The NOP provided a description of the Proposed Project, the location of the Proposed Project, and the resources and environmental concerns to be analyzed in the EIR. The NOP also requested public comments be submitted by June 24, 2013, on the scope of the EIR and potential alternatives to the Proposed Project.

The State Water Board conducted two CEQA scoping meetings to provide the public with the opportunity to provide input prior to the preparation of the EIR, pursuant to CEQA Guidelines section 15083. Public notices of the NOP and scoping meeting were published in the following local news periodicals as follows:

- Intermountain News
- Redding Record Searchlight
- Mountain Echo

The meetings took place on June 11, 2013, from 9:00 a.m. to 11:00 a.m. at the Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) office in Redding, California, and from 6:00 p.m. to 8:00 p.m. at the Intermountain Fairgrounds in McArthur, California. New scoping meetings were not required or held for a Recirculated Draft EIR.

### **1.5.1.2 Summary of Scoping Comments**

A summary of comments received during the public scoping comment period is presented below. A full listing and discussion of comments received during the public scoping comment period can be found in the Pit 1 Project EIR Scoping Summary Report included as Appendix C of this EIR.

#### **General Comments**

General comments received to date primarily focus on concerns related to the Proposed Project's effect on whitewater recreation and a purported lack of evidence linking the summer flushing flows with a decline in Shasta crayfish.

#### **Public Agency Comments**

The California Department of Fish and Wildlife (CDFW) expressed concerns about the lack of recent Shasta crayfish surveys and made suggestions regarding the content of the EIR.

#### **Biological Resources/Aquatic and Fisheries Resources**

The following comment pertain to biological resource impacts:

- Comments suggest there is a lack of evidence that the decline in Shasta crayfish is caused by the summer flushing flows from the Pit 1 Project.
- Comments suggest increases in water temperature caused by the Pit 1 Project should be addressed.
- Comments suggest updated crayfish surveys are needed.

#### **Recreation**

The loss of incidental recreational opportunities from eliminating summer flushing flows was of concern to American Whitewater stakeholders. These comments addressed the value of the flow releases to whitewater boaters and kayakers.

### **1.5.2 Recirculated Draft EIR Comment Period**

An NOC and NOA for the Recirculated Draft EIR was filed with the State Clearinghouse on April 2, 2021. (Pub. Resources Code, § 21161; CEQA Guidelines, § 15085.) The Recirculated Draft EIR was circulated for 45 days, from April 2, 2021 through May 21, 2021. The State Water Board received comments from PG&E. Responses to all comments are included in Appendix G of, the Final Environmental Impact Report. The 2017 Draft EIR, Recirculated Draft EIR, NOAs for both EIRs, Final EIR, and certification



amendment are available for review on the [State Water Board's Pit 1 Project webpage](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.html) (URL Address: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/pit1\\_ferc2687.html](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.html)).

### **1.5.3 Public Notice / Public Review**

As disclosed in Section 1.1, comments on the 2017 Draft EIR were received from PG&E and American Whitewater (see Appendix D). Section 15088.5, subdivision (f)(1) of the CEQA Guidelines provides that when an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period. These comments become part of the administrative record, but do not require written responses. New comments were submitted for the Recirculated Draft EIR, and the lead agency need only respond to those comments submitted in response to the Recirculated Draft EIR. Although the State Water Board has not prepared formal responses to the comments received on the 2017 Draft EIR, it did direct PG&E to seek further solutions to address the perceived loss of the beneficial use expressed by American Whitewater. In response, in October 2018, PG&E submitted a letter to the State Water Board addressing the measures recommended by American Whitewater and formally proposed additional measures. Refer to Section 1.2, Areas of Known Controversy.

### **1.5.4 Response to Comments / Final Environmental Impact Report**

This Final Environmental Impact Report (Final EIR) includes written responses to comments received during the public review period for the Recirculated Draft EIR. The Final EIR also contains additional information addressing comments received on the Recirculated Draft EIR, where necessary. The State Water Board will review and consider the Final EIR prior to its decision to approve, deny, or conditionally approve the Proposed Project. The Final EIR, including the responses to comments, will be available at least 10 days prior to certifying the Final EIR. (Cal. Code Regs., title 14, §§ 15088 and 15089.)

### **1.5.5 Certification of the Final Environmental Impact Report**

Prior to approving the Proposed Project, the State Water Board is required to certify that (1) the Final EIR has been completed in compliance with CEQA; (2) the Final EIR was presented to the decision-making body of the lead agency, and that the decision-making body reviewed and considered the information contained in the Final EIR prior to approving the project; and (3) the Final EIR reflects the lead agency's independent judgment and analysis. (Cal. Code Regs., title 14, § 15090.)

### **1.5.6 Project Consideration**

After review and consideration of the Final EIR, the State Water Board can consider taking action on the Proposed Project. (Cal. Code Regs., title 14, § 15092.) A decision on the Proposed Project will be accompanied by written findings in accordance with

CEQA Guidelines section 15091, and, if applicable, section 15093. (Pub. Resources Code, §§ 21081 and 21081.5.) A Notice of Determination (NOD) will then be filed within 5 working days after deciding to approve the Proposed Project. (Cal. Code Regs., title 14, § 15094.)

### **1.5.7 Mitigation Monitoring and Reporting Program**

Public Resources Code section 21081.6, subdivision (a) and CEQA Guidelines section 15091 requires lead agencies to adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. A Mitigation, Monitoring and Reporting Program (MMRP) is designed to ensure compliance during project implementation. However, for the Proposed Project no mitigation measures are required to mitigate or avoid significant effects. Therefore, an MMRP is not required for the proposed Project.

## **1.6 Organization of the EIR**

The EIR for the Proposed Project is organized as follows:

- **Executive Summary.** This chapter presents a summary of the Proposed Project and alternatives considered in this EIR. It also identifies areas of controversy and significant unavoidable impacts and provides a summary of environmental impacts. Also within the section is a table that lists the thresholds of significance and environmental impacts by issue area.
- **Chapter 1, Introduction.** This chapter provides the Proposed Project background, discusses the legal authority and purpose of the EIR, explains the intended uses of the EIR, provides an overview of the CEQA process, and outlines the organization of the EIR. This chapter also includes a summary of the scoping process and identifies key issues of concern.
- **Chapter 2, Project Description.** This chapter defines the project objectives, existing operations, and proposed changes. This chapter concludes with a list of agencies expected to use the EIR for review and approvals required for implementation of the Proposed Project.
- **Chapter 3, Environmental Setting & Environmental Impacts.** This chapter describes the regional and local environmental setting for each issue area analyzed in the EIR. The chapter also describes the regulatory setting and thresholds of significance, and includes a discussion of potential environmental impacts associated with the Proposed Project for each of the following resource areas:
  - Biological Resources
  - Tribal Cultural Resources and Cultural Resources



- Hydrology and Water Quality
- Recreation
- **Chapter 4, Other CEQA Considerations.** This chapter discusses potentially significant irreversible effects and irretrievable commitments of resources, the potential for growth-inducing impacts, and cumulative impacts. Cumulative impacts are those impacts that are individually less than significant but, when considered together with related impacts of other projects in the affected area, could result in a combined effect that is significant. Additionally, this chapter considers the effects of the Proposed Project that will result in a commitment of resources and uses of the environment that could not be recovered if the Proposed Project were constructed and describes the potential for unavoidable adverse impacts from the Proposed Project.
- **Chapter 5, Alternatives.** This chapter contains a description of alternatives to the Proposed Project that were considered by the State Water Board.
- **Chapter 6, List of Preparers.** This chapter lists the individuals involved in preparing this EIR and their responsibilities.
- **Chapter 7, References.** This chapter provides a list of the sources of information cited in the EIR.
- **Appendix A,** Amendment to the Pit 1 Hydroelectric Project Water Quality Certification
- **Appendix B,** Notice of Preparation and Scoping Meetings
- **Appendix C,** EIR Scoping Summary Report
- **Appendix D,** Comments on the 2017 Draft EIR
- **Appendix E,** American Whitewater 2018 Comments and PG&E 2018 Responses to American Whitewater Comments
- **Appendix F,** State Water Board Order WQ 2019–0035
- **Appendix G,** Final Environmental Impact Report Responses to Comments

## 2 Project Description

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This chapter presents a description of the existing operations and existing facilities of the Pit 1 Project and the proposed changes to Pit 1 Project operations that constitute the Proposed Project. This chapter also identifies the trustee agencies expected to use this Environmental Impact Report (EIR) in their decision-making and consultation processes required to implement the Proposed Project.

### 2.1 Existing Pit 1 Project Operations and Facilities

The Pit 1 Hydroelectric Project (Pit 1 Project), Federal Energy Regulatory Commission (FERC) Project No. 2687, is located on the Pit and Fall Rivers near the communities of Fall River Mills and McArthur in northeastern Shasta County. The Pit 1 Project consists of a concrete diversion dam and powerhouse that allows water to enter the Pit 1 Forebay. The Pit 1 Powerhouse typically operates as a peaking plant with a variable discharge schedule depending on the system energy demands and total available inflow. The current FERC license requires minimum instream flows of 700 cubic feet per second (cfs) in the Pit River between the Pit 1 Powerhouse tailrace and Lake Britton. In addition to the minimum instream releases, flows fluctuate with powerhouse operations, but must adhere to license-required ramping rates. Due to the higher minimum instream flows and more gradual ramping rates under the current license, the amount of flow fluctuation in the Pit River downstream of the tailrace has been reduced relative to previous license operations. Under the previous license, the Pit River downstream of the Pit 1 Powerhouse generally experienced daily fluctuations that ranged from approximately 500 cfs to 2,000 cfs as a result of powerhouse operations. Discharge from the powerhouse under the current license generally ranges between 1,000 cfs and 2,000 cfs with some higher winter and spring runoff events. From mid-June to mid-October however, when the mean Fall River summer discharge is generally between 800 cfs and 900 cfs with a standard deviation of less than 100 cfs, the powerhouse operates more in a run-of-river mode (i.e., where inflow is approximately equal to outflows) with relatively stable discharge.

The concrete diversion dam is 15 feet high and has a 595-foot-long spillway. At the left side of the dam (facing downstream) there is an abutment with three 20-foot openings, each controlled by radial gates that allow water to enter the Pit 1 Forebay. There is also a 24-inch slide gate bypass near the right abutment of the dam. The forebay dam is a 40-foot-high by 586-foot-long compacted earth- and rock-fill structure that impounds a 222-acre forebay. The spillway at its right abutment has two openings, each controlled by a radial gate. The center spillway contains a 24-inch-diameter outlet. There are two intake facilities to the Pit 1 intake canal and tunnel: Intake Number 1 diverts water from the Fall River upstream of the diversion dam, and Intake Number 2, which is the only intake currently in use, diverts water from the forebay. The intakes open into two short canal sections that converge into one common canal leading to a 10,076-foot-long

concrete-lined tunnel. Most of the tunnel is horseshoe-shaped, 14 feet high by 13 feet wide. The tunnel terminates at a 60-foot-diameter, concrete-lined surge chamber with a spill channel. Two 1,372-foot-long penstocks, varying from 10 feet, 9 inches at the upper end to 8 feet in diameter at the lower end, deliver water to the powerhouse, which contains two vertical-shaft, Francis-type turbines with a dependable capacity of 65.5 megawatts (MW). Water flowing from the powerhouse is discharged through a 1,150-foot-long tailrace channel. There are no transmission lines associated with the Pit 1 Project. The switchyard is the point of junction with PG&E's primary transmission system.

PG&E operates the Pit 1 Project in accordance with the articles, terms, and conditions of the FERC license issued on March 19, 2003, which incorporates the certification and the 2002 USFWS Biological Opinion. PG&E's current Pit 1 Project operations consist of water management, land and recreation management, maintenance, and environmental monitoring as described below.

### **2.1.1 Minimum Instream Flow Requirements**

The current minimum instream (instantaneous) flows downstream of the Fall River Pond as measured at the Fall River Weir are shown in Table 2.1-1.

**Table 2.1-1 Minimum Instream Flows**

<b>Release Period</b>	<b>Minimum Instream Flow</b>
November 1 to November 15	75 cfs
November 16 to May 15	50 cfs
May 16 to May 31	75 cfs
June 1 to October 31	150 cfs

Note: PG&E is granted an allowable deviation of minus 10 percent flow variability in these release requirements, but the monthly average daily flow shall meet or exceed the minimum flow requirement.

### **2.1.2 Summer Flushing Flows**

License Article 401 and current certification Conditions 13 and 14 require PG&E to control aquatic vegetation and mosquito production. As required by Condition 13, PG&E implemented summer flushing flows beginning in 2003 to control the growth of aquatic vegetation and mosquito production on Fall River Pond (Table 2.1-2). Flushing flows occurred for approximately three weekends (6 days) per year during the summer months between 2003 and 2009. As required by Condition 14, PG&E monitored surface aquatic vegetation and mosquito production on Fall River Pond from 2005 through 2009. The monitoring showed that summer flushing flows were not needed for vegetation control or mosquito production control. New continuous base flows (minimum instream flows) through Fall River Pond increased velocity and reduced surface aquatic vegetation, which in turn reduced the amount of potential mosquito

breeding habitat (Spring Rivers 2010a). The new minimum instream flows implemented as a condition of the 2003 FERC license control these issues of aquatic vegetation growth and mosquito breeding in Fall River Pond (Spring Rivers 2010a).

**Table 2.1-2 Summary of Summer Flushing Flows, 2003–2009**

Flushing Flow Date	Flushing Flow Number Days	Pit 1 Bypass Reach <sup>1</sup>		Pit 1 Forebay Released Mean Daily Discharge (cfs)
		Flushing Flow <sup>2</sup> Mean Daily Discharge (cfs)	Background <sup>3</sup> Mean Daily Discharge (cfs)	
June 21-22, 2003	2	1,188	334	854
July 19-20, 2003 <sup>4</sup>	2	983	302	681
August 23–24, 2003 <sup>5</sup>	0	444	444	0
May 18-23, 2004	6	1,057	359	698
July 17-18, 2004	2	810	249	561
August 28-29, 2004	2	857	239	618
June 4-5, 2005	2	1,844	1,051	793
July 16-17, 2005	2	999	391	608
August 27-28, 2005	2	998	382	616

<sup>1</sup> Mean daily discharge at the downstream end of the Pit 1 Bypass Reach calculated as the difference between the mean daily discharge downstream of the Pit 1 Powerhouse (USGS 11355010) and the mean daily discharge through the Pit 1 Powerhouse (USGS 11354200).

<sup>2</sup> Mean daily discharge at the downstream end of the Pit 1 Bypass Reach during the flushing flow days.

<sup>3</sup> Mean daily discharge at the downstream end of the Pit 1 Bypass Reach for the week before and after, excluding the day immediately before and after (n=12 days), the flushing flow days (includes the minimum instream flow release of 150 cfs, approximately 103 cfs of spring accretion flow, and Pit River flow upstream of the Fall River confluence).

<sup>4</sup> Mean daily Pit 1 Forebay release discharge during the flushing flows (in addition to the minimum instream flow release of 150 cfs) calculated as the difference between the flushing flow and background mean daily discharge at the downstream end of the Pit 1 Bypass Reach.

<sup>5</sup> The August 2003 flushing flow was scheduled, but did not occur due to a levee failure in the upper reaches of the Pit 1 Project.

Flushing Flow Date	Flushing Flow Number Days	Pit 1 Bypass Reach <sup>1</sup>		Pit 1 Forebay Released Mean Daily Discharge (cfs)
		Flushing Flow <sup>2</sup> Mean Daily Discharge (cfs)	Background <sup>3</sup> Mean Daily Discharge (cfs)	
June 17, 2006	1	1,413	457	956
June 18, 2006	1	1,287	457	830
July 15, 2006	1	1,223	389	834
July 16, 2006	1	1,103	389	714
August 19, 2006	1	657	327	330
August 20, 2006	1	730	327	403
June 23-24, 2007	2	818	253	565
July 21-22, 2007	2	903	266	637
August 18-19, 2007	2	856	255	601
June 21-22, 2008	2	985	425	560
July 19-20, 2008	2	1,051	439	612
August 16-17, 2008	2	941	364	577
June 20-21, 2009	2	996	480	516
July 18-19, 2009	2	853	375	478
August 29-30, 2009	2	899	390	509

### 2.1.3 Recreational Whitewater Boating Flow Releases

Whitewater boating (REC-1 in Table 2.1-3) is an existing beneficial use of the Pit River within the Pit 1 Project. Designated beneficial uses of the Pit and Fall rivers are shown in Table 2.1-3. Pursuant to the FERC license issued in 2003, PG&E conducted a two-phase recreational boating use study to assess the potential impacts of flow augmentation for whitewater boating on fish, wildlife, cultural and recreational resources within the Pit 1 Project area between September 15 and October 30 (R2 2006; R2 et al. 2008). Phase 1 included the compilation and review of existing resource information, and a determination of whether existing data and information were sufficient to evaluate potential whitewater boating flow impacts on the target resources or whether additional studies were warranted as potential Phase 2 studies. On July 16, 2009, FERC issued an order approving the Phase 2 study to refine acceptable boating flow ranges, particularly those near the low end of the range. Results indicated that flows exceeding 600 cfs at Big Eddy Pool are boatable in kayaks, and flows of 800 to 1,000 cfs at Big Eddy Pool provide quality technical trips (R2 et al. 2008).

Based on the results of the Phase 2 study, PG&E proposed recreational whitewater boating flows in October as outlined in the Pit 1 Project Whitewater Boating Flow Recommendations (Spring Rivers 2011a) that were filed with FERC in March 2011. Since the instream flow release into the Pit 1 Bypass Reach changes from 150 cfs to 75 cfs at the end of October, PG&E recommended that recreational whitewater boating flows not be released after October 30 to minimize the magnitude of the flow change. Based on hydrology and boater preference, PG&E recommended either two weekends or four consecutive days over the Columbus Day weekend of recreational whitewater boating flow releases on or before October 30 of each year. On June 14, 2011, FERC issued an order<sup>1</sup> approving the final October whitewater boating flow schedule. FERC ordered the implementation of recreational whitewater boating flow releases in the Pit 1 Bypass Reach as a beneficial use of the Pit River. Pursuant to the June 2011 FERC order, PG&E began implementing recreational whitewater boating flow releases in the Pit 1 Bypass Reach in October 2011. PG&E will continue to implement and provide advanced public notice of these October recreational whitewater boating flow releases. Any future proposal to implement whitewater releases outside of this period will be subject to consultation with the USFWS.

**Table 2.1-3 Designated Existing Beneficial Uses (E) in the Fall River and Pit River**

<b>Designated Beneficial Uses (RWQCB-CVR 2018<sup>2</sup>)</b>	<b>Fall River</b>	<b>Pit River<sup>3</sup></b>
Municipal and domestic supply (MUN)	E	E
Agriculture (irrigation and stock watering) (AGR) <sup>4</sup>	E	E
Hydropower Generation (POW)	E	E
Recreation (contact) (REC-1)	E	E
Recreation (canoeing and rafting) (REC-1)	E	E
Recreation (other non-contact) (REC-2)	E	E
Freshwater habitat (warm) (WARM)	E	E
Freshwater habitat (cold) (COLD)	E	E

<sup>1</sup> 135 FERC ¶ 62,215. Order Approving Final Whitewater Boating Flow Schedule (issued June 14, 2011).

<sup>2</sup> Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region for the Sacramento River Basin and the San Joaquin River Basin. Fifth Edition. Revised May 2018 (with Approved Amendments).

<sup>3</sup> Beneficial uses for the Pit River from the forks to the mouth of Hat Creek, which includes the Proposed Project area affected reach.

<sup>4</sup> Uses of water for irrigation, stock watering, or support of vegetation for range grazing are grouped under agricultural supply.

<b>Designated Beneficial Uses (RWQCB-CVR 2018<sup>2</sup>)</b>	<b>Fall River</b>	<b>Pit River<sup>3</sup></b>
Spawning (warm) (SPWN)	--	E
Spawning (cold) (SPWN)	--	--
Wildlife habitat (WILD)	E	E

#### **2.1.4 Outages**

PG&E operates the Pit 1 Project to provide flows through the Pit 1 Powerhouse to the Project tailrace such that the total instantaneous flow in the Pit River downstream of the Project tailrace is a minimum of 700 cfs or greater in compliance with License Article 402 and certification Condition 11.

The two turbine units in the Pit 1 Powerhouse are needed to handle the normal discharge (i.e., approximately 1,200 cfs; this does not include normal higher winter flows/snowmelt) from the Fall River. The Pit 1 Powerhouse cannot handle inflow with only one unit. Since the license-mandated maximum operating level of the reservoir is less than the maximum water (i.e., spill) elevation of the Pit 1 Forebay, shorter duration outages (i.e., two hours or less) of both units do not generally result in a spill. When two-unit outages last longer than 2 hours, water is released from the Pit 1 Forebay into Fall River Pond and the lower Fall River Bypass Reach, and thence into the Pit 1 Bypass Reach.

During the warmer months (i.e., May through September), releasing water from the Pit 1 Forebay into the bypass reaches to maintain the 700 cfs flow downstream of the Pit 1 tailrace has the potential to affect the summer habitat for Shasta crayfish in the Pit 1 Bypass Reach. To avoid potential adverse effects of an out-of-season pulse flow to summer habitat for Shasta crayfish, PG&E will not conduct planned outages that result in out-of-season spills in the Pit 1 Bypass Reach between May 1 and September 30. In summary, PG&E will operate the Pit 1 Project in a manner that does not cause discretionary, out-of-season spills.

In 2021, PG&E initiated spills in February to account for increased inflows due to planned maintenance of a turbine unit. Each unit at the Pit 1 Powerhouse can pass 1,000 cfs, and for most of a typical winter/spring season (late December through early June), inflows are over 1,000 cfs (PGE 2021).

#### **2.1.5 Unplanned Outage**

Unplanned outages of the Pit 1 Powerhouse temporarily result in reduced flows downstream of the powerhouse tailrace that deviate from the License Article 402 minimum instantaneous flow requirement of 700 cfs. Unplanned outages that result in spills are infrequent, particularly in the warmer summer months. For the 15-year period that PG&E has electronic data (2001 through 2015), there have been 41 unplanned outages, but only 16 two-unit outages. Eleven (mean 1.32 ± 1.01 hours, range 0.30 to

4.03 hours) of the two-unit outages did not require a spill, and only five (31 percent) resulted in spills. The five spills resulted from two-unit outages lasting more than two hours (mean  $5.09 \pm 2.24$  hours, range 2.31 to 7.45 hours). Three of the five occurred in 2006 and one spill occurred in each of 2005 and 2009. In 12 of the 15 years, including the last six years, there were no spills. No two-unit outages resulted in a spill during June, July, or August in the last 15 years.

Due to the lengthy travel time for spills through the Bypass Reach (about four to five hours during winter months and about six or seven hours during dry months), the Pit 1 Powerhouse is often back online either before or at about the same time the water released from the Pit 1 Forebay reaches the compliance gage downstream of the Pit 1 tailrace. Flow releases from Pit 1 Forebay can take approximately seven hours to reach the downstream end of Big Eddy Pool. This lengthy travel time is attributed to:

(a) filling the in-river storage in Pit River upstream of the Pit River Weir; and (b) the slow movement of water through the approximately 1.6-mile (2.5-km) length of Big Eddy Pool. Since PG&E response times during an outage are fairly rapid, 93 percent of unplanned outages last less than eight hours. Consequently, the Pit 1 Powerhouse is often back online either before or at about the same time the water released from the Pit 1 Forebay reaches downstream of the Pit 1 tailrace. In these cases, spills through the Pit 1 Bypass Reach, which increase water temperature during the warmer summer months, are not effective in shortening the length of time flows deviate from the license-required 700 cfs downstream of the Pit 1 tailrace.

In an effort to reduce the likelihood, frequency, and duration of spills into the Bypass Reach related to unplanned outages in the summer, PG&E originally suggested implementing new operational procedures for the Pit 1 Forebay. By reducing the maximum allowable operating limit on the Pit 1 Forebay by 0.5 foot (from 3,303.5 feet to 3,303 feet NGVD [3,323 feet to 3,322.5 feet PG&E datum]) during the warmer months (between May 1 and September 30), PG&E would gain an additional two hours to address an unplanned outage before having to spill from the Pit 1 Forebay. The data from the 15-year period (2001 through 2015), however, shows that this measure would not have averted any unplanned outage spills between May 1 and September 30. By lowering the maximum allowable operating limit on the Pit 1 Forebay, PG&E would only have avoided two spills during the last 15 years, and both of these spills occurred during the cooler months (i.e., January and April 2006).

In summary, under the current operating conditions, the frequency and duration of unplanned outages in the warmer months is already low. Only two unplanned outages resulted in spills during warmer months (i.e., September 2005, May 2009) during the last 15 years (Figure 2). Both of these spills resulted from unplanned outages that lasted almost 7.5 hours.



Under the Proposed Project, PG&E will continue to maintain minimum instream flows in the lower Fall River in compliance with Articles 402 and 403 of the Pit 1 Project License and certification Condition 8. PG&E will maintain a 700 cfs minimum flow in the Pit River as measured at USGS gage 11355010. The 700 cfs minimum flow is for the protection and enhancement of habitat in the Pit River for aquatic species, including the California floater [mussel] (*Anodonta californiensis*) and montane peaclam (*Pisidium ultramontanum*), both United States Forest Service (USFS) sensitive species, as well as resident fish (Article 402).

### **2.1.6 Pit River Access**

The existing Pit River Access is a component of the Pit 1 Project (see Figure 1.3-3). This facility consists of an asphalt-paved surface containing 11 standard parking spaces and two spaces meeting Americans with Disabilities Act (ADA) guidelines. The parking lot is fenced and accessed by a short asphalt-paved driveway from Cassel Fall River Road. The parking lot is gated, but is open year-round to the public. The gate will be closed for three months during construction activities following the proper public notice. The river is accessed by a rock trail south of the parking lot; two bollards are located at the trailhead in order to prevent vehicle access. An ADA single vault restroom is located within the parking lot.

## **2.2 Project Description**

### **2.2.1 Overview**

The objectives of the Proposed Project are to: (a) reduce impacts to the endangered Shasta crayfish from operations of the Pit 1 Project; and (b) maintain the designated beneficial uses of the Pit River, including recreation as identified in the Basin Plan. These objectives will be achieved by eliminating the requirement for summer flushing flows, incorporating two weekends of October whitewater boating flows, and implementing several recreational enhancements into the certification. For the purposes of this Final EIR, the Proposed Project is defined as follows:

#### **2.2.1.1 *Eliminate Summer Flushing Flows Requirement***

The certification amendment will permanently remove the requirement for summer flushing flow releases to address a decline in endangered Shasta crayfish (*Pacifastacus fortis*) in the Pit 1 Bypass Reach. PG&E will continue ground-level monitoring and reporting of aquatic vegetation on Fall River Pond in the absence of summer flushing flows. Monitoring aquatic vegetation also provides an indication of the presence of mosquito habitat since mosquito larvae are associated with permanent water bodies, such as Fall River Pond, and generally live in shallow water with thick vegetation (Spring Rivers 2010a).

### **2.2.1.2 Implement Recreational Measures**

The certification amendment will incorporate the following proposed recreational measures:

- Conduct whitewater releases during two weekends in October instead of four consecutive days over one weekend in October (PG&E has discretion to choose either under the existing FERC Order);
- Provide 12 additional overflow parking spaces at the current Pit River Access at Fall River Mills Put-In;
- Post information during whitewater release weekends to inform boaters of additional camping opportunities; and
- Informally consult with American Whitewater annually before scheduling October release dates.

The following describes the operational changes to the Pit 1 Project, including PG&E's commitments to avoid or minimize potential effects to Shasta crayfish within the Proposed Project area. These changes primarily entail adjustments to the flow of water through the Fall River Weir into the Pit 1 Bypass Reach.

### **2.2.2 Water Management**

Flushing flows occurred for three weekends (six days) per year during the summer months between 2003 and 2009. The Proposed Project permanently removes from the existing certification the requirement for summertime flushing flows. PG&E will continue annual ground-level photo point monitoring of aquatic vegetation on Fall River Pond in June, July, and August. In the event that conditions, such as a series of drought years, result in excess aquatic vegetation (i.e., surface aquatic vegetation exceeding 20 percent coverage of Fall River Pond), PG&E will implement vegetation control methods, such as harvesting or non-summer flushing flows. The suppression of aquatic vegetation also controls mosquito production by reducing the amount of breeding habitat for mosquitos. To avoid negative effects to biological resources and their habitat in the Pit 1 Bypass Reach, PG&E will not use summer flushing flows to control aquatic vegetation between May 1 and September 30 (i.e., no discretionary out-of-season spills). PG&E monitored surface aquatic vegetation on Fall River Pond from 2005 through 2009, as required by License Article 401 and Condition 14 of the certification. Monitoring of surface aquatic vegetation showed that summer flushing flows were not needed for vegetation or mosquito control, and that the new continuous minimum instream base flows implemented as a condition of the 2003 FERC license were controlling these issues in Fall River Pond (Spring Rivers 2010a).

Pursuant to the June 14, 2011, FERC order<sup>1</sup> that approved the final October whitewater boating flow schedule, PG&E will continue to implement recreational whitewater boating flow releases, which began in 2011. Whitewater boating flow releases will occur for two weekends in October, to be determined through consultation with American Whitewater.

### **2.2.3 Planned Outage**

To avoid potential negative effects to Shasta crayfish, PG&E will not conduct planned outages that result in out-of-season spills in the Pit 1 Bypass Reach between May 1 and September 30. PG&E will operate the Pit 1 Project in a manner that does not cause discretionary, out-of-season spills.

### **2.2.4 Recreation Measures**

In addition to committing to perform whitewater releases over two weekends in October instead of over four consecutive days, as originally proposed, PG&E has proposed as part of the Project the following recreation measures:

#### **2.2.4.1 *Posting Notifications***

Notify campers about the availability of Cassel Campground. American Whitewater indicated that camping spaces for 50 additional people are needed during the October releases, citing use numbers during those weekends at nearby BLM's Pit River Campground. PG&E operates the Cassel Campground, located approximately 13 miles from the current put-in. PG&E believes that this facility is not well known by the boating public and is, therefore, underutilized. Based on current usage numbers, this facility can accommodate 50 more campers during October. To inform campers about the availability of this campground, PG&E proposes to post posters at BLM's Pit River Campground during whitewater release weekends informing boaters that there are additional camping opportunities at the nearby Cassel Campground or use other means to direct campers to this local campground.

#### **2.2.4.2 *Consultation with American Whitewater***

Informally consult with American Whitewater annually before scheduling the October release dates. This will provide American Whitewater the opportunity to inform its members and the general boating public about when the October releases will occur, maximizing recreational uses.

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<sup>1</sup> 135 FERC ¶ 62,215. Order Approving Final Whitewater Boating Flow Schedule (issued June 14, 2011).

### **2.2.4.3 Pit River Access Parking Improvement**

#### **Schedule**

The proposed parking improvements will be adjacent to the existing Pit River Access and parking lot (Figure 1.3-3), which is located on land that is owned and operated by PG&E. The start of the parking improvements will be triggered based on the date FERC incorporates the amended certification into the FERC license. Within the first two years after FERC's incorporation of the Proposed Project's amended certification into the FERC license, the estimated timeline of construction of the Pit River Access Parking Improvement is:

1. Design – 8 months
2. Permits/Approvals – 6 months
3. Preconstruction – 2 months
4. Construction – 1 month
5. Closeout – 3 months

#### **Construction Overview**

The general scope of work will include:

- Removing and relocating perimeter fencing along the western edge of the parking lot;
- Installing temporary erosion control best management practices (BMPs) around the perimeter of the affected work area, such as straw wattles, silt fences, and/or straw bales;
- Removing the grub layer of cut and fill areas;
- Cutting the slope of the upper hill east of the parking lot;
- Relocating the cut slope material to the western edge of the parking lot and compacting it in place;
- Installing new base rock in the expanded areas;
- Placing asphalt in new expanded areas;
- Installing striping to designate 12 new parking spaces;
- Replacing topsoil material grubbed from cut and fill areas over final grade; and
- Planting native seed mixes and applying mulch, leaving BMPs in place until vegetation is reestablished.

Construction will begin with mobilization to the Project site. The staging area likely will be located onsite due to the small amount of equipment and materials required; although, if public access or security become an issue, then staging will occur at an

alternate location (see Figure 1.3-3). The existing fencing will be relocated to accommodate the expanded parking lot and fill placed along the western edge. All BMPs described above will be implemented and maintained according to standards. Grubbed material (unwanted vegetative matter from underground, such as stumps, roots, buried logs, and other debris). will be stockpiled and protected from erosion through the use of BMPs. Fill will be placed in lifts and compacted; cut material will be used for fill only if it meets engineer's requirements for compaction. Base rock will meet the standard specified by the Project engineer and will be installed to the specified compaction. Asphalt material will be supplied and placed to the engineer's standards. Additional striping will match the existing standard. Any existing striping removed or damaged during construction will be reinstalled. Additional standard PG&E construction BMPs will be selected based on specific needs at the time of construction. Most commonly used BMPs for minimizing water quality include straw wattles, silt fences, and/or straw bales (PG&E 2021). In addition, PG&E will need to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain more specific engineering requirements and BMPs.

The site will remain open throughout construction, although access will be limited during some construction activities (e.g., paving). Equipment and materials will be stored onsite when practicable; however, if access or space congestion becomes an issue, PG&E will use the alternative staging location (see Figure 1.3-3). Any construction debris will be hauled offsite to an approved disposal location. Once construction is completed, the Project site will be returned to its original condition, to the extent practicable. All equipment and surplus materials will be removed from the site.

## **2.2.5 Other Measures to Minimize Environmental Impacts**

A number of PG&E standard construction measures, including BMPs (see Section 2.2.4.3, Construction Overview), will be implemented to avoid or minimize the potential for significant environmental impacts during construction. In addition, all conditions of the FERC license stipulated by agency approvals and permits will be implemented, and PG&E will need to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain more specific engineering requirements and BMPs.

### **2.2.5.1 *Fire Hazard Prevention***

Site preparation and construction may take place during the normal fire season. Crews will monitor fire conditions through daily postings on internal websites and suspend work activities if fire dangers reach extreme conditions. PG&E internally releases a daily Fire Potential Index Forecast (FPI). The FPI is a forecast describing the potential for fires to ignite and spread on a scale from R1 (lowest) to R5 (highest) specific to each FPI Rating Area. R5-Plus indicates there is elevated fire potential PLUS potential for wind-

related outage activity. Certain construction activities are prohibited at higher FPI ratings. Additionally, crews will have the following equipment:

- One shovel, one axe, and one or more UL-rated 4BC extinguisher on each crew truck or vehicle.
- One shovel with each tractor, backhoe, or other heavy equipment.
- One shovel and one 5-gallon water-filled backpack pump with each welder.
- One shovel and one fully charged chemical fire extinguisher at a point not greater than 25 feet from the work site for each gasoline-powered tool, including chain saws and rock drills. Spark arresters will be on all applicable equipment.
- Fire extinguishers will be provided in accordance with the Public Resources Code, section 4431.

#### **2.2.5.2 Nesting Birds**

The following avoidance and minimization measures will be implemented to prevent impacts to nesting bald eagles and other birds:

- Construction will not occur during the bald eagle limited operating period, which is January 1 to August 1, unless annual monitoring has determined that bald eagles are not nesting within ½ mile of the project area.
- If vegetation removal, including tree removal, tree limbing, or brush removal, is necessary during the general nesting bird season (April 1 to August 21), a preconstruction nesting bird survey will be conducted by a qualified biologist at least two weeks prior to removal. If active nests are found, an appropriate avoidance buffer and any other protection measures that may be necessary (e.g., construction monitoring) will be implemented. These measures will include compliance with the Pit 1 Bald Eagle Management Plan, developed per Condition 18 of the certification.

#### **2.2.5.3 Invasive Weeds**

The following BMPs will be implemented to prevent the introduction and spread of invasive weeds during construction:

- Clean off-road equipment that is not local to the Pit 1 Project area before it enters the site to ensure that it is free of soil and plant parts.
- Maintain gravel and soil spoil piles to be free of invasive weeds.
- Ensure that materials used for erosion control (e.g., straw wattles, gravel, and fill material) are certified to be weed-free.

#### **2.2.5.4 Erosion Control and Fugitive Dust Abatement**

The following BMPs will be implemented to minimize the potential for erosion and sedimentation and fugitive dust emissions:

- Confine all heavy equipment, vehicles, and construction activities to existing access roads, road shoulders, and disturbed or designated areas.
- Use spill containment around the weir area.
- Use erosion, sediment, and material stockpile BMPs between work areas and adjacent waterways (see Section 2.2.4.3, Construction Overview).
- Store equipment in upland areas outside of the boundaries of any stream channel when not in use.
- Maintain all construction equipment to prevent leaks of fuels, lubricants, or other fluids.

#### **2.2.5.5 Hazardous Materials**

Materials such as fuel (gasoline and diesel), hydraulic oil, and motor oil will be used at the project site. The following BMPs will be implemented to minimize the potential for accidental releases:

- Keep Material Safety Data Sheets for all substances used on the Project site on file at the job headquarters in Burney and at the site as required by applicable laws and safety orders.
- Place hazardous waste products such as grease cartridges and oil absorbents in proper containers and transport from the Project site to an authorized hazardous waste collection site.
- Place no fuel storage tanks onsite. Refuel trucks and equipment from truck-mounted fuel tanks.
- Use extreme caution when handling and/or storing chemicals (e.g., fuel, hydraulic fluid) near waterways; abide by any and all applicable laws and regulations. Follow all applicable hazardous waste BMPs; keep appropriate spill response materials onsite to manage spills, if they were to occur.

Other federal and state authority and license consultations identified for the Proposed Project are described in Table 2.2-1 below.

**Table 2.2-1 Overview of Agencies with Authority over the Proposed Project**

<b>United States Fish and Wildlife Service</b>	<b>California Department of Fish and Wildlife</b>	<b>State Water Resources Control Board</b>
<p>The USFWS is a trustee agency over a resource affected by the Proposed Project and has jurisdiction over any species listed under the federal Endangered Species Act (ESA). USFWS consults under Section 7 of the ESA, and determines whether a proposed action is likely to jeopardize the continued existence of, or destroy or adversely modify critical habitat of, federally listed species. The Shasta crayfish is a listed species under the ESA.</p>	<p>CDFW is a trustee agency over a resource affected by the Proposed Project and has jurisdiction pursuant to the California Endangered Species Act (CESA). Fish and Game Code, section 2050 et seq. prohibits take of a candidate species or species listed as threatened or endangered under CESA unless authorized by CDFW pursuant to Fish and Game Code, section 2080.1 or section 2081, subdivisions (b) and (c). The Shasta crayfish is a listed species under the CESA.</p>	<p>Clean Water Act Section 401 requires that, prior to the issuance of a federal license or permit for an activity or activities that may result in a discharge of pollutants into navigable waters, the applicant must first obtain a water quality certification from the state in which the discharge would originate. The State Water Board is authorized to issue section 401 certifications. The State Water Board is also the CEQA Lead Agency for this project and is responsible for certification of the EIR, adopting CEQA findings, and filing a NOD for the water quality certification amendment.</p>



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## 3 Environmental Setting & Environmental Impacts

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### 3.1 Introduction

This chapter describes the regional and local environmental setting, regulatory setting, and thresholds of impact significance, and identifies the potential environmental impacts associated with the Proposed Project. The environmental resource areas analyzed include:

- Section 3.2, Biological Resources
- Section 3.3, Cultural Resources and Tribal Cultural Resources
- Section 3.4, Hydrology/Water Quality
- Section 3.5, Recreation

In addition, this chapter addresses how and why several environmental resource areas have been eliminated from detailed discussion based on the Proposed Project having no potential effect or a less than significant effect on those resources.

#### 3.1.1 Environmental Baseline

The environmental baseline considered for this California Environmental Quality Act (CEQA) analysis is PG&E's Pit 1 Hydroelectric Project (Pit 1 Project) as currently licensed by FERC, which includes the occurrence of flushing flows in the summer months prior to the temporary suspension of those flows. Impacts to each issue area are discussed in context of this environmental baseline.

#### 3.1.2 Resource Areas Eliminated from Further Analysis

The following resource areas were eliminated from detailed analysis. A brief discussion of those resource areas and the reasons why they were eliminated are provided below.

##### 3.1.2.1 *Aesthetics*

The parking lot expansion will be immediately adjacent to the existing Pit River Access and will be visually compatible with its current use as a parking lot. No scenic vistas are in proximity to this site. The parking lot site will be briefly visible from Cassel Fall River Road, but views will be similar to those of the existing parking lot. No new sources of light or glare will be added. Additionally, once construction is completed, the Project site will be returned to its original condition, to the extent practicable. All equipment and surplus materials will be removed from the site. Impacts will be less than significant.

During three weekends of summer per year, implementation of the Proposed Project will reduce the volume of water flowing over Pit River Falls to approximately one third of what it will be during the flushing flows. In the absence of summer flushing flows, the amount of water flowing over Pit River Falls will be relatively constant throughout the

summer. There is a popular scenic vista point overlooking Pit River Falls on State Route 299 (SR 299). Waterfall sightseeing is generally regarded as being of the highest quality during peak flows. Although the Pit River Falls are more dramatic during a summer flushing flow (approximately 750 to 900 cubic feet per second [cfs]), compared to summer base flows of approximately 250 to 300 cfs), the highest quality viewing occurs during natural high flows (i.e., 10,000 to over 21,000 cfs, the record high in 1986) that typically occur in spring. The majority of years include multiday, high runoff events greater than 3,000 cfs. PG&E will continue to implement October recreational whitewater boating flow releases during two weekends in October before October 30, which will in turn result in waterfall viewing opportunities. There will be no damage to scenic resources associated with the Proposed Project. Therefore, no impacts related to aesthetic resources will occur under the operational flow-related changes of the Proposed Project.

### **3.1.2.2 Agricultural and Forestry Resources**

The parking lot site is on land owned by PG&E that is not classified as farmland and the parking lot expansion will not include the removal of any trees, only non-native grassland. There will be no loss or conversion of farmland to nonagricultural uses. No aspects of the Proposed Project will conflict with existing zoning for agricultural use, or any Williamson Act contracts or existing zoning for, or cause rezoning of, forest or timberland, including timberland zoned Timberland Production. There will be no loss or conversion of forestland to non-forest uses from the flow-related changes. Therefore, no impacts on agricultural and forestry resources will result from parking lot expansion improvements or operational flow-related changes.

### **3.1.2.3 Air Quality**

Construction of the parking lot expansion improvements will result in short-term emissions of criteria air pollutants associated with the use of onsite construction equipment and construction worker vehicle trips to and from the site. However, construction is expected to only last one month and, as described in Section 2.2.5 Other Measures to Minimize Environmental Impacts, measures will be implemented at the site to reduce fugitive dust (i.e., particulate matter). The operational change in flushing flows resulting from the Proposed Project will not affect air quality. The Proposed Project's construction and operations will not conflict with, or obstruct implementation of, an air quality plan, violate any air quality standard, or result in a cumulatively considerable net increase in criteria pollutants. The Proposed Project's short-term construction activities will not generate substantial pollutant concentrations to which sensitive receptors will be exposed. The Proposed Project operations may create objectionable odors at times if aquatic vegetation accumulates and then dies on a large scale in Fall River Pond. Monitoring data since 2005, however, indicate that the continuous minimum instream flows implemented pursuant to certification Condition 8 have adequately controlled the nuisance aquatic vegetation in the pond. In the event

that conditions result in excess aquatic vegetation (i.e., surface aquatic vegetation exceeding 20 percent coverage of Fall River Pond), the Proposed Project calls for PG&E to implement vegetation control methods, such as harvesting or non-summer flushing flows (see Section 2.2.1). Therefore, the Proposed Project will have no impact related to air quality.

#### **3.1.2.4 Energy**

The only energy required by the Proposed Project will be used during construction of the parking lot expansion. Construction will last only one month, and construction equipment and vehicles will be limited to the minimum needed to perform the work. Energy will not be used in a wasteful, inefficient, or unnecessary manner, nor will the minimal amount of construction required conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Construction impacts will be less than significant. As discussed under Section 3.1.2.6, Greenhouse Gas Emissions, overall, the elimination of the requirement for summer flushing flows and continued implementation of October whitewater boating flows will result in increased renewable power generation capabilities during a high demand season. Thus, no conflicts with plans for renewable energy will occur during operations. No impacts will occur during Proposed Project operations.

#### **3.1.2.5 Geology and Soils**

The only new construction or ground-disturbing activities associated with the Proposed Project will occur during construction of the parking lot expansion improvements. The parking lot expansion will be constructed in accordance with appropriate engineering specifications that take into consideration the soil types. The Proposed Project does not propose any new uses or structures that could further expose people to the risks of earthquake ruptures, strong seismic shaking, seismic ground failures, or landslides. No impact will occur related to these risks.

Portions of the Proposed Project are located in the Pit River Canyon, which is subject to occasional rockslides. The flow-related changes, however, will have no effect on the stability of the canyon walls or the frequency of rockslides, or increase erosion. BMPs will be implemented during parking lot construction that will prevent substantial soil erosion or the loss of topsoil. The Proposed Project will have no impact on the potential for on- or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse.

The Proposed Project does not involve construction of buildings that might be compromised by expansion and contraction of such soils and does not involve the disposal of wastewater. The parking lot site is located in a level, already disturbed area that contains no unique geologic features. No impacts related to geology and soils will result from the operational flow-related Project components, and any impacts associated with parking lot construction will be less than significant.

In 2009, during archaeological excavations for the existing parking area and recreation facilities, Far Western Anthropological Research Group (Far Western) identified the soil as dark brown silt loam to silty clay loam of varying degrees of hardness to a maximum depth of 20 centimeters. There were no paleontological resources identified as a result of those excavations. Subsequent to the archaeological excavations, cultural monitoring occurred for the construction of the existing parking area and recreation facilities, which did not exceed a ground-disturbance depth of 2.7 meters below the original surface. The soil profile observed from the surface to a depth of 2.1 meters was consistent with the soils identified during the 2009 archaeological excavations. The soil profile observed from 2.1 to 2.7 meters below surface was decomposing sandstone bedrock. There were no paleontological resources identified as a result of the 2009 cultural monitoring for the construction of the existing parking area and recreation facilities.

Additionally, a search of the University of California Museum of Paleontology (UCMP) database was conducted. While Shasta County is highly sensitive for paleontological resources, the UCMP search indicated that no paleontological specimens have been documented within or in the immediate vicinity of the Proposed Project Area of Potential Effect (APE) (UCMP 2019). The Proposed Project is located on an upper terrace marking the southwestern end of Fall River Valley alluvial deposits with Holocene-aged volcanic flow rock emanating from the south (Far Western 2010). It is anticipated that the construction activities for the Proposed Project will not exceed 2.7 meters below surface, which will result in a less than significant impact to paleontological resources.

### **3.1.2.6 Greenhouse Gas Emissions**

Construction of the parking lot expansion improvements are estimated to last one month and during this timeframe a negligible amount of greenhouse gas emissions will be generated from the limited onsite equipment and construction worker vehicle trips. As a result of the short-term construction duration and limited pieces of equipment needed to construct the improvements, impacts from the generation of greenhouse gas emissions associated with construction activities will be less than significant.

PG&E loses approximately 900 to 1,200 mega-watt hour (MWh) of power generation from each flushing flow. These generation losses are typically offset by other sources, some of which are likely nonrenewable generation sources. The elimination of the requirement for flushing flows during the summer months will allow PG&E to increase renewable power generation during a peak electricity demand period.

As a result, PG&E will be gaining generation capability in the summer months when energy demand is higher, and losing generation capability in October when the energy demand is typically lower. Overall, the elimination of the requirement for summer flushing flows and implementation of October whitewater boating flows over two weekends will be a benefit to greenhouse gas emissions because it will result in increased renewable power generation capabilities during a high demand season.

Therefore, no impact will occur from additional greenhouse gas emissions associated with Proposed Project operations.

### **3.1.2.7 Hazards and Hazardous Materials**

Parking lot expansion construction will require the routine transport, use, or disposal of common hazardous materials, but no significant hazards to the public will result from their use or from the potential for accidental releases because appropriate BMPs, described in Section 2.2.4.3 Construction Overview, will be implemented to prevent and clean up spills should they occur. The parking lot site is not located on a known hazardous material site, nor is it located within ¼ mile of a school. Expansion of the existing parking lot will not affect the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan, nor will any safety hazards or airport-related noise impacts occur. The parking lot site is located less than two miles from the Fall River Mills Airport, but this general aviation airport only experiences approximately 100 flights per month (AirNav.com 2019), and construction workers will not be exposed to excessive noise levels during the brief construction period. Appropriate BMPs, described in Section 2.2.4.3, will be implemented during parking lot expansion construction to minimize risks of wildfires. Impacts associated with parking lot expansion construction will be less than significant. No hazardous materials will be required as a result of operational flow-related changes, nor will any other hazards occur. No impacts related to hazards and hazardous materials will occur as result of operational flow-related changes.

### **3.1.2.8 Land Use and Planning**

The Proposed Project will not divide any established communities and will not conflict with any applicable land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect, because no significant impacts will occur, as identified in this Environmental Impact Report (EIR). Therefore, no land use impacts will occur during construction or operations.

### **3.1.2.9 Mineral Resources**

The Proposed Project area is not located within an identified mineral resource zone, as defined by the United States Geological Survey, Mineral Resources Data System (USGS 2021). Therefore, no impacts on mineral resources will occur during construction or operation of the Proposed Project.

### **3.1.2.10 Noise**

The only noise generated by the Proposed Project will result from parking lot construction, which will last only one month and require a limited amount of equipment. Construction will occur during daytime hours, and while a temporary increase in noise could be perceptible at the nearest residence, which is located about 600 feet to the northwest of the northern portion of the Project site, this will be a less than significant

impact. Although the Shasta County General Plan includes noise standards for residential development, these are intended to be for long-term uses, not brief construction periods, and the county has no ordinances that establish standards specific to construction noise. Parking lot expansion construction will not cause excessive groundborne vibration or noise levels. The parking lot site is located less than two miles from the Fall River Mills Airport, but this general aviation airport only experiences approximately 100 flights per month (AirNav.com 2019), and construction workers will not be exposed to excessive noise levels. Impacts from parking lot expansion construction will be less than significant and no impacts will result from operational flow-related changes.

### **3.1.2.11 Population and Housing**

The Proposed Project does not include any uses that will increase population in the area. A limited amount of construction will be required, lasting only one month. The Proposed Project also will not result in displacement of housing or require construction for replacement housing. Therefore, no impacts on population and housing will occur during construction or operations.

### **3.1.2.12 Public Services**

The Proposed Project does not include any uses that will generate a need for new or improved public services, including fire protection, police protection, schools, parks, or other public facilities. Therefore, no impacts on public services will occur during construction or operations.

### **3.1.2.13 Transportation**

Due to the elimination of the requirement for summer flushing flows, the Proposed Project will reduce the incidental whitewater boating opportunities in the Proposed Project area during the summer months. The cessation of summer flushing flows may result in minor increased use of the Class II whitewater run downstream of the Pit 1 Powerhouse during the October releases, but is unlikely to attract a large number of out-of-area boaters. Moreover, the proposed parking lot expansion will be adjacent to an existing park lot on PG&E-owned land and will accommodate any increased demand from the whitewater flow releases during October. Construction of the proposed parking lot expansion and the incorporation of October whitewater boating flow releases into the certification will not conflict with any applicable plans, ordinances, or policies related to traffic, will not produce hazards due to design features or incompatibility with current land use, and will have no effect on emergency access or interfere with alternative transportation facilities. No impacts related to transportation and traffic will occur during construction or operations.

### **3.1.2.14 Utilities and Service Systems**

The Proposed Project does not include any uses that will generate a need for new or improved utilities or service systems, including wastewater treatment, storm drainage, water supplies, and solid waste. No utilities or service systems will be affected. Therefore, no impacts will occur during either construction or operations of the Proposed Project.

### **3.1.2.15 Wildfire**

The proposed parking lot expansion site will be located in a state responsibility area that is classified as very high fire hazard severity zone (CAL FIRE 2019). The only element of the Proposed Project that has the potential to cause a wildfire will be from equipment and vehicle use during construction of the expanded parking lot. The Proposed Project includes the implementation of BMPs that will minimize the potential for wildfires by ensuring that crews suspend work activities if fire dangers reach extreme conditions, and requiring crews to have appropriate equipment available at all times, including shovels, axes, fire extinguishers, water-filled backpack pumps, as well as spark arresters on equipment. The proposed parking lot expansion will be adjacent to an existing parking lot on PG&E land and will not affect any emergency response plans or emergency evacuation plans. The parking lot expansion will be small, comprising only 12 stalls and constructed on generally level ground. It will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Any impacts from construction will be less than significant. No impacts will result from the flow-related operations changes.

## **3.2 Biological Resources**

This section describes the biological resources present within the Proposed Project area. The Proposed Project has the potential to affect species found in or closely associated with the aquatic and terrestrial environment. Thus, the biological resources analysis focuses on those species found in, or that otherwise use, the aquatic and terrestrial habitat such as riparian plants and birds that feed on aquatic and terrestrial species. The analysis focuses on special-status aquatic invertebrates, fish, reptiles, and bird species. Potential impacts of the proposed construction and operational changes (i.e., elimination of the requirement for summer flushing flows into the Pit 1 Bypass Reach) on those biological resources have been analyzed. In addition, this section discusses federal, state, and local laws, regulations, policies, and objectives applicable to the Proposed Project.



### **3.2.1 Environmental Setting**

Baseline environmental setting information for the Proposed Project area was compiled from existing published literature. Primary data sources include the following:

- Pit 1 Shasta Crayfish Study Report, January 2013 (PG&E 2013)
- Shasta Crayfish Technical Review Committee Summary Report. (Spring Rivers 2009a)
- Recovery Plan for the Shasta Crayfish (*Pacifastacus fortis*) (USFWS 1998)
- Pit 1 Flushing Flows Effectiveness Monitoring Plan, 2012 Annual Report (Spring Rivers 2013a)
- Shasta Crayfish Technical Review Committee, 2011 Annual Report (Spring Rivers 2012a)
- Shasta Crayfish Technical Review Committee, 2012 Annual Report (Spring Rivers 2013b)
- Distribution and Status of Crayfish in the Pit River Drainage, California (Daniels 1980)
- Life history, distribution, and abundance of *Pacifastacus fortis* (Decapoda: Astacidea) (Eng and Daniels 1982)
- Environmental Assessment for Hydropower License: Pit 1 Hydroelectric Project (FERC 1999)

#### **3.2.1.1 Aquatic Habitats and Biota**

The Pit River, which originates on the west slopes of the Warner Mountains, drains to the west through Alturas to Fall River Mills. Fall River is the largest tributary to the Pit River in the Proposed Project area (see Figure 1.3-1). Fall River flows into Pit 1 Forebay and then into Fall River Pond. Fall River Pond is approximately 0.7 mile long and is created by the Fall River Pond Weir. Beyond the weir, Fall River flows approximate 1,000 feet to its confluence with the Pit River. Water that enters the Pit 1 Forebay is diverted via the Fall River Diversion to the Pit 1 Powerhouse. The forebay is used to store water to support powerhouse peaking operations, but also to provide minimum instream flows to the Pit 1 Bypass Reach that extends approximately 6.6 miles from the confluence of the Fall River to the Pit 1 Powerhouse. The minimum instream flows that PG&E is required to release from the Fall River Pond are presented in Table 2.1-1.

The Pit River supports a montane riparian plant community that is generally dominated by alder (*Alnus* spp.), big-leaf maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), and cottonwood (*Populus* sp.). Black oak (*Quercus kelloggii*) is also a common species that occurs along the margins of the river. Understory vegetation that

typically dominates this community type includes willow (*Salix* spp.), dogwood (*Cornus* sp.), gooseberry (*Ribes* spp.), and thimbleberry (*Rubus parviflorus*).

The first 1.9 miles of the Pit 1 Bypass Reach are low gradient and characterized by a wide channel, deep pools, and slow-moving water (PG&E 2013). The largest pool, called Big Eddy, is approximately 200 feet wide and 20 to 25 feet deep (FERC 1999). The remainder of the Pit 1 Bypass Reach is within the Pit River Canyon where the river channel is narrow (generally 40 to 80 feet wide) and shallow with numerous riffles, and has a steeper gradient with higher water velocities. The Pit River Falls are located in this reach, as well as 15 mapped springs (USFWS 1998) that contribute approximately 100 cfs to the river flow. Downstream of the Pit 1 Powerhouse, the Pit River flows approximately three miles to Lake Britton (FERC 1999). From 1975 to 1991, mean monthly flow in the Pit River upstream of the Fall River confluence averaged 58 cfs in August and 1,422 cfs in March, while flow downstream of the Pit 1 Powerhouse averaged 1,285 cfs in August and 3,008 cfs in March (FERC 1999).

Water temperature in the Pit 1 Bypass Reach, as measured from August 26 through September 1, 2004, was 19.8°C at a flow of 277 cfs (Spring Rivers 2009b). Water inflow from the springs is cooler at approximately 15°C (FERC 1999). Both Fall River Pond and Big Eddy Pool are eutrophic with warm water temperatures and high primary productivity. As a result, Fall River Pond historically has supported excessive growths of aquatic vegetation in the summer, and Big Eddy Pool exhibits thermal stratification in the summer with large fluctuations in dissolved oxygen and pH (FERC 1999).

A suite of common aquatic fish and invertebrate species are known to inhabit Fall River, Pit River, Pit 1 Forebay, and Fall River Pond (Table 3.2-1). The native and introduced trout prefer cooler waters while the other introduced fish are typical warm water species. Both the western ridgeshell (*Gonidea angulata*) and western pearlshell (*Margaritifera falcata*) are coldwater dependent mussel species. The non-native signal crayfish (*Pacifastacus leniusculus*) and northern crayfish (*Orconectes virilis*) are known to occur within the Proposed Project area; they were introduced sometime during the 1960s and 1970s (PG&E 2013) and have become common within the Pit River watershed. Non-native (introduced) fish species dominate in the Pit 1 Forebay, Fall River Pond, and Big Eddy Pool (FERC 1999). The non-native bullfrog (*Lithobates catesbeiana*) is also present within the Proposed Project area (Spring Rivers 2011a).

**Table 3.2-1 Aquatic Species Known to Inhabit the Project Area**

Common Name	Scientific Name	Native/ Introduced	Location
<b>Fish</b>			
Rainbow trout	<i>Oncorhynchus mykiss</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Brown trout	<i>Salmo trutta</i>	Introduced	Fall River Drainage
Sacramento sucker	<i>Catostomus occidentalis</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Sacramento pikeminnow	<i>Ptychocheilus grandis</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Hardhead	<i>Mylopharodon conocephalus</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Pit Roach	<i>Lavinia symmetricus mitrulus</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Tui chub	<i>Siphateles bicolor</i>	Native	Fall River Drainage, Pit 1 Forebay
Tule perch	<i>Hysterothorax traskii</i>	Native	Pit River
Bigeye marbled sculpin	<i>Cottus klamathensis macrops</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Rough sculpin	<i>Cottus asperimus</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Pit sculpin	<i>Cottus pitensis</i>	Native	Pit River
Pit-Klamath brook lamprey	<i>Entosphenus lethophagus</i>	Native	Fall River Drainage
Green sunfish	<i>Lepomis cyanellus</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River
Bluegill	<i>Lepomis macrochirus</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River

<b>Common Name</b>	<b>Scientific Name</b>	<b>Native/ Introduced</b>	<b>Location</b>
Largemouth bass	<i>Micropterus salmoides</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River
Smallmouth bass	<i>Micropterus dolomieu</i>	Introduced	Pit River
Black crappie	<i>Pomoxis nigromaculatus</i>	Introduced	Pit 1 Forebay, Pit River
Mosquitofish	<i>Gambusia affinis</i>	Introduced	Fall River Drainage, Pit 1 Forebay
Channel catfish	<i>Ictalurus</i>	Introduced	Pit 1 Forebay
Black bullhead	<i>Amieurus melas</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River
Brown bullhead	<i>Amieurus nebulosus</i>	Introduced	Fall River Drainage
Common carp	<i>Cyprinus carpio</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River
Golden shiner	<i>Notemigonus chrysoleucas</i>	Introduced	Pit River
<b>Invertebrates</b>			
California floater	<i>Anodonta californiensis</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Western ridged-shell	<i>Gonidea angulata</i>	Native	Pit 1 Forebay, Pit River
Western pearlshell	<i>Margaritifera falcata</i>	Native	Pit River
Canary dusksnail	<i>Colligyrus convexus</i>	Native	Fall River Drainage, Pit River
Nugget pebblesnail	<i>Fluminicola seminalis</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Scalloped juga	<i>Juga occata</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Great Basin rams-horn	<i>Helisoma newberryi</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River

Common Name	Scientific Name	Native/ Introduced	Location
Kneecap lanx	<i>Lanx patelloides</i>	Native	Fall River Drainage, Pit 1 Forebay, Pit River
Shasta crayfish	<i>Pacifastacus fortis</i>	Native	Fall River Drainage, Pit River
Signal crayfish	<i>Pacifastacus leniusculus</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River
Northern crayfish	<i>Orconectes virilis</i>	Introduced	Fall River Drainage, Pit 1 Forebay, Pit River

Source: FERC 1999, Spring Rivers 2009b, updated 2021.

### 3.2.1.2 Special-Status Species

Only those species that are currently listed, are candidates for listing as threatened or endangered, or are state or federal species of special concern, are discussed in this section. Three invertebrates categorized by the United States Forest Service (USFS) as Sensitive are also discussed. The Pit 1 Bypass Reach does not support federal or state-listed plant species (CDFW 2021, CNPS 2021), but may provide habitat for plant species that have a State rare plant rank. Special-status species in the Proposed Project area are listed in Table 3.2-2 with their status.

**Table 3.2-2 Special-Status Species in the Proposed Project area**

Common Name	Scientific Name	Federal Status	State Status	Other Status
Shasta crayfish	<i>Pacifastacus fortis</i>	E	E	S1
Bald eagle	<i>Haliaeetus leucocephalus</i>	Delisted	E	FSS, SFP, S3
Northern western pond turtle	<i>Emys marmorata</i>	–	SSC	FSS, S3
Foothill yellow-legged frog	<i>Rana boylei</i>	–	T, SSC	FSS, S3
Hardhead	<i>Mylopharodon conocephalus</i>	–	SSC	FSS, S3
Pit Roach	<i>Lavinia symmetricus mitrulus</i>	–	SSC	S2

<b>Common Name</b>	<b>Scientific Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Other Status</b>
Bigeye marbled sculpin	<i>Cottus klamathensis macrops</i>	–	SSC	S2, S3
Rough sculpin	<i>Cottus asperimus</i>	–	T	SFP, S2
Nugget pebblesnail	<i>Fluminicola seminalis</i>	–	–	FSS, S1S2
Montane peaclam	<i>Pisidium ultramontanum</i>	–	–	FSS, S1
Canary duskysnail	<i>Colligyrus convexus</i>	–	–	S1
California floater	<i>Anodonta californiensis</i>	–	–	FSS, S2?
Western ridged-shell	<i>Gonidea angulata</i>	–	–	S1S2
Western pearlshell	<i>Margaritifera falcata</i>	–	–	S1S2
Scalloped juga	<i>Juga occata</i>	–	–	FSS, S1
Great Basin rams-horn	<i>Helisoma newberryi</i>	–	–	FSS, S1S2
Kneecap lanx	<i>Lanx patelloides</i>	–	–	FSS, S2

Source: FERC 1999, Spring Rivers 2009b, updated 2021

Table Status Codes:

- E = endangered
- FSC = Federal Species of Concern
- FSS = Forest Service Sensitive
- S1 = Critically Imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- S2 = Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- S2? = By adding a “?” to this rank it represents more certainty than S2S3, but less certainty than S2.
- S3 = Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.
- SFP = State fully protected
- SSC = State Species of Special Concern
- T = threatened

### **3.2.1.3 Shasta Crayfish**

The Shasta crayfish is listed as endangered under the federal and California Endangered Species Acts (ESAs). The species is endemic to California and is only known to occur in northeastern Shasta County (Eng and Daniels 1982). The majority of its population is currently located in the Fall River and Hat Creek drainages upstream of the Proposed Project area (USFWS 1998). The Shasta crayfish occurs in very low abundance within the Pit 1 Bypass Reach and is presumed extirpated from Fall River Pond directly upstream (PG&E 2013). This species is presumed to still occur at two locations in the Pit 1 Bypass Reach upstream of the Pit River Falls (PG&E 2013; Spring Rivers 2008, 2011b). Shasta crayfish have also been found at the downstream end of the Pit 1 Bypass reach, upstream of the Pit 1 Powerhouse tailrace, but this population has possibly been extirpated (Spring Rivers 2012a). One dead Shasta crayfish was found at this Lower Pit 1 Bypass reach location during surveys in the mid-1990s (USFWS 1998). The most current population estimate for the Shasta crayfish within the Bypass Reach is between 5 and 70 individuals (PG&E 2013). During the last comprehensive surveys, which were conducted in 2007 and 2009, one dead Shasta crayfish was observed in the Pit 1 Bypass Reach.

Shasta crayfish mate in the fall (September to October) after the final molt of the season (USFWS 1988), and the female attaches the eggs (one to 70) to the underside of her abdomen or tail (USFWS 1998). The eggs hatch in mid-May to late July when the water warms slightly, and the immature larvae stay attached to the female until their third instar state, when they become free living at five to seven millimeters in size (USFWS 1998). Both males and females become sexually mature at about five years of age.

Shasta crayfish habitat is characterized by clean lava boulder, cobble, and gravel substrate that is associated with spring flow areas (Eng and Daniels 1982, Daniels 1980). The substrate is typically free of fine material with little to no aquatic vegetation (Eng and Daniels 1982). Shasta crayfish are generally found in water that has little annual temperature variation (Eng and Daniels 1982). Shasta crayfish are typically associated with areas that experience minimal velocity, occurring in pools, runs, or along the margins of a river that are at least one foot deep (PG&E 2013). Shasta crayfish are associated with coldwater habitats, and, based on various studies sponsored by PG&E (Spring Rivers 2009b), a range of mean daily temperatures have been identified as providing suitable habitat (PG&E 2013):

- Coldwater habitat < 15 to 17°C
- Marginally cold habitat 17.1 to 18°C
- Cool habitat 18.1 to 19°C

Within the Pit 1 Bypass Reach, Shasta crayfish have been identified in areas along the margins of the Pit River that are protected from the primary river current by large boulder substrate (PG&E 2013). They have also been found underneath layers of river

substrate. Colder water and lower velocities occur in the river at locations where springs are present.

Both non-native crayfish species, signal crayfish and northern crayfish, are known to occur within the Pit 1 Bypass Reach and are competitors for habitat and resources and are predators of the Shasta crayfish. As indicated by various crayfish surveys from the 1990s to present, the numbers of non-native crayfish have increased throughout the Pit 1 Bypass Reach (PG&E 2013). For example, no northern crayfish were detected in the spring located below the Pit 1 Footbridge during surveys in the 1990s; however, 198 northern crayfish were counted during surveys in the mid-2000s. Similarly, between the mid to late 2000s, the number of signal crayfish located upstream of the Pit River Falls, where Shasta crayfish are known to occur, nearly tripled (PG&E 2013).

### **Bald Eagle**

The bald eagle (*Haliaeetus leucocephalus*) was delisted as a threatened species under the federal ESA, but is still listed as endangered under the California ESA. Bald eagle nesting and wintering habitat is afforded protection under both federal and California ESAs. In California, bald eagles breed almost exclusively within Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties. Wintering activity occurs throughout the state except for the desert regions east of the Los Angeles Basin. Suitable nesting and foraging habitat is usually associated with large bodies of water including reservoirs, natural lakes, or rivers. Nesting almost never occurs more than three kilometers (two miles) from water. The Project is within 0.5 miles of the Fall River Mills bald eagle pair, which is known to have successfully reproduced as recently as 2017 (Spring Rivers 2019).

### **Northern Western Pond Turtle**

Northwestern pond turtles are known to be present in the Proposed Project area, particularly in the Big Eddy Pool and the Fall River Pond where they use aquatic vegetation mats for basking (Spring Rivers 2011a). Upland habitat adjacent to the Pit River supports both nesting and over-wintering activity (PG&E 2011).

### **Foothill Yellow-Legged Frog**

Although observation records from 1978 indicate foothill yellow-legged frogs were in the Pit 1 Bypass Reach between Pit River Falls and Big Eddy Pool (Daniels' 1978 unpublished field data, as cited in Spring Rivers 2017a), no foothill yellow-legged frogs or other special-status amphibians were found within the Proposed Project area during annual surveys from 2004 through 2008 (PG&E 2011). Based on the 2004-2008 survey results, this species is not expected to be present and is not discussed further in this document.



## **Hardhead**

This native fish is present but not abundant in the Proposed Project Area (Moyle 2002). It is always associated with Sacramento pikeminnow and usually with the Sacramento sucker. The species prefers warm, clear, deep pools and runs with low water velocities over sand compared to larger boulder substrates.

## **Bigeye Marbled Sculpin**

The bigeye marbled sculpin is found in the Fall River and in the Pit River downstream of Lake Britton. The species resides in spring-fed streams and rivers with a low gradient and water temperatures below 20°C in the summer, preferring temperatures of 11 to 15°C (Moyle 2002). Due to the warm temperatures in the portions of the Fall River within the Proposed Project area, this species is not expected to be present and is not discussed further in this document.

## **Rough Sculpin**

Rough sculpins inhabit spring-fed tributaries to the Pit River, including the Fall River and Tule River. Some have also been collected in the Pit River and Lake Britton. The species prefers cool, rapidly flowing, deep water with temperatures of about 15°C (Moyle 2002). As with the bigeye marbled sculpin, warm water temperatures limit the presence of this species in the Proposed Project area (Moyle 2002). This species is not expected to be present and is not discussed further in this document.

## **Freshwater Invertebrates**

The three freshwater mussel species, California floater, western ridgeshell, and western pearlshell, are all known to occur in the Pit 1 Bypass Reach. The montane peaclam clam has been found in portions of the Proposed Project area. The canary duskysnail, nugget pebblesnail, scalloped juga, Great Basin rams-horn, and kneecap lanx have all been found in portions of the Proposed Project area. Most of these species are coldwater dependent and have a relatively narrow temperature tolerance range (Spring Rivers 2007, 2011a).

### **3.2.2 Regulatory Setting**

Federal, state, and local laws, regulations, policies, executive orders, and plans pertaining to the Proposed Project are discussed in this section.

#### **3.2.2.1 *Federal***

### **Endangered Species Act**

Pursuant to the federal ESA, the USFWS (16 U.S.C. Ch. 35 § 1531 et seq) has authority over projects that may result in take of a species listed as threatened or endangered under the act. "Take" is defined under the ESA, in part, as killing, harming, or harassing an individual of a species. Under federal regulations, take is further defined to include habitat modification or degradation that results, or is reasonably

expected to result, in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If the likelihood exists that a project will result in take of a federally listed species, either an incidental take permit under Section 10(a) of the ESA, or a federal interagency consultation under Section 7 of the ESA, is required.

On October 24, 2004, the USFWS issued a Biological Opinion for the operation of the Pit 1 Project. The Biological Opinion allowed for the incidental take of Shasta crayfish. The USFWS (2009), however, stated that the flushing flows were not considered in the 2004 Biological Opinion and “appropriate take authorization had not been obtained for this action.” In addition, the incidental take permit issued in the 2004 Biological Opinion expired in 2007 (USFWS 2009). Based on various monitoring efforts, the USFWS stated that flushing flows were reducing coldwater refugia for Shasta crayfish and requested that flushing flows be suspended. The USFWS also stated that the out-of-season flushing flows may be resulting in the take and contributing to the decline of the Shasta crayfish within the Bypass Reach (USFWS 2009).

In May 2009, the USFWS expressed concern regarding a decline in Shasta crayfish in the Pit 1 Bypass Reach, and PG&E subsequently requested a suspension of the 2009 summer flushing flows for the Pit 1 Project. The request stated that summer flushing flows released from the Fall River Weir into the Pit 1 Bypass Reach were reducing and eliminating coldwater habitat for the Shasta crayfish and providing beneficial habitat for non-native crayfish species. On April 15, 2010, the State Water Board received a request from FERC to temporarily suspend the summer flushing flow requirements in the Project’s certification, which were incorporated into the FERC Project license. On July 6, 2010, the State Water Board issued Order WQ 2010-0009-EXEC, which temporarily amended the certification to suspend summer flushing flows for 2 years (2010 and 2011). On August 10, 2010, FERC issued an order temporarily amending the license and incorporating the temporary amendment to the certification.

On March 22, 2012, PG&E submitted a letter requesting an extension of the suspension of summer flushing flows for one additional year to allow for implementation of the Shasta crayfish study plan and completion of the CEQA analysis. USFWS provided concurrence of support on July 19, 2012. On June 14, 2012, the State Water Board issued Order WQ 2012-0008-EXEC approving the temporary suspension of flushing flow requirements through 2012. PG&E issued the final Pit 1 Hydroelectric Project Shasta Crayfish Study Report on January 31, 2013.

On March 28, 2013, April 21, 2014, March 19, 2015, March 31, 2016, April 18, 2017, and February 7, 2018, PG&E submitted letters to the State Water Board requesting additional one-year extensions to the temporary suspension of Pit 1 Project summer flushing flows to allow time for the completion of the Draft EIR. USFWS provided letters of support on May 17, 2013, April 21, 2014, March 19, 2015, June 9, 2016, June 13, 2017, and March 26, 2018, respectively. On June 20, 2013, June 12, 2014, June 23, 2015, June 28, 2016, June 27, 2017, and June 26, 2018, the State Water

Board issued Orders approving the temporary suspension of summer flushing flow requirements:

- **WQ 2013-0024-EXEC** (140 FERC Paragraph 62.080. Order Temporarily Amending License and Incorporating Temporary Amendment to Water Quality Certification [issued July 26, 2012]),
- **WQ 2014-0023-EXEC** (State of California State Water Resources Control Board Order WQ 2013-0024-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2013 Order, issued June 20, 2013]),
- **WQ 2015-0076-EXEC** (State of California State Water Resources Control Board Order WQ 2014-0023-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2014 Order, issued June 12, 2014]),
- **WQ 2016-0072-EXEC** (State of California State Water Resources Control Board Order WQ 2015-0076-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2015 Order, issued June 17, 2015]),
- **WQ 2017-0014-EXEC** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2017 Order, issued June 27, 2017]), and
- **WQ 2018-0111-EXEC** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2018 Order, issued June 26, 2018]), respectively.

FERC issued orders temporarily amending the license and incorporating the temporary amendments to the certification on:

- **June 27, 2013** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2016 Order, issued June 28, 2016]),
- **June 19, 2014** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2017 Order, issued June 27, 2017]),
- **June 24, 2015** (State of California State Water Resources Control Board Order WQ 2016-0072-EXEC Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements [SWRCB 2018 Order, issued June 26, 2018]),

- **July 19, 2016** (143 FERC Paragraph 62,220. Order Temporarily Amending License and Incorporating Temporary Amendment to Water Quality Certification [issued June 27, 2013]),
- **July 27, 2017** (156 FERC ¶ 62,049. Order Modifying and Approving Temporary Flow Variance [issued July 17, 2017]),
- **August 13, 2018** (135 FERC Paragraph 62,215. Order Approving Final Whitewater Boating Flow Schedule [issued June 14, 2011]), respectively,
- **August 13, 2018** (156 FERC Paragraph 62,049. Order Modifying and Approving Temporary Flow Variance [issued August 13, 2018]), and
- **2019** (168 FERC Paragraph 62,152. Order Approving Temporary Flow Variance [Issued September 16, 2019]) respectively.

In a February 19, 2020 letter to the USFWS, PG&E requested informal Section 7 consultation for a temporary suspension of the flushing flow requirement in 2020. This letter requested concurrence with the determination that the temporary suspension of the requirement is not likely to adversely affect Shasta crayfish. On March 24, 2020, PG&E submitted a letter to the State Water Board requesting temporary suspension of the flushing flow requirement. On April 7, 2020 the USFWS<sup>1</sup> concurred and on June 24, 2020<sup>2</sup> the State Water Board approved the request.

### **Shasta Crayfish Recovery Plan**

Section 4(f) of the ESA requires recovery plans to be developed and implemented for listed species, unless such a plan would not promote conservation of the species. The USFWS prepared a recovery plan for the Shasta Crayfish in 1998 (USFWS 1998). The recovery plan outlines criteria for down-listing the species to “threatened” as well as achieving recovery and delisting. The recovery plan provides an approach to recover and/or to provide adequate protection for the Shasta crayfish. The objective of the recovery plan is to reduce threats, protect and restore habitat, and improve the population status of the Shasta crayfish to a level that will warrant delisting.

### **Fish and Wildlife Coordination Act**

The Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667e), as amended in 1964, was enacted to protect fish and wildlife resources when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal

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<sup>1</sup> United States Fish and Wildlife Service concurrence letter regarding Informal Section 7 Consultation for the Temporary Suspension of the Flushing Flow Requirement at the Pit No. 1 Hydroelectric Project (FERC Project No. 2687), Shasta. Issued April 7, 2020.

<sup>2</sup> State of California State Water Resources Control Board ORDER WQ 2020-0011-EXEC Order Approving Temporary Suspension of Flushing Flow Requirements (SWRCB 2010 Order, issued June 24, 2020).

agencies to consider the effect that water-related projects would have on fish and wildlife resources. Consultation and coordination with the USFWS and state fish and game agencies (e.g., CDFW) are required to address ways to prevent loss of and damage to fish and wildlife resources.

### **Federal Energy Regulatory Commission**

FERC issues preliminary permits and licenses to non-federal entities for the development of hydropower projects under its jurisdiction, including projects utilizing federal dams or other federal facilities where Congress has not authorized power development as a project purpose.

FERC issued PG&E a new license on March 19, 2003, which allowed for the continued operation of the Pit 1 Project. Pursuant to the new license and the certification, PG&E implemented the required flushing flows starting in 2003 until they were temporarily suspended.

As discussed above, at the request of the USFWS (2009), FERC submitted a letter to the State Water Board requesting that the certification for the Pit 1 Project be amended to temporarily suspend summer flushing flows. The State Water Board issued orders that temporarily suspended summer flushing flows from 2010 through 2020 while undergoing the CEQA process to analyze the effects of removing the flushing flow requirements in the certification. FERC, in turn, issued orders temporarily amending the Pit 1 Project License to suspend summer flushing flows.

### **FERC License Article 412**

License Article 412 required PG&E to develop a Shasta Crayfish Management Plan in consultation with the USFWS, CDFW, California Department of Parks and Recreation (California Parks), and interested stakeholders within the Pit River drainage. The final management plan (PG&E 2003a) includes: (a) Shasta crayfish monitoring within delineated habitat areas (FERC License Article 409); (b) signal crayfish removal/management; (c) tracking of CDFW's fish stocking program within the Pit 1 Project area; and (d) annual reporting.

### **FERC License Article 410**

License Article 410 required PG&E to establish a technical review committee (TRC) to assist PG&E in Shasta crayfish protection and recovery within the Pit 1 Project area. The TRC is composed of representatives from the USFWS, CDFW, California Parks, State Water Board, interested stakeholders, and PG&E. The TRC meets annually to discuss Shasta crayfish monitoring and survey efforts as well as any PG&E operations scheduled to occur that may impact this species. By May 31 of each year, PG&E provides an annual report to the TRC that summarizes activities that took place the previous year as part of the Shasta Crayfish Management Plan (License Article 412).

### **FERC License Article 401(a)**

License Article 401(a) requires PG&E to monitor the effectiveness of the flushing flows that were designed to control aquatic vegetation and mosquito production in Fall River Pond. PG&E was required to conduct a monitoring program for the initial five years that flushing flows were implemented. PG&E developed the Flushing Flow Effectiveness Monitoring Plan (PG&E 2004) to address License Article 401 and its incorporation of Conditions 8, 13, and 14 of the certification issued by the State Water Board in 2001. The monitoring of summer flushing flows was initiated in 2005 and ended in 2009, when flushing flows were suspended. The State Water Board orders that temporarily suspended summer flushing flows from 2010 through 2020 require PG&E to continue monitoring the effectiveness of minimum instream flow releases at controlling aquatic vegetation in Fall River Pond, following the methods described in the Flushing Flow Effectiveness Monitoring Plan.

#### **3.2.2.2 State**

##### **California Endangered Species Act**

CESA (Fish and G. Code, § 2050 et seq.) states that all native species or subspecies of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants that are threatened or endangered of becoming extinct will be protected and preserved. CESA further establishes that state agencies should not approve projects that would jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available that would prevent jeopardy. CESA also requires that reasonable and prudent alternatives be developed by CDFW, together with the project proponent (e.g., PG&E) and the state lead agency (e.g., State Water Board), consistent with conserving the species, while at the same time maintaining the project purpose to the greatest extent possible.

Under section 2081 of the Fish and Game Code, an incidental take permit from CDFW is required for projects that could result in the “take” of a species that has a designation of threatened or endangered. Under CESA, take is defined as an activity that would directly or indirectly kill an individual of a species. Habitat modification is not considered take under CESA.

##### **Section 401 of the Clean Water Act**

Under section 401, the applicant for a federal permit or license for an activity that may result in a discharge to a water body is obligated to obtain a certification from the state that ensures that the proposed activity complies with state water quality standards.

The State Water Board issued PG&E a certification in December 2001 for the continued operation of the Pit 1 Project. Pursuant to Condition 13 of the certification, PG&E implemented the required summer flushing flows between 2003 and 2009 to control aquatic vegetation and mosquito production and breeding habitat in Fall River Pond. The

flushing flows are required to be released during “one weekend in each of May or June, July and August to reduce nuisance aquatic growth and control mosquito populations in the Fall River Pond” (State Water Board 2010). The flushing flows were defined as 1,250 cfs. Due to potential impacts from the summer flushing flows on Shasta crayfish, however, summer flushing flows were suspended from 2010 through 2020 (State Water Board 2010, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, and 2020).

Condition 14 of the certification requires PG&E to monitor the effectiveness of the summer flushing flows to control aquatic vegetation and mosquito populations in Fall River Pond. PG&E monitored surface aquatic vegetation on Fall River Pond, which remained below 10 percent surface aquatic vegetation cover, from 2005 through 2009, when it was determined that the summer flushing flows were potentially impacting the Shasta crayfish.

Condition 8 of the certification requires that PG&E make continuous flow releases from the Pit 1 Forebay into the lower Fall River (downstream of Pit 1 Dam) and the Pit River. Minimum instream flows downstream of the Fall River Weir must be 75 cfs between November 1 and November 15; 50 cfs between November 16 and May 15; 75 cfs between May 16 and May 31; and 150 cfs between June 1 and October 31. Condition 8 allows for a 10 percent deviation from the above listed minimum flows, but the monthly average daily flow must meet or exceed the minimum flow requirement. At no time is PG&E allowed to intentionally release less than the proposed flow except for public safety or other emergencies. Monitoring occurred between 2005 and 2009.

### **3.2.2.3 Local**

#### **Shasta County General Plan Objectives and Policies**

The Shasta County General Plan (General Plan) includes a list of sensitive and rare wildlife species known to occur within the county of Shasta (Shasta County 2004; Table FW-1). The General Plan deems the health of these species’ populations to be an important indicator of the net effect of the human community on the natural environment. Aquatic species included in the General Plan’s list that are known to occur within the Proposed Project include Shasta crayfish, rough sculpin, bigeye marbled sculpin, hardhead, pit roach, and northern western pond turtle. The General Plan includes various objectives and policies that were designed to protect these special-status species. The objectives and policies that pertain to the Proposed Project include the following:

- **Objective FW-1.** Protection of significant fish, wildlife, and vegetation resources.
- **Policy FW-c.** Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Wildlife Commission [sic] and/or the USFWS, shall be designed, or conditioned to avoid any net adverse project impacts on those species.

### **3.2.3 Environmental Impacts**

#### **3.2.3.1 *Methodology***

The environmental analysis for biological resources was based on the review of existing Proposed Project-related documents. The effects of the Proposed Project were compared to the environmental baseline or existing conditions (out-of-season flushing flows) to determine impacts.

#### **3.2.3.2 *Significance Criteria***

Project evaluation criteria and the mandatory findings of significance as explained in CEQA Guidelines Appendix G indicate that the Proposed Project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.



### 3.2.3.3 Impacts

#### Special-Status Species

Impact	Determination	
	Construction	Operations
<b>BIO-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?	Less than significant	Less than significant

#### Invertebrates

Shasta crayfish are generally found in water that has little annual temperature variation (Eng and Daniels 1982). Shasta crayfish are typically associated with areas that experience minimal velocity, occurring in pools, runs, or along the margins of a river that are at least one foot deep (PG&E 2013). Shasta crayfish are associated with coldwater habitats, and, based on various studies sponsored by PG&E (Spring Rivers 2009b), a range of mean daily temperatures have been identified as providing suitable habitat (PG&E 2013):

- Coldwater habitat < 15 to 17°C
- Marginally cold habitat 17.1 to 18°C
- Cool habitat 18.1 to 19°C

Similarly, the three freshwater mussel species known to occur in the Pit 1 Bypass Reach are coldwater dependent and have a relatively narrow temperature tolerance range.

In general, water temperatures throughout the Proposed Project reflected ambient conditions and fell within the range of previous monitoring efforts. The 2004–2015 data from each of the Fall River stations indicate that mean monthly July-August water temperatures were very similar to those measured in 1990–1992 (Sagraves and Spring Rivers 2016). This suggests that the summer flushing flows being made from Pit 1 Forebay to the lower Fall River have not substantially altered the thermal structure of the forebay, or the thermal regime in Fall River Pond (Sagraves and Spring Rivers 2016). The distance between the forebay and the Pit River confluence is sufficiently short such that there is little thermal change occurring in the Fall River Pond or the Fall River bypass reach. As a result, water temperatures in the lower Fall River largely reflect conditions measured in the forebay. Water temperatures in the Upper Pit 1 Bypass Reach at Big Eddy Pool have been relatively unaffected by the change in flow regime (PG&E 2013).

## Summer Flushing Flows

At a base flow of 277 cfs, analysis predicted that both coldwater habitat (<15 to 17°C) and marginally coldwater habitat (17.1 to 18°C) were available. However, water temperatures in the lower Pit 1 Bypass Reach have been warmed by the summer flushing flows.

To determine potential impacts of summer flushing flows on coldwater habitat, water temperature sensors were installed near a spring located upstream of the Pit 1 Powerhouse. Water temperature data were collected from August 26 through September 1, 2004, during both base and summer flushing flow events (Spring Rivers 2009b).

Monitoring periods showed that the implementation of summer flushing flows from the Fall River into the Pit 1 Bypass Reach has resulted in a noticeable increase in water temperatures during the July/August time period at the Pit River Falls and near the Pit 1 Footbridge. From 1990 to 1992, the average water temperature at the Pit River Falls was 19.8°C. Between 2003 and 2011, the average temperature at this same location rose to 21.0°C, an increase of 1.2°C. Water temperatures near the footbridge increased from 18.4°C to 20.2°C during this same time period (Table 3.2-3). There were also approximately 560 square feet of coldwater habitat that ranged from 15 to 17°C at the base flow. During the summer flushing flow, the amount of coldwater habitat at this same temperature range was reduced to 56 square feet (Spring Rivers 2009b).

In summary, the various studies and monitoring efforts (PG&E 2013, Spring Rivers 2009a) have shown that the summer flushing flows:

- Cause rapid and substantial changes in temperature;
- Increase daily average water temperature in the Pit 1 Bypass Reach of the Pit River;
- Reduce or eliminate the effects of fluctuating day-to-night air temperatures (i.e., diel temperature fluctuations);
- Reduce or eliminate essential thermal refugia habitat; and
- Increase dispersal and survivorship of non-native crayfish.

**Table 3.2-3 Average Water Temperatures for the July/August Time Period, Based on Daily Mean Water Temperatures, at Three Sampling Stations Located within the Pit 1 Bypass Reach**

<b>Sample Location</b>	<b>1990–1992 July/Aug Water Temperature Average</b>	<b>2004–2011 July/Aug Water Temperature Average</b>	<b>Post 2003 Flow Regime Temperature Change</b>
Big Eddy Pool	22.1°C	22.2°C	Increase 0.1°C
Pit River Falls	19.8°C	21.0°C	Increase 1.2°C
Pit 1 Footbridge	18.4°C	20.2°C	Increase 1.8°C

Source: PG&E 2013

Under the Proposed Project, the requirement for summer flushing flows released from Fall River Pond into the Pit 1 Bypass Reach will be terminated, and two weekends of October whitewater boating flows will be incorporated into the certification.

### **Elimination of Requirement for Summer Flushing Flows Requirement**

Eliminating the requirement for summer flushing flow releases is proposed to address a decline in endangered Shasta crayfish (*Pacifastacus fortis*) in the Pit 1 Bypass Reach. PG&E will continue annual ground-level photo point monitoring of aquatic vegetation on Fall River Pond in June, July, and August. In the event that conditions, such as a series of drought years, result in excess aquatic vegetation (i.e., surface aquatic vegetation exceeding 20 percent coverage of Fall River Pond), PG&E will implement vegetation control methods such as harvesting or non-summer flushing flows. The suppression of aquatic vegetation also controls mosquito production by reducing the amount of breeding habitat for mosquitos. To avoid negative effects to biological resources and their habitat in the Pit 1 Bypass Reach, PG&E will not use summer flushing flows to control aquatic vegetation between May 1 and September 30 (i.e., no discretionary out-of-season spills). PG&E monitored surface aquatic vegetation on Fall River Pond from 2005 through 2009, as required by License Article 401 and Condition 14 of the certification. Monitoring of surface aquatic vegetation showed that summer flushing flows were not needed for vegetation or mosquito control, and that the continuous minimum instream base flows implemented as a condition of the 2003 FERC license were controlling these issues in Fall River Pond (Spring Rivers 2010a). In addition, the Proposed Project will not allow planned outages that result in out-of-season spills in the Pit 1 Bypass Reach between May 1 and September 30. PG&E will operate the Pit 1 Project in a manner that does not cause discretionary, out-of-season spills.

With the elimination of the requirement for summer flushing flows, continued vegetation control, and discontinuing out-of-season spills, the Proposed Project will have a less-than-significant impact on special-status invertebrate species. It should be noted that since 2010, FERC, USFWS, and the State Water Board have annually approved the

temporary suspension of summer flushing flows with the determination that temporary suspension of the requirement is not likely to adversely affect Shasta crayfish.

### **October Whitewater Flows**

Pursuant to the June 14, 2011 FERC order<sup>1</sup> that approved the final October whitewater boating flow schedule, PG&E will continue to implement recreational whitewater boating flow releases, which began in 2011. Under the Proposed Project, however, whitewater boating flow releases will occur for two weekends in October, to be determined through consultation with American Whitewater. In October, when average water temperatures are cooler, whitewater boating flows will not inundate coldwater habitat or substantially increase average water temperatures as seen under operations with summer flushing flows. Diel fluctuations will be maintained and essential coldwater refugia will be available for Shasta crayfish to occupy. Therefore, the proposed change from four consecutive days to two weekends will not adversely impact the Shasta crayfish. The impact will be less than significant.

### **Bald Eagle**

While the proposed changes in operations will not adversely affect this species, construction activities associated with the parking access improvements could disturb nesting bald eagles, if they are present and construction occurs during the nesting season. As discussed in Section 2.2.3.3, nesting bird avoidance and minimization measures are incorporated into the Proposed Project. As a result, potential impacts to nesting bald eagles will be less than significant.

### **Northern Western Pond Turtle and Hardhead**

Northwestern pond turtles are known to be present in the Proposed Project area, particularly in the Big Eddy Pool and the Fall River Pond where they use aquatic vegetation mats for basking. Upland habitat adjacent to the Pit River supports both nesting and over-wintering activity (Spring Rivers 2011a).

Hardhead are present but not abundant in the Proposed Project Area. The species prefers warm, clear, deep pools and runs with low water velocities over sand compared to larger boulder substrates (Moyle 2002).

In general, the northern western pond turtle and hardhead prefer warmer water temperatures that result from summer flushing flows (Spring Rivers 2009b). However, flushing flows during summer months are more likely to force both species to lesser quality habitat (higher water velocities), increase exposure to predation, increase the potential for stranding of hardhead, and inundate pond turtle basking sites making it more difficult for them to thermo-regulate (Spring Rivers 2009b). Therefore, the elimination of

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<sup>1</sup> 135 FERC ¶ 62,215. Order Approving Final Whitewater Boating Flow Schedule (issued June 14, 2011).

the requirement for summer flushing flows under the Proposed Project will not result in a significant effect to either species. The impact will be less than significant.

In October, when average water temperatures are cooler, whitewater boating flows will not inundate coldwater habitat or substantially increase average water temperatures as seen under operations with summer flushing flows. Therefore, the proposed change from four consecutive days to two weekends will not adversely impact the northern western pond turtle and hardhead. The impact will be less than significant.

### Riparian Habitat

Impact	Determination	
	Construction	Operations
<b>BIO-2:</b> Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW and USFWS?	Less than significant	Less than significant

The only ground-disturbing activities that could potentially affect riparian habitat or other sensitive natural communities are associated with the parking lot expansion. However, PG&E will implement various BMPs and proposed avoidance and minimization measures that will address any potential impacts to riparian habitat or other sensitive natural communities. These include the following:

- Installing temporary erosion control BMPs around the perimeter of the affected work area, such as straw wattles, silt fences, and/or straw bales; and
- Planting native seed mixes and applying mulch, leaving BMPs in place until vegetation is reestablished.

The following avoidance and minimization measures will be implemented to prevent impacts to nesting bald eagles and other birds:

- Construction will not occur during the bald eagle limited operating period, which is January 1 to August 1, unless annual monitoring has determined that bald eagles are not nesting within ½ mile of the project area; and
- If vegetation removal, including tree removal, tree limbing, or brush removal, is necessary during the general nesting bird season (April 1 to August 21), a preconstruction nesting bird survey will be conducted by a qualified biologist at least two weeks prior to removal. If active nests are found, an appropriate avoidance buffer and any other protection measures that may be necessary (e.g., construction monitoring) will be implemented. These measures will include compliance with the Pit 1 Bald Eagle Management Plan, developed per Condition 18 of the certification.

The following BMPs will be implemented to prevent the introduction and spread of invasive weeds during construction:

- Clean off-road equipment that is not local to the Pit 1 Project area before it enters the site to ensure that it is free of soil and plant parts;
- Maintain gravel and soil spoil piles to be free of invasive weeds; and
- Ensure that materials used for erosion control (e.g., straw wattles, gravel, and fill material) are certified to be weed-free.

Therefore, construction activities associated with the Proposed Project will not affect any riparian habitat. The impact will be less than significant.

The elimination of the requirement for flushing flows during summer months will ensure that riparian habitats along the margins of Fall River Pond and the Pit River within the Pit 1 Bypass Reach are not inundated during critical periods of the vegetative growing season (Spring Rivers 2009b). In October, when average water temperatures are cooler, whitewater boating flows will not inundate coldwater habitat as seen under operations with summer flushing flows. Therefore, the proposed change from four consecutive days to two weekends will not adversely impact riparian habitats.

Therefore, Proposed Project impacts related to riparian habitat or other sensitive natural communities will be less than significant.

### Wetlands

Impact	Determination	
	Construction	Operations
<b>BIO-3:</b> Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No impact	Less than significant

The Proposed Project does not include any construction activity that involves the dredge or fill of jurisdictional wetlands or the alteration of a jurisdictional waterway and therefore, no direct impact will occur. For construction outside of these areas, PG&E will implement standard construction BMPs to minimize potential impacts to water bodies, including any wetlands. These include installing temporary erosion control measures around the perimeter of the affected work area, such as straw wattles, silt fences, and/or straw bales.

The Proposed Project does not entail water withdrawals, water impoundment, or discharge of substances to the water. As a result, the Proposed Project will not have a substantial adverse effect on any state or federally protected wetlands. Impacts will be less than significant.

### Movement of Native Resident or Migratory Fish or Wildlife Species

Impact	Determination	
	Construction	Operations
<b>BIO-4:</b> Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No impact	No Impact

Migration corridors are routes followed by animals, birds, or fish when traveling between winter and summer habitats. Wildlife habitats and migration corridors are necessary to maintain fish and wildlife populations. Interference with the movement of species would be considered substantial, and thus significant, if migratory corridors or fishways were altered in a manner that prevented use by fish and wildlife. Impacts to native wildlife nursery sites would be considered significant if the Proposed Project prevented use of the sites during the applicable nursery period.

The Proposed Project does not include any construction activity that would affect the movement of native wildlife species or established native resident or migratory wildlife corridors, nor does the Proposed Project area contain native wildlife nursery sites that could be affected. All construction will be limited to the existing parking lot and adjacent area containing non-native grassland habitat, which do not provide any wildlife movement corridors.

As discussed under BIO-1 and BIO-2, operation of the Proposed Project will not adversely impact any special-status species or their habitats. Elimination of the requirement for summer flushing flows and allowing two weekends of whitewater boating flows (as opposed to four consecutive days), would not result in new obstructions or barriers to fish passage through area waters. No component of the Proposed Project will alter above-ground structures that could affect native or migratory wildlife movements. Therefore, no impacts related to the movement of wildlife species will occur from construction or operation of the Proposed Project.

### Local Policies and Ordinances

Impact	Determination	
	Construction	Operations
<b>BIO-5:</b> Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No impact	No impact

The Proposed Project does not conflict with local policies or ordinances designed to protect biological resources. Suspending summer flushing flows will ensure that Shasta County General Plan (2004) objective FW-1 and policy FW-c are met. Objective FW-1

requires the protection of “significant fish, wildlife, and vegetation resources.” Removing from the existing certification and FERC license the requirement for summer flushing flows will preserve coldwater refugia for aquatic invertebrates that include the Shasta crayfish, California floater, and montane peaclam. Daily fluctuations in water temperatures will also be restored and improve the availability of coldwater habitat.

Shasta County General Plan policy FW-c requires projects to “avoid any net adverse project impacts” on threatened or endangered species. The minimum instream flows required as part of the certification that the State Water Board issued to PG&E in 2001 for the continued operation of the Pit 1 Project will provide sufficient flows in the Pit 1 Bypass Reach. Additionally, no trees are present in the area proposed for construction activities associated with the proposed expansion of the Pit River Access. Therefore, there are no conflicts with any local policies or ordinances protecting biological resources and no impacts will occur.

**Adopted Conservation Plans**

Impact	Determination	
	Construction	Operations
<b>BIO-6:</b> Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No impact	No impact

The Pit 1 Bypass Reach is not located within a Habitat Conservation Plan, Natural Community Conservation Plan, or any other local, regional, or state habitat conservation plan area. Therefore, no impacts would occur.

**3.3 Cultural Resources and Tribal Cultural Resources**

This section describes existing environmental and regulatory setting for both tribal cultural resources and cultural resources (archaeological), and identifies potential impacts of the Proposed Project on both.

**3.3.1 Environmental Setting**

The environmental setting and affected environment within the Proposed Project area are summarized from several data sources include the following:

- Pit River Access Parking Improvement Project Information, Shasta County, California, FERC Project 2687 (PG&E 2019)
- Data Recovery Excavations at CA-SHA-3643/H at the Pit 1 Weir Access at Cassel Bridge, Fall River Mills, Shasta County, California (Far Western Anthropological Research Group, Inc. 2010)



- Pit 1 Hydroelectric Project FERC No. 2687, Historic Properties Management Plan (HPMP) Volume I. (PG&E 2006b)
- 2008 Archaeological Site Monitoring, Pit 1 Hydroelectric Project (FERC Number 2678) (Albion Environmental, Inc. 2009)
- 2009 Archaeological Site Monitoring, Pit 1 Hydroelectric Project (FERC Number 2678) (Albion Environmental, Inc. 2010)
- 2012 Archaeological Site Monitoring, Pit 1 Hydroelectric Project (FERC Number 2678) (Albion Environmental, Inc. 2013)

The Proposed Project area is in Fall River Valley in Shasta County near the eastern boundary of the Cascade Range and the western margins of the Modoc Plateau. The landscape is characterized by a mosaic of lakes, streams, marshes, and open grassland, surrounded by prominent volcanic features like Mount Shasta, which dominates the mountains to the northwest. Mixed-conifer/oak woodland, with river-associated areas of riparian and lacustrine vegetation (e.g., willows, marshes), predominate the Proposed Project area.

### **3.3.1.1 Prehistory**

As stated in the Far Western study (2010), the Proposed Project's surrounding region exhibits a complexity of Sierra Nevada, Great Basin, Southern Cascade, and Central Valley cultural influences. Regional sites extend from the Early Archaic to the Emergent, dating from 7,500 years ago to the historic period. Dated components have been identified at a number of excavated sites, as material for radiocarbon dating along with diagnostic projectile points are present at habitation and shell midden sites, and most sites contain abundant obsidian for hydration and source analyses.

Researchers have identified four distinct prehistoric site types within the Pit River/Fall River region: Habitation/Village (small or large) with features<sup>1</sup>, Deep Lithic Scatters (greater than one meter deep), Shallow Lithic Scatters (less than one meter deep), and Shell Middens without features. In addition, many regional locations have been identified as Traditional Cultural Properties, which include sacred areas, resource procurement areas, village sites, and named places.

### **3.3.1.2 Ethnography**

The Pit River Tribe is a federally recognized tribe of eleven bands living primarily along the Pit River. The traditional territory of the Pit River Tribe encompassed a somewhat square area between Mount Shasta, Goose Lake, Lassen Peak, and Shaefer Mountain in the northeastern portion of California. The Ajumawi band of the Pit River Tribe occupied Fall River Valley, with lands extending up into the Medicine Lake Highlands.

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<sup>1</sup> Prehistoric features commonly include fire pits and hearths, burned earth and clay, trash and garbage pits, and clusters of artifacts.

Nine independent tribelets have been recognized among the Ajumawi, each of which “functioned as an autonomous political unit, though socially they were connected by intermarriage and by the consciousness that they spoke a common language not shared by their neighbors” (PG&E 2006b).

### **3.3.1.3 Social Organization and Land Use**

Before European contact, the Pit River communities consisted of clusters of villages made up of related people, often under the leadership of one man. Land ownership was often expressed in terms of these clusters, although there was individual ownership of specific valuable resources such as oak groves, fishing holes, and ponds frequented by geese.

Subsistence focused on the Pit River and the adjacent valleys. Locally important resources were plentiful, and included salmon, suckers, shellfish, acorns, sugar pine nuts, waterfowl, deer, and various berries. Native fishermen built stone fish traps within the area for hundreds of years. Some of these traps are still used today and others are an important part of the local archaeological record. Family groups dispersed to hunt waterfowl in the swampy valleys in the spring, spent the summer along the Pit River, and in autumn went to the hills to hunt and collect acorns, epos root (an edible root of a flowering plant in the carrot family), and pine nuts before returning to sheltered valley wintering grounds. Due to the severity of winters, the winter houses were sturdy semi-subterranean, multi-family lodges. Summer housing was more informal, and at most consisted of a single-family, thatch-covered structure.

The bands had variable relationships with their neighbors, but since village and band exogamy were encouraged, adjacent bands were likely to be closely related by marriage. Political alliances were important in warfare, as groups had to travel across adjacent lands to trade and to procure distant resources such as obsidian. Relations with non-Pit River neighbors, though often volatile, included trade with the Yana and Wintu for valley resources, with the Modoc for furs, bows, and dentalia shells (marine tusk shell), and with the related Atsugewi people for epos roots and seeds.

### **3.3.1.4 Local Archaeological Resources**

In 1974, archaeological surveys were conducted along the waterways in and around the Fall River Valley for the Pit 1 Project, and recorded 102 prehistoric sites. The majority of sites were habitation with the remainder identified as “campsites.” Associated village features included bedrock mortars, petroglyphs, house pits, rock rings, ash lenses, and human interments. Additionally, numerous historic structures and prehistoric sites are recorded in the Proposed Project area, particularly along the Pit 1 Bypass Reach and around the Pit 1 Forebay.

As part of the Phase 1 whitewater boating flows study, PG&E conducted an archaeological survey along the Pit 1 Bypass Reach from Fall River Mills to the Pit 1 Powerhouse tailrace. This area includes the traditional lands of the Ajumawi and Ilmawi

bands of the Pit River Tribe, with Ajumawi concerns primarily upstream of the Pit River Falls, and Ilmawi concerns downstream of the falls. Two major settlement areas, the villages of *Wennehahle* and *Dawchtahpit*, are known to be present in the canyon, along with a prime resource procurement spot and spiritual place, or “Place in Myth,” known as *Tatsuhani*. The canyon is considered a “power place” and is very important spiritually to some local tribal people. (Spring Rivers 2011a).

In 2000, during the relicensing process for the Pit 1 Project, a Programmatic Agreement (PA) was established between FERC, the Historic Preservation Advisory Council, SHPO, and the Ilmawi and Ajumawi bands of the Pit River Tribe. In 2003, once the new FERC license was issued, as part of conditions of the new license, a Historic Properties Management Plan (HPMP) was prepared in consultation with the Historic Preservation Advisory Council, SHPO, BLM, and the Pit River Tribe. The purpose of the HPMP is to prescribe specific actions and processes to manage historic properties within the Pit 1 Project, which encompasses the Proposed Project APE. In preparing the HPMP, PG&E identified specific goals related to cultural resources and the operations and maintenance of the Pit 1 Project. Per section 1.5.2 of the HPMP (PG&E 2006b:7), the HPMP is required to be implemented under Article 426 of the Pit 1 Project FERC license (PG&E 2006b).

Fall River Valley is roughly 120 square miles (78,000 acres, including 12,000 acres of drained swamp land). While cattlemen used the valley as stock range before 1867, that year more farmers arrived and began growing barley, oats, wheat, hay, and vegetables. Natural water power provided by an abrupt drop of Fall River into the Pit River made Fall City (i.e., Fall River Mills) an ideal site for industry. By the early 1880s, Fall City was the main agricultural and industrial focus of eastern Shasta County. Settlement was encouraged by the rumors that the railroad was planning to build a line connecting Fall City with Redding. Settlers were also drawn to the valley by the free land available for homesteading. While a land “boom” never occurred, a continuous trickle of people entered the valley, claimed land, and built homes throughout the 1880s. John McArthur was among the largest ranchers to purchase land holdings, beginning in 1868. The family established the town of McArthur, situated northeast of the Pit 1 Project area. Like others in the late 1800s, they constructed canals to divert drainage water into the Pit River, as well as to take water from the Tule River to irrigate their fields.

As PG&E was planning for the Pit 1 Powerhouse in the early 1920s, it began working with local ranchers, such as the McArthur and the Knoch families. PG&E also began purchasing water rights and land in the valley. A circa 1922 plan of Fall River Mills shows two weirs in the Fall River below Bridge Street. A flume leading from the Fall River carried water to the PG&E Fall River Plant at the confluence of the Fall and Pit rivers. Although not shown on the plan, a diversion, known as the Knoch Pipe, had been in place as early as 1914.

A 1923 plan of the diversion depicted a canal taking water from the north bank of the Fall River just below Bridge Street. This canal diverted water for the old powerhouse

and the Knoch Pipe and ditch. At the north end of the canal on the north side of Main Street was a flume that moved water east, a ditch that moved water to the northwest, and Knoch's 22-inch-diameter pipe moving water to the east-northeast. A weir in the Fall River just below the canal entrance apparently kept the river's elevation sufficiently high to keep water flowing into the canal.

Water from the canals went into two ditches, one irrigated lands north of the river and one irrigated lands south of the river supported by a pipeline spanning the Pit River. The one to the north used less water, while the southern ditch was important for the continued operations of the Knoch Ranch.

The Pit 1 Project requires a certain water elevation to be maintained in the Fall River. When PG&E began running the Pit 1 Powerhouse in 1922, the power output was lower than anticipated because of the water diversions of the McArthur family for irrigation. The company bought much of the McArthur's land and water rights in 1924. The Knoch family also owned significant water rights and land, but instead of selling, they began a permanent relationship with PG&E for both the maintenance of their water rights and the lease of PG&E-acquired lands for pasture.

In 1939, 1,103 feet of 22-inch-diameter pipe was replaced in the Knoch Pipe. In exchange for limiting Knoch's water rights, PG&E agreed to maintain the pipeline across the Pit River. Today the Knoch Diversion and Canal continue to deliver water from the Fall River to the Knoch family for their ranching operation. The diversion is similar to PG&E's design for the area in the early 1920s.

### **3.3.2 Regulatory Setting**

Federal, state, and local laws, regulations, and policies pertaining to cultural resources and the Proposed Project are discussed in this section.

#### **3.3.2.1 *Federal***

##### **National Environmental Policy Act**

The National Environmental Policy Act (NEPA) establishes the federal policy of protecting important historic, cultural, and natural aspects of our national heritage during federal project planning. All federal or federally-assisted projects requiring action pursuant to section 102 of the act must take into account impacts on cultural resources (42 U.S.C. §§ 4321–4347).

The Council on Environmental Quality (CEQ) Guidelines provided a standard for determining the significance of impacts analyzed under NEPA. "Significance" as used in NEPA requires considering impacts in terms of both context and intensity (40 C.F.R. § 1508.27).

"Context" means that the action must be analyzed in terms of society as a whole, the affected region and interests, and the local setting. The span of the context should be scaled to match the action. For larger actions, a wider context is appropriate. For

smaller site-specific actions, the local context may be sufficient. Both the short- and long-term impacts of an action are relevant to this analysis (40 C.F.R. § 1508.27(a)).

“Intensity” means the severity of an impact. The CEQA Guidelines direct federal agencies to consider cultural resources when evaluating intensity. Specific factors that may affect the intensity of an impact include: the proximity to historical or cultural resources, the potential for impacts on National Register of Historic Places (NRHP)-eligible or listed properties, and the potential for loss or destruction of significant scientific, cultural, or historical resources (40 C.F.R. § 1508.27(b)).

Collectively, these considerations mean that NEPA analyses should identify the potential for an action to adversely affect resources that are or may be eligible for listing on the NRHP.

### **Section 106 of the National Historic Preservation Act of 1966**

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to consider the effects of their actions on historic properties (16 U.S.C. § 470f). Historic properties are resources listed on or eligible for listing on the NRHP (36 C.F.R. § 800.16(l)(1)). A property may be listed in the NRHP if it meets criteria provided in the NRHP regulations (36 C.F.R. § 60.4).

The National Register criteria for evaluation (36 C.F.R. § 60.4) are as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association (discussed further in Section 18.2.2.1), and:

- (A) Are associated with events that have made a significant contribution to the broad patterns of our history;
- (B) Are associated with the lives of persons significant in our past;
- (C) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) Have yielded, or may be likely to yield, information important in prehistory or history.

Some property types do not typically qualify for the NRHP; however, these properties may qualify if they fall into one or more of the following criteria considerations. These considerations consist of the following:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance;

- A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;
- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life;
- A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- A property achieving significance within the past 50 years if it is of exceptional importance.

The Section 106 review process typically consists of the following major steps:

- Identify the federal agency undertaking.
- Initiate Section 106 process.
- Identify historic properties.
- Assess adverse effects.
- Resolve adverse effects.

The Section 106 regulations define an adverse effect as an effect that alters, directly or indirectly, the qualities that make a resource eligible for listing in the NRHP (36 C.F.R. § 800.5A(a)(1)). Consideration must be given to the property's location, design, setting, materials, workmanship, feeling, and association, to the extent that these qualities contribute to the integrity and significance of the resource. Adverse effects may be direct and reasonably foreseeable, or may be more remote in time or distance (36 C.F.R. § 8010.5(a)(1)).

Under section 304(a) of the NHPA, “[t]he head of a Federal agency ... shall withhold from disclosure to the public, information about the location, character, or ownership of a historic resource if the Secretary and the agency determine that disclosure may ... risk harm to the historic resources ....”

### **Native American Graves Protection and Repatriation Act**

The Native American Graves Protection and Repatriation Act (NAGPRA) provides a process for federal agencies to return certain Native American cultural items to lineal descendants and culturally affiliated Indian tribes. NAGPRA defines the ownership of

Native American human remains and funerary materials excavated on lands owned or controlled by the federal government. NAGPRA establishes a hierarchy of ownership rights for Native American remains identified on these lands (25 U.S.C. § 3002(a)):

- Where the lineal descendants can be found, the lineal descendants own the remains.
- Where the lineal descendants cannot be found, the remains belong to the Indian tribe or Native Hawaiian organization on whose land the remains were found.
- If the remains are discovered on other lands owned or controlled by the federal government and the lineal descendants cannot be determined, the remains belong to the Indian tribe or Native Hawaiian organization that is culturally affiliated with the remains, or the tribe that aboriginally occupied the land where the remains were discovered.
- Under NAGPRA, intentional excavation of Native American human remains on lands owned or controlled by the federal government may occur (25 U.S.C. § 3002(c)) only under the following circumstances:
  - With a permit issued under the Archaeological Resources Protection Act (16 U.S.C. § 470cc); and
  - After documented consultation with the relevant tribal or Native American groups.
- Ownership and disposition follows NAGPRA for all human remains and associated artifacts.

NAGPRA also provides guidance on inadvertent discoveries of Native American or Hawaiian human remains on lands owned or controlled by the federal government. When an inadvertent discovery on these lands occurs in association with construction, construction must cease. The party that discovers the remains must notify the relevant federal agency, and the remains must be transferred according to the ownership provisions above (25 U.S.C. § 3002(d)).

### **The Archaeological Resources Protection Act**

The Archaeological Resources Protection Act (ARPA) requires a permit for intentional excavation of archaeological materials on federal lands (16 U.S.C. § 470 ee (a)). The federal agency that owns or controls the land may dispense permits for excavation as provided in the ARPA regulations (43 C.F.R. § 7.5). The permit may require notice to affected Indian tribes (43 C.F.R. § 7.7), and compliance with the terms and conditions provided in the ARPA regulations (43 C.F.R. § 7.9).

### 3.3.2.2 State

#### California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both “historical resources” and “unique archaeological resources.” As stated in Public Resources Code, section 21084.1, a “project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” Public Resources Code, section 21083.2 requires agencies to determine whether Proposed Projects would have effects on “unique archaeological resources.”

“*Historical resource*” is a term with a defined statutory meaning (Pub. Resources Code, § 21084.1; Cal. Code. Regs., title 14, § 15064.5, subd. (a)). The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be “historical resources” for purposes of CEQA (Pub. Resources Code, § 5024.1; Cal. Code Regs., title 14, § 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or a preponderance of evidence indicates that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a Proposed Project are listed or have been identified in a survey process (Pub. Resources Code, § 5024.1, subd. (g)), lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a Proposed Project’s impacts to historical resources (Pub. Resources Code, § 21084.1; Cal. Code Regs., title 14, § 15064.5, subd. (a)(3)). Following California Code of Regulations, title 14, section 15064.5, subdivision (a), a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

- Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and meets any of the following criteria:
  - Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
  - Is associated with the lives of persons important in our past;



- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Public Resources Code section 5024 also requires consultation with the Office of Historic Preservation (OHP) when a project may impact historical resources located on state-owned land.

For historic structures, California Code of Regulations, title 14, section 15064.5, subdivision (b)(3) states that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) would mitigate impacts to a less-than-significant level. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects would impact unique archaeological resources. Public Resources Code section 21083.2, subdivision (g) states that a *unique archaeological resource* means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, a high probability exists that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; and/or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Treatment options under Public Resources Code section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research. The technical advice series produced by this office strongly recommends that Native American concerns and

the concerns of other interested persons and corporate entities including, but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

California Health and Safety Code section 7050.5, subdivision (b) provides specific protocols when human remains are discovered, as follows:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

CEQA Guidelines, section 15064.5, subdivision (e) requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the NAHC. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the CEQA Guidelines also require a lead agency to make provisions for the accidental discovery of historical or archaeological resources. Pursuant to CEQA Guidelines, section 15064.5, subdivision (f), these provisions should include “an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.” Public Resources Code, section 5024 requires consultation with the OHP when a project may impact historical resources located on state-owned land.

## **Mitigation Requirements for Archaeological Resources Qualifying as Historical Resources**

As set forth in CEQA Guidelines, section 15064.5, subdivision (c), special rules apply where a lead agency is not certain at first whether an archaeological resource qualifies as either an “historical resource” or a “unique archaeological resource.” That section provides that “[w]hen a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource.” “If a lead agency determines that the archaeological site is an historical resource,” the resource shall be subject to the rules set forth above regarding historical resources. In addition, according to CEQA Guidelines, section 15126.4, subdivision (b):

[p]ublic agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

- (A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
- (B) Preservation in place may be accomplished by, but is not limited to, the following:
  1. Planning construction to avoid archaeological sites;
  2. Incorporation of sites within parks, greenspace, or other open space;
  3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.  
[sic]
  4. Deeding the site into a permanent conservation easement.

Thus, although Public Resources Code section 21083.2, in dealing with unique archaeological sites, provides for specific mitigation options “in no order of preference,” CEQA Guidelines, section 15126.4, subdivision (b), in dealing with “historical resources of an archaeological nature,” provides that “[p]reservation in place is the preferred manner of mitigating impacts to archaeological sites.”

For archaeological resources that qualify as historical resources, data recovery is a disfavored form of mitigation compared with preservation in place. Yet “[w]hen data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center.” (CEQA Guidelines, § 15126.4, subd. (b)(3)(C).) Moreover, “[i]f an artifact must be removed during project excavation

or testing, curation may be an appropriate mitigation” (*Ibid.*). “Data recovery shall not be required, however, for an historical resource [as with a unique archaeological resource] if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center” (*Id.*, subd. (b)(3)(D)).

With respect to *both* historical resources and unique archaeological resources, CEQA Guidelines, section 15064.5, subdivision (f) states:

[A] lead agency should make provisions for...resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.

### **Mitigation for Unique Archaeological Resources**

If a lead agency determines that “an archaeological site does not meet the criteria” for qualifying as an historical resource “but does meet the definition of a unique archeological resource..., the site shall be treated in accordance with the provisions of section 21083.2” (Pub. Resources Code, § 21083.2). Section 21083.2 contains the special rules for mitigation for “unique archaeological resources.” These rules do not apply if the archaeological resource is an historical resource (CEQA Guidelines, § 15064.5, subd. (c)(1)). Public Resources Code, section 21083.2, subdivision (b) states:

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

1. Planning construction to avoid archaeological sites.
2. Deeding archaeological sites into permanent conservation easements.
3. Capping or covering archaeological sites with a layer of soil before building on the sites.
4. Planning parks, greenspace, or other open space to incorporate archaeological sites.

(Pub. Resources Code, § 21083.2, subd. (b).) Section 21083.2 further states that:

Excavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the Environmental Impact Report.

(*Id.*, subd. (d).)

If, however, “an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.”

(CEQA Guidelines, § 15064.5, subd. (c)(4).)

### **California Public Resources Code, Duties of State Agencies**

California state agencies must provide the OHP an inventory of all state-owned structures older than 50 years of age under its jurisdiction that are listed in or that may be eligible for inclusion in the NRHP or are registered or that may be eligible for registration as a state historical landmark (Pub. Resources Code, § 5024, subd. (a)). The OHP compiles these lists into a master list (Pub. Resources Code, § 5024, subd. (d)).

State agencies must provide notice to the State Historic Preservation Officer early in the planning process if the agency intends to alter or demolish resources on the master list (Pub. Resources Code, § 5024.5, subd. (a)). The State Historic Preservation Officer has 30 days to respond after receiving notice. If the State Historic Preservation Officer determines that the action would have an adverse effect on a listed historical resource, the agency must adopt prudent and feasible measures to mitigate or eliminate the adverse effects (*Id.*, subd. (b)).

### **Discoveries of Human Remains under CEQA**

California law sets forth special rules that apply where human remains are encountered during project construction. These rules are set forth in one place in CEQA Guidelines section 15064.5, subdivision (e) as follows:

In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

- (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
  - (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required (as required under California Health and Safety Code section 7050.5).
  - (B) If the coroner determines the remains to be Native American:
    1. The coroner shall contact the Native American Heritage Commission within 24 hours.
    2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
    3. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods (as provided in Public Resources Code Section 5097.98), or
- (2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
  - (A) The Native American Heritage Commission is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 24 hours after being notified by the Commission.
  - (B) The descendant identified fails to make a recommendation; or
  - (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

### **California Native American Graves Protection and Repatriation Act**

Sections 8010–8011 of the California Health and Safety Code establish a state repatriation policy that is consistent with and facilitates implementation of NAGPRA. The policy requires that all California Indian human remains and cultural items be treated with dignity and respect and encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. The

policy provides for mechanisms to aid California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

### **Confidentiality Considerations**

CEQA and the California Public Records Act restrict the amount of information regarding cultural resources that can be disclosed in an EIR to avoid the possibility that such resources could be subject to vandalism or other damage (*Clover Valley Foundation v. City of Rocklin* (2011) 197 Cal. App. 4th 200, 219-220, *citing* Gov. Code, § 6254, subd. (r), and CEQA Guidelines, § 15120, subd. (d)). CEQA Guidelines section 15120, subdivision (d) prohibits an EIR from including “information about the location of archaeological sites and sacred lands, or any other information that is subject to the disclosure restrictions of Section 6254 of the Government Code.” In turn, the Public Records Act (Gov. Code, § 6250 et seq.) lists as exempt from public disclosure any records “of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in Sections 5097.9 and 5097.933 of the Public Resources Code maintained by, or in the possession of, the NAHC, another state agency, or a local agency.” (Gov. Code, § 6254, subd. (r)).

Public Resources Code sections 5097.9 and 5097.993 list the Native American places, features, and objects, the records of which are not to be publicly disclosed under the Public Records Act as “any Native American sanctified cemetery, places of worship, religious or ceremonial site, or sacred shrine located on public property” (Pub. Resources Code, § 5097.9) and any “Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources ..., including any historic or prehistoric ruins, any burial ground, any archaeological or historic site, any inscriptions made by Native Americans at such a site, any archaeological or historic Native American rock art, or any archaeological or historic feature of a Native American historic, cultural, or sacred site ....” (Pub. Resources Code, § 5097.993, subd. (a)(1)).

The Public Records Act also generally prohibits disclosure of archaeological records. Specifically, Government Code section 6254.10 provides: “Nothing in [the Public Records Act] requires disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of ... a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency.”

These authorities prohibit the disclosure of records and information concerning the region’s archeological, cultural, and historic resources in this Draft EIS/EIR. The State Water Board, as CEQA Lead Agency, believes confidentiality of the site locations of certain archaeological, cultural, and historic resources found in the region is necessary to prevent vandalism to the resources. Public release of information on the sites may allow their discovery by trespassers, leading to potential looting. The State Water

Board's position is consistent with the intent of National Historic Preservation Act section 304(a):

The head of a Federal agency ... shall withhold from disclosure to the public, information about the location, character, or ownership of a historic resource if the Secretary and the agency determine that disclosure may ... risk harm to the historic resources ....

As a result, specific descriptions of certain of the archeological, cultural, and historic resources are not provided in this chapter. For the preservation of the sites, specific information on the locations and nature of findings at the resources cannot be included in the CEQA documents. Site-specific content and location information will be reviewed by appropriate federal and state agency officials on a need-to-know basis, thereby protecting the confidential information regarding location and content of the sites.

### **California State Assembly Bill 52**

Assembly Bill 52 (AB 52) added new requirements to CEQA regarding consultation with California Native American tribes and consideration of Tribal Cultural Resources. Information on Tribal Cultural Resources is not necessarily available through existing databases; rather, they are identified through consultation between a lead agency and a Native American tribal group. The new requirements apply to projects that have a notice of preparation for a negative declaration, mitigated negative declaration, or an EIR filed on or after July 1, 2015. The Notice of Preparation (NOP) for this EIR was filed on May 17, 2013, and as a result, this Project does not fall under several consultation requirements of AB 52. However, in order to better comply with the intent of CEQA, tribal cultural resources are included under cultural resources.

#### **3.3.2.3 Local**

### **Shasta County General Plan, Heritage Resources**

The objectives and policies that pertain to the Proposed Project include the following:

- Objective HER-1 Protection of significant prehistoric and historic cultural resources.
- Policy HER-a Development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer or non-disturbance zones, and building siting requirements.



### 3.3.3 **Environmental Impacts**

#### 3.3.3.1 **Methodology**

The environmental analysis for cultural and tribal resources was based on the review of existing Proposed Project-related documents. The impacts of the Proposed Project were compared to environmental baseline or existing conditions and the significance criteria below to determine the level of impacts.

#### 3.3.3.2 **Significance Criteria**

Proposed Project evaluation criteria and the mandatory findings of significance as explained in CEQA Guidelines Appendix G indicate that the Proposed Project would have a significant effect on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations, title 14, section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, title 14, section 15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

According to Appendix G of the CEQA Guidelines, a significant impact related to tribal cultural resources would occur if the Proposed Project would:

- Cause a substantial adverse change in the significance of a tribal cultural resource which is listed or eligible for listing in the CRHR or local register of historical resources as defined in Public Resources Code section 5020.1, subdivision (k).
- Cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1.

#### 3.3.3.3 **Impacts**

Impacts to cultural resources and tribal cultural resources in the Proposed Project area are discussed below.

#### **Cultural Resources**

<b>Impact</b>	<b>Determination</b>	
	<b>Construction</b>	<b>Operations</b>
<b>CULT-1:</b> Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	Less than significant	Less than significant

The parking lot expansion portion of the Proposed Project is located within the boundary of a known cultural resource. In 2009 during Section 106 archaeological testing (Phase II) for the construction of the existing parking and recreation facility, cultural resource CA-SHA-3643/H was determined eligible for the NRHP with SHPO concurrence (PG&E 2019). In 2010, a data recovery program (Phase III) was implemented to mitigate the adverse effects that will occur from the construction of the existing parking and recreation facility. Monitoring of ground disturbance occurred post-data recovery, but it is unclear to what extent ground disturbance extended beyond the parking lot footprint during construction. Based on the data recovery report, some cultural soils were cut and removed to another location, but the footprint of ground disturbance is not clearly delineated in reference to the parking lot (Far Western 2010). Based on the location of the monitoring results, at least some of the existing parking lot footprint has been previously impacted. However, due to the lack of information on the extent of ground disturbance in 2010, there is still potential to impact previously undisturbed portions of CA-SHA-3643/H. Subsequent visits to CA-SHA-3643/H occurred in 2012 by ENPLAN during a post wildfire survey, and in 2015 and 2016 by Caltrans for an ongoing bridge replacement project (PG&E 2019).

The Proposed Project will include ground-disturbance activities to support the parking lot expansion which could disturb an NRHP eligible cultural resource, CA-SHA-3643/H. As discussed above, PG&E is required to comply with the HPMP under Article 426 of the Pit 1 Project FERC license (PG&E 2006b). The HPMP prescribes specific actions and processes to manage cultural resources within the Pit 1 Project, which encompasses the Proposed Project APE.

Per section 4.2.2 of the HPMP (PG&E 2006b: 22 – 23), the following steps are required during the construction of any new recreation facility or improvements to existing recreational facilities:

- a. During recreation planning, Licensee recreation planners, and Cultural Resources Specialists will request a meeting and site visit with the Pit River Tribe to:
  - i. Discuss the need and plans for additional recreational site development or improvement of existing recreational facilities;
  - ii. Present preliminary recreational site plans;
  - iii. Discuss prior cultural resource mitigation measures implanted during previous development;
  - iv. Consider site constraints; and
  - v. Discuss avoidance of cultural resources as a preferred action or the need for additional mitigation measures.
- b. If it is determined that avoidance of impacts to a historic property is not possible, other suitable mitigation measures will be developed in consultation with SHPO, FERC, and the Pit River Tribe in compliance with Section 106 of the National

Historic Preservation Act (as amended). Mitigation may include, but is not limited to, archaeological site testing to determine formal NRHP eligibility, and data recovery.

- c. The Licensee will request a qualified Tribal Cultural monitor from the Pit River Tribe to be present during any recreation improvement or development requiring ground-disturbing activity where there is a reasonable potential for impact to a historic property in accordance with sections 4.7 (of the HPMP), Historic Properties Monitoring.
- d. If unanticipated cultural materials or features are discovered during ground-disturbing activities associated with recreation-related work, work in the immediate area shall cease until the material is evaluated and documented by a Licensee Cultural Resources Specialist or designated archaeologist if appropriate, and protection or mitigation measures identified and implemented per Section 4.9 (of the HPMP), Inadvertent Discoveries.
- e. Should any human remains be identified during ground-disturbing activities, all activity in the immediate area will cease in accordance with Section 4.8 (of the HPMP), Treatment of Human Remains.

Additionally, some HPMP measures located at specific historic properties (cultural resources) may require site-specific engineering to design and implement site protections. This may include consultation with parties to the PA and the Pit River Tribe. Before any development plans for the Proposed Project can be implemented, continued communication and consultation with the SHPO and the Ajumawi Band of the Pit River Tribe must occur to comply with the HPMP (PG&E 2019). PG&E consulted with the Pit River Tribe on February 6 and April 10, 2019 regarding the Proposed Project, at which time the Pit River Tribe expressed an openness to the proposed parking expansions. PG&E is currently working with the Ajumawi band of the Pit River Tribe to schedule a site visit to the proposed construction area.

As soon as parking improvement plans are final or near final, formal consultation with the Ajumawi Band of the Pit River Tribe and the SHPO are required. If disagreements ensue between consulting parties regarding the management strategies for site protection, resolution of a disagreement will take place in accordance with Stipulation II of the PA (“Dispute Resolution”); PG&E 2006b). The results of the communications and consultations will be submitted to the SHPO, the Pit River Tribe, the FERC and all other agencies deemed appropriate.

Construction of the parking lot expansion improvements could disturb an NRHP eligible cultural resource. However, PG&E is required to comply with the HPMP, which prescribes specific actions that need to be met to manage cultural resources. As a result, impacts to cultural resources from construction of the parking lot expansion will be less than significant.

Cultural resource surveys conducted in 2004 recorded multiple cultural resource sites within the Pit 1 Bypass Reach. A subsequent survey in 2005 was made to verify and confirm site-specific conditions and erosion potential. As part of the Whitewater Boating Flows Recommendation Study (Spring Rivers 2011a), a cultural resources survey of the Pit 1 Bypass Reach in the Pit River Canyon was done to identify the locations of all cultural resources and to describe any Pit 1 Project-related or other impacts to the resources. Any cases of cultural resources affected by erosion caused by whitewater or natural flood flows in the Pit River were revisited during summer flushing flows to document changes in wetted perimeter and stage height associated with the flushing flows. A determination was also made as to whether releases for whitewater boating flows or summer flushing flows will be of sufficient magnitude to impact each of the cultural resources that are affected by erosion. If the stage height was not sufficient to affect a resource, the minimum stage that will affect it (i.e., vertical distance above the observed flushing flow) was measured (Spring Rivers 2011a).

Archaeological sites located in different sections along the Pit 1 Bypass Reach showed minimal to no erosion effects, and those effects seen were determined to be more likely due to natural high flow events than by releases for whitewater boating or summer flushing flows. Further documentation of the minimal recreational boating usage during 2003 and 2004 indicated there were no impacts to the cultural resources due to the boaters themselves. Based on these cultural resource surveys, the whitewater boating flows study concluded that there will be no effects of whitewater boating on specific cultural resources in the Pit 1 Bypass Reach (PGE 2011).

In addition, as discussed above, PG&E is required to comply with the HPMP under Article 426 of the Pit 1 Project FERC license (PG&E 2006b). Should previously undiscovered historical resources be encountered during construction and operation, the HPMP prescribes specific actions and processes to manage cultural resources. Impacts to cultural resources from operation-related flow changes will be less than significant.

Impact	Determination	
	Construction	Operations
<b>CULT-2:</b> Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	Less than significant	Less than significant

See discussion for CULT-1 above. The Proposed Project will include ground-disturbance activities to support the parking lot expansion, which could disturb a NRHP eligible cultural resource, CA-SHA-3643/H. However, with the prescribed actions implemented from the HPMP, the impact from construction will be less than significant.

Archaeological sites located in different sections along the Pit 1 Bypass Reach showed minimal to no erosion effects, and those effects seen were determined to be more likely due to natural high flow events than by releases for whitewater boating or summer flushing flows. Further documentation of the minimal recreational boating usage during

2003 and 2004 indicated there were no impacts to the cultural resources due to the boaters themselves. Based on these cultural resource surveys, the whitewater boating flows study concluded that there will be no effects of whitewater boating on specific cultural resources in the Pit 1 Bypass Reach (PGE 2011).

In addition, should previously undiscovered archaeological resources be encountered during construction and operation, the HPMP prescribes specific actions and processes to manage cultural resources. Impacts to archaeological resources from operation-related flow changes will be less than significant.

Impact	Determination	
	Construction	Operations
<b>CULT-3:</b> Disturb any human remains, including those interred outside of formal cemeteries?	Less than significant	Less than significant

See discussion for CULT-1 above. The Proposed Project includes ground-disturbance activities to support the parking lot expansion, which could disturb a NRHP eligible cultural resource, CA-SHA-3643/H, and human remains. With the prescribed actions implemented from the HPMP, the impact will be less than significant.

Based on cultural resource surveys the whitewater boating flows study concluded that there will be no effects of whitewater boating on specific cultural resources in the Pit 1 Bypass Reach (PGE 2011). In addition, as discussed above, PG&E is required to comply with the HPMP under Article 426 of the Pit 1 Project FERC license (PG&E 2006b). Should previously undiscovered human remains be encountered during construction and operation, the HPMP prescribes specific actions and processes to manage cultural resources. Impacts to human remains from operation-related flow changes will be less than significant.

### Tribal Resources

Impact	Determination	
	Construction	Operations
<b>TRIB CULT-1:</b> Cause a substantial adverse change in the significance of a tribal cultural resource which is listed or eligible for listing in the CRHR or local register of historical resources as defined under Public Resources Code Section 5020.1(k)?	Less than significant	Less than significant

As discussed for CULT-1, no tribal resources have been identified within the Proposed Project APE and previous surveys determined that there will be no effects of whitewater boating on specific cultural resources in the Pit 1 Bypass Reach. As discussed above, PG&E is required to comply with the HPMP under Article 426 of the Pit 1 FERC license (PG&E 2006b). The HPMP prescribes specific actions and processes to manage

cultural resources within the Pit 1 Project, including a qualified Tribal Cultural monitor from the Pit River Tribe present during construction.

If previously undiscovered tribal cultural resources are discovered, appropriate mitigation in consultation with the Pit River Tribe, will be implemented to avoid or minimize impacts. With the prescribed actions implemented from the HPMP there will be a less than significant impact to tribal resources from Proposed Project construction and operations.

Impact	Determination	
	Construction	Operations
<b>TRIB CULT-2:</b> Cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	Less than significant	Less than significant

See discussion for CULT-1 above. There are no known tribal resources located within the Proposed Project APE and previous surveys determined that there will be no effects of whitewater boating on specific cultural resources in the Pit 1 Bypass Reach. If previously undiscovered tribal cultural resources are discovered, appropriate mitigation in consultation with the Pit River Tribe, will be implemented to avoid or minimize impacts. With the prescribed actions implemented from the HPMP there will be a less than significant impact to tribal resources from Proposed Project construction and operations.

### 3.4 Hydrology/Water Quality

This section: (a) describes the existing hydrologic and water quality conditions in the region and the Proposed Project area; (b) presents a summary of the regulatory context; (c) analyzes the hydrology and water quality impacts of the Proposed Project; and (d) evaluates the need for any potential mitigation measures.

#### 3.4.1 Environmental Setting

##### 3.4.1.1 *Hydrology*

##### **Regional Hydrology**

The Sacramento River basin is the largest river basin in California, covering 27,000 square miles with approximately 31 percent of the state’s total annual surface water runoff. The Sacramento River basin lies between the Sierra Nevada and Cascade Range in the east and the Coast Range and Klamath Mountains in the west. The Sacramento River basin is composed of six subregions including the Northeast, Westside, Eastside, Feather River, American River, and Sacramento Valley (Figure 3.4-1).

The Northeast Subregion (Figure 3.4-2) source waters rise in the volcanic plateaus and ranges of northern California as three rivers: the Upper Sacramento, McCloud, and Pit rivers. These rivers drain a four-county (Modoc, Lassen, Siskiyou, and Shasta) area in the north and northeastern part of the Sacramento River basin and generally flow southwest into Lake Shasta (Sacramento River Watershed Program 2017).

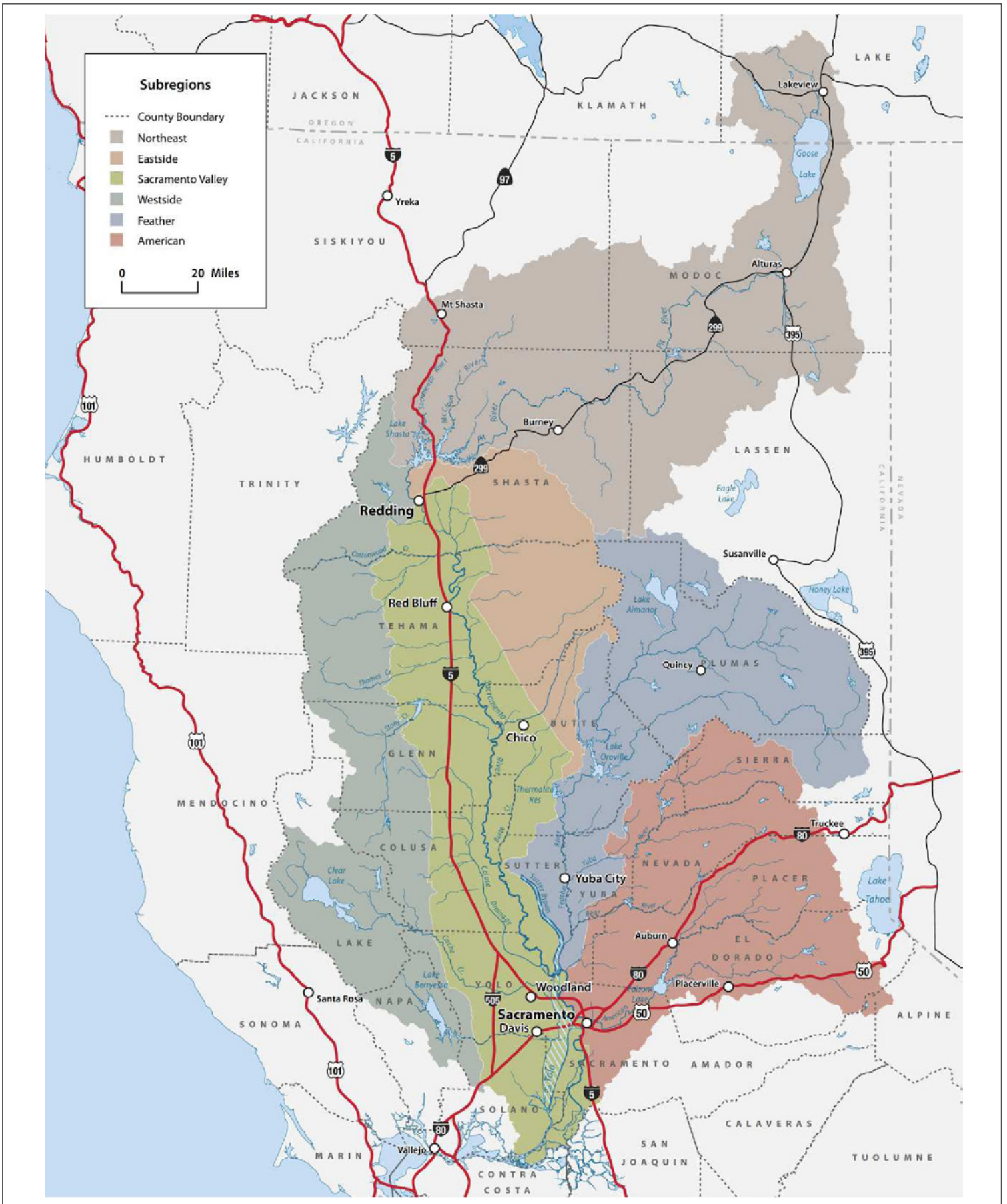
### **Pit River Watershed**

The Pit River watershed is located in northeastern California, at the western edge of the Great Basin Province. The Pit River watershed includes all tributaries to the Pit River from its headwaters in northeastern California near the Oregon and Nevada border, to its confluence with the McCloud and Sacramento Rivers in Lake Shasta. Individual rivers and streams in the Pit River Watershed vary greatly in their characteristics and the aquatic resources they support. Some are managed largely for agricultural irrigation supply, and others are among the state's most notable wild trout waters. There are six sub-watersheds within the Pit River Watershed, including Goose Lake, Upper Pit River, Fall River, Hat Creek, Burney Creek, and Lower Pit River sub-watersheds.

### **Upper Pit River Watershed**

The Pit River begins in the Warner Mountains of northeast California and flows in a southwesterly direction toward Shasta Lake. The Upper Pit River watershed includes the area from the Pit River headwaters downstream to the confluence with Fall River. Downstream of the confluence with Fall River, the Pit River markedly changes character because of the inflow of large volumes of cold water from Fall River, Hat Creek, and Burney Creek. Elevation within the Upper Pit River watershed varies from 9,833 feet above mean sea level (msl) at the Eagle Peak summit, located in the southeast portion of the Warner Mountains, to the Fall River Valley floor (3,200 feet msl). Average annual precipitation is 10 inches (lower elevations) to 25 inches (higher elevations). Most precipitation falls during the winter months.

The North Fork of the Pit River originates south of Goose Lake. Goose Lake is a closed basin that historically flowed into the North Fork of the Pit River during rare peak water levels, when it spills over into the Pit River. The South Fork of the Pit River originates from several tributaries in the south Warner Mountains. The North and South Fork Pit Rivers converge at the city of Alturas to form the mainstem Pit River, which flows southwesterly for approximately 60 miles until its confluence with Fall River. There are 21 principal tributaries along the Pit River Watershed that total more than 1,000 linear miles of perennial stream encompassing approximately 4,324 square miles (Pit River Watershed Alliance 2015).



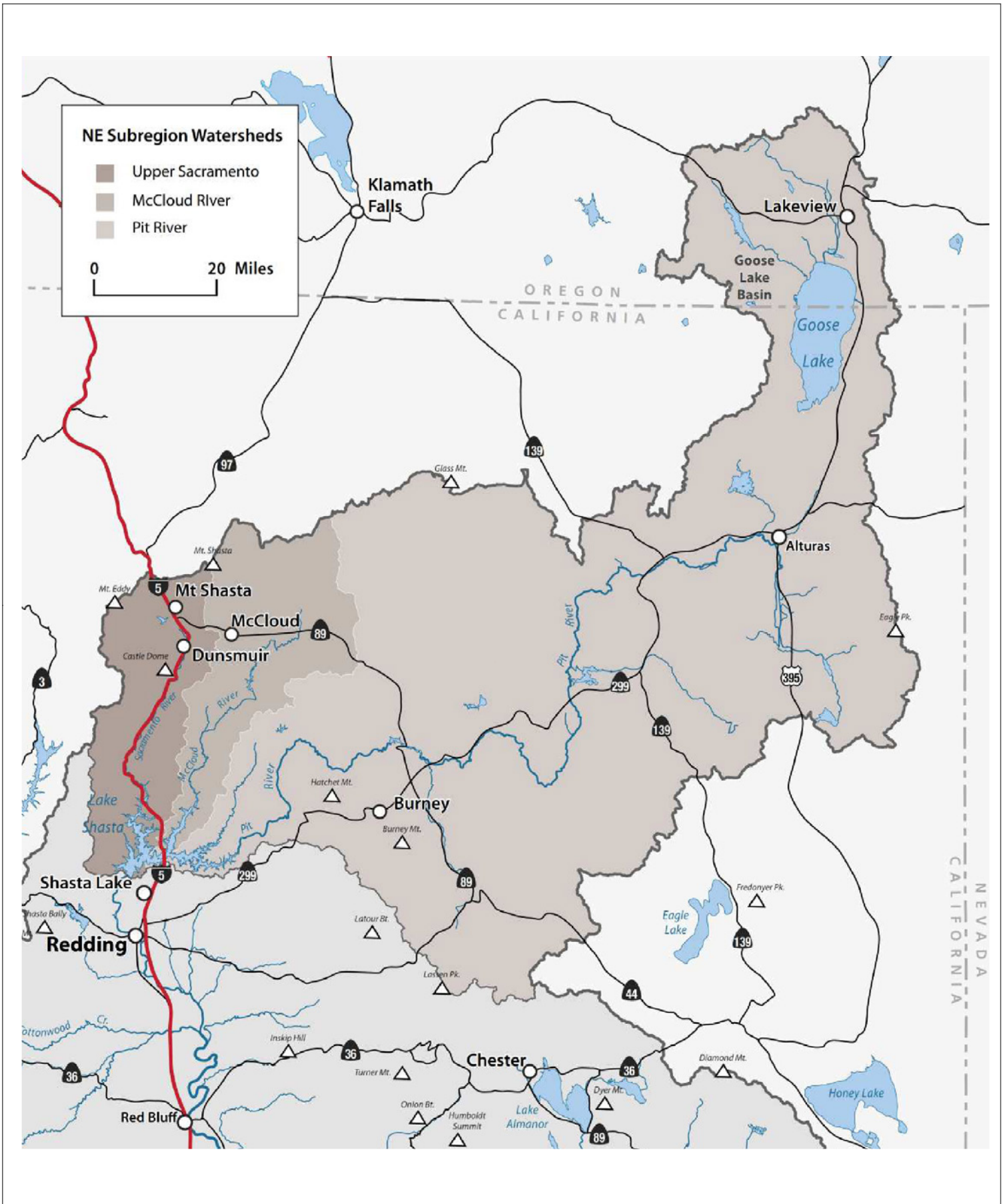
Source: Sacramento River Watershed Basin Website 2013

Pit 1 Hydroelectric Project

FIGURE 3.4-1  
Sacramento River Watershed Basin and Subregions



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Source: Sacramento River Watershed Basin Website 2013

Pit 1 Hydroelectric Project

FIGURE 3.4-2  
Sacramento River Watershed Basin and Northeast Subregion

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## **Fall River Watershed**

Fall River is located in eastern Shasta County and is one of the state's largest spring-fed rivers. Fall River is formed by a series of large springs that are believed to originate from snowmelt off Mount Shasta and surrounding volcanic regions. The majority of flow in the Fall River drainage comes from Thousand Springs, Rainbow Springs, Spring Creek, Lava Creek, Ja She Creek, Big Lake springs, as well as numerous smaller springs and seeps. Based on isotope hydrology studies, precipitation over the high elevation regions of Medicine Lake Volcano recharge the Fall River spring aquifer system with travel times likely less than 20 years (Davisson and Rose 1997, 2014). Much of this water traverses the region through a complex network of underground lava tubes and fracture systems (Sacramento River Watershed Website 2017). The river meanders for approximately 15 miles through Fall River Valley before entering the Pit River and eventually Shasta Lake. Average annual rainfall in Fall River Watershed is approximately 15 inches.

The only major source of surface water (i.e., not fed by groundwater) is Bear Creek near the headwaters of the Fall River. Bear Creek can contribute significant inflow during winter and spring runoff, but typically goes dry in its lower reaches by mid-summer. Fall River flows are joined by water from Tule River, which is fed by Little Tule River and Big Lake (all spring-fed) and enter the Pit River near the town of Fall River Mills (Sacramento River Watershed Website 2017). At the Pit 1 Diversion Dam, which is just north of Fall River Mills, most of the Fall River flow is diverted by PG&E to generate electricity through the Pit 1 Powerhouse.

## **Proposed Project Area**

Fall River Pond, Fall River bypass reach, and Pit 1 Bypass Reach are the river reaches most directly affected by the Proposed Project's permanent elimination of the requirement for summer flushing flows. The Pit 1 Bypass Reach includes the largest pool, Big Eddy, in the Upper Pit 1 Bypass Reach, and a canyon section with Pit River Falls in the Lower Bypass Reach. The Pit River portion of the Proposed Project area extends downstream from the Pit 1 Bypass Reach and includes Pit River between Pit 1 Powerhouse and the river's confluence with Hat Creek, which is in the upper portion of Lake Britton (refer to Figure 1.3-1).

Fall River flows into the Pit 1 Forebay and then into Fall River Pond. Fall River Pond is approximately 0.7 miles long and is created by the Fall River Pond Weir. Beyond the weir, Fall River flows approximately 1,000 feet through the cascading Fall River bypass reach to its confluence with the Pit River. The Pit 1 Forebay is used to store water to support powerhouse peaking operations, but also to provide minimum instream flows to the Pit 1 Bypass Reach that extends approximately 6.6 miles from the confluence with the Fall River to the Pit 1 Powerhouse (refer to Figure 1.3-2).

The first 1.9 miles of the Pit 1 Bypass Reach is low gradient and characterized by a wide channel, deep pools, and slow-moving water. Big Eddy Pool is approximately 200

feet wide and 20 to 25 feet deep. The remainder of Pit 1 Bypass Reach is within the Pit River Canyon where the river channel is narrow (generally 40 to 80 feet wide), shallow with numerous riffles, and has a steeper gradient and higher water velocities. The Pit River Falls are located in the Pit 1 Bypass Reach, as well as 15 mapped springs that contribute approximately 100 cfs to the river flow. A detailed description of the Proposed Project is provided in Chapter 2, including a discussion on minimum instream flows, summer flushing flows, recreational whitewater boating flow releases, outages, and unplanned outages.

### **3.4.1.2 Water Quality**

#### **Summary of License-Required Studies**

Pursuant to Article 401 of the FERC license and certification Conditions 16 and 17, PG&E implemented a water quality monitoring plan (PG&E 2003b) to determine the benefits/effects of flow releases required under the license on water quality in the Pit 1 Project, and reported results annually. Certification Condition 16 specifies that monitoring be conducted May 16 through October 31 annually at eight locations. Water temperature, dissolved oxygen (DO), conductivity, pH, and turbidity were measured during the monitoring program. Streamflow measurements and meteorological data were also collected during the monitoring program.

Pursuant to certification Condition 17, a draft report summarizing the first five years (2004 through 2008) of water quality monitoring (Spring Rivers 2009c) was submitted to the Deputy Director of the Division of Water Rights (Deputy Director) for review and comment in March 2009, then filed with FERC in July 2009. The five-year data summary demonstrated that the current minimum instream flow release generally met Basin Plan criteria to reasonably protect the beneficial uses, with a few exceptions that were attributed to short-term diel fluctuations (Spring Rivers 2011c). During consultation, PG&E recommended that the 2003 water quality monitoring plan be modified. Due to the scheduling of the review and approval process surrounding the proposed amendment to the water quality monitoring plan, the 2009 water quality monitoring effort was conducted according to the 2003 Plan (PG&E 2003b).

In October 2009, PG&E submitted a draft Water Quality Monitoring Plan Amendment to the State Water Board, CDFW, and USFWS. Recommendations from the five-year summary report and water quality plan amendment included:

- Monitoring diel DO over two five-day periods in 2010 (six locations were monitored throughout the Pit 1 Project area, including two stations in the Fall River, and four stations in the Pit River);
- Changing report due dates to allow time to complete quality assurance and control (QA/QC) results; and
- Reporting QA/QC results in the annual reports.

In January 2010, the State Water Board sent a letter to PG&E that listed several recommendations from PG&E's 5-year summary report (Spring Rivers 2009c) and requested that PG&E submit a final water quality monitoring plan that included those recommendations.

Additional modifications to the water quality plan, as requested by the State Water Board, included:

- Consolidating monitoring stations FR3 and FR4 to one station (FR3);
- Moving PR1 (Pit River at Pittville) to a new location upstream of the Cassel Road Bridge (PR1A) that more accurately represents water quality as it enters the Proposed Project by monitoring immediately upstream of the Pit 1 Bypass Reach;
- Replacing the upstream Pit River flow station (PR1) with an alternative method to estimate flow in the Pit River upstream of the Fall River confluence;
- Eliminating monitoring station PR3;
- Eliminating meteorological station at Pit 1 Intake; and continuing use of the station at Pit 3 Intake; and
- Changing the in-situ monitoring interval from biweekly to monthly.

In March 2010, PG&E submitted a final Water Quality Monitoring Plan Amendment (PG&E 2010) (2010 Plan) to the Deputy Director and FERC. In May 2010, FERC issued its order amending the water quality monitoring plan. The amended 2010 Plan (PG&E 2010) was first implemented in 2010 and is to be continued thereafter on an annual basis until the program is modified or terminated by the State Water Board, as described in certification Condition 17.

### **Summary of General Water Quality Results/Trends**

Data collected by PG&E during the 1990-1992 relicensing efforts were compared with data from the 2004-2015 compliance monitoring programs. Data from the 1990 to 1992 studies reflected conditions prior to the implementation of minimum instream flows and summer flushing flows from Pit 1 Forebay into the Fall River. In contrast, the 2004 to 2015 data represented conditions after implementation of license-required flows.

Data collected between 2004 and 2015 indicate that monitored water quality parameters have remained at relatively constant levels between years (Sagraves and Spring Rivers 2016). The exceptions are DO and pH measured in the Pit River at Big Eddy Pool.

#### *Dissolved Oxygen*

The 2004 to 2015 data indicate that DO values have stabilized at acceptable Basin Plan standards and do not exhibit the extreme fluctuations that were observed in 1992 (Sagraves and Spring Rivers 2016). The extreme fluctuations in DO values observed in

1992 were the result of the static low-flow regime that existed in this part of the watershed prior to 1993 before the Muck Valley Hydroelectric Project (which is not related to the Proposed Project) began operating (Sagraves and Spring Rivers 2010). In particular, the 1992 regime was driven by an absence of significant inflow from the Fall River, combined with low summer flows in the Pit River upstream of the Fall River confluence, which was comprised almost entirely of agricultural returns (Sagraves and Spring Rivers 2010). The combination of low discharge, nutrient-rich water, and warm ambient conditions resulted in substantial algae growth in the large pools of the Pit River in the Big Eddy Pool section. The respiratory cycle of the algae created a widely variable DO regime in this section of the river (Sagraves and Spring Rivers 2010).

During the 2010 to 2012 annual monitoring programs (Sagraves and Spring Rivers 2010; Spring Rivers 2012b; PG&E 2013), a diel DO investigation was conducted to define the natural diel cycle at two key locations within the Proposed Project (FR3 and PR2). The data were used to identify the optimal sampling period for each station, and support explanations as to why a few samples from past monitoring efforts exhibited DO levels that did not meet the Basin Plan COLD objective. Data from 2010 to 2012 indicated that average DO levels were above the minimum criteria for COLD freshwater habitats; however, sampling during early morning can capture DO levels at the minimum of the diel cycle and result in synoptic readings that are less than the Basin Plan objective. Data indicate that these DO deficiencies are of short duration and that daily average DO measurements were well above applicable Basin Plan objectives (PG&E 2013).

In summary, the positive change in Pit River water quality for DO appears to be related to changes in the flow regime of the Pit River that occurred after implementation of license-required flows. Data collected from 2004 to 2015 indicate that minimum DO values have increased. However, the available data are not sufficient to isolate the improvement effects made between PG&E's instream flow releases from lower Fall River and the Muck Valley Operations (Sagraves and Spring Rivers 2010).

Water quality in the Proposed Project area was typically within Basin Plan standards, although periodically DO data did not meet the Basin Plan objectives. Periodic deviations of DO below the Basin Plan COLD<sup>1</sup> objective were primarily related to sample collection coincident with the minimum of the diel cycle.

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<sup>1</sup> Cold Freshwater Habitat (COLD) - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. The dissolved oxygen (DO) concentrations shall not be reduced below the following minimum level at any time: Waters designated COLD - 7.0 mg/l (CV RWQCB 1998).

### pH

Results from 2015 are consistent with previous monitoring results (for pH) suggesting that the Proposed Project receives waters from PG&E's Fall River and Muck Valley hydropower projects with slightly elevated pH levels and passes them essentially unchanged through the Proposed Project facilities (Sagraves and Spring Rivers 2016). The data also indicate that pH levels entering the Proposed Project are already elevated to levels above the Basin Plan objective of 8.5 during most periods (Sagraves and Spring Rivers 2016). Periodic elevated levels of pH were naturally occurring (higher pH of groundwater inflow; effects of algal growth and decomposition particularly during the summer months when biological production is at its peak), and did not reach a level that produced negative effects on any of the beneficial uses (DWR 1982).

The positive change in Pit River water quality for pH also appears to be related to changes in the flow regime of the Pit River that occurred after implementation of license-required flows. Data collected from 2004 to 2015 indicate that maximum pH values have been reduced or stabilized overall.

### Water Temperature

In general, water temperatures throughout the Project reflected ambient conditions and fell within the range of previous monitoring efforts. The 2004–2015 data from each of the Fall River stations indicate that mean monthly July-August water temperatures were very similar to those measured in 1990–92 (Sagraves and Spring Rivers 2016). This suggests that the increased instream flow release being made from Pit 1 Forebay to the lower Fall River has not significantly altered the thermal structure of the forebay, or the thermal regime in Fall River Pond (Sagraves and Spring Rivers 2016). The distance between the forebay and the Pit River confluence is sufficiently short such that there is little thermal change occurring in the Fall River Pond or the Fall River bypass reach. As a result, water temperatures in the lower Fall River largely reflect conditions measured in the forebay (PG&E 2013).

Water temperatures in the Upper Pit 1 Bypass Reach at Big Eddy Pool have been relatively unaffected by the change in flow regime. Water temperatures in the lower Pit 1 Bypass Reach, however, have been warmed by the current minimum instream flows. On average, July-August water temperatures at the Pit River Falls and Pit 1 Footbridge were 1.2 °C and 1.8 °C, respectively, warmer during the Post-2003 regime as compared with the pre-1993 regime. Summer flushing flow events further increase water temperatures in the lower Pit 1 Bypass Reach (PG&E 2013).

### Flushing Flows and Aquatic Vegetation

Pursuant to Article 401 of the Pit 1 Project License and certification Conditions 16 and 17, PG&E implemented a water quality monitoring plan in 2003 and amended the plan in 2010 (PG&E 2003b, 2010). The purpose of the plan was to determine the benefits/effects of license-required flow releases on water quality in the Proposed



Project area, and report results annually. License Article 401 and certification Conditions 8 and 13 require continuous minimum instream flow releases and three summer flushing flows per year through Fall River Pond. In compliance with Article 401 and certification Condition 14, PG&E developed the Flushing Flow Effectiveness Monitoring Plan (PG&E 2005), which was submitted to FERC in 2005 and approved in 2006, to monitor, for five years, the effectiveness of flushing flows at controlling surface aquatic vegetation in Fall River Pond.

Under the current license flow conditions, average vegetation cover exceeded an estimated 10 percent in 2004, but still remained below levels that existed prior to implementation of the current flow regime in 2003. The five-year summary report concluded that since implementation in 2003, the license-required minimum instream flow releases have had a substantially greater role in suppressing vegetation than the summer flushing flows (Spring Rivers 2009c). The 2010 water year was a Below Normal water year, following three years of Dry and Critically Dry water year types, and therefore represents relatively dry conditions. Nevertheless, in the 2010 water year, in the absence of summer flushing flows, the continuous minimum instream flow releases through Fall River Pond, as required by certification Condition 8, kept the surface vegetation at acceptable levels (i.e., less than 20 percent).

### **3.4.2 Regulatory Setting**

#### **3.4.2.1 *Federal***

##### **Federal Clean Water Act of 1972**

The United States Environmental Protection Agency (USEPA) is the lead federal agency responsible for water quality management. The CWA is the primary federal law that governs and authorizes water quality control activities by USEPA as well as the states. Various elements of the CWA, discussed below, address water quality.

##### **Water Quality Criteria and Standards**

Under federal law, USEPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) identified designated beneficial uses of the water body in question; and (2) criteria that protect the designated beneficial uses. Section 304(a) requires USEPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, USEPA has granted the State Water Board and its nine regional water quality control boards (Regional Water Boards) the authority to identify beneficial uses and adopt applicable water quality objectives.

### **Federal Anti-degradation Policy**

The federal anti-degradation policy, established in 1968, is designed to protect existing uses, water quality, and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

#### **3.4.2.2 State**

In California, the State Water Board has broad authority over water quality control issues for the state. The State Water Board is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include the California Department of Pesticide Regulation, CDFW, and Office of Environmental Health and Hazard Assessment. As of July 1, 2014, the administration of the Drinking Water Program (DWP) transferred from DPH to the State Water Board. This transfer of responsibility aligns the state's drinking water and water quality programs in an integrated organizational structure to best position the state to both effectively protect water quality and the public health as it relates to water quality, while meeting current needs and future demands on water supplies (State Water Board 2015b).

Regional authority for planning, permitting, and enforcement is delegated to the nine Regional Water Boards. The Regional Water Boards are required to formulate and adopt water quality control plans (Basin Plans) for all areas in the region and establish water quality objectives in the plans. The Central Valley Regional Water Board is responsible for the water bodies in the project vicinity.

### **Section 401 Water Quality Certification**

Under Section 401 of the CWA, an applicant for a federal permit or license for an activity which may result in any discharge into the navigable waters, including a FERC license or Section 404 permit (to discharge dredged or fill material into waters of the United States), must first obtain a certificate from the appropriate state agency stating that the activity is consistent with the state's water quality standards and criteria. In

California, the authority to either grant or deny certification is delegated by the State Water Board to either the nine Regional Water Boards or the State Water Board's Division of Water Rights (Cal. Code Regs., title 23, §§ 3855).

### **Section 303(d) Impaired Waters List**

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives for specific pollutants after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. USEPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. National Pollutant Discharge Elimination System (NPDES) permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

### **Porter-Cologne Water Quality Control Act of 1969**

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is California's statutory system for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the State Water Board and Regional Water Boards to adopt and periodically update Basin Plans. Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The act also requires waste dischargers to notify the Regional Water Boards of their activities through the filing of Reports of Waste Discharge (RWDs) and authorizes the State Water Board and Regional Boards to issue and enforce waste discharge requirements (WDRs), NPDES permits, certifications, or other approvals. The Regional Water Boards also have authority to issue waivers to RWDs/WDRs for broad categories of *low threat* discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

## **Water Quality Control Plan for the Sacramento-San Joaquin River Basins**

The Central Valley Regional Water Board, under the authority of the Porter-Cologne Act and pursuant to the CWA, is responsible for authorizing activities that have the potential to discharge wastes to surface water or groundwater resources. The Water Quality Control Plan for the Sacramento-San Joaquin River Basins, adopted by the Central Valley Regional Water Board in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River Basins. State and federal laws mandate the protection of designated beneficial uses of water bodies. State law defines beneficial uses as “domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves” (Wat. Code, § 13050, subd.(f)). Designated beneficial uses for the Fall River and Pit River as described in the Basin Plan are provided in Table 2.1-3.

The Basin Plan identifies specific narrative and numeric water quality objectives for a number of physical properties (e.g., water temperature, turbidity, and suspended solids); biological constituents (e.g., coliform bacteria); and chemical constituents of concern, including inorganic parameters, trace metals, and organic compounds. Water quality objectives for toxic priority pollutants (i.e., select trace metals and synthetic organic compounds) are identified in the Basin Plan and in the California Toxics Rule (CTR), which was adopted in May 2000. The CTR is discussed below.

### **California Toxics Rule**

In May 2000, the State Water Board adopted and USEPA approved the California Toxics Rule, which establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The State Water Board subsequently adopted its Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Water Board 2005). This policy outlines procedures for NPDES permitting for toxic pollutant objectives that have been adopted in Basin Plans and in the CTR.

### **State Water Board Resolution No. 68-16**

The goal of State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High-Quality Waters in California) is to maintain high-quality waters where they exist in the state (State Water Board 1968). The non-degradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

- Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been

demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.

- Any activity that produces waste or increases the volume or concentration of waste and that discharges to existing high-quality waters would be required to meet waste discharge requirements that would ensure that (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the state would be maintained.

### **3.4.2.3 Regional and Local**

The Shasta County General Plan (Shasta County 2004) contains a policy objective to protect surface and groundwater resources so that all present and future Shasta County residents have a reasonable assurance that an adequate quantity and quality of water exists.

#### **Shasta County General Plan Objectives and Policies:**

- **Policy W-a.** Sedimentation and erosion from proposed developments shall be minimized through grading and hillside development ordinances and other similar safeguards as adopted and implemented by the County.
- **Policy W-f.** The County shall encourage and participate in interagency planning efforts, such as the Redding Area Water Council, to protect and enhance the quality of all groundwater and surface water resources.

#### **Shasta County Groundwater Management Ordinance**

The Shasta County Groundwater Management Ordinance (SCC 98-1) is included in the Shasta County Code (Chapter 18.08) for the purpose of protecting groundwater resources from extraction for use on lands outside of the County. The ordinance requires permit approval for extraction of groundwater for export out of the County, including extraction of groundwater to replace a surface water supply that would be exported. The ordinance acknowledges that other groundwater management measures may be part of comprehensive and cooperative planning efforts that the County may jointly undertake with other agencies.

### **3.4.3 Environmental Impacts and Mitigation**

#### **3.4.3.1 Methodology**

The environmental analysis for hydrology and water quality is based on review of existing Proposed Project-related documents. The effects of the Proposed Project are compared to environmental baseline conditions (i.e., existing conditions) to determine impacts. This assessment includes the assumption that results reported and analyses conducted by subject-matter experts are reliable and adequate for characterization of potential water quality issues.

**3.4.3.2 Significance Criteria**

In accordance with CEQA Guidelines Appendix G, implementation of the Proposed Project would have a significant impact on hydrology and water quality if it would:

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - i. Result in substantial on- or offsite erosion or siltation;
  - ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
  - iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - iv. Impede or redirect flood flows;
- d. Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan;

**3.4.3.3 Impacts and Mitigation**

Impact	Determination	
	Construction	Operations
<b>HYD-1:</b> Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less than significant	Less than significant

**Waste Discharge Requirements**

The Proposed Project does not propose any uses that would generate additional wastewater. Therefore, there are no waste discharge requirements associated with the Proposed Project.

## **Water Quality Standards**

The Basin Plan identifies specific narrative and numeric water quality objectives for a number of physical properties (e.g., water temperature, turbidity, and suspended solids); biological constituents (e.g., coliform bacteria); and chemical constituents of concern, including inorganic parameters, trace metals, and organic compounds.

Parking lot construction will require ground disturbance in proximity to the Pit River. BMPs have been incorporated into the Proposed Project (see Section 2.2.4.3) that will minimize the potential for erosion and the release of hazardous materials and will ensure that any accidental releases are cleaned up promptly. In addition, PG&E will need to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain more specific engineering requirements and BMPs. Thus, any impacts on water quality during construction will be less than significant.

The expansion of the parking lot (approximately 0.5 acre) will incrementally increase the potential for runoff of hazardous materials, such as oil and fuels leaked from vehicles, but the quantities will be small, and runoff will be directed to riprap where it will percolate into the ground before reaching the river. Any impacts will be less than significant.

Pursuant to Article 401 of the FERC license and certification Conditions 16 and 17, PG&E implemented a water quality monitoring plan (PG&E 2003b) to determine the benefits/effects of flow releases required under the license on water quality in the Pit 1 Project, and reported results annually. Certification Condition 16 specifies that monitoring be conducted May 16 through October 31 annually at eight locations. Water temperature, DO, conductivity, pH, and turbidity were measured during the monitoring program. Streamflow measurements and meteorological data were also collected during the monitoring program. As mentioned in Section 3.4.1.2, PG&E must monitor water quality annually from May 16 through October 31. If a water quality issue arises, PG&E is required to implement adaptive management.

As a result of monitoring and State Water Board, CDFW, and USFWS input, the Water Quality Monitoring Plan was amended in 2010. The amended 2010 Plan (PG&E 2010) was first implemented in 2010 and is to be continued thereafter on an annual basis until the program is modified or terminated by the State Water Board, as described in certification Condition 17. Refer to Section 3.4.1.2 for details of monitoring results and changes to the Water Quality Management Plan.

### *Dissolved Oxygen*

In summary, the positive change in Pit River water quality for DO appears to be related to changes in the flow regime of the Pit River that occurred after implementation of license-required flows. Water quality in the Proposed Project area was typically within Basin Plan standards, although periodically DO data did not meet the Basin Plan

objectives. However, these occurrences are of short duration and daily average DO measurements were well above applicable Basin Plan objectives (PG&E 2013).

### pH

Periodic elevated levels of pH were naturally occurring and did not reach a level that produced negative effects on any of the beneficial uses (DWR 1982). These elevated levels were a result of higher pH of groundwater inflow plus the effects of algal growth and decomposition, particularly during the summer months when biological production is at its peak.

The positive change in Pit River water quality for pH also appears to be related to changes in the flow regime of the Pit River that occurred after implementation of license-required flows. Data collected from 2004 to 2015 indicate that maximum pH values have been reduced or stabilized overall (Sagraves and Spring Rivers 2016).

### Temperature

In general, measured water temperatures throughout the Proposed Project reflected ambient conditions and fell within the range of previous monitoring efforts. The 2004–2015 data from each of the Fall River stations indicate that mean monthly July-August water temperatures were very similar to those measured in 1990–1992 (Sagraves and Spring Rivers 2016). This suggests that the summer flushing flows being made from Pit 1 Forebay to the lower Fall River have not substantially altered the thermal structure of the forebay, or the thermal regime in Fall River Pond (Sagraves and Spring Rivers 2016). Water temperatures in the Upper Pit 1 Bypass Reach at Big Eddy Pool have been relatively unaffected by the change in flow regime.

Under the Proposed Project, PG&E will continue to maintain minimum instream base flows in the lower Fall River in compliance with Articles 402 and 403 of the Pit 1 Project License and certification Condition 8. PG&E will maintain a 700 cfs minimum flow in the Pit River as measured at USGS gage 11355010. At a base flow of 277 cfs, analysis predicted that both coldwater habitat (<15 to 17°C) and marginally coldwater habitat (17.1 to 18°C) were available. However, water temperatures in the lower Pit 1 Bypass Reach have been warmed by the summer flushing flows. To avoid increased water temperature, which causes negative effects to biological resources and their habitat in the Pit 1 Bypass Reach, PG&E will eliminate summer flushing flows as part of the Proposed Project. Refer to Section 3.2 Biological Resources, Impact BIO-1. Therefore, impacts related to water quality associated with eliminating summer flushing flows will be less than significant.

In October, when average water temperatures are cooler, whitewater boating flows will not inundate coldwater habitat or substantially increase average water temperatures as seen under operations with summer flushing flows. Diel fluctuations will be maintained and essential coldwater refugia will be available for Shasta crayfish to occupy.



Therefore, the proposed change from four consecutive days to two weekends will not adversely impact the Shasta crayfish. The impact will be less than significant.

Impact	Determination	
	Construction	Operations
<b>HYD-2:</b> Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No impact	No impact

The Proposed Project will not alter the minimum instream flows required under Article 402 in the license and it will not deplete groundwater supplies or interfere with groundwater recharge. The parking lot expansion will be approximately 0.5 acre, which will create a small amount of impervious surface that will not interfere with groundwater recharge. However, the additional parking spaces that will be created are in locations that are mostly covered with compacted gravel. The elimination of the requirement for summer flushing flows and incorporation of October whitewater boating flows into the certification will not affect groundwater. No impacts to groundwater will occur.

Impact	Determination	
	Construction	Operations
<b>HYD-3:</b> Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial on- or offsite erosion or siltation?	Less than significant	Less than significant

The Proposed Project will not alter surface drainage, cause flooding or surface water increases, or affect storm drainage capacity. BMPs will be used to prevent erosion and sedimentation during parking lot construction (see Section 2.2.4.3). In addition, PG&E will need to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain any additional site-specific engineering requirements and BMPs. The approximately 0.5-acre area of disturbance for the proposed parking lot expansion will be located in a generally level area and will be engineered in a manner that will not substantially alter the drainage pattern of the site or result in erosion or siltation during either construction or operations.

The summer flushing flows (1,250 cfs) have been studied for erosion potential (PG&E 2011), and were not found to result in increased erosion potential. Data collected by PG&E during the 1990-1992 relicensing efforts were compared with data from the 2004-2015 compliance monitoring programs. Data from the 1990 to 1992 studies reflected conditions prior to the implementation of minimum instream flows and summer flushing

flows from Pit 1 Forebay into the Fall River. In contrast, the 2004 to 2015 data represented conditions after implementation of license-required flows.

Data collected between 2004 and 2015 indicate that monitored water quality parameters have remained at relatively constant levels between years (Sagraves and Spring Rivers 2016). These findings indicate that the proposed change from four consecutive days to two weekends will not adversely affect water quality. Therefore, impacts related to erosion or siltation will be less than significant during construction and operations.

Impact	Determination	
	Construction	Operations
<b>HYD-4:</b> Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	No impact	No impact

The proposed parking lot expansion will be located in a generally level area of mostly covered with compacted gravel (approximately 0.5 acre). BMPs will be used to prevent erosion and sedimentation during parking lot construction (see Section 2.2.4.3). In addition, PG&E is required to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain any additional site-specific engineering requirements and BMPs. The parking lot expansion will be engineered in a manner that will not substantially alter the drainage pattern of the site or result in erosion or siltation during either construction or operations. Although the expansion will create a new impervious surface, the size of the expansion is small enough such that it will not substantially increase surface runoff or increase flooding. The elimination of the requirement for summer flushing flows and incorporation of October whitewater boating flows into the certification will not contribute to alteration of the existing drainage patterns on- or offsite or increase the rate or amount of surface runoff. Therefore, no impacts related to drainage or runoff will occur.

Impact	Determination	
	Construction	Operations
<b>HYD-5:</b> Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less Than Significant	No impact

The parking lot expansion site is located in a generally level area surrounded by open space, and minimal runoff will be generated by its construction. Runoff will be directed to onsite riprap, and will not affect the capacity of existing or planned stormwater drainage systems, nor will the parking lot provide substantial additional sources of polluted runoff. The riprap protects soil from erosion in areas of concentrated runoff, typically in a ditch or swale. Riprap is used in areas with heavy runoff or when it is planned to be left in place after construction. Straw wattles are used for shorter

duration needs and typically don't last more than 2 years. Either system would be left in place until the site has vegetation regrowth in the areas that have been seeded after construction. In addition, various construction BMPs will be implemented (Section 2.2.4.3 Construction Overview). Further, PG&E will need to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain more specific engineering requirements and BMPs. Therefore, potential impacts of substantially increasing polluted runoff during construction will be less than significant.

The elimination of the requirement for summer flushing flows and incorporation of October whitewater boating flows into the certification will not affect stormwater runoff or otherwise affect the capacity of existing or planned stormwater drainage systems. The operational flow-related changes will not contribute to sources of polluted runoff. Therefore, there will be no impact to storm drainage systems.

Impact	Determination	
	Construction	Operations
<b>HYD-6:</b> Impede or redirect flood flows?	No impact	No impact

The proposed parking lot expansion is generally level and does not include structures that will impede or redirect flood flows. Although the expansion will create a new impervious surface, the expansion size (approximately 0.5 acre) will not be large enough to redirect flood flows. The elimination of the requirement for summer flushing flows and incorporation of October whitewater boating flows into the certification will not affect stormwater runoff. Therefore, there will be no impact related to alteration of flood flows.

Impact	Determination	
	Construction	Operations
<b>HYD-7:</b> In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No impact	No impact

The proposed parking lot expansion is not located in a flood hazard zone (FEMA 2019), nor is it in a tsunamic or seiche zone. Operational flow-related changes will not cause pollutants to be released. No impacts will result from construction or operational flow-related changes.

Impact	Determination	
	Construction	Operations
<b>HYD-8:</b> Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No impact	No impact

Neither the proposed parking lot expansion nor the operational changes to flows will conflict with or obstruct any water quality control plans or groundwater sustainability plans (refer to Impacts HYD-1 through HYD-3 for further discussion). No impacts will result from construction or operational flow-related changes.

### 3.5 Recreation

This section discusses potential impacts from implementation of the Proposed Project on recreation resources. Included in this section is a discussion of the existing recreation setting, regulatory environment, and impacts from the Proposed Project on recreational resources.

#### 3.5.1 Environmental Setting

The Pit 1 Project is located in the Fall River Valley and the Pit River Canyon of northeastern California. The small communities of McArthur and Fall River Mills are contiguous with or near Pit 1 Project facilities and features. The surrounding area is composed of pasture, cropland, wetlands, riparian, riverine, and hardwood/conifer woodlands. The adjacent landforms are dominated by mountains and other features associated with the volcanic Cascade Range. Within this area, the Pit River morphology ranges from a relatively open, flat, and slow-moving reach of river to a cascading, fast-moving river in an incised canyon setting.

The Proposed Project is located within a region that has a strong association with outdoor recreation. Densely forested mountains, lower elevation terrain dominated by volcanic features, and numerous lakes and rivers support a wide variety of recreation opportunities and experiences. Throughout the region, the varied elevations, settings, and environmental characteristics combine to support camping, picnicking, hiking, wildlife observation, river and lake angling, swimming, flat-water boating, and whitewater boating. Regional recreational attractions include: Lake Shasta, Lassen Volcanic National Park, McArthur-Burney Falls State Park, Castle Crags State Park, Ahjumawi-Lava Springs State Park, Mount Shasta Recreation Area, Lassen National Forest, and Shasta-Trinity National Forest. In addition, there are numerous privately owned facilities that provide recreation opportunities.

The 2003 FERC license for the Pit 1 Project divided the Project area into two sections: the Upper Project Area and Lower Project Area (see Figure 1.3-1). The Upper Project Area is upstream of the Pit 1 Project's diversion dam on the Fall River. This area consists of about 3,400 acres of land and water. This area includes approximately 22

miles of the Fall River, five miles of the Tule River, Little Tule River, and Big Lake. Included in the Upper Project Area is approximately 3,000 acres of the 6,000-acre McArthur Swamp (known as Hollenbeak Field, Ash Field, and Rat Farm Pond) adjacent to Big Lake and upper Tule River and about 12 miles of levees along Horr Pond; Big Lake; and the Fall, Tule, and Little Tule rivers.

The Lower Project Area includes the Fall River Diversion Dam and the area downstream of the diversion dam, including the 222-acre Pit 1 Forebay and over 200 acres of land surrounding the forebay. Within the Lower Project Area is the Pit 1 Bypass Reach. Within the Bypass Reach are about 0.9 mile of the lower Fall River and 6.6 miles of the Pit River. The Pit 1 Bypass Reach includes the pool named Big Eddy in the upper section of this reach, and a canyon section in the lower end of the reach with a waterfall by the name of Pit River Falls.

Recreational uses in the Proposed Project area are primarily associated with the Lower Project Area. There is also a nexus with recreational use on the section of Pit River between the Pit 1 Powerhouse, and the river's confluence with Hat Creek in the upper portion of Lake Britton.

#### **3.5.1.1 Recreation Opportunities**

The land and water features along the Pit River, from the confluence with the Fall River downstream to Lake Britton, support a wide range of recreation opportunities such as camping, hiking, picnicking, fishing, and whitewater boating. Private facilities, informal boating access sites, and developed recreation areas provide access to the Proposed Project Area for recreation, including the Lion's Club picnic area, the Bureau of Land Management (BLM) campground, Dusty Campground, and other public access points associated with the PG&E Hat 2 hydroelectric facility.

The Fall River flows almost entirely within private lands, limiting both shoreline and boat access. Recreational access in the upper Fall River is primarily through private lodges and launches.

The primary recreational activities at the Pit 1 Forebay include swimming, shoreline fishing, boating, waterskiing, picnicking, and camping. As part of the license for the Pit 1 Project, recreation improvements were made in 2005 to enhance the existing picnicking, fishing, boating, and swimming opportunities at the Pit 1 Forebay, which is also known as Fall River Lake. The Fall River Lake Recreation Area includes a group picnic area with barbeque and shade structure, a picnic area with swim beach, boat launch, and ADA fishing platform.

At the Fall River Pond, shore fishing for largemouth bass is the primary recreational activity. The Fall River Pond Access was improved to include a small watercraft ramp, picnic table, and interpretive display.

In 2007 as part of the license for the Pit 1 Project, PG&E constructed the Pit River Access across from the Pit River and Fall River confluence. The Pit River Access includes a hand watercraft launch, interpretive display, restroom, and parking. The Pit River Access is the put-in for whitewater boating on the Pit 1 Bypass Reach.

Along State Highway 299, a scenic overlook provides visitors to the area with vistas of the Pit River Falls. Facilities for camping and picnicking, waterskiing, boating, beach use, and fishing opportunities can be found at Lake Britton.

### **1996 Pit River Whitewater Boating Study**

An initial assessment of whitewater boating opportunities in the Pit River was conducted by PG&E in 1996 (WRC Environmental 1996). This assessment identified put-in and take-out locations, characterized the runs (reaches of river for whitewater boating), developed flow range estimates for whitewater boating use, and estimated current and future whitewater recreational use on the runs. In addition, the difficulty and approximate skill level required by reaches was determined based on the International Scale of River Difficulty. Rapids that are at the lower or upper end of a difficulty range are designated with a “-“ or “+”, respectively. That grading system defined rapids as a Class I through V as described below.<sup>1</sup>

- Class I: Very small rough areas, requires no maneuvering. (Skill Level: None)
- Class II: Some rough water, maybe some rocks, small drops, might require maneuvering. (Skill Level: Basic Paddling Skill)
- Class III: Whitewater, medium waves, maybe a 3- to 5-foot drop, but not much considerable danger. May require significant maneuvering. (Skill Level: Experienced paddling skills)
- Class IV: Whitewater, large waves, rocks, maybe a considerable drop, sharp maneuvers may be needed. (Skill Level: Whitewater Experience)
- Class V: Whitewater, large waves, large rocks and hazards, maybe a large drop, precise maneuvering (Skill Level: Advanced Whitewater Experience)
- Class VI: Whitewater, typically with huge waves, huge rocks and hazards, huge drops, but sometimes labeled this way due to largely invisible dangers (e.g., a smooth slide that creates a near-perfect, almost inescapable hydraulics, as at Woodall Shoals/Chattooga). Class VI rapids are considered hazardous even for expert paddlers using state-of-the-art equipment, and come with the warning “danger to life or limb.” (Skill Level: Expert)

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<sup>1</sup> It should be noted that a revised whitewater grading scale has been since adopted by American Whitewater.

Whitewater boating opportunities exist on two sections of the Pit 1 River: the Pit 1 Bypass Reach and the Pit River downstream of the Pit 1 Powerhouse tailrace (Figure 3.5-1). The Pit 1 Bypass Reach, which extends 6.7 miles from the Fall River confluence to the Pit 1 Powerhouse tailrace, is considered to be a Class III or Class IV run, with the exception of Pit River Falls, which is Class V. The Pit River downstream of the Pit 1 Powerhouse tailrace is a Class II/III run. When suitable flows are present, whitewater boaters use sections of the river based on their skill level and/or experience. Whitewater boaters access the Pit 1 Bypass Reach from the Pit River Access across from the confluence with the Fall River. Most boaters on the Pit 1 Bypass Reach exit their boating run (take out) at BLM's Pit River Campground. To access the Pit River downstream of the Pit 1 Powerhouse tailrace, boaters put-in at BLM's Pit River Campground and generally take out at the State Highway 299 bridge. The Pit 1 Bypass Reach only has sufficient water to boat during October whitewater flow releases or natural high-water events, whereas the Pit River downstream of the Pit 1 Powerhouse has sufficient water to boat year-round.

The Pit 1 Bypass Reach begins with 2.2 miles of low gradient (less than 10 feet per mile) stream composed of several long pools separated by short drops. This reach is known as Big Eddy Pool. The ledges reach is a 0.3-mile-long rapid. In this section, the river drops about 40 feet. The canyon whitewater reach can be further divided into three sections: upper canyon whitewater reach, the Pit River Falls and portage, and the lower canyon whitewater reach (Figure 3.5-2). The upper canyon whitewater reach extends about 2.2 miles from the base of the ledges to the Pit River Falls. The channel gradient of this segment varies from 70 to 125 feet per mile. Pit River Falls spans the entire width of the canyon, about 300 to 400 feet, and is about 35 to 40 feet high. A portage trail bypasses about 750 feet of the channel, and includes a 30-foot climb up to an abandoned toll road and about a 700-foot carry to a point where the crafts are lowered into the pool downstream of the falls. The lower canyon whitewater reach, with varied channel gradients from 60 to 88 feet/mile, extends about 2.1 miles from the bottom of the Pit River Falls to the Pit 1 tailrace.

At flows of 1,050 cfs to 3,500 cfs, Big Eddy Pool is Class I to II, Ledges is Class III to IV, Pit River Falls is Class V, upper canyon is Class III to IV, and lower canyon is Class III+ to IV+ (WRC Environmental 1996).



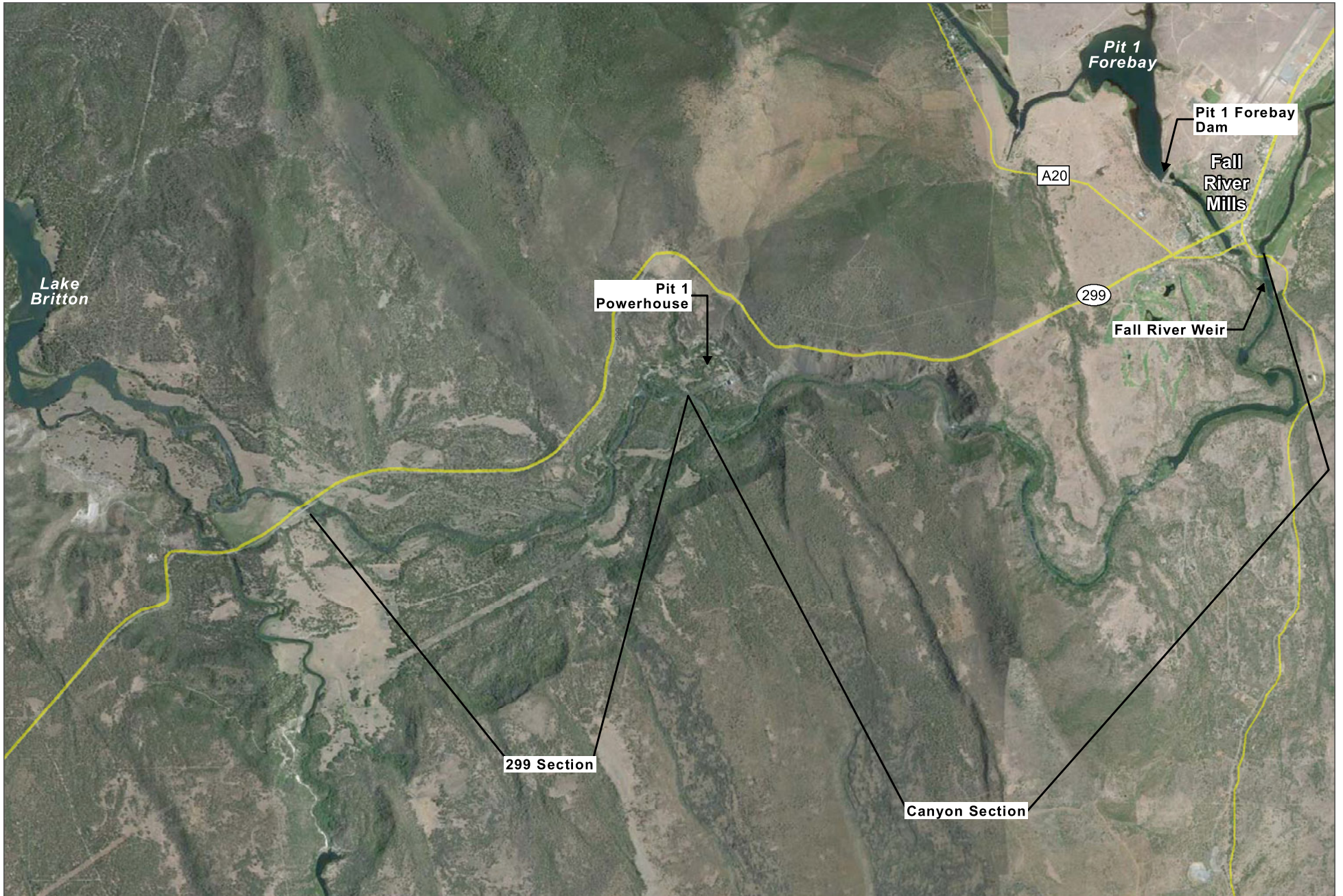
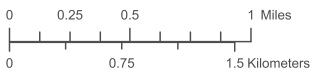


Image Source: Google Earth, 04-09-13



### Pit 1 Hydroelectric Project

FIGURE 3.5-1

Pit 1 Whitewater Recreation: Canyon Section and 299 Section



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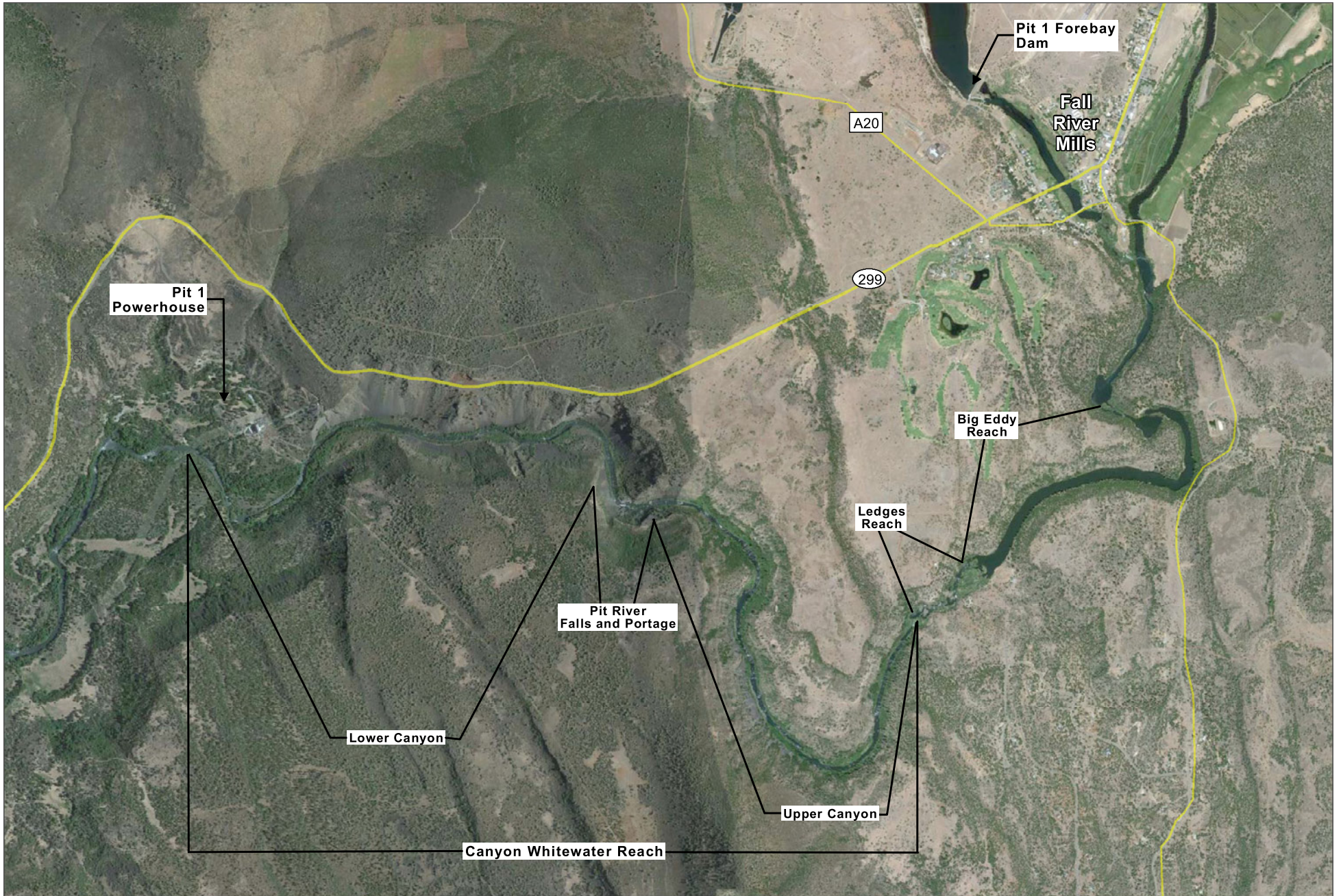
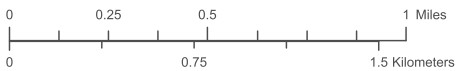


Image Source: Google Earth, 04-09-13



### Pit 1 Hydroelectric Project

FIGURE 3.5-2  
Pit 1 Recreation Canyon WW Reach

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The Pit River downstream of the Pit 1 Powerhouse tailrace extends 2.6 miles and has an overall gradient of about 24 feet per mile. Boaters that continue past the State Highway 299 bridge have 1.2 miles of swiftwater (16 feet/mile gradient) followed by a 1.2-mile lake surface section. At flows of 750 cfs to 5,300 cfs, the Pit River between the Pit 1 Powerhouse and the State Highway 299 bridge is Class II+ to III, and the reach downstream of State Highway 299 bridge is Class I to II (WRC Environmental 1996).

Other whitewater boating opportunities in the area include the Pit 5 Reach of the Pit River, Upper Klamath, Trinity, and South Fork American rivers. These rivers are boatable during the late summer or early fall as a result of hydroelectric project operations. PG&E implements whitewater boating flow releases on the Pit 5 Reach one weekend in August and one weekend in September.

### **2008 Potential Impacts of Flushing Flows and Whitewater Boating Flows – Phase 2 Report – Pit 1 Project**

In March 2003, FERC issued a new license for the Pit 1 Project. Article 424 of the license required PG&E to prepare a plan to study potential impacts of flushing flows and whitewater boating flows on fish, wildlife, cultural, and recreation resources occurring in the fall (particularly September 15 to October 30). The plan called for a two-phase approach. Phase 1 included the compilation and review of existing resource information, and determination of whether existing data and information were sufficient to evaluate potential whitewater boating flow impacts on the target resources, or whether additional studies were warranted as potential Phase 2 studies. Phase 1 also reassessed the feasibility of providing whitewater boating flow releases in the range of 1,250 cfs to 1,750 cfs between September 15 and October 30, based on the license conditions of a 150-cfs release from Fall River Pond and the requirement to maintain a minimum flow of 700 cfs downstream of Pit 1 Powerhouse. The Phase 2 studies included a whitewater boating study to refine acceptable boating flow ranges, particularly those near the low end of the range. These studies also utilized the updated American Whitewater Class rating system. Field studies for the Phase 2 study took place in 2006 during flushing flows as required by the license. The Phase 2 study was conducted by R2 Resource Consultants, Inc., Spring Rivers Ecological Sciences LLC, and Confluence Research and Consulting. The results were presented in the report titled *The Potential Impacts of Whitewater Boating Flows – Phase 2 Report – Pit 1 Project* FERC Project No. 2687 (R2 et al. 2008).

As part of the study, 118 boaters were surveyed. Of that number, 107 (91 percent) were hard shell kayakers, seven (six percent) were rafters, and four (three percent) were inflatable kayakers. Of the boaters surveyed, 105 (89 percent) were from California, and of those 44 (42 percent) were from Chico and Redding; the others were from Mount Shasta, Sacramento, and the San Francisco Bay Area. The remaining boaters were from Washington (two boaters), Oregon (11), and Nevada (15). The boaters rated the reach from Big Eddy Pool to the BLM campground (the canyon run) as a Class III or

Class IV run. Difficulty ratings were generally unrelated to flow. This class rating is based on the following updated rating system (American Whitewater 2005).

- Class I: Fast-moving water with riffles and small waves. Few obstructions, all obvious and easily missed with little training. Risk to swimmers is slight; self-rescue is easy.
- Class II: Straightforward rapids with wide, clear channels, which are evident without scouting. Occasional maneuvering may be required, but rocks and medium-sized waves are easily missed by trained paddlers. Swimmers are seldom injured and group assistance, while helpful, is seldom needed. Rapids that are at the upper end of this difficulty range are designated “Class II+.”
- Class III: Rapids with moderate, irregular waves that may be difficult to avoid and that can swamp an open canoe. Complex maneuvers in fast current and good boat control in tight passages or around ledges are often required; large waves or strainers may be present but are easily avoided. Strong eddies and powerful current effects can be found, particularly on large-volume rivers. Scouting is advisable for inexperienced parties. Injuries while swimming are rare; self-rescue is usually easy but group assistance may be required to avoid long swims. Rapids that are at the lower or upper end of this difficulty range are designated “Class III-” or “Class III+,” respectively.
- Class IV: Intense, powerful, but predictable rapids requiring precise boat handling in turbulent water. Depending on the character of the river, it may feature large, unavoidable waves and holes or constricted passages demanding fast maneuvers under pressure. A fast, reliable eddy turn may be needed to initiate maneuvers, scout rapids, or rest. Rapids may require “must” moves above dangerous hazards. Scouting may be necessary the first time down. Risk of injury to swimmers is moderate to high, and water conditions may make self-rescue difficult. Group assistance for rescue is often essential but requires practiced skills. A strong Eskimo roll is highly recommended. Rapids that are at the lower or upper end of this difficulty range are designated “Class IV-” or “Class IV+,” respectively.
- Class V: Extremely long, obstructed, or very violent rapids that expose a paddler to added risk. Drops may contain large, unavoidable waves and holes or steep, congested chutes with complex, demanding routes. Rapids may continue for long distances between pools, demanding a high level of fitness. What eddies exist may be small, turbulent, or difficult to reach. At the high end of the scale, several of these factors may be combined. Scouting is recommended but may be difficult. Swims are dangerous, and rescue is often difficult even for experts. A very reliable Eskimo roll, proper equipment, extensive experience, and practiced rescue skills are essential. Because of the large range of difficulty that exists beyond Class IV, Class 5 is an open-ended, multiple-level scale

designated by Class 5.0, 5.1, 5.2, etc., each of these levels is an order of magnitude more difficult than the last. Example: increasing difficulty from Class 5.0 to Class 5.1 is a similar order of magnitude as increasing from Class IV to Class 5.0.

- **Class VI:** These runs have almost never been attempted and often exemplify the extremes of difficulty, unpredictability, and danger. The consequences of errors are very severe and rescue may be impossible. For teams of experts only, at favorable water levels, after close personal inspection and taking all precautions. After a Class VI rapids has been run many times, its rating may be changed to an appropriate Class 5.x rating.

### 3.5.1.2 Recreational Use

Except for whitewater boating activities, information related to recreational use specific to sites, or areas, within the Proposed Project area is largely based on estimates because a formal recreational use survey has not been conducted. For the purposes of this assessment, recreational use is assumed to have been relatively constant through time, with no significant increase or decrease in use or change in activity participation since license issuance. This is supported by recreational use monitoring conducted by the USFS in the National Forest System, as shown in Table 3.5-1. The assumption is that recreational use and activities within the Proposed Project area are relatively commensurate with recreational use within National Forests.

From 2005 to 2011, essentially no change occurred in National Forest visitation. During this time period, it was estimated that visitation to National Forests increased by 0.9 percent. In addition, the demographic makeup of visitors to the National Forests remained largely unchanged between 2005 and 2011. Estimates for the National Forest System recreational use are presented in Table 3.5-1.

**Table 3.5-1 National Visitation Estimates for the National Forest System**

Visit Type	Visits FY 2005–2009	Visits FY 2006–2010	Visits FY 2007–2011
Day-Use – Develop Sites	70,653	69,731	70,659
Overnight Use – Developed Sites	15,023	16,244	18,335
General Forest Area	103,802	103,773	104,847
Wilderness	6,533	6,803	7,709
<b>Total Site Visits</b>	<b>196,011</b>	<b>196,551</b>	<b>201,549</b>
<b>National Forest Visits</b>	<b>164,373</b>	<b>164,214</b>	<b>165,880</b>

Source: USFS 2010, 2012

In 1996, PG&E developed recreational use estimates for specific sites within the Proposed Project area based on results from its Pit River Whitewater Boating Study (WRC Environmental 1996). During the summer recreation season, from Memorial Day weekend to Labor Day weekend, recreational use at the Pit 1 Forebay is estimated at 9,266 day-use recreation-days and 102 camping days (FERC 1999). A day-use recreation day is typically defined as one 12-hour visit to a site, or 12 hours of activity at a site, and a camping day is one overnight stay.

There are about 60 persons at one time (PAOT) during a typical summer weekend. The Pit 1 Forebay received an estimated 720 boating recreation-days during the summer recreation season. During a typical weekend afternoon, four boats at one time (BAOT) were observed at the forebay. Most of the boats observed (95 percent) were powerboats, with the remainder being jet skis, non-powered boats, or sailboards. Immediately downstream of the forebay dam spillway channel, there were an estimated 1,178 day-use recreation-days during the fishing season and an average of one PAOT during a typical weekend along the shoreline (FERC 1999).

Recreational use at Big Eddy Pool totaled 1,263 recreation-days with a maximum of 28 PAOT observed during a holiday weekend. At the Pit 1 Project Footbridge, located in the Pit 1 Powerhouse area, recreational use was estimated to be 749 recreation-days of day-use activity (FERC 1999).

The Pit River Whitewater Boating Study (WRC Environmental 1996) estimated the use of the Canyon Section at 25 whitewater recreation visits annually and the future average annual demand to be about 150 annual visits. This study also estimated the 1996 whitewater boating use on the 299 Section to be about 100 annual visits. Future annual average visitation on this section of the Pit River was estimated at about 200 annual visits (WRC Environmental 1996).

Incidental whitewater boating use on the Pit 1 Bypass Reach was monitored by direct observation during the three weekends of summer flushing flows from 2003, when the current license took effect, through 2009, which was the last year summer flushing flows occurred. Whitewater boating use on the Pit 1 Bypass Reach was also monitored by direct observation during the first four years of the October whitewater boating flows from 2011 through 2014. Table 3.5-2 presents the observed whitewater recreational use and daily mean use during the summer flushing flows (2003–2009) and FERC October whitewater boating flows (2011–2014).

The majority of boaters used kayaks, during both the summer flushing flows (96 percent) and the FERC October whitewater boating flows (90 percent). Raft use during the FERC October whitewater boating flows (ten percent) was slightly higher than during the summer flushing flows (four percent). Boaters were not observed using tubes or canoes.

Both the summer flushing flows and the FERC-required October whitewater boating flows have been publicized annually in local newspapers (i.e., Mountain Echo,

Intermountain News, Redding Record Searchlight) and provided to American Whitewater for inclusion on their website. The [American Whitewater website](http://www.americanwhitewater.org) (URL Address: <http://www.americanwhitewater.org>) includes dates and target magnitudes of flow releases.

Whitewater boating use during the summer flushing flows was relatively low until the July 2006 release. Prior to 2006, an average of two people boated each summer flushing flow weekend day. In contrast, an average of 39 people boated each summer flushing flow weekend day from 2006 through 2009. During the 2003–2009 summer flushing flows, an average of 23 boaters boated the Pit 1 Bypass Reach with an average of 22 kayak runs and one raft run each day.

Boating use during the 2011-2014 FERC October whitewater boating flows was more than two times greater than during the 2003-2009 summer flushing flows. During the 2011-2014 FERC October whitewater boating flows, an average of 64 boaters boated the Pit 1 Bypass Reach with an average of 49 kayak runs and six raft runs each day (see Table 3.5-2).

### **3.5.1.3 Recreational Instream Flow**

In addition to access and recreation support facilities, another important consideration related to recreational use and the recreational experience is instream flow. In some instances, such as whitewater boating activities, instream flow is the fundamental consideration.

In the Pit 1 Bypass Reach, the current minimum instream (instantaneous) flows downstream of the Fall River Pond, as measured at the Fall River Weir, range between 75 cfs and 150 cfs dependent on water year type and month. These flows are sufficient to support dispersed stream-based recreation activities. They also allow for access to the stream channel for instream recreation activities such as angling. However, instream flows between 75 cfs and 150 cfs are too low to support whitewater boating activities. Below the Pit 1 Powerhouse, the license-required minimum instream flow is 700 cfs.

Condition 13 of the certification currently requires the Licensee to control growth of aquatic vegetation and mosquito production in the Fall River Pond by releasing a continuous minimum fish/aquatic habitat flows as described in Condition 8 and by releasing flushing flows through Fall River Pond for two consecutive days (Saturday and Sunday) three times per summer. Flushing flows are defined as 1,250 cfs or the natural flow to the Pit 1 Forebay, whichever is less. The magnitude of the summer flushing flows is adequate to support incidental whitewater recreation activities.



**Table 3.5-2 Summary of Boating Use Observed in the Pit 1 Bypass Reach during Summer Flushing Flows (2003–2009) and October Whitewater Boating Flows (2011–2014)**

Year	Number of Survey Days	Number of Weekend Survey Days	Number of Days with Boaters	Number of Kayak Runs	Number of Raft Runs	Total Number of Boating Runs	Number of Boaters (i.e., Boater Days) <sup>1</sup>
<b>Summer Flushing Flows</b>							
2003	6	6	3	25	0	25	25
2004 <sup>2</sup>	9	6	2	6	0	6	7
2005	6	6	1	4	0	4	4
2006	6	6	4	121	2	123	128
2007	6	6	6	299	14	313	339
2008	6	6	6	209	7	216	219
2009	6	6	6	266	13	279	247
<b>Totals</b>	<b>45</b>	<b>42</b>	<b>28</b>	<b>930</b>	<b>36</b>	<b>966</b>	<b>969</b>
<b>Daily Mean Use during Summer Flushing Flows</b>				<b>22</b>	<b>1</b>	<b>23</b>	<b>23</b>

<sup>1</sup> Number of boater days—one “boater day” is define by State Water Board as boating use by one person on the Pit 1 Bypass Reach for any part of a given day. Boaters making multiple runs are only counted as one boater day.

<sup>2</sup> During 2004, the May/June flushing flows occurred for 5 days from Wednesday, May 19, through Sunday, May 23. There were no boaters on any day. Only the weekend days were used to calculate daily mean use.

Year	Number of Survey Days	Number of Weekend Survey Days	Number of Days with Boaters	Number of Kayak Runs	Number of Raft Runs	Total Number of Boating Runs	Number of Boaters (i.e., Boater Days) <sup>1</sup>
<b>October Whitewater Boating Flows</b>							
2011	4	4	4	201	13	214	237
2012	4	4	4	246	16	262	283
2013	4	4	4	158	22	180	218
2014	4	4	4	183	38	221	285
<b>Totals</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>788</b>	<b>89</b>	<b>877</b>	<b>1,023</b>
<b>Daily Mean Use during October Whitewater Boating Flows</b>				<b>49</b>	<b>6</b>	<b>55</b>	<b>64</b>

Source: PG&E 2011, PG&E unpublished data

The initial summer flushing flows were scheduled to be released in May or June when warranted by vegetation growth in the Fall River Pond. The second summer flushing flow was to be released in July, and the third at the end of August prior to the Labor Day weekend. The releases were to be made from approximately 2 A.M. Saturday morning and continue until approximately 3 P.M. the next day, and then be ramped down over a period of time. In an effort to support incidental whitewater boating use of the summer flushing flows, among other things, the Licensee provides advanced public notice of the flow releases by telephone and on existing websites.

On July 16, 2009, FERC issued an order approving the second of two studies to refine acceptable boating flow ranges, particularly those near the low end of the range. As a result of the Phase 2 study, in March 2011, PG&E filed with FERC the proposed whitewater boating flow release schedule, which includes whitewater boating flow releases in October in the Pit 1 Bypass Reach (i.e., FERC-required October flows, which can occur over four days or two weekends). This proposal recognized whitewater boating as a beneficial use of the Pit River and the ecological constraints associated with the provision of flows sufficient to support whitewater boating activities. FERC approved PG&E's proposed whitewater boating flow schedule and recommendations on June 14, 2011.<sup>1</sup> PG&E is required to implement the FERC October flows, pursuant to FERC's 2011 order, under all alternatives described in this Final EIR, including the "No Project Alternative."

### **3.5.2 Regulatory Setting**

Recreational resources are protected and/or managed by a variety of agencies at the federal, state, and local levels. Each of these agencies has their agency-specific laws, ordinances, and/or regulations. In general, the terrestrial resources in the Proposed Project area are associated with privately owned lands, but the Pit 1 Project and associated waters of the Fall and Pit rivers come under the auspices of federal and state regulations.

#### **3.5.2.1 *Federal***

The Pit 1 Project and associated facilities operate in accordance with the articles, terms, and conditions of the FERC license for the Pit 1 Project. The FERC license was issued March 19, 2003, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA), 16 U.S.C. §§ 797(e) and 808, for the continued operation and maintenance of the Proposed Project. As part of the licensing process the USFWS issued a Biological

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<sup>1</sup> 135 FERC ¶ 62,215. Order Approving Final Whitewater Boating Flow Schedule (issued June 14, 2011).

Opinion for impacts associated with Pit 1 Project facilities and operations. The following language defines the FERC license objective for the Pit 1 Project:

It is [FERC's] policy with respect to recreational development at licensed projects to "seek, within its authority, the ultimate development of [recreational] resources, consistent with the needs of the area to the extent that such development is not inconsistent with the primary purpose of the project." ... To that end, [FERC] requires licensees to make reasonable expenditures to develop suitable recreation facilities and to provide for adequate public access to project facilities and waters.

### **3.5.2.2 State**

Under Section 401(a)(1) of the CWA (33 U.S.C. § 1341(a)(1)), FERC may not issue a license for a hydroelectric project unless the state water quality certifying agency has either issued a water quality certification for the project or has waived certification. Section 401(d) of the CWA (33 U.S.C. § 1341(d)) provides that state certification shall become a condition of any federal license or permit that is issued. The State Water Board is the state agency responsible for such certification in California. (Wat. Code, § 13160.)

The State Water Board concluded in issuing a certification for the Pit 1 Project that the Pit 1 Project would be protective of beneficial uses as listed in the Basin Plan for the Proposed Project area, including contact and non-contact recreation. An amendment to the certification issued by the State Water Board, like issuance of the original certification, is the State Water Board's conclusion that the project (or amendment), as conditioned, will be protective of water quality for the duration of the project license. Issuance of a certification or amended certification is a discretionary act that requires the completion of assessment and documentation required by CEQA.

### **3.5.2.3 Regional and Local**

The Shasta County General Plan and Zoning Ordinance guides recreational development and use of unincorporated lands within the County's jurisdiction.

Shasta County General Plan Open Space and Recreation (OSR) objectives and policies relevant to the Proposed Project include:

- **Objective OSR-1.** Protection of the OSR resources of Shasta County for the use and enjoyment by county residents both now and in the future.
- **Objective OSR-2.** Provision of public access to OSR resources consistent with the need to protect these resources and the rights of private property owners.
- **Policy OSR-a.** Protection of the open space resources under Shasta County jurisdiction shall be achieved primarily through policies recognizing the contributions of these resources to the economy of the county.

### **3.5.3 Environmental Impacts and Mitigation**

#### **3.5.3.1 *Methodology***

The assessment of impacts to recreation associated with the Proposed Project is limited to activities directly affected by the elimination of the requirement for summer flushing flows for three weekends (six days), incorporation of October whitewater boating flows for two weekends in October into the State Water Board's certification, and proposed recreational facility improvements (e.g., parking lot expansion). The primary recreational use of the summer flushing flows is incidental whitewater boating, which is why recreational whitewater boating use is directly affected by the elimination of the requirement for summer flushing flows. Other recreational uses that may be affected by the elimination of summer flushing flows include angling activities and dispersed stream corridor recreational uses such as picnicking, wading, and swimming. In addition, the experiential value of recreation activities could diminish.

The principal factor for the support of whitewater boating activities is adequate instream flow. The magnitudes of the summer flushing flows are adequate to support incidental whitewater boating activities. Conversely, the minimum instream flows required by the Pit 1 Project's FERC license are not sufficient to support incidental whitewater boating activities.

The potential impacts of the Proposed Project on other, non-whitewater boating recreational uses, such as angling, picnicking, and swimming, were evaluated by assessing the considerations needed to support those recreation activities. These considerations include access to the river, ability to walk along the streambank, presence of beaches or areas suitable for picnicking, and in-channel conditions suitable for wading, fishing, and/or swimming activities. In addition, it is assumed that incidental whitewater boating use associated with the summer flushing flows does not have a notable influence on visitation by non-whitewater boating users to the Proposed Project area.

#### **3.5.3.2 *Significance Criteria***

To identify the potential effects of the Proposed Project on the recreational opportunities described above, circumstances that would constitute a "significant impact" need to be identified. These circumstances may be functional, experiential, or both.

A function-related impact is one that would result in the loss or displacement of use on the subject stream reach. For example, a change to instream flow that would preclude the ability to use that resource would be function-related.

Experiential impacts are less defined and, as a result, more variable in application. Experiential impacts are associated with the quality of the recreation experience, as opposed to the ability to participate in the activity. An experiential impact would result if, for example, the change to instream flow changes the experience of whitewater boating, regardless of whether the new instream flow is boatable. The establishment of flow requirements for whitewater boating is an example of experientially associated criteria;

minimum flows are set with regard to the experiential aspect of the recreational activity, often with the assumption that the activity is not attractive at flows lower than the minimum flow identified. In most cases, the target activity is physically possible below an identified minimum flow, but the recreation experience is diminished to the extent that it is no longer considered viable.

The application of an impact threshold depends on the specific resource and associated activity. In some cases, the impact threshold may be a single consideration while some resources may have multiple considerations.

The assessment of impacts from the Proposed Project on recreation includes multiple considerations: regulatory, functional, and experiential. In assessing impacts from the Proposed Project on recreation, three thresholds for the determination of impact can be applied. The application of these significance criteria address regulatory/policy conflicts (regulatory), loss of recreational use and/or opportunity (functional), and changes to the recreation experience (experiential). The Proposed Project will result in a significant impact if:

- The Proposed Project or its operation conflicts with adopted plans, regulations, or agreements.
- Recreational uses as described are substantially reduced as a result of the implementation of the Proposed Project.
- Recreational experiences are substantially diminished as a result of the implementation of the Proposed Project.

In addition, in accordance with CEQA Guidelines Appendix G, implementation of the Proposed Project would result in a significant impact if any of the Proposed Project will:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

#### **3.5.4 Impacts and Mitigation**

As required under the Pit 1 Project's FERC License Article 424, studies were carried out to evaluate whitewater recreational interests and competing beneficial uses. In 2011, FERC adopted the recommendation of four fall days of whitewater flows in lieu of any previously scheduled May/June, July, and August flushing flows. FERC considered the four days of fall flows (and other proposed improvements) to be adequate compensation for the loss of summer flushing flows. Fall whitewater flow releases began in 2011 and have continued annually. Under the Proposed Project, the requirement for summer flushing flows released from Fall River Pond into the Pit 1 Bypass Reach will be

terminated, and October whitewater boating flows will be incorporated into the certification as two weekends of flows.

In addition to incidental whitewater recreational use, other recreation activities that may be affected by the termination of summer flushing flows include angling activities and dispersed stream corridor recreational uses such as picnicking, wading, and swimming. Resource considerations that could be affected by instream flow changes include access to the resource, ability to walk along the streambank, presence of beaches or area suitable for picnicking, and in-channel conditions suitable for wading, fishing, and/or swimming activities.

Implementation of the Proposed Project changes will affect both instream and dispersed stream corridor recreational use. The assessment of impacts is based on the impact significance criteria discussed in the previous section.

Impact	Determination	
	Construction	Operations
<b>REC-1:</b> Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less than significant	Less than significant

BLM's Pit River Campground and PG&E's Pit River Access are the recreation facilities most likely to be impacted by the Proposed Project. Implementation of the Proposed Project will decrease use of BLM's Pit River Campground and PG&E's Pit River Access during three weekends during the summer, due to the discontinuation of summer flushing flows that also provide incidental whitewater boating opportunities. Use of BLM's Pit River Campground by other recreationists is generally higher during summer weekends compared to October weekends because of summer vacations. Therefore, impacts related to increasing the use of existing recreational facilities will be less than significant.

To further reduce less-than-significant impacts related to any increased use of the campground and access area on specific days (i.e., October whitewater release weekends), PG&E proposes an additional 12 overflow parking spaces adjacent to the current Pit River Access within two years of FERC's acceptance of the amended certification, and will also post posters at BLM's Pit River Campground during whitewater release weekends informing boaters that there are additional camping opportunities at the nearby Cassel Campground or use other means to direct campers to this local campground. PG&E operates the Cassel Campground, which is approximately eight miles from BLM's Pit River Campground and approximately 13 miles from the Pit River Put-In. As detailed in Appendix E, October occupancy has averaged five campsites per day, which, on average, equates to 22 available/unoccupied campsites that can accommodate an additional 132 campers. In addition, PG&E proposes to informally consult with American Whitewater annually before scheduling the October release dates.

The Pit River Access will be expanded to include 12 new parking stalls to accommodate any increased use and access to the campground. These facility enhancements will further reduce less-than-significant impacts related to increased use of existing recreational facilities. Impacts will be less than significant.

Construction of the additional parking facilities at the Pit 1 River Access could temporarily reduce available parking, and therefore recreation, at the Pit River Access. Parking, and recreation could shift to neighboring locations. However, if necessary, an alternative location northwest of the site (see Figure 1.3-3) could be used for the brief period that the existing parking lot was not available (approximately 3 months). Due to the limited duration of construction and the continued availability at/near the Pit River Access, construction-related impacts to existing recreation facilities will be less than significant.

Impact	Determination	
	Construction	Operations
<b>REC-2:</b> Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	Less than significant	No Impact

As required by the FERC license for the Pit 1 Project, PG&E constructed the Pit River Access in 2011 to provide boaters with a put-in for year-round access to the Pit 1 Bypass Reach. The Proposed Project includes expansion of the existing parking area. Various construction BMPs will be implemented (Section 2.2.4.3 Construction Overview). Further, PG&E will need to develop a construction submittal for FERC review and approval prior to the commencement of any construction activity. This submittal will contain more specific engineering requirements and BMPs. Once construction is completed, the Project site will be returned to its original condition.

Environmental impacts from construction are determined to be less than significant. Operations will not require additional construction or expansion of recreational facilities; therefore, the Proposed Project operations have no impact.

Impact	Determination	
	Construction	Operations
<b>REC-3:</b> Conflict with adopted plans, regulations, or agreements?	No impact	No impact

The Proposed Project does not conflict with plans, regulations, or agreements. There are no conflicts with federal land or water plans, regulations, or agreements. The Proposed Project is not on federal lands and there are no applications of federal land policies or requirements associated with implementation of the Proposed Project. Implementation of the Proposed Project does not involve the filling or other uses of



federally regulated waters. Implementation of the Proposed Project will amend the Pit 1 Project License, and as such, will be consistent with license requirements. No impacts will occur.

There are no conflicts with local land or water plans, regulations, or agreements. Implementation of the Proposed Project will not result in the loss of open space or significantly diminish the recreation resources of Shasta County, as discussed below. The Proposed Project does not propose any uses or changes in existing uses that will affect the provision of public access to OSR resources, consistent with the need to protect these resources and the rights of private property owners, nor will the Proposed Project affect the ability of Shasta County to protect the open space resources. No impacts will occur.

Impact	Determination	
	Construction	Operations
<b>REC 4:</b> Substantially reduce recreational uses?	Less than significant	Less than significant

The Pit River Access will continue to be accessible during construction of the expanded parking lot. If necessary, an alternative location northwest of the site (see Figure 1.3-3) will be used for the brief period that the existing parking lot was not available. This impact will be less than significant. Once operational, the expanded parking lot will be able to accommodate more recreational users at one time, which will be beneficial.

The termination of summer flushing flows will eliminate some whitewater recreational opportunities in the Pit 1 Bypass Reach. However, there are other summertime whitewater boating opportunities in the region, such as the August whitewater boating releases in the Pit 5 Reach downstream of the Proposed Project Area, and two weekends of October whitewater boating releases will be added to the certification.

The Class II whitewater run downstream of the Pit 1 Powerhouse (downstream of the Pit 1 Bypass Reach) will continue to be available throughout the summer and is used for tubing and by less experienced boaters. The magnitude of the flows in the reach downstream of the Pit 1 Powerhouse is unaffected by the summer flushing flows. There may be a slight decrease in use of this run because some whitewater boaters continued into this run after boating the Pit 1 Bypass Reach during the summer flushing flows. However, many of these boaters likely take out at BLM Pit River Campground because the two reaches offer different experiences and require different skill levels, if not different equipment. The primary choice for experienced whitewater boaters is the Pit 1 Bypass Reach, under adequate flows; use of the Class II reach downstream of the Pit 1 powerhouse is commonly regarded as secondary.

In June 2011, FERC ordered the implementation of recreational whitewater boating flow releases in the Pit 1 Bypass Reach as the result of studies required under the Pit 1 Project license. The six days of incidental summer whitewater boating opportunities in

the Pit 1 Bypass Reach will be eliminated; however, October whitewater boating opportunities will be enhanced. Whitewater flows will be released for two weekends in October (as opposed to the potential to be released on four consecutive days, as allowed under the FERC Order), and PG&E will informally consult with American Whitewater annually before scheduling the October release dates to ensure that recreationists are aware of the upcoming events. Weekend boating days and public notification of boating days will likely increase recreational usage of the Pit 1 Bypass Reach in October.

The baseline flows associated with Pit 1 Project operations as currently licensed support the resource considerations associated with angling activities and dispersed stream corridor recreational uses such as picnicking, wading, and swimming. The termination of summer flushing flows will not have an adverse effect on dispersed stream corridor recreational uses, and will improve recreational experiences along the stream. The higher flows that were associated with the summer flushing flow releases may have negatively affected angling activities and dispersed stream corridor recreational uses. The resulting effects were loss of beach area, loss of suitable instream flow conditions for wading or swimming, diminished angling conditions, and loss or diminishment of the ability to walk along the streambank. With elimination of the requirement for summer flushing flows, recreational activities along the streambank will be improved under the Proposed Project. For the above reasons, operational impacts related to reduced recreational uses will be less than significant.

Impact	Determination	
	Construction	Operations
<b>REC-5:</b> Substantially diminish recreational experiences?	Less than significant	Less than significant

Construction of the additional parking facilities at the Pit 1 River Access could temporarily reduce available parking at the Pit River Access. However, if necessary, an alternative location northwest of the site (see Figure 1.3-3) could be used for the brief period that the existing parking lot was not available. The increased distance from parking lot to the Pit River during this short-term construction period will cause a less than significant impact to the recreational experience. Furthermore, the expanded parking lot will increase the ability to park in proximity to the Pit River Put-In by adding 12 additional stalls, which will be a long-term benefit for recreationists. Overall, the impact of construction will be less than significant.

The six days of summer flushing flows that have provided incidental summer whitewater boating opportunities in the Pit 1 Bypass Reach will be removed from the license requirements; however, October whitewater boating opportunities will be enhanced. Whitewater flows will be released for two weekends in October (as opposed to the potential to be released on four consecutive days, as allowed under the FERC Order), and PG&E will informally consult with American Whitewater annually before scheduling

the October release dates to ensure that recreationists are aware of the upcoming events. PG&E also will post notices at BLM's Pit River Campground during whitewater release weekends in October informing boaters that there are additional camping opportunities at the nearby Cassel Campground or use other means to direct campers to this local campground, ensuring that adequate opportunities for camping are readily available.

In California, the availability of whitewater boating opportunities is at its peak in the late spring and early summer when snowmelt runoff and dam releases provide sufficient instream flow for whitewater boating activities (R2 Resource Consultants 2006). Depending on the water-year type, in mid- to late summer and early fall the runoff subsides, and dam-controlled releases are decreased or terminated. By October, whitewater boating opportunities are considerably diminished, and in many areas, eliminated (R2 Resource Consultants 2008). The Proposed Project provides enhanced whitewater boating opportunities (compared to existing conditions) at a time of year when whitewater boating opportunities in California are limited and in high demand (Spring Rivers Ecological Sciences. 2011a).<sup>2</sup>

The termination of summer flushing flows will not have an adverse effect on dispersed stream corridor recreational uses. In general, the minimum instream flows provide favorable conditions for these activities by providing more beach area, suitable instream flow conditions for wading or swimming, favorable angling conditions, and increased ability to walk along the streambank.

While there will be fewer overall days of whitewater boating operations (four, compared to six), the October whitewater boating days will provide that experience during a season when there are fewer similar experiences available in the region. Therefore, impacts related to substantially diminishing recreational experiences will be less than significant.

To further reduce less-than-significant impacts, PG&E proposes an additional 12 overflow parking spaces adjacent to the current Pit River Access, will post posters at BLM's Pit River Campground during whitewater release weekends informing boaters that there are additional camping opportunities, and informally consult with American Whitewater will further qualitatively minimize the quantitative difference of recreational experiences. Additionally, other recreational experiences (i.e., non-whitewater recreation) may see benefits. Operational impacts related to diminished recreational experiences will be less than significant.

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<sup>2</sup> Whitewater boating use during the 2011–2014 October whitewater boating flows was more than two times greater than during the 2003–2009 summer flushing flows.

## 4 Other CEQA Considerations

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This chapter presents discussions of irreversible impacts, significant and unavoidable impacts, growth-inducing impacts, and cumulative impacts as required by the California Environmental Quality Act (CEQA) Guidelines.

### 4.1 Irreversible Impacts

CEQA Guidelines, section 15126.2, subdivision (c) requires that an environmental impact report (EIR) discuss the significant irreversible environmental changes that would result from the implementation of a Proposed Project. These changes include use of nonrenewable resources during a project's initial and continued phases, because a large commitment of such resources makes their future use thereafter unlikely. A project's primary and secondary impacts that would commit future generations to similar uses (e.g., highway improvements that provide access to a previously inaccessible area) would be irreversible changes. There are no irreversible impacts from the Proposed Project as discussed in Chapter 3.

### 4.2 Significant Unavoidable Impacts

Unavoidable significant adverse impacts are those effects that would significantly affect either natural systems or community resources, and cannot be mitigated to less than significant. There are no significant and unavoidable impacts from the Proposed Project as discussed in Chapter 3.

### 4.3 Growth-Inducing Impacts

Section 15126.2, subdivision (d) of the CEQA Guidelines requires an EIR to include a detailed statement of a Proposed Project's anticipated growth-inducing impacts. The analysis of growth-inducing impacts must discuss the ways in which a Proposed Project could foster economic or population growth or the construction of additional housing in the Project Area. The analysis must also address project-related actions that, either individually or cumulatively, would remove existing obstacles to population growth. A project would be considered growth inducing if it induces growth directly (through the construction of new housing or increasing population) or indirectly (increasing employment opportunities or eliminating existing constraints on development). Under CEQA, growth is not assumed to be either beneficial or detrimental.

The Proposed Project would not involve new development or infrastructure installation that could directly induce population growth in the Proposed Project area. Additionally, the Proposed Project would not involve construction of new housing or create a demand for additional housing. Furthermore, the Proposed Project would not displace any existing housing units or persons.

## **4.4 Cumulative Impacts**

The CEQA Guidelines, at section 15355, define cumulative impacts as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

CEQA requires a summary of the expected environmental effects to be produced by those projects, with specific reference to additional information stating where that information is available, and a reasonable analysis of the cumulative impacts of the relevant projects. An EIR must examine reasonable options for mitigating or avoiding any significant cumulative effects of changes resulting from a Proposed Project or from a number of separate projects.

### **4.4.1 Approach**

The CEQA Guidelines, section 15130, subdivision (b), requires either (1) a list of past, present, and reasonably foreseeable future projects producing related or cumulative impacts, including those projects outside the control of the lead agency (list approach), or (2) a summary of projects contained in an adopted General Plan or related planning document that is designed to evaluate regional or area-wide conditions (plan approach). Projects included in this cumulative impact analysis were identified using a list approach and are those that could result in impacts on the same resources in the same geographic areas as the Proposed Project. The general area that was considered in the cumulative impact analysis is limited to Shasta County. Shasta County projects were examined for their potential to result in a cumulative impact when combined with the Proposed Project.

#### **4.4.1.1 *Cumulative Impact Methodology***

The cumulative impact analysis is based on CEQA requirements. When assessing whether there would be a significant cumulative impact from implementation of the Proposed Project in combination with other projects, the analysis considers whether the incremental effects of the project would be cumulatively considerable (Pub. Resources Code, § 21094, subd. (e)(2)). As discussed in the CEQA Guidelines, section 15064, subdivision (h)(4), the mere existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the Proposed Project's incremental effects are "cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (CEQA Guidelines, § 15064, subd. (h)(1)). The mere existence of significant cumulative impacts caused by other projects alone shall not

constitute substantial evidence that the Proposed Project's incremental effects are cumulatively considerable. (*Id.*, subd. (h)(4).)

The Proposed Project's incremental contribution to a cumulative effect would not be cumulatively considerable if the project would comply with the requirements of a previously approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources, through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency (CEQA Guidelines, § 15064, subd. (h)(3)). Plans can include, but are not limited to, a Water Quality Control Plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, and plans or regulations for the reduction of greenhouse gas emissions).

#### **4.4.2      Impacts**

Impacts of the parking lot expansion generally would be localized, short-term (lasting only one month), and less than significant with regard to any and all resource areas; therefore, the parking lot expansion would not contribute to a significant cumulative impact in combination with other projects in the area.

The Proposed Project would result in a reduction of adverse impacts to the endangered Shasta crayfish by eliminating temperature fluctuations during the summertime, which are believed to be affecting their ability to survive in the Pit 1 Bypass Reach. Based on review of Shasta County Current Projects list for 2019, there are several road and bridge projects underway in Shasta County, including the Cassel Fall River Road Bridge over the Pit River. However, the types of projects that may have a cumulatively considerable effect when taking the Proposed Project into account would be discontinuation of other whitewater boating opportunities so as to cumulatively reduce whitewater boating opportunities available in the Proposed Project area. No projects are currently known to be proposed that would discontinue other whitewater boating opportunities in the area at the same time of year as the Proposed Project. Therefore, no cumulative impacts will occur from implementation of the Proposed Project.

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## 5 Alternatives

When reviewing project alternatives, the State Water Board selected the Proposed Project out of the analyzed alternatives because it was the only alternative that met the Proposed Project objective of reducing identified impacts to the Shasta crayfish. The Proposed Project is a balance of maintaining beneficial uses as designated in the Basin Plan while protecting the endangered Shasta crayfish. A comparison of alternatives is contained in Table 5.1-1 and a discussion of each alternative considered by the State Water Board is provided below.

**Table 5.1-1 Comparison of Alternatives**

<b>Environmental Issue</b>	<b>Proposed Project</b>	<b>No Project</b>	<b>Spring Whitewater Boating Flows</b>	<b>Non-Native Crayfish Barriers</b>
Aesthetics	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Agricultural Resources	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Air Quality/Greenhouse Gases	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Biological Resources-Aquatic/Terrestrial	Less Than Significant	Significant and Unavoidable	Significant and Unavoidable	Significant and Unavoidable
Cultural and Tribal Resources	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant
Geologic and Soils	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Hazards and Hazardous Materials	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Hydrology and Water Quality	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant



<b>Environmental Issue</b>	<b>Proposed Project</b>	<b>No Project</b>	<b>Spring Whitewater Boating Flows</b>	<b>Non-Native Crayfish Barriers</b>
Land Use and Planning	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Mineral Resources	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Noise	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Population and Housing	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Public Services	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Recreation	Less Than Significant	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Transportation	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Utilities/Service Systems	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact
Wildfire	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact	Not Applicable or No Impact

## **5.1 Alternative 1: No Project Alternative**

### **5.1.1 Characteristics**

Consideration of a No Project Alternative is specifically required by CEQA Guidelines, section 15126.6, subdivision (e)(1)-(3). The purpose of evaluating the No Project Alternative is to compare the impacts of the Proposed Project with the impacts that could occur without implementation of the Proposed Project or the circumstance under which the Proposed Project does not proceed. The No Project Alternative is defined as what would be reasonably expected to occur in the foreseeable future if none of the other project alternatives were approved and implemented based on current plans and consistent with available infrastructure.

The No Project Alternative consists of two components: (1) continuation of the requirement for summer flushing flows; and (2) incorporation of October whitewater boating flow releases into the certification, with PG&E retaining discretion as to whether to schedule the October boating flows over four consecutive days instead or over two weekends, as allowed by the 2011 FERC Order.

### **5.1.2 Environmental Effects**

Implementation of the No Project Alternative would affect the following resource areas.

#### **5.1.2.1 *Biological Resources***

Implementation of this alternative could cause continued elimination of thermal refugia for the endangered Shasta crayfish and potentially extirpate this species from its current habitat in the Pit 1 Bypass Reach. This alternative is considered undesirable because it would not meet the Proposed Project objective of reducing harmful effects of summer flushing flows to the endangered Shasta crayfish. Compared to the Proposed Project's beneficial impacts, biological resources impacts under the No Project Alternative could be significant and unavoidable.

#### **5.1.2.2 *Cultural Resources***

Implementation of this alternative assumes that flushing flows would still be required for three weekends during the summer months. Cultural resource surveys conducted in 2004 recorded multiple cultural resource sites within the Pit 1 Bypass Reach. As part of the Whitewater Boating Flows Recommendation Study (Spring Rivers 2011a), a cultural resources survey of the Pit 1 Bypass Reach in the Pit River Canyon was done to identify the locations of all cultural resources and to describe any Proposed Project-related or other impacts to the resources. Any cases of cultural resources affected by erosion caused by whitewater or natural flood flows in the Pit River were revisited during a summer flushing flow to document changes in wetted perimeter and stage height associated with the flushing flow event. A determination as to whether summer flushing flows would be of sufficient magnitude to impact each of the cultural resources that are affected by erosion was also made. If the stage height was not sufficient to affect a

resource, the minimum stage that would affect it (i.e., vertical distance above the observed flushing flow) was measured (PGE 2011). Archaeological sites located in different sections along the Pit 1 Bypass Reach showed minimal to no erosion effects, and those effects seen were determined to be more likely due to natural high flow events than by Pit 1 Project operations. Therefore, similar to the Proposed Project, implementation of the No Project Alternative would have less-than-significant impacts related to cultural resources.

### **5.1.2.3 Hydrology and Water Quality**

Implementation of the No Project Alternative assumes that summer flushing flows could still occur. Summer flushing flows were recommended to control nuisance aquatic vegetation and mosquito production. However, monitoring data demonstrates that the minimum instream flows have been sufficient to control unwanted vegetation and mosquito production. Summer flushing flows are not required to maintain water quality in the Pit 1 Bypass Reach and would not be a necessary component for Pit 1 operations. Water quality BMPs would be implemented to minimize hydrology and water quality impacts associated with construction. PG&E would retain the discretion to implement October whitewater boating flows during either two weekends or four consecutive days. Therefore, under the No Project Alternative, water quality would remain essentially unchanged in the Pit 1 Bypass Reach and implementation of the No Project Alternative would have no impact.

### **5.1.2.4 Recreation**

Under the No Project Alternative, summer flushing flows would continue to be required and could provide incidental whitewater boating opportunities during the summer months. The State Water Board does not have enough information to determine whether PG&E would in fact continue to release summer flushing flows even if those remain a requirement, because PG&E does not have incidental take authorization, as its incidental take permit issued in the 2004 Biological Opinion expired in 2007 (USFWS 2009). FERC's October flows would continue to be implemented, though PG&E would retain the discretion to implement October whitewater boating flows during either two weekends or four consecutive days. PG&E also would not add parking spaces to the Pit 1 Parking lot, and the quality and potential use of boating opportunities in October specifically would be lesser as compared to the Proposed Project.

### **5.1.3 Conclusion**

The No Project Alternative would not achieve the Proposed Project objective of reducing impacts to the Shasta crayfish, but could maintain the summer flushing flows per the current FERC license for the Pit 1 Project. Continuation of summer flushing flows would maintain water quality and Basin Plan designated beneficial uses at existing levels.

## **5.2 Alternative 2: Spring Whitewater Boating Flows**

Alternative 2 consists of three components: (1) elimination of the requirement for summer flushing flows; (2) incorporation of spring whitewater boating flow releases into an amended certification; and (3) incorporation of two weekends of October whitewater boating flow releases into the certification.

Rather than conducting summer flushing flows, with incidental recreational whitewater boating opportunities, during the critically warm months of July and August when coldwater refugia are reduced in the Pit 1 Bypass Reach, flow releases specifically for whitewater boating activities could be conducted in the spring. While the base temperature in the Bypass Reach is lower in spring than in summer, springtime whitewater boating flows would still increase temperatures. The mainstem of the Pit River does not naturally experience sudden temperature or flow changes in the summer due to a lack of precipitation. During the spring however, there can be runoff and precipitation and the river can experience natural changes in flow and temperature.

### **5.2.1 Environmental Effects**

Implementation of the Spring Whitewater Boating Flows Alternative would affect the following resource areas.

#### **5.2.1.1 *Biological Resources***

Spring whitewater boating flows may not cause the drastic temperature changes as seen in the summer since the minimum instream base flow conditions are cooler in the spring, and have more natural variability. Temperature fluctuations would still occur, however, as a result of spring whitewater boating flow releases. Both non-native crayfish species in the Pit 1 Bypass Reach are more tolerant of temperature fluctuations and have a wider temperature range than the native Shasta crayfish. Since non-native crayfish can acclimate faster, a sudden increase in temperature would likely increase their competitive advantage. Spring whitewater boating flows may also reduce the day-to-night water temperature fluctuations that were observed during summer flushing flows due to the presence of cooler air temperatures and spring runoff. However, spring whitewater boating flows may still result in a higher minimum daily water temperature than would occur otherwise. The average monthly water temperature in June between 2004 and 2011 at Big Eddy Pool was 19.9°C, compared to 22.9°C and 21.6°C during July and August, respectively (PG&E 2013). Based on the June temperature data, it is reasonable to assume that water temperatures in spring (April and May) would be cooler than 19.9°C, which would minimize water temperature fluctuations caused by spring whitewater boating flows. Compared to the current FERC license requirements for summer flushing flows, spring whitewater boating flows would result in smaller temperature changes in the Pit 1 Bypass Reach. Higher flow events do occur in the spring in the Pit River; however, short, pulsed high flow events are not typical of the natural hydrology of the Pit River. While the temperature changes resulting from springtime whitewater boating flows would not be completely eliminated, the

implementation of springtime whitewater boating flows would have less impact on Shasta crayfish than summer flushing flows.

Spring whitewater boating flows also have the potential to adversely affect spawning and recruitment of aquatic species by displacing eggs and juveniles out of their habitat. Spring whitewater boating flows would adversely affect freshwater mussels in the Pit River. Pulse flows in either the spring or summer disrupt the three critical reproductive events, which occur between April and August for all three native mussels in the Pit 1 Bypass Reach: 1) spawning in April and May, 2) glochidial (i.e., larval) release in June and early July, and 3) juvenile excitement in July and August (Spring Rivers 2007, 2011a).

#### **5.2.1.2 Cultural Resources**

Cultural resource surveys conducted in 2004 recorded multiple cultural resource sites within the Pit 1 Bypass Reach. A subsequent survey in 2005 was made to verify and confirm site-specific conditions and erosion potential. Any cases of cultural resources affected by erosion caused by whitewater or natural flood flows in the Pit River were revisited during a summer flushing flow to document changes in wetted perimeter and stage height associated with the flushing flow event. A determination as to whether summer flushing flows would be of sufficient magnitude to impact each of the cultural resources that are affected by erosion was also made. Archaeological sites located in different sections along the Pit 1 Bypass Reach showed minimal to no erosion effects, and those effects seen were determined to be more likely due to natural high flow events than by Pit 1 Project operations. Spring whitewater boating flows would have no adverse effects on cultural resources.

#### **5.2.1.3 Hydrology and Water Quality**

Summer flushing flows were implemented to control nuisance aquatic vegetation and mosquito production. Monitoring data show that the minimum instream base flows in the summer have been sufficient to control unwanted vegetation and mosquito production. As flows in the spring are higher than summer flows, due to higher base flows and the potential for spring precipitation and runoff, flushing flows in the spring would not be required to manage vegetation and mosquito production. Therefore, under the Spring Whitewater Boating Flows Alternative, water quality would not be adversely impacted in the Pit 1 Bypass Reach.

#### **5.2.1.4 Recreation**

Spring whitewater boating flows would likely be considered a less desirable opportunity for whitewater boaters since natural high flow events are more common in the spring in California, and there are many other high-quality alternatives at the same time of year. Given the low demand for spring whitewater opportunities, implementing spring whitewater boating flows in the Pit River would provide only marginal benefit for whitewater boaters in the region.

## **5.2.2 Conclusion**

Although this alternative is more protective of Shasta crayfish than the No Project alternative (assuming PG&E implements the summer flushing flows), it does not meet the State Water Board's objective of reducing adverse impacts to the Shasta crayfish as successfully as the Proposed Project. Additionally, it does not avoid potential adverse impacts to other sensitive aquatic species (i.e., freshwater mussels). Although this alternative would provide whitewater boating opportunities on the Pit 1 Bypass Reach in the spring, adding those flows in the spring increases whitewater boating opportunities during a season where those opportunities are already available.

## **5.3 Alternative 3: Non-Native Crayfish Barriers**

### **5.3.1 Characteristics**

Alternative 3 consists of three components: (1) continuation of the requirement for summer flushing flows; (2) incorporation of non-native Crayfish barriers; and (3) incorporation of two weekends of October whitewater boating flow releases into the certification. This alternative includes installing barriers in the Pit 1 Bypass Reach to protect the surviving Shasta crayfish populations from further invasion by non-native crayfish populations. The use of barriers is a potential solution to protecting Shasta crayfish populations in the Pit and Fall River watersheds. Crayfish barriers have been studied along the Pit and Fall Rivers, and are discussed in the Pit 1 Shasta Crayfish Study Report (PG&E 2013). Pursuant to License Article 413, PG&E developed and implemented a Crayfish Barrier Plan (PG&E 2006a) to construct and maintain two exclusion barriers to protect Shasta crayfish and their habitat from invasion by signal crayfish (*Pacifastacus leniusculus*) and other non-native crayfish species (e.g., *Orconectes virilis*). PG&E continues annual monitoring and reporting for the long-term evaluation of barrier effectiveness in the TRC annual reports (Spring Rivers 2009a, 2010b, 2011b, 2012a, 2013b, 2014, 2015, 2016, 2017b).

### **5.3.2 Environmental Effects**

Implementation of the Install Non-Native Crayfish Barriers Alternative would result in effects on the following resource areas.

#### **5.3.2.1 Biological Resources**

Installing non-native crayfish barriers in the Pit 1 Bypass Reach would not be effective in protecting the Shasta crayfish populations in this area of the river for the following reasons:

- Non-native crayfish are already widely distributed throughout the Pit 1 Bypass Reach. Furthermore, non-native crayfish are also found in the Fall River drainage and Upper Pit River watershed upstream of the Pit 1 Bypass Reach, as well as downstream of the Pit 1 Bypass Reach. Barriers only prevent upstream movement, and would not prevent non-native crayfish from moving downstream

into occupied Shasta crayfish habitat. Therefore, barriers would not be effective at controlling non-native crayfish in the Pit 1 Bypass Reach.

- Installation and maintenance of barriers in the Pit River would be infeasible. The barriers that have been constructed, as studied in the Crayfish Barrier Plan (PG&E 2006a), are on small spring-fed creeks that experience low flows and little bedload movement as compared to the Pit River. Furthermore, barriers have not been installed where there are large non-native crayfish populations upstream. Movement of large cobble and boulder substrate in the Pit River during high flows (e.g., winter runoff, flushing flows, or whitewater boating flows) would damage or remove the barriers, and would require frequent repair or replacement.

Therefore, the feasibility and effectiveness of installing such barriers along the Pit 1 Bypass Reach would be low.

Additionally, this alternative has the potential to entrap other aquatic species in the Pit 1 Bypass Reach. Northwestern pond turtles would likely to be able to move over a barrier; however, native benthic (bottom dwelling) fish such as sculpins (e.g., pit sculpin) may not be able to move over the barriers. With implementation of this alternative, Shasta crayfish habitat would not be improved, but rather would continue to be degraded by non-native crayfish and summer flushing flows (if implemented by PG&E).

### **5.3.2.2 Cultural Resources**

Cultural resource surveys conducted in 2004 recorded multiple cultural resource sites within the Pit 1 Bypass Reach. As part of the Whitewater Boating Flows Recommendation Study (Spring Rivers 2011a), a 2005 cultural resources survey of the Pit 1 Bypass Reach was done to identify the locations of all cultural resources and to describe any Project-related or other impacts to the resources. Any cases of cultural resources affected by erosion caused by whitewater or natural flood flows in the Pit River were revisited during a summer flushing flow to document changes in wetted perimeter and stage height associated with the flushing flow event. A determination as to whether summer flushing flows would be of sufficient magnitude to impact each of the cultural resources that are affected by erosion was also made.

Archaeological sites located in different sections along the Pit 1 Bypass Reach showed minimal to no erosion effects, and those effects seen were determined to be more likely due to natural high flow events than from Pit 1 Project operations. Further documentation of the minimal recreational boating usage during 2003 and 2004 indicated there were no impacts to the cultural resources due to the boaters themselves. Based on these cultural resource surveys, the Phase 1 whitewater boating flows study concluded that there would be no effects of whitewater boating on specific cultural resources in the Pit 1 Bypass Reach (PGE 2011).

Installing crayfish barriers would require disturbance along and within the river for construction of wing walls and stainless steel support structures. Undiscovered cultural resources could be present that could be impacted by construction. Depending on the location of the barriers, and the cultural resources sensitivity of the area, impacts could be significant. Therefore, although the continuation of the requirement for summer flushing flows would have no adverse effects on cultural resources, installation of the barriers could result in significant impacts on cultural resources.

### **5.3.2.3 Hydrology and Water Quality**

Summer flushing flows were implemented to control nuisance aquatic vegetation and mosquito production. Monitoring data show that the increased minimum instream base flows have been sufficient to control these issues. Summer flushing flows are not required to maintain water quality in the Pit 1 Bypass Reach and would not be a necessary component for Pit 1 operations. Installation of barriers would involve construction of wing walls along the river edge and stainless steel supports would be driven into the bedrock. Water quality BMPs would be implemented to minimize hydrology and water quality impacts associated with construction. Therefore, impacts under this alternative would be less than significant.

### **5.3.2.4 Recreation**

Under this alternative, summer flushing flows would continue to be required, and could provide incidental whitewater boating opportunities during the summer months. If it were feasible to install barriers in the Pit 1 Bypass Reach, such barriers would not impact recreation under whitewater boating flow conditions. The State Water Board does not have enough information to determine whether PG&E would in fact continue to release summer flushing flows even if those remain a requirement, as PG&E does not have incidental take authorization, as its incidental take permit issued in the 2004 Biological Opinion expired in 2007 (USFWS 2009). FERC's October flows would continue to be implemented, though PG&E would retain the discretion to implement October whitewater boating flows during either two weekends or four consecutive days. Therefore, potentially no recreational impacts would occur under this alternative, though there is also the potential for the summer flushing flows to be discontinued without the added beneficial activities that are part of the Proposed Project, in which case potential impacts could be more significant than for the Proposed Project.

### **5.3.3 Conclusion**

Implementation and maintenance of crayfish barriers in the Pit 1 Bypass Reach would not be feasible, and would not mitigate the imminent threat to Shasta crayfish from non-native crayfish populations. In addition, summer flushing flows and the associated water temperature impacts could continue. Although this alternative could maintain recreational beneficial uses, it would not achieve the Proposed Project's objective of reducing impacts to the Shasta crayfish.



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Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment, FERC  
Project No. 2687

APPENDIX

A

AMENDMENT TO THE PIT 1  
HYDROELECTRIC PROJECT WATER  
QUALITY CERTIFICATION



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## State Water Resources Control Board

June 29, 2021

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**Pit 1 Hydroelectric Project**  
**Federal Energy Regulatory Commission Project No. 2687**  
**Shasta County**  
**Pit and Fall Rivers**

### **AMENDMENT TO WATER QUALITY CERTIFICATION**

Dear Mr. Wong:

This water quality certification (certification) amendment is issued in response to Pacific Gas and Electric Company's (PG&E or Licensee) request to remove Condition 13 and Condition 14 from the Pit 1 Hydroelectric Project (Project) certification. Condition 13 requires PG&E to implement summer flushing flows to control aquatic vegetation growth and mosquito production in Fall River Pond. Condition 14 requires PG&E to monitor the effectiveness of these flushing flows for the first five years following license issuance, at which time the Deputy Director of the Division of Water Rights (Deputy Director) may modify or terminate the monitoring program.

#### **Project Background**

The Project is located on the Pit River and Fall River in Shasta County, near the community of Fall River Mills. The Executive Director of the State Water Resources Control Board (State Water Board) issued a certification for the Project on December 4, 2001. On March 19, 2003, the Federal Energy Regulatory Commission (FERC) issued a license for the Project, which incorporated the certification conditions.

The Shasta crayfish (*Pacifastacus fortis*) was listed as endangered under both the California and federal Endangered Species Acts in 1988. The United States Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) for the Project on October 24, 2002, which included an incidental take statement with terms and conditions to minimize incidental take of Shasta crayfish. The BO concluded that approval of a new license for Project operation with flushing flows, as proposed in

FERC's final Environmental Assessment, would not jeopardize the continued existence of the Shasta crayfish.

In 2003, PG&E formed a technical review committee (TRC) to oversee management activities throughout the range of the Shasta crayfish. The USFWS formed the Shasta Crayfish Recovery Team, comprised of a subset of the TRC members, to develop a Recovery Plan for Shasta Crayfish (Recovery Plan). The Recovery Plan aims to stabilize and protect the existing populations of Shasta crayfish so that the species may recover and be reclassified as threatened and ultimately delisted. The Recovery Plan identified the introduction and expansion of non-native species of crayfish and fish as well as disturbances related to land use practices as primary threats to the continued existence of a viable Shasta crayfish population in the Pit River. PG&E monitored Shasta crayfish populations at multiple locations in the Project and Hat Creek Hydroelectric Project areas. The TRC Summary Report (Report), dated May 2009, includes a summary of surveys conducted on Shasta crayfish populations. PG&E surveyed three locations on the mainstem Pit River in the Project area. The Report indicates a general decline in Shasta crayfish distribution and abundance at all sites.

### **History of Suspension of Flushing Flows**

In May 2009, USFWS requested that the State Water Board suspend the flushing flows for the summer of 2009 due to concerns that the flows were contributing to the decline of the local Shasta crayfish population. On June 17, 2009, the State Water Board responded to USFWS's request stating that if PG&E determines the flushing flows are no longer necessary for controlling aquatic vegetation and mosquito production in Fall River Pond, PG&E could request termination of the flushing flow conditions in the certification.

As required by Condition 14 of the Project certification, PG&E monitored the effectiveness of the flushing flows at reducing aquatic vegetation and mosquito breeding habitat from 2005 through 2009. Data collected during this period indicate that increased base flows associated with implementation of the new FERC license for the Project may be more effective than flushing flows at reducing unwanted vegetation and mosquito breeding habitat. On June 24, 2009, PG&E submitted a request to the State Water Board to amend the certification to remove Condition 13 (flushing flows) and Condition 14 (flushing flow effectiveness monitoring). On August 28, 2009, State Water Board staff notified PG&E that the State Water Board must comply with the California Environmental Quality Act (CEQA) before amending the certification.

On December 17, 2009, USFWS submitted a letter to FERC stating that the October 24, 2004 BO had expired, and there is no authorized incidental take for Shasta crayfish for the Project. USFWS also stated that flushing flows are likely resulting in take and are facilitating the decline of the endangered Shasta crayfish in the Pit 1 bypass reach.

On April 15, 2010, FERC staff requested that the State Water Board temporarily suspend the flushing flows requirement (Condition 13) for 2010. FERC's letter recognized that it cannot unilaterally amend a certification condition.

While the flushing flows provide an incidental whitewater recreational opportunity, a precautionary approach to endangered species protection is warranted, and the State Water Board determined it would be reasonable to suspend flushing flows through temporary orders<sup>1</sup> until the CEQA analysis could be completed.

### **California Environmental Quality Act**

As the CEQA lead agency, the State Water Board released a draft environmental impact report (EIR) for the Project certification amendment on June 26, 2017. The State Water Board received comments from PG&E and American Whitewater. In 2018, the State Water Board requested that PG&E consult with American Whitewater to address concerns related to the elimination of incidental whitewater boating flows. As a result of these discussions, PG&E revised its proposed amendment request to include enhanced access to the Pit River for members of the public through parking improvements and other measures intended to improve recreational opportunities, including changing the October whitewater flow release schedule from four consecutive days to two weekends. In response to these changes, the State Water Board released a recirculated draft EIR for public comment on April 2, 2021. The State Water Board relied on PG&E's revised amendment request to evaluate the impacts associated with the proposed Project certification amendment. The State Water Board received comments from PG&E, which were considered and addressed, as appropriate, in the final EIR.

The State Water Board will file a Notice of Determination with the Office of Planning and Research within five days of issuance of this certification amendment. (Cal. Code Regs., title 14, § 15075.)

### **Noticing**

On June 4, 2020, the State Water Board provided public notice of PG&E's request for an amendment to the Project certification, pursuant to California Code of Regulations, title 23, section 3858, by posting information describing the amendment request on the Water Quality Certification Program Public Notices webpage and noticing interested parties via email. The State Water Board received no comments in response to this notice.

### **Certification Amendment**

The State Water Board released a draft certification amendment for public comment on June 26, 2017 and received comment letters from PG&E and American Whitewater. On April 16, 2021, the State Water Board released a revised draft certification amendment for public comment that took into account PG&E and American Whitewater's comments on the previous draft certification amendment, as well as PG&E's revised project description. The State Water Board received one comment letter on the revised draft

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<sup>1</sup> The State Water Board suspended flushing flows from 2010 through 2020 via Orders WQ-2010-0009-EXEC, WQ-2012-0008-EXEC, WQ-2013-0024-EXEC, WQ-2014-0023-EXEC, WQ-2015-0076-EXEC, WQ-2016-0072-EXEC, WQ-2017-0014-EXEC, WQ-2018-0111-EXEC, WQ-2019-0035-EXEC, and WQ-2020-0011-EXEC.



certification amendment from PG&E. The State Water Board considered all comments in development of this Project certification amendment.

PG&E's certification amendment application included a request to remove Condition 14 (flushing flow monitoring) from the certification. PG&E monitored aquatic vegetation growth from 2005 through 2009 and provided monitoring data that shows that the new base flows, implemented as part of the 2003 FERC Project license, are more effective at reducing aquatic vegetation and mosquito production than the flushing flows (Spring Rivers 2010).<sup>2</sup> Under the previous license (no base flows), average aquatic vegetation cover before and after implementation of flushing flows was 38 percent and 18 percent, respectively. Under the current license (continuous base flows), average vegetation cover before and after implementation of flushing flows was 2.8 percent and 1.3 percent, respectively. These data indicate that the new base flows significantly reduce aquatic vegetation cover relative to the previous FERC license and the flushing flows provide minimal benefit when compared to implementation of the base flows alone under the 2003 FERC Project license. Accordingly, the State Water Board finds that the flushing flows and associated monitoring are no longer needed and has removed the associated requirements as part of this Project certification amendment.

### **Amendment Approval**

The State Water Board finds that the certification amendment, included as Attachment 1 (clean version) and Attachment 2 (strikethrough/underline version), will comply with state water quality standards and other appropriate requirements of state law. The State Water Board hereby amends the Project certification as detailed in Attachment 1. The language in Attachment 1 shall replace the applicable language in the December 4, 2001 Project certification, as reflected in Attachment 2 (underline/strikethrough version).

Approval of this Project certification amendment is granted with the following conditions:

1. This certification amendment is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to California Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).
2. This certification amendment is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to California Code of Regulations, title 23, section 3855, subdivision (b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3. This certification amendment is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28 and owed by the applicant.

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<sup>2</sup> Spring Rivers Ecological Sciences. 2010a. Pit 1 Flushing Flow Effectiveness Monitoring Plan Summary Report. Final. Prepared for Pacific Gas and Electric Company, Environmental Services, San Ramon, California. June.

All documents and other information that constitute the public record for this amendment will be maintained by the Division of Water Rights and are available for public review at the following address:

State Water Resources Control Board  
Division of Water Rights  
1001 I Street, Sacramento, CA 95814

Documents are available at this location by appointment only. Please email [dwr@waterboards.ca.gov](mailto:dwr@waterboards.ca.gov) to discuss options for document review.

If you have questions regarding this letter, please contact Ms. Savannah Downey, Project Manager, by email at [Savannah.Downey@waterboards.ca.gov](mailto:Savannah.Downey@waterboards.ca.gov) or by phone at (916) 322-1585.

Sincerely,



Eileen Sobeck  
Executive Director

Enclosures: Attachment 1: Amended Certification (Clean Version)  
Attachment 2: Amended Certification (Strikethrough/Underline Version)  
Attachment 3: Notice of Determination (NOD)

ec (w/o NOD): Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
**Via FERC eFiling**

U.S. Environmental Protection Agency  
Region 9, Water Division  
**Email: [R9cwa401@epa.gov](mailto:R9cwa401@epa.gov)**

Mr. Patrick Pulupa, Executive Officer  
Central Valley Regional Water Quality Control Board  
**Email: [Patrick.Pulupa@waterboards.ca.gov](mailto:Patrick.Pulupa@waterboards.ca.gov)**

Mr. Sean Murphy, PG&E  
**Email: [SHM9@pge.com](mailto:SHM9@pge.com)**

Ms. Amy Kirsch, PG&E  
**Email: [Amy.Kirsch@pge.com](mailto:Amy.Kirsch@pge.com)**

cc (w/o NOD): Interested Parties List

**ATTACHMENT 1 – PIT 1 HYDROELECTRIC PROJECT  
WATER QUALITY CERTIFICATION AMENDMENT  
FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2687  
(CLEAN VERSION)**

The State Water Resources Control Board hereby amends the water quality certification for Pacific Gas and Electric Company's Pit 1 Hydroelectric Project to modify Conditions 13-15, and add Conditions 20-21.

13. The Licensee shall control growth of aquatic vegetation and mosquito production in the Fall River Pond by releasing a continuous minimum fish/aquatic habitat release as described in Condition 8.

To provide for whitewater boating recreation, the Licensee shall release through Fall River Pond 1,250 cfs, or the natural inflow to the Pit 1 Forebay, whichever is less, for two weekends (Saturday and Sunday) in October on or before October 31 of each year. The whitewater boating flows shall begin at approximately 2:00 a.m. on the first day (Saturday) and ramp up as prescribed in Condition 12. The whitewater boating flows shall be maintained until approximately 3:00 p.m. on the following day (Sunday) of each release of whitewater boating flows, and then be ramped down as prescribed in Condition 12. Each year by September 15, the Licensee shall consult with American Whitewater to schedule the whitewater boating flow weekends. The Licensee shall provide notice of the whitewater boating flow weekends to the SWRCB, American Whitewater, and other interested parties at least seven days prior to the first day of whitewater boating flows.

The Licensee may request modifications to the whitewater boating flows after consultation with American Whitewater and SWRCB staff. Such requests shall be submitted to the Deputy Director of the Division of Water Rights (Deputy Director)<sup>1</sup> for review and consideration for approval. The Licensee shall include comments and recommendations made in connection with the proposed whitewater boating flows modifications and a description of how the request incorporates or addresses the comments and recommendations. The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC the Deputy Director-approved whitewater boating flow modifications, and any approved amendments thereto. The Licensee shall implement the whitewater boating flows upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified by this condition.

14. The SWRCB reserves the authority to modify the conditions of the certification if monitoring results indicate that continued operation of the Pit 1 Project could negatively impact water quality or in response to new information regarding the Shasta crayfish (*Pacifastacus fortis*).
15. For the life of the new license, the Licensee shall provide the Chief of the Division of Water Rights by December 31 of each year, a report containing the flow records

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<sup>1</sup> Formerly referred to as the "Chief of the Division of Water Rights." All references to the "Chief of the Division of Water Rights" are synonymous with references to "Deputy Director of the Division of Water Rights" or "Deputy Director."

**ATTACHMENT 1 – PIT 1 HYDROELECTRIC PROJECT  
WATER QUALITY CERTIFICATION AMENDMENT  
FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2687  
(CLEAN VERSION)**

from the previous water year. The report shall document the required instantaneous flow releases from the Fall River Weir and the releases made to maintain the minimum flows below the Pit 1 Powerhouse. The report shall include other streamflow data collected by the Licensee from the Pit River as identified in the streamflow measuring plan required in condition 9. The report shall be provided to the Department of Fish and Game upon its request. The report shall identify any events where the minimum flow requirements were not met, the circumstances for the violation and what measures were taken by the Licensee to correct the problem.

20. As proposed in the Licensee's letter to the SWRCB dated October 17, 2018, the Licensee shall improve access to the Pit River at the current river boating put-in (near Cassel-Fall River Road Bridge) by constructing 12 new overflow parking spaces in the immediate vicinity of the existing parking facility. The Licensee shall complete construction within two years following FERC's incorporation of this certification amendment into the Pit 1 Project license unless otherwise approved by the Deputy Director.

No later than 90 days prior to the desired construction start date, the Licensee shall submit a Water Quality Monitoring and Protection Plan (Plan) to the Deputy Director for review and consideration of approval. The purpose of the Plan shall be to ensure that construction of the new overflow parking does not impact water quality. At a minimum, the Plan shall demonstrate compliance with sediment and turbidity water quality objectives in *The Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin*<sup>2</sup> and any amendments thereto. The Plan shall be developed in consultation with the SWRCB, CVRWQCB, American Whitewater, California Department of Fish and Wildlife,<sup>3</sup> and U.S. Fish and Wildlife Service.

The Plan shall be based on actual site geologic, soil, and groundwater conditions, and at a minimum shall include:

- A description of site conditions;

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<sup>2</sup> Central Valley Regional Water Quality Control Board. 2018. *The Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin*. Fifth Edition. Revised May 2018 (with Approved Amendments). Available at: [https://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/sacsjr\\_201805.pdf](https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf). Last accessed June 16, 2021.

<sup>3</sup> Formerly referred to as the California Department of Fish and Game. All references to the "California Department of Fish and Game" are synonymous with references to "California Department of Fish and Wildlife."

**ATTACHMENT 1 – PIT 1 HYDROELECTRIC PROJECT  
WATER QUALITY CERTIFICATION AMENDMENT  
FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2687  
(CLEAN VERSION)**

- Detailed descriptions, design drawings, and specific topographic locations of all control measures in relation to the new overflow parking construction, which may include:
  - Measures to divert runoff away from disturbed land surfaces;
  - Measures to collect and filter runoff from disturbed land surfaces, including sediment ponds;
  - Measures to dissipate energy and prevent erosion; and
  - Measures to control hazardous materials and prevent construction-related pollutants from entering waterways;
- Revegetation measures for disturbed areas, which shall include use of native plants and locally sourced plants and seeds;
- A monitoring, maintenance, and reporting schedule; and
- Comments and recommendations made as part of consultation on Plan development and how the comments and recommendations were addressed in the Plan.

The Deputy Director may require modification as part of any approval. The Licensee shall file with FERC the Deputy Director-approved Plan and any approved amendments thereto. The Licensee shall implement the Plan upon receipt of Deputy Director and any other required approvals, in accordance with the schedule and requirements specified therein.

21. Upon request, the Licensee shall provide the U.S. Fish and Wildlife Service with any information that is in the Licensee's possession and necessary for the completion of an updated Biological Opinion for the Pit 1 Project.



Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment,  
FERC Project No. 2687  
Final Environmental Impact Report

APPENDIX

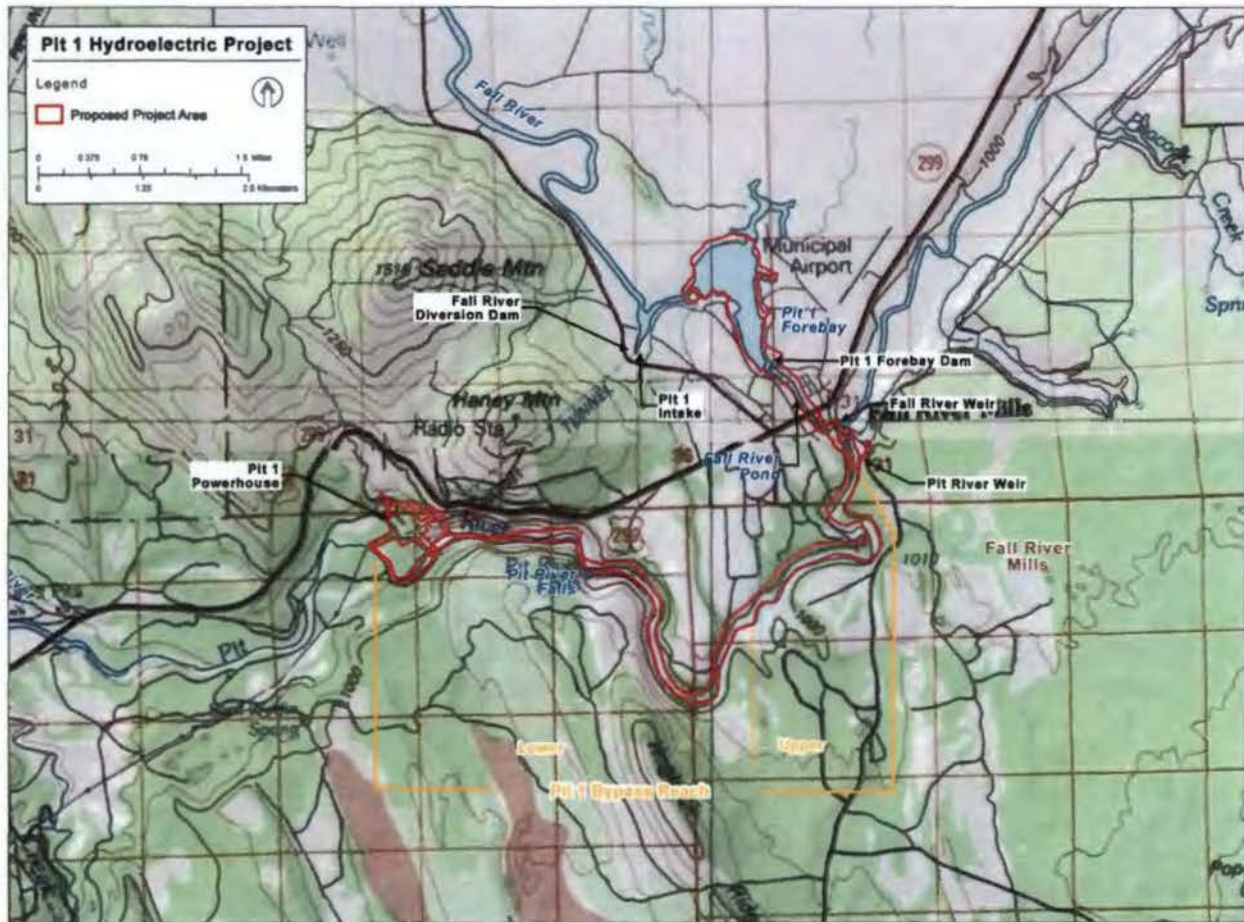
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NOTICE OF PREPARATION AND  
SCOPING MEETINGS





**NOTICE OF PREPARATION AND SCOPING MEETINGS  
FOR AN ENVIRONMENTAL IMPACT REPORT  
FOR THE PIT 1 HYDROELECTRIC PROJECT 401 WATER QUALITY  
CERTIFICATION AMENDMENT**



**PROPOSED PROJECT AREA**

To save paper, the State Water Resources Control Board (State Water Board) strongly encourages interested parties to subscribe to receive information by email. If you would like to receive future announcements about Pit 1 Hydroelectric Project related matters, please provide your email address or mailing address to Mr. Peter Barnes at (916) 445-9989 or [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov). If you would like to receive additional information related to the Division of Water Rights Water Quality Certification Program, please subscribe to the State Water Board's email list for "Water Rights Water Quality Certification" under "Water Rights" online at: [http://www.waterboards.ca.gov/resources/email\\_subscriptions/swrcb\\_subscribe.shtml](http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml)

Alternatively, if you would like to be placed on the State Water Board's hard copy mailing list for Pit 1 Hydroelectric Project related matters, you must request to be placed on the list. If you do not request to be placed on the mailing list (or request to remain on the list if you are already on the list) by **June 24, 2013**, you will no longer receive hard copy notices until such time as the State Water Board receives a renewed request to be placed (remain) on the hard copy mailing list<sup>1</sup>. Requests to be placed on the hard copy mailing list should be sent to: Peter Barnes; State Water Resources Control Board; Division of Water Rights; P.O. Box 2000; Sacramento, CA 95812-2000.

<sup>1</sup> There will be the opportunity to sign up for the hard copy mailing list at the scoping meetings.



**Notice of Preparation****Form B****To:** State Clearinghouse, Governor's Office of Planning and ResearchP.O. Box 3044Sacramento, CA 95812-3044**Subject:** **Notice of Preparation of an Environmental Impact Report for the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment****Lead Agency:****Consulting Firm (If applicable):**

Agency Name	<u>State Water Resources Control Board</u>	Firm Name	<u>Cardno ENTRIX</u>
Street Address	<u>P.O. Box 2000</u>	Street Address	<u>201 Calle Cesar Chavez #203</u>
City/State/Zip	<u>Sacramento, CA 95812-2000</u>	City/State/Zip	<u>Santa Barbara, CA 93103</u>
Contact	<u>Peter Barnes</u>	Contact	<u>Shruti Ramaker</u>

Pacific Gas and Electric Company (PG&E) owns and operates the Pit 1 Hydroelectric Project (Pit 1 Project), which is located on the Pit and Fall Rivers near the communities of Fall River Mills and McArthur in northeastern Shasta County, California. The Federal Energy Regulatory Commission (FERC) issued a new license for the continued operation of the Pit 1 Project in March 2003. The license incorporates the State Water Board's Clean Water Act (CWA) 401 Water Quality Certification (401 Certification) issued in December 2001. Pursuant to the new license and 401 Certification, PG&E implemented required flushing flows between 2003 and 2009 to control the growth of aquatic vegetation and mosquito production in Fall River Pond, and monitored surface aquatic vegetation on Fall River Pond from 2005 through 2012.

In a letter dated May 26, 2009, the United States Fish and Wildlife Service (USFWS) expressed concern regarding a decline in Shasta crayfish in the Pit 1 Bypass Reach and requested suspension of the 2009 flushing flows at the Pit 1 Project. The letter stated that flushing flows released from the Fall River Weir into the Pit 1 Bypass Reach were reducing/eliminating coldwater habitat for federally endangered Shasta crayfish and providing beneficial habitat for non-native crayfish species. The State Water Board concluded that amendment of the 401 Certification to permanently remove the flushing flows requires compliance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) based on its potential for significant environmental impacts. The permanent removal of flushing flows is referred to as the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment (Proposed Project).

The State Water Board is the CEQA lead agency for the Proposed Project under its discretionary 401 Certification authority. The State Water Board plans to prepare an environmental impact report (EIR) for the Proposed Project.

The State Water Board is seeking comments from trustee agencies and interested persons concerning the scope and content of the environmental information to be included in the EIR. Please send your comments to Mr. Peter Barnes at the address shown at the end of this Notice of Preparation. Please provide a contact person and contact information in case there are questions about the comments.



**Project Title:** Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment (Proposed Project)

**Project Location:** The Proposed Project Area is located within the Pit 1 Project Area in the Fall River Valley and the Pit River Canyon in Shasta County in northeastern California. The Fall River Valley contains the communities of McArthur and Fall River Mills. An overview of the Proposed Project Area is shown in the figure at the front of this Notice of Preparation. The Pit 1 Project Area is shown in Figure 1 at the end of this Notice of Preparation.

### SCOPING MEETINGS

Two scoping meetings are scheduled as presented in the table below and will be conducted in two parts each. In the first part, State Water Board staff, or contractors working on behalf of the State Water Board, will explain the Proposed Project, describe the State Water Board's role as a 401 Certification agency, and provide other information to trustee agencies and interested persons. During the second part, attendees will be provided with the opportunity to submit oral and written comments concerning potentially significant impacts of the Proposed Project, potential alternatives, and mitigation measures that should be analyzed in the EIR. The time allotted for each individual or organization to comment orally may be limited if the number of people in attendance so requires.

Scoping Meetings Date and Time	Scoping Meetings Location
June 11, 2013 9:00 a.m. to 11:00 a.m.	Central Valley Regional Water Quality Control Board 364 Knollcrest Drive, Suite 205 Redding, CA 96002
June 11, 2013 6:00 p.m. to 8:00 p.m.	Intermountain Fair 44218 A Street McArthur, CA 96056

If you would like to request a reasonable accommodation for a disability, please contact Ms. Shruti Ramaker of Cardno ENTRIX at: [shruti.ramaker@cardno.com](mailto:shruti.ramaker@cardno.com) or (805) 979-9561.

### QUESTIONS AND ADDITIONAL INFORMATION

General questions about this Notice of Preparation should be directed to Mr. Peter Barnes at (916) 445-9989 or [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov). Questions regarding legal issues should be directed to Mr. David Rose at (916) 341-5196 or [DRose@waterboards.ca.gov](mailto:DRose@waterboards.ca.gov).

Information related to the water quality certification for the Proposed Project will be posted on the Pit 1 Project's webpage, which is available online at:  
[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/ceqa\\_projects.shtml#ferc2687](http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/ceqa_projects.shtml#ferc2687)

### BACKGROUND

Pursuant to CEQA, Public Resources Code, Section 21000 et seq., the State Water Board is initiating preparation of an EIR regarding the potential impacts of the Proposed Project as compared to the environmental baseline of the Pit 1 Project conditions prior to suspension of flushing flows. The CEQA Project objective is to:

- Amend the existing 401 Certification to permanently eliminate or modify the requirement for flushing flows that may be detrimental to endangered Shasta crayfish.



Section 401 of the CWA (33 U.S.C. §1341) requires every applicant for a federal license or permit that may result in a discharge into navigable waters to provide the federal licensing or permitting agency with certification that the project will be in compliance with specified provisions of the CWA. Section 401 provides that conditions of certification shall become conditions of any federal license or permit for the project. The State Water Board is the agency in California that is responsible for 401 Certification of any potential discharge for an activity that requires a FERC license or amendment. (Wat. Code, §13160; Cal. Code Regs., tit. 23, §3855, subd. (b).) The issuance of 401 Certification is a discretionary action subject to CEQA compliance. Because there are potentially significant impacts associated with the Proposed Project, the State Water Board has decided to prepare an EIR.

Under the provisions of the CWA, a 401 Certification may be issued if the State Water Board determines that the project will comply with specified provisions of the CWA, including water quality standards and implementation plans. The State Water Board will determine whether the Proposed Project adequately protects the beneficial uses and meets the water quality objectives for waterbodies in the Proposed Project area, as defined in the *Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins* (Basin Plan; Central Valley Regional Water Quality Control Board, 2007). Additional information concerning the Basin Plan and designated beneficial use is available at the following website:  
[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml)

### **Brief Background on Proposed Project**

On March 19, 2003, FERC issued a new license to PG&E for the continued operation of the Pit 1 Project. The new license prescribed increased minimum flows for the Pit 1 Bypass Reach in order to achieve improved water quality in the bypass reach. In addition, flushing flows were prescribed to manage nuisance vegetation and mosquito production in Fall River Pond upstream of the Pit 1 Bypass Reach and downstream of the Pit 1 Forebay. The FERC license incorporates the State Water Board's 401 Certification, issued on December 4, 2001.

Pursuant to the license, PG&E implemented flushing flows for seven years between 2003 and 2009 to control the growth of nuisance aquatic vegetation and mosquito production in Fall River Pond. Pursuant to the license, PG&E also monitored nuisance surface aquatic vegetation on Fall River Pond from 2005 through 2012 and continues annual monitoring. Monitoring data since 2005 show that flushing flows were not needed for nuisance vegetation or mosquito control and that the increased continuous minimum base flows implemented pursuant to Condition 8 of the 401 Certification have been controlling nuisance vegetation and mosquitoes in Fall River Pond.

The Shasta crayfish (*Pacifastacus fortis*) was listed as endangered under the Federal Endangered Species Act (ESA) (16 U.S.C. §§ 1531 - 1544) on September 30, 1988 (53 FR38460-38465) and as endangered under the California ESA (Fish & Game Code §§ 2050 2097) on February 26, 1988. Critical habitat has not been designated for this species.

In a letter to the State Water Board dated May 26, 2009, USFWS expressed concern regarding a decline in Shasta crayfish in the Pit 1 Bypass Reach and requested suspension of the 2009 flushing flows. The letter stated that flushing flows were reducing/eliminating coldwater habitat for Shasta crayfish and providing beneficial habitat for the competitor/predator non-native signal crayfish (*Pacifastacus leniusculus*) and northern crayfish (*Orconectes virilis*). Both non-native crayfish species are more tolerant of temperature fluctuations and have a wider temperature range than Shasta crayfish. Summer flushing flows can affect Shasta crayfish by rapidly reducing the size of coldwater habitat normally produced by the coldwater springs, increasing



daily average water temperature, eliminating diel temperature fluctuations and cooler nighttime water temperatures, and facilitating the dispersal of non-native crayfish.

On April 15, 2010, FERC submitted a letter to the State Water Board requesting a temporary suspension of flushing flows for 2010. On July 6, 2010, the State Water Board issued an Order Approving Temporary Suspension of Flushing Flow Requirements (Order WQ 2010-0009-EXEC), which temporarily suspended flushing flows for 2010 and 2011. The State Water Board concluded that there would not be any significant effects if the requirement for flushing flows was suspended for a limited period, with adequate safeguards to prevent the suspension from becoming permanent except after full compliance with CEQA. The State Water Board also concluded that amendment of the 401 Certification to permanently remove the flushing flows would require compliance with CEQA based on the potential for significant environmental impacts. On August 10, 2010, FERC issued an order temporarily amending the license and incorporating the amendment to the 401 Certification.

In March 2012, PG&E sent a letter to the State Water Board requesting a temporary suspension of flushing flows for 2012 to allow the terms of the State Water Board Order to be completed; specifically, completion of its CEQA process related to permanent suspension of flushing flows and completion of development and implementation of the Shasta crayfish study by PG&E. On June 14, 2012, the State Water Board extended the temporary suspension of flushing flows through the 2012 calendar year in an Order Approving Extension of the Temporary Suspension of Flushing Flow Requirements (Order WQ 2012-0008-EXEC). FERC issued an order temporarily amending the license and incorporating the amendment to the 401 Certification in July 2012.

### **Brief Description of the Existing Pit 1 Project Facilities**

The Pit 1 Project consists of a concrete diversion dam that allows water to enter the Pit 1 Forebay. The Pit 1 Forebay is created by a 40-foot-high by 586-foot-long compacted earth and rock-fill dam. There are two intake facilities to the Pit 1 intake canal and tunnel: intake Number 1 diverts water from the Fall River upstream of the diversion dam, and intake Number 2 diverts water from the Pit 1 Forebay. The intakes open into two short canal sections that converge into one common canal leading to a concrete-lined tunnel. The tunnel terminates at a 60-foot-diameter concrete-lined surge chamber with a spill channel. Two penstocks deliver water to the Pit 1 Powerhouse, located on the Pit River approximately 7 miles downstream from the confluence of the Fall River and the Pit River. The Pit 1 Powerhouse contains two vertical-shaft, Francis-type turbines with a dependable capacity of 65.5 megawatts. There are no transmission lines associated with the Pit 1 Project. The switchyard is the point where the Pit 1 Project joins with PG&E's primary transmission system.

### **CEQA Project Description and Alternatives**

The following summarizes the proposed operational changes to the Pit 1 Project comprising the Proposed Project, including PG&E's proposed changes to the authorized Pit 1 Project operations in order to avoid or minimize potential effects to Shasta crayfish within the Project Area. These changes entail adjustments to the flow of water through the Fall River Weir into the Pit 1 Bypass Reach. Other changes to the Pit 1 Project license adopted by PG&E and approved by FERC since issuance of the current license that do not pertain to the State Water Board's jurisdiction are not included in the Proposed Project.

**Water Management:** As part of the Proposed Project, PG&E would discontinue summer flushing flows permanently. PG&E would continue annual ground-level photo point monitoring of aquatic vegetation on Fall River Pond in June, July, and August. In the



event that conditions, such as a series of drought years, result in excess aquatic vegetation (i.e., surface aquatic vegetation exceeding 20 percent coverage of Fall River Pond), PG&E would implement vegetation control methods, such as harvesting or non-summer flushing flows. To avoid negative effects to biological resources and their habitat in the Pit 1 Bypass Reach, PG&E would not use flushing flows to control aquatic vegetation between May 1 and September 30 (i.e., no discretionary out-of-season spills).

Pursuant to the June 14, 2011, FERC Order, recreational whitewater releases, which began in 2011, would continue to be implemented in October, on or before October 30, to minimize negative impacts to biological resources, avoid the negative effects of summer pulse flows on Shasta crayfish habitat, and minimize the magnitude of the flow change while allowing for recreational whitewater opportunities. Any future proposal to implement whitewater releases outside of this period would be subject to consultation with USFWS.

**Planned Outage:** To avoid potential negative effects to Shasta crayfish, PG&E would not conduct planned outages that result in out-of-season spills in the Pit 1 Bypass Reach between May 1 and September 30. PG&E would operate the Pit 1 Project in a manner that does not cause discretionary, out-of-season spills.

**Unplanned Outage:** PG&E would minimize or avoid out-of-season pulse flows in the Pit 1 Bypass Reach during unplanned outages by implementing new operational procedures. PG&E would reduce the maximum allowable operating limit on the Pit 1 Forebay by 0.5 feet (from 3,303.5 feet to 3,303.0 feet National Geodetic Vertical Datum (NGVD) [3,323.0 feet to 3,322.5 feet PG&E datum]) during the summer, which would provide PG&E additional time to address the unplanned outage before having to spill from the Pit 1 Forebay.

**At a minimum, the EIR will evaluate the following environmental factors, as required by CEQA:**

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| ▪ Aesthetics                       | ▪ Land Use/Planning               |
| ▪ Agriculture and Forest Resources | ▪ Mineral Resources               |
| ▪ Air Quality                      | ▪ Noise                           |
| ▪ Biological Resources*            | ▪ Population/Housing              |
| ▪ Cultural Resources               | ▪ Public Services                 |
| ▪ Geology/ Soils                   | ▪ Recreation*                     |
| ▪ Greenhouse Gas Emissions         | ▪ Transportation and Traffic      |
| ▪ Hazards and Hazardous Materials  | ▪ Utilities/Service Systems       |
| ▪ Hydrology/Water Quality*         | ▪ Mandatory Finds of Significance |

\*The following resource areas are expected to have potentially significant impacts from the Proposed Project and will be discussed in detail in the EIR.

Additionally, the EIR will address growth-inducing impacts, cumulative impacts and significant unavoidable impacts (if applicable).

**SUBMITTAL OF WRITTEN COMMENTS**

Please send your written comments regarding this Notice of Preparation of an EIR for the Proposed Project to the address below. When submitting your comments, please provide a contact person and contact information in case there are questions about the comments. **The comment deadline is NOON (12:00 p.m.) on June 24, 2013.**

State Water Resources Control Board  
Division of Water Rights  
Attention: Peter Barnes  
P.O. Box 2000  
Sacramento, CA 95812-2000

Phone: (916) 445-9989  
Fax: (916) 341-5400  
Email: [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov)



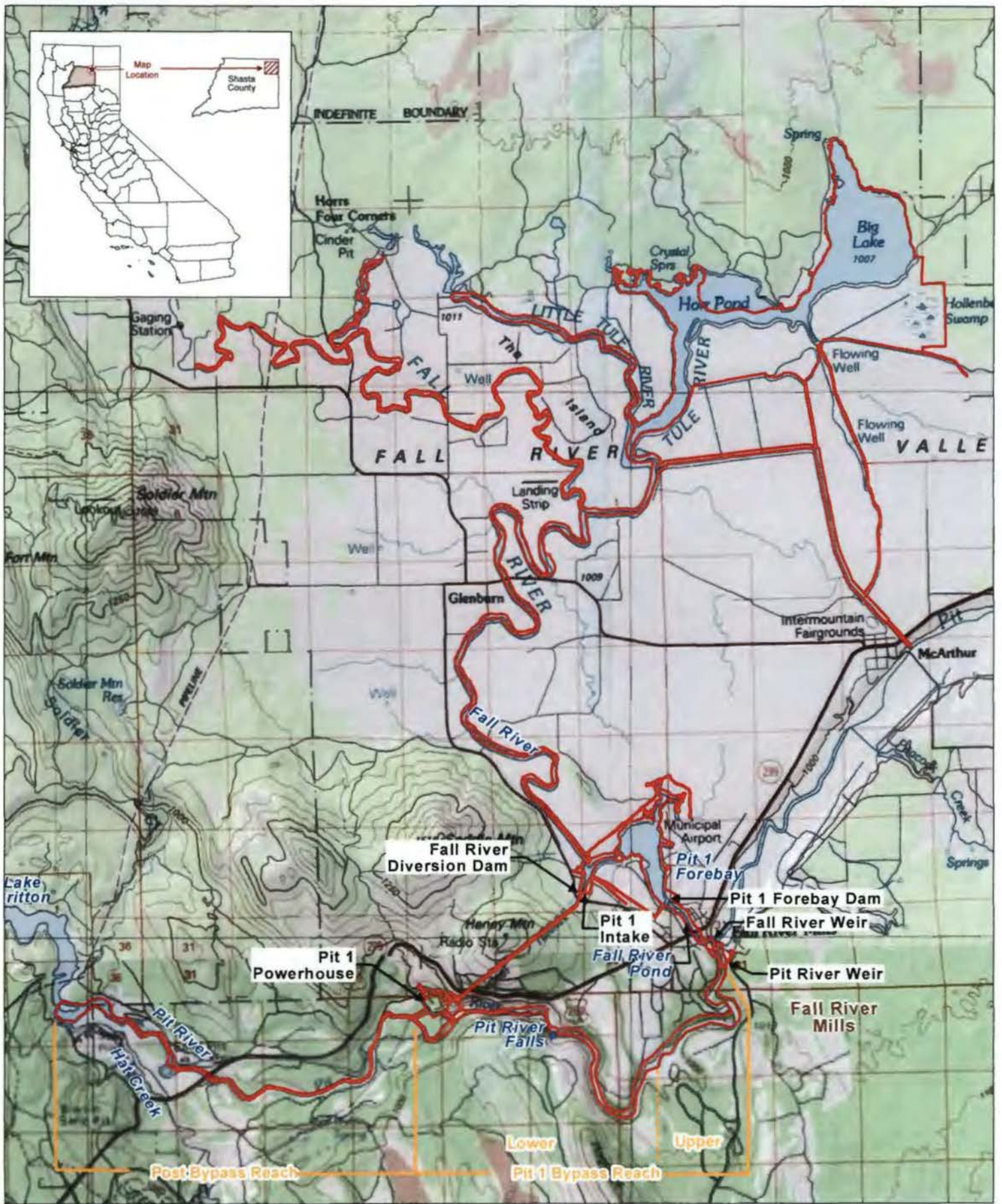
Erin Ragazzi  
Water Quality Certification Program Manager

**MAY 17 2013**

Date

Attachment: Figure 1





Pit 1 Hydroelectric Project

Legend

Pit 1 Project Area

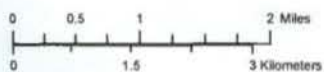


FIGURE 1  
Project Overview



Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment,  
FERC Project No. 2687  
Final Environmental Impact Report

APPENDIX

C

EIR SCOPING SUMMARY REPORT



# Pit 1 Hydroelectric Project 401 Certification Modification EIR Scoping Summary Report

31782797.00





## Document Information

Prepared for            State Water Resources Control Board  
Project Name            Pit 1 Hydroelectric Project 401 Certification Modification EIR  
Project Number        31782797  
Project Manager        Shruti Ramaker  
Date                     August 2013

Prepared for:

State Water Resources Control Board  
Division of Water Rights  
P.O. Box 2000,  
Sacramento, CA 95812-2000.

Prepared by:



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## Acronyms

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
NOP	Notice of Preparation
EIR	Environmental Impact report
FERC	Federal Energy Regulatory Commission
PG&E	Pacific Gas and Electric

# 1 Introduction

---

The State Water Resources Control Board (State Water Board) is the California Environmental Quality Act (CEQA) lead agency for the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment, under its discretionary Section 401 water quality certification authority. Pacific Gas and Electric Company (PG&E) owns and operates the Pit 1 Hydroelectric Project (Pit 1 Project). The Pit 1 Project is licensed by the Federal Energy Regulatory Commission (FERC), and is designated FERC Project No. 2687.

FERC issued a new license for the continued operation of the Pit 1 Project in March 2003. The license incorporates the State Water Board's Clean Water Act (CWA) 401 Water Quality Certification (401 Certification) issued in December 2001. Pursuant to the new license and 401 Certification, PG&E implemented required flushing flows between 2003 and 2009 to control the growth of aquatic vegetation and mosquito production in Fall River Pond, and monitored surface aquatic vegetation on Fall River Pond from 2005 through 2012.

In a letter dated May 26, 2009, the United States Fish and Wildlife Service (USFWS) expressed concern regarding a decline in Shasta crayfish in the Pit 1 Bypass Reach and requested suspension of the 2009 flushing flows at the Pit 1 Project. The letter stated that flushing flows released from the Fall River Weir into the Pit 1 Bypass Reach were reducing/eliminating coldwater habitat for federally endangered Shasta crayfish and providing beneficial habitat for non-native crayfish species. The State Water Board concluded that amendment of the 401 Certification to permanently remove the flushing flows would require compliance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) based on its potential for significant environmental impacts. The permanent removal of flushing flows is referred to as the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment (Proposed Project).

The State Water Board is the CEQA lead agency for the Proposed Project under its discretionary 401 Certification authority. The State Water Board plans to prepare an environmental impact report (EIR) for the Proposed Project.

The State Water Board released a Notice of Preparation (NOP) communicating the intent to prepare an EIR for the Proposed Project on May 17, 2013. The NOP was distributed to the State Clearinghouse, agencies and individuals. The NOP, included in Appendix A, provided a description of the Proposed Project, the location of project activities, and the resources and environmental concerns to be analyzed in the EIR. The NOP also requested that comments on the scope of the EIR including specific issues the EIR should cover of the EIR and potential alternatives to the Proposed Project be submitted by June 24, 2013.

The State Water Board also conducted two CEQA scoping meetings to provide the public with the opportunity to provide input prior to the preparation of the EIR, pursuant to CEQA Guidelines section 15083. (Cal. Code Regs., tit. 14, § 15083.) Public notices of the NOP and scoping meeting were published as follows:

- Intermountain News
- Redding Record Searchlight
- Mountain Echo

The meetings took place on June 11, 2013 from 9:00 a.m. to 11:00 a.m. at the Central Valley Regional Water Quality Control Board office in Redding, California, and from 6:00 p.m. to 8:00 p.m. at the Intermountain Fairgrounds in McArthur, California. Copies of the newspaper notices are also included in Appendix A. The scoping meeting presentation is included in Appendix B.

This report summarizes the written and oral comments received during the scoping period, May 17, 2013 through June 24, 2013. Chapter 2 provides a list of the commenting agencies and organizations. Chapter 3 summarizes all of the comments received on the NOP and includes a matrix of comments received during the scoping period. The written responses to the NOP and other written comments submitted at the scoping meeting (full text) from public agencies, organizations, and individuals are included in Appendix C. A full transcript of the oral comments received during the scoping meeting is included as Appendix D.

Copies of comments received to date can also be found on the State Water Board website, at:

[http://www.swrcb.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/pit1\\_ferc2687.shtml](http://www.swrcb.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc2687.shtml)



## 2 Commenting Agencies and Organizations

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### 2.1 Written Comments

The following agencies, organizations and/or members of the public provided written responses to the NOP by letter or electronic mail (email) during the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment public scoping period. The numbering of the written responses correlates to the appearance of each in Appendix A.

#### Public Agency

1. California Department of Fish and Wildlife

#### Non-Profit Organization

2. American Whitewater

#### Landowners/Local Residents

3. Charles Albright
4. Kyle Allred
5. Bob Baiocchi
6. Daniel Brasuell
7. Ida Crawford
8. Virginia Dye
9. Mary Elliot
10. Travis Geddes
11. Connor Herdt
12. Roland McNutt
13. Matthew Phillips
14. James Reed
15. Eli Ren
16. Kenneth Rosecrance
17. Lee Schmelter
18. Bob Simmons
19. George Williams
20. Lisa Williams

## 2.2 Oral Comments

The following agencies, organizations and/or members of the public provided oral comments during the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment public scoping meetings held June 11, 2013 and are listed in speaking order:

### 9 am Meeting

#### Speaker and Affiliation (if provided)

Matt Myers, California Department of Fish and Wildlife

Dave Steindorf, American Whitewater

Charlie Guilbault

Mike Martini

Ron Rogers

### 6 pm Meeting

#### Speaker and Affiliation (if provided)

Doug Knox

Ross Jones

Harold Chandler

## 3 Summary of NOP Responses

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The purpose of the NOP is to solicit input “as to the scope and content of the environmental information to be included in the EIR.” (Cal. Code Regs., tit. 14, § 15375). The following provides a summary of the responses to the NOP, including all written comments mailed, emailed or submitted at the public scoping meeting as well as oral comments received during the scoping meeting. A more detailed matrix of comments is provided at the end of this section in Table 1.

### 3.1 General Comments

General comments received to date primarily focus on concerns related to whitewater recreation flows and a lack of evidence linking the flushing flows with a decline in Shasta crayfish.

### 3.2 Public Agency Comments

The California Department of Fish and Wildlife commented regarding concerns about the lack of recent Shasta crayfish surveys and made suggestions regarding the content of the EIR as listed in the matrix below.

### 3.3 Project Alternatives

Suggested alternatives to the Project include the continuation of flushing flows, developing barriers to block invasive crayfish species, and the use of temperature control devices. Comments stressed the importance of the site as a recreational resource, which would be adversely affected by the proposed plan.

### 3.4 Environmental Impact Analysis

The following comments pertain to specific resources or environmental concerns that should be addressed in the EIR including the technical appendices.

#### Biological Resources/Aquatic and Fisheries Resources

The following are comments related to biological resource impacts:

- Lack of evidence that the decline in Shasta crayfish is caused by the flushing flows at the Pit 1 Project.
- Increases in water temperature caused by the Pit 1 Project should be addressed.
- Updated crayfish surveys are needed.

#### Recreation

The loss of recreational opportunities from the elimination of flushing flows at the Pit 1 Project was of concern to many local residents. Many comments addressed the value of the flow releases to whitewater boaters and kayakers.

The matrix below includes a more detailed summary of comments. Comment letters and emails are included in their entirety in Appendix C as are oral comments in Appendix D.

**Table 1. Scoping Comment Summaries Table**

Name	Description	Date of comments	Comment summary	CEQA Issue Area
<b>Written Responses to the NOP</b>				
<b>Public Agencies</b>				
1- California Department of Fish and Wildlife	Response to NOP letter	6/18/2013	<p>The EIR should address the following issues:</p> <ol style="list-style-type: none"> <li>1. A new survey for Shasta crayfish and non-native crayfish in the Project Area is needed and the last survey conducted (in 2009) is outdated.</li> <li>2. The Project's flow regime should be evaluated and compared to baseline conditions.</li> <li>3. The EIR needs to evaluate unplanned outages and out-of-season pulse flows for the entire flow regime and compare to baseline conditions to avoid/minimize effects to Shasta crayfish.</li> <li>4. The EIR should include a single table that summarizes all historic Pit 1 Project surveys and results, conducted for Shasta crayfish and non-native crayfish.</li> </ol>	Biological Resources
<b>Non-Profit Organization</b>				
2- American Whitewater	Response to NOP letter	6/24/2013	<p>American Whitewater believes that the Water Board has a duty under CEQA and the Basin Plan to examine numerous reasonable alternatives that will protect the endangered Shasta crayfish in the Pit 1 Bypass Reach and address ongoing temperature impacts of the Pit 1 Project. Alternatives include developing barriers to keep invasive crayfish out of Shasta crayfish habitat, examining temperature control devices to mitigate the project's temperature impacts, and assessing minimum instream flow release scenarios.</p> <p>Population trends indicate that a cause other than flushing flows is leading to Shasta crayfish decline. The evidence does not support PG&amp;E's argument that flushing flows' effect on temperature is contributing to Shasta crayfish decline.</p> <p>The EIR must consider significant environmental impacts. American Whitewater is particularly concerned that the project will have significant environmental impacts on whitewater recreation.</p>	Alternatives
				Biological Resources
				Recreation

Name	Description	Date of comments	Comment summary	CEQA Issue Area
			The State Water Board should ensure that power operations are not contributing to the degradation of Shasta crayfish. Daily operations of the Pit 1 Hydroelectric Project increase water temperatures, and the record lacks adequate information to show that elimination of flushing flows will protect Shasta crayfish.	General
<b>Landowners/Local Residents</b>				
3-Charles Albright	Response to NOP letter	5/24/2013	Has been paddling for over 42 years and has always enjoyed paddling the Pit River. States that PG&E needs to start sharing water along the whole river with the public and riverside environment all the way to Lake Shasta and not just Fall River Mills to Pit 1.	Recreation
4-Kyle Allred	Response to NOP Letter	5/27/2013	States that the Pit River summer release is a wonderful recreation opportunity for boaters and requests that it continue.	Recreation
5- Bob Baiocchi	Email	5/9/2013	Amendment should include a daily bypass flow requirement from the Fall River Dam in compliance with California Fish and Game Code 5937 to protect fish species and their habitat in Fall River below PG&E's Fall River Dam and also fish species and their habitat in the Pit River below the dam in the Pit River. Taking all of the water from Fall River by PG&E is a direct violation of Article X, Section 2 of the State Constitution because it is the unreasonable diversion of the state's water. The time has arrived to enforce state law to protect all beneficial uses of Fall River and Pit River as shown in the Basin Plan.	General, Biological Resources, Hydrology
6- Daniel Brasuell	Email in response to NOP	6/07/2013	Asks the following questions: what studies have been done to show that summer releases are the cause of the Shasta Crayfish population decline? Has it been ruled out that unnatural water temperatures due to the powerhouses and reservoirs could have caused it? Or that the deviation from natural flow year round could have caused it? What direct knowledge do we have that a pulse of water a few weekends a year is the root cause? If the recreational pulse of water is not allowed, what restrictions will be levied on the owners of the powerhouses and reservoirs? Proper study is needed to find that the pulse weekends are causing the decline and ensure that all parties controlling the river are legally bound to the same ruling.	Biological Resources, Hydrology, Recreation
7- Ida Crawford	Email in response to NOP	6/07/2013	Has kayaked above Pit 1 Powerhouse during whitewater releases for several years and states that it is a fabulous class 3-4 run that it would be a shame to lose.	Recreation

Name	Description	Date of comments	Comment summary	CEQA Issue Area
8- Virginia Dye	Letter in response to NOP	6/19/2013	States that if there is a truthful concern over crayfish, other technologies that have environmental impacts should also be considered.	General comment
9- Mary Elliot	Letter in response to NOP	6/27/2013	Enjoys kayaking in Pit River and would be disappointed to lose the summer releases. States that she likes to do what is best for the environment and that valid reports and data are needed before losing the recreational site.	Recreation
10- Travis Geddes	Email in response to NOP	6/10/2013	Values the annual summer and fall release on the Pit 1 reach of the Pit River near fall River Mills as a resource for kayaking offering a unique opportunity for intermediate boaters. Asks the following questions: What studies have been done to show that summer releases are the cause of the Shasta Crayfish population decline? What were the methods used to gather the data about the dwindling crayfish numbers? How does the state of the Shasta Crayfish population in the Pit 1 reach compare to Shasta Crayfish populations in other areas of the Pit?	Recreation, Biological Resources
11- Connor Herdt	Email in response to NOP	6/03/2013	Opposes the proposed cancellation of the recreations releases, described as a wonderful resource for whitewater enthusiasts. Requests reconsideration of the decision to end the releases.	Recreation
12- Roland McNutt	Email in response to NOP	06/10/2013	As an avid whitewater boater, urges the continuation of Pit 1 reach releases.  Believes that sound science warranting elimination of the flows is lacking. States that Shasta crayfish declines and invasive crayfish increases have been seen throughout the Pit River Basin in the same timeframe as that considered for Pit 1 and in areas where summer flushing/whitewater flows do not occur. Suggests continuing the summer releases as a control group to compare with crayfish declines in other areas.	Recreation  Aquatic and Fisheries Resources, Alternatives
13- Matthew Phillips	Email in response to NOP	5/23/2013	Enjoys the recreational use of the Pit river summer flows as a whitewater kayaker and strongly opposes canceling the releases. States that canceling the flows would lead to further degradation of the river landscape.	Recreation, Biological Resources
14- James Reed	Email in response to NOP	5/27/2013	States that the summer flushing flows allow area paddlers to enjoy a beautiful river when little else is running; the Pit River is best seen from a whitewater craft. Hopes that the river will continue to be available to the paddling community in summer months.	Recreation

Name	Description	Date of comments	Comment summary	CEQA Issue Area
15- Eli Ren	Email in response to NOP	6/23/2013	Values the Pit River as a source of whitewater recreation. States that the evidence does not point to summer releases as the cause of invasive crayfish out-competing the Shasta crayfish. Requests that the summer releases on the Pit River resume.	Recreation, Aquatic and Fisheries Resources
16- Kenneth Rosecrance	Email in response to NOP	6/10/2013	Has boated this section of whitewater and states it would be a shame for recreational boaters to lose this boating opportunity during summer months when nothing else is available.	Recreation
17- Lee Schmelter	Email in response to NOP	5/24/2013	States the following: The decision to eliminate summer flushing flows to benefit the Shasta crawfish is illogical because similar reductions in crawfish population in the water basin occurred regardless of water flushing. It seems this decision is an attempt to conserve water but at the expense of boaters who use the summer flows, and without logical reason. Please reconsider.	Aquatic and Fisheries Resources
18- Bob Simmons	Email in response to NOP	5/24/2013	Asks if anyone has done a financial analysis of shutting down the river flows and how many tourist dollars does it generate and where does it go. Requests real science to back up claims regarding crayfish declines.	Socioeconomics, Recreation
19- George Williams	Email in response to NOP	5/23/2013	Suggests that many of the increased flows about Pit 1 be scheduled for times that can be accommodating to area recreation industries. States that higher flows are in the best interest of the river's health. Requests that the flows continue.	Alternatives, Recreation
20- Lisa Williams	Email in response to NOP	6/09/2013	As an avid whitewater boater, urges the continuation of Pit 1 reach releases.  Believes that sound science warranting elimination of the flows is lacking. States that Shasta crayfish declines and invasive crayfish increases have been seen throughout the Pit River Basin in the same timeframe as that considered for Pit 1 and in areas where summer flushing/whitewater flows do not occur.	Recreation  Aquatic and Fisheries Resources

**Public Meeting Transcript (in Speaking Order)**

Name	Description	Date of comments	Comment summary	CEQA Issue Area
Matt Myers, CDFW	Public comment. Transcribed during meeting.	6/11/2013	The EIR should address the following issues: A new survey for Shasta crayfish and non-native crayfish in the Project Area is needed and results from the 2009 survey are outdated. The Project's flow regime should be evaluated and compared to baseline conditions. The EIR should include a single table that summarizes all historic Pit 1 Project surveys and results, conducted for Shasta crayfish and non-native crayfish.	Biological Resources, Hydrology
Dave Steindorf, American Whitewater	Public comment. Transcribed during meeting.	6/11/2013	<p>States that looking at the aquatic component of the flushing flows is inadequate, and the whitewater recreation aspect needs to be evaluated as well. Also stated that the proposed amendment would reduce whitewater recreation on the Project and would change the current license stating that 6 days of summer flushing flows would be made.</p> <p>Thinks the idea that flushing flows are causing harm to the Shasta crayfish is completely erroneous and that it is the Project that is warming the water. He recommends that the Board conduct necessary modeling to evaluate what would happen if full flow of the Pit River was released back into the Bypass Reach. Also recommends the Board revisit the certification requirement of minimum in-stream flow.</p> <p>Believes the correct scope under CEQA should be for the protection of the Shasta crayfish, not the narrow effects of flushing flows. Also asked Board to reevaluate the Project to see if it is meeting water quality concerns and stated that if reducing flushing flows is in fact necessary to protect the Shasta crayfish, American Whitewater will work with the Board to find alternatives to make up for lost whitewater opportunities.</p>	Recreation, Aquatic and Fisheries Resources
Charlie Guilbault	Public comment. Transcribed during meeting.	6/11/2013	Thinks the Board should investigate recreational uses and wants to know if flows are reduced, whether recreational needs can be met in some other way.	Recreation
Mike Martini	Public comment. Transcribed during meeting.	6/11/2013	Uses Project area for recreation. Asks that the reduction in recreational opportunities cause by reduced flows be mitigated for somehow. Suggests that rather than remove the pulses, they be done at a different time of the year.	Recreation
Ronald Rogers	Public comment. Transcribed during meeting.	6/11/2013	States that American Whitewater spent time working with FERC to come up with solutions for competing uses of the Project and doesn't feel that the curtailments should be taken without due consideration. Believes better studies need to be conducted to determine if crayfish populations are in fact present in the Pit 1 stretch. If they are present, believes higher base flow releases to maintain populations may be warranted.	Recreation, Aquatic and Fisheries Resources



Name	Description	Date of comments	Comment summary	CEQA Issue Area
			States that if the releases are taken away, other mitigations need to be considered, such as better access for whitewater boating on that stretch.	
Dave Steindorf	Public comment. Transcribed during meeting.	6/11/2013	Believes a representative from the Fish and Wildlife Service should have been present to explain their rationale for the amendment and is upset both Federal agencies were absent (FERC and USFWS). Appreciates the State agencies that showed up to the forum.	General Comment
Doug Knox	Public comment. Transcribed during meeting.	6/11/2013	States that he has an aquaculture license and asks if there could be other species responsible for the reduction in Shasta crayfish and not the warm water. Would like potential predators of the crayfish to be explored.	Aquatic and Fisheries Resources
			States that the declining numbers of the species doesn't mean that the warm water is the cause.	
Ross Jones	Public comment. Transcribed during meeting.	6/11/2013	Believes the research was designed to arrive at a foregone conclusion (i.e., that warm water is the cause of decline)	General Comment
Harold Chandler	Public comment. Transcribed during meeting.	6/11/2013	States that raccoons eat crayfish and asks that raccoon populations be studied to see if there has been an increase.	Biological Resources
Ross Jones	Public comment. Transcribed during meeting.	6/11/2013	States that the Modoc Independent Tea Party has been reviewing the Pit River IRWM (Integrated Regional Water Management Program).	General Comment
			Wants to make sure the impact of reduced flushing on millifol is addressed.	
Harold Chandler	Public comment. Transcribed during meeting.	6/11/2013	States that he is highly suspicious of U.S. Fish and Wildlife and issues having to do with endangered species. Believes USFWS should have all of the information about the Project as well as what people are asking about.	General Comment
Ross Jones	Public comment. Transcribed during meeting.	6/11/2013	States that he has lived in the area for over 20 years and has been associated with agriculture. He is concerned that the State of California is trying to use an endangered species on the Pit River to usurp the landowners' given water rights. He also stated that the project is a waste of money and since PG&E is paying for it, that means the people are the ones who actually pay for it, which he finds inappropriate.	General Comment
Doug Knox	Public comment. Transcribed during meeting.	6/11/2013	Modoc Independent Tea Party claims to have studied and is familiar with the Pit River IRWM. He states taking the dams out will run landowners out. He states that scientists tried to run his business in	General Comment

Name	Description	Date of comments	Comment summary	CEQA Issue Area
			Sacramento County on a fish farm out and that now all these people are trying to take the water here. He doesn't trust the people within State agencies getting involved due to an endangered species and wants them to stay out of the area.	
Ross Jones	Public comment. Transcribed during meeting.	6/11/2013	Concerned that this project is a water grab and is fed up with it.	General Comment
Doug Knox	Public comment. Transcribed during meeting.	6/11/2013	States that The Tea Party is fed up with the Project and they have a radio program every Saturday at noon on KCFJ 570 AM for 30 minutes to discuss the people they are upset with.	General Comment; Biological Resources
			States that anyone who would shut water off to ranch and farm land in the San Joaquin Valley for the delta smelt is not an environmentalist, but a domestic terrorist, and the Tea Party is going to fight them.	
			States that there are more endangered species in the Pit River than just the Shasta crayfish. He mentions the crayfish, the sculpin, the sucker, and the western pond turtle, and states that farmers are going to have to fence off the whole Pit River to keep their cattle out of it. Also states that now the California Department of Fish and Wildlife wants to put the salmon in above Shasta.	
			Believes it is a sin to put a crayfish over a human and take his friends' lands. Also states that every farmer and rancher is the creator and they take care of the land, and now these people are going to be run off the land.	
Harold Chandler	Public comment. Transcribed during meeting.	6/11/2013	States that just a few people are here representing hundreds of people and that their radio show reaches thousands. Also states that they are just an offshoot from the main Tea Party in Redding.	General Comment

Pit 1 Hydroelectric Project  
401 Certification Modification EIR

APPENDIX

A

NEWSPAPER NOTICES



Appendix A  
Newspaper Notices

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## Record Searchlight Notice



In the Superior Court of the State of California  
in and for the County of Shasta

CERTIFICATE OF PUBLICATION  
RECORD SEARCHLIGHT

CARDNO ENTRIX  
201 N CALLE CESAR CHAVEZ 2  
SANTA BARBARA CA 93103

REFERENCE: 287685 SHRUTI  
6782104 NOTICE IS HEREBY GIV

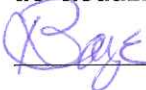
State of California  
County of Shasta

I hereby certify that the Record Searchlight is a newspaper of general circulation within the provisions of the Government Code of the State of California, printed and published in the City of Redding, County of Shasta, State of California; that I am the principal clerk of the printer of said newspaper; that the notice of which the annexed clipping is a true printed copy was published in said newspaper on the following dates, to wit;

PUBLISHED ON: 05/24 06/09

FILED ON: 05/24/13

I certify under penalty of perjury that the foregoing is true and correct,  
at Redding, California on the above date.



RECORD SEARCHLIGHT  
1101 Twin View Blvd, Redding, CA 96003

NOTICE IS HEREBY GIVEN THAT the State Water Resources Control Board (State Water Board) has issued a Notice of Preparation (NOP) for an Environmental Impact Report related to the Pit 1 Hydroelectric Project addressing the proposed amendment to the existing 401 water quality certification to eliminate or modify the requirement for summer flushing flows, which may be detrimental to endangered Shasta crayfish (Proposed Project). The Proposed Project is owned by Pacific Gas and Electric Company and licensed under Federal Energy Regulatory Commission. State Water Board staff will hold scoping meetings at the time and location below to receive oral comments from trustee agencies and interested persons.

Tuesday June 11, 2013 from 9:00am to 11:00am  
Central Valley Regional Water Quality Control Board  
364 Knollcrest Drive, Suite 205  
Redding, CA 96002

and

Tuesday June 11, 2013 from 6:00pm to 8:00pm  
Intermountain Fair  
44218 A Street  
McArthur, CA 96056

The NOP may be viewed at:  
[http://www.swrcb.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/docs/pit1\\_ferc2687/pit1\\_nop.pdf](http://www.swrcb.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/pit1_ferc2687/pit1_nop.pdf) or  
by contacting the staff below. General questions about this notice should be directed to Mr. Peter Barnes at (916) 341-5319 or [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov).

May 24, & June 9, 2013

6782104

In the Superior Court of the State of California  
in and for the County of Shasta

CERTIFICATE OF PUBLICATION  
RECORD SEARCHLIGHT

CARDNO ENTRIX  
201 N CALLE CESAR CHAVEZ 2  
SANTA BARBARA CA 93103

REFERENCE: 287685            SHRUTI  
                  6782104        NOTICE IS HEREBY GIV

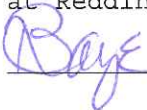
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by contacting the staff below. General questions about this notice should be directed to Mr. Peter Barnes at (916) 341-5319 or [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov).

May 24, & June 9, 2013

6782104



Appendix A  
Newspaper Notices

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## Mountain Echo Newspaper Notice



## CLASSIFIED/LEGAL NOTICES

### FICTITIOUS BUSINESS NAME STATEMENT FILED/ENDORSED April 3, 2013

FILE NO. 2013-0000411

The following persons are doing business as: CLEARWATER LODGE/CLEARWATER LODGE PIT RIVER, 24500 PIT ONE POWER HOUSE ROAD, FALL RIVER MILLS, CA 96028 County of SHASTA. 1. Clearwater Lodge Pit river, LLC, P.O. Box 920, Fall River Mills, CA 96028. State: CA. This business is being conducted by a Limited Liability Company. Registrant has begun to transact business under the name above: 4/1/2013. Statement expires on 4/3/2018. S/Clearwater Lodge LLC/Michelle Titus. This statement was filed in the office of Cathy Darling Allen, County Clerk of SHASTA County, April 3, 2013 by T. JENNINGS. NOTICE-This fictitious business name statement expires five years from the date it was filed in the office of the County Clerk. A new fictitious business name must be filed prior to that date. The filing of this statement does not itself authorize the use in this state of a fictitious business name in violation of the rights of another under Federal, State or Common Law (See Section 14400 Et. seq. Business and Professional Code.)

May 14, 21, 28, June 4, 2013

### FICTITIOUS BUSINESS NAME STATEMENT FILED/ENDORSED May 10, 2013

FILE NO. 2013-0000560

The following persons are doing business as: MOUNTAIN ECHO, 43152 SUITE A HWY 299E, FALL RIVER MILLS, CA 96028 County of SHASTA. 1. Caldwell, Donna E. 21693 Oregon St., Burney, CA 96013. 2. Caldwell, Walter, E. 21963 Oregon St., Burney, CA 96013. State: CA. This business is being conducted by a Married Couple. Registrant has begun to transact business under the name above: 10/3/1977. Statement expires on 5/10/2018. S/Donna E. Caldwell. This statement was filed in the office of Cathy Darling Allen, County Clerk of SHASTA County, May 10, 2013 by J. FRANCESOUT. NOTICE-This fictitious business name statement expires five years from the date it was filed in the office of the County Clerk. A new fictitious business name must be filed prior to that date. The filing of this statement does not itself authorize the use in this state of a fictitious business name in violation of the rights of another under Federal, State or Common Law (See Section 14400 Et. seq. Business and Professional Code.)

May 14, 21, 28, June 4, 2013

### INVITATION TO BID

The Pit River Tribal Housing Board will receive sealed bids from qualified American Indian and Non-Indian Licensed Contractors for the Construction of Community Water System Improvements, XL Ranch Housing Project, Pit River Indian Reservation, Modoc County, California, as part of ICDBG #B-11-SR-06-2788, until 2:00 pm local time on the 19th day of June, 2013 at the Pit River Tribal Housing Board Office, 37134 Main Street, Burney, CA.

Indian preference in the award of this contract and subcontracts will be as required by the policies of the Pit River Tribe and the Native American Housing Assistance and Self-Determination Act of 1996.

Bid Proposers may obtain copies of the documents from Charles C. Young III, Architect, 54 Hilltop Lane, Gravois Mills, MO 65037, Phone (573) 374-1762.

Allen Lowry  
Housing Coordinator  
Pit River Tribal Housing Board  
37118 Main Street  
Burney, CA 96013  
(530) 335-4809  
May 21, 28, June 4, 2013

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May 28, June 4, 2013

### NOTICE OF PUBLIC HEARING SHASTA COUNTY BOARD OF SUPERVISORS

**NOTICE IS HEREBY GIVEN** that the Board of Supervisors of the County of Shasta, State of California, will consider the following:

Annual rate adjustments for Burney Disposal, Inc. and USA Waste of California, Inc.

PLEASE NOTE that if you challenge the nature of the proposed action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the appropriate authority at or prior to the public hearing.

**Run your  
Fictitious**

NOTICE IS FURTHER GIVEN that the hearing will be held at the  
County Administration Center, Board of Supervisors

Appendix A  
Newspaper Notices

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Intermountain News Notice





**In and For the  
County of Shasta  
CERTIFICATE OF PUBLICATION**

PUBLIC NOTICE  
CENTRAL VALLEY REGIONAL WATER  
QUALITY CONTROL BOARD  
NOTICE OF PREPARATION  
Environmental impact  
Pit 1 Hydroelectric Project

I hereby certify that the Intermountain News is a newspaper of general circulation with the Provisions of the Government Code of the State of California printed and published in The town of Burney, County of Shasta, State of California; that I am the principle Clerk of the printer of said newspaper, that The notice of which the annexed clipping is a true printed copy was published in said Newspaper on the following dates, to wit:

Published:

MAY 29, JUNE 5

I certify under the penalty of perjury that the Foregoing is true and correct, at Burney, California, on the day of:

JUNE 5, 2013

Signature



Katie Harrington

**The Intermountain News**

P.O. Box 1030,  
37318 Huron Ave., Burney, CA 96013  
Phone 530-725-0925; Fax 530-303-1528

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(Pub. 5-29, 6-5)





APPENDIX

# B

SCOPING MEETING PRESENTATION



# Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment Public Scoping Meetings

June 11, 2013

Redding & McArthur, California  
State Water Resources Control Board  
Division of Water Rights



# Meeting Set-Up

- Sign-in sheet and speaker cards
  - Fill out a speaker card if you wish to comment
- Comments may be limited to a set amount of time depending upon number of people wishing to speak
- Meeting is not intended to discuss comments
  - Staff will answer general questions
  - No decisions will be made today
- Please respect all speakers
  - All points of view are valid



# Presentation Outline

- Background
  - State Water Board's Mission
  - Pit 1 Water Quality Certification (WQC)
  - PG&E's Request for WQC Amendment
  - CEQA and State Water Board's Role
- CEQA Process
- Public Input
- Next Steps





# State Water Board Mission Statement

*To preserve, enhance, and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations*

More information can be found at:  
<http://www.waterboards.ca.gov>



# State Water Board

- Joint authority over water rights and water quality in order to provide protection of California's waters
- Protect, enforce, and balance many beneficial uses of water including, but not limited to:
  - Irrigation
  - Power
  - Recreation
  - Municipal
  - Fish and Wildlife Preservation or Enhancement
- Prevent waste and unreasonable use of water



# Background: Pit 1 WQC

- WQC Issued: December 4, 2001
- Federal Energy Regulatory Commission (FERC)  
License Issued to PG&E: March 19, 2003





## Pit 1 WQC: Condition 13

- Requires PG&E to release flushing flows through Fall River Pond for two consecutive days (Saturday and Sunday), three times per year
  - Once in May or June, July and August
- Flushing flows to control aquatic vegetation and mosquito production in Fall River Pond



## Pit 1 WQC: Condition 14

- Requires monitoring of effectiveness of flushing flows in controlling aquatic vegetation and mosquito production at Fall River Pond
- Initial monitoring required for five years after the issuance of a new license
- After 5-year monitoring report, State Water Board may modify or terminate flushing flow monitoring program



# Request for WQC Amendment

- On May 21, 2009, State Water Board received a letter from United States Fish and Wildlife Service (USFWS) requesting suspension of flushing flows due to concerns that flows were contributing to decline of Shasta crayfish
  - Shasta crayfish listed as endangered under both California and Federal Endangered Species Acts in 1988





# Request for Amendment to WQC

- On June 14, 2009, PG&E submitted request to State Water Board to amend Pit 1 WQC to remove Conditions 13 and 14
  - Request based on monitoring results, which indicate higher base flow of 150 cubic feet per second may be more effective in controlling aquatic vegetation and mosquito production than flushing flows



# CEQA and State Water Board's Role

- As part of this WQC amendment, State Water Board must comply with CEQA (California Environmental Quality Act)
- Although flushing flows provided an incidental whitewater recreational opportunity, State Water Board temporarily suspended flushing flows out of an abundance of caution for endangered species protection while CEQA process is completed



# CEQA

- Amendment of WQC to eliminate or modify flushing flows is a discretionary action
- Since PG&E is not a public agency, the State Water Board is the CEQA lead agency
  - Determines type of document
  - Must represent State Water Board's independent judgment





# CEQA Objectives\*

- Disclose significant environmental effects of proposed activities
- Identify ways to avoid or reduce environmental damage
- Prevent environmental damage by requiring implementation of feasible alternatives or mitigation
- Disclose reasons for agency approval of projects with significant environmental effects
- Foster interagency coordination in review of projects
- Enhance public participation in planning process

\*From the CEQA Deskbook, 3<sup>rd</sup> Ed., Bass, Bogdan, Rivasplata



# CEQA Process

- State Water Board decided to prepare an environmental impact report (EIR)
- EIR is designed to identify significant impacts, and mitigation measures to reduce significant impacts
- Alternatives will be evaluated with regards to how they meet project objectives and overall feasibility
- Final feasibility of alternatives will be determined when State Water Board adopts the findings, based on final EIR





# Development of CEQA Documents

- State Water Board entered a three party Memorandum of Understanding with PG&E and Cardno ENTRIX
  - Cardno ENTRIX develops environmental documents under the sole direction of State Water Board
  - Cardno ENTRIX is compensated for its work by PG&E



# Public Input

- Comments regarding Notice of Preparation due by NOON (12:00pm) on June 24, 2013
- Draft EIR will also be released for public review and comment

# Additional Information

For additional information please visit the State Water Board's Pit 1 Hydroelectric Project WQC website at:

[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/ceqa\\_projects.shtml#ferc2687](http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/ceqa_projects.shtml#ferc2687)





# Future Updates

- To receive future updates, please sign up to receive emails online at:

[http://www.waterboards.ca.gov/resources/email\\_subscriptions/](http://www.waterboards.ca.gov/resources/email_subscriptions/)

- Select “State Water Resources Control Board”
- Enter email address and full name
- Under Categories, select “Water Rights”
- Select Box for “Water Rights Water Quality Certification”
- Click “Subscribe” button at the top



# General Questions???

Following general questions we will proceed with  
public comment period





# Public Comments

- Please state and spell your name for the recorder prior to stating your comment
- 

Pit 1 Hydroelectric Project  
401 Certification Modification EIR

APPENDIX

C

WRITTEN RESPONSES TO THE NOP





## Appendix C Written Responses to the NOP

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# Public Agency Responses





June 18, 2013

Mr. Peter Barnes  
State Water Resources Control Board  
Division of Water Rights  
PO Box 2000  
Sacramento, CA 95812-2000

**Subject: Comments on Notice of Preparation of an Environmental Impact Report for the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment**

Dear Mr. Barnes:

The California Department of Fish and Wildlife (Department) received the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Pit 1 Hydroelectric Project (Project) on May 17, 2013.

The Department respectfully submits the following comments:

The Department believes the below issues need to be addressed in the EIR in order for the State Water Resources Control Board to amend the existing 401 Water Quality Certification. The amendment proposes to permanently eliminate or modify the requirement for flushing flows that may be detrimental to the State and Federally-listed endangered Shasta crayfish (*Pacifastacus fortis*):

1. A new survey for Shasta crayfish and non-native crayfish in the Project Area is needed in order for the EIR to evaluate the potential effects. It is our understanding that the last survey was conducted in 2009, in the Pit 1 bypass reach, and few Shasta crayfish were found.

According to California Environmental Quality Act Guidelines section 15125(a), ENVIRONMENTAL SETTING: “An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published...” It further states: “This environmental setting will normally constitute the **baseline** (emphasis added) physical conditions by which a lead agency determines whether an impact is significant.”

The Department believes the 2009 survey results are outdated and new surveys are needed in order for the EIR to accurately define the current baseline conditions.



Appendix C  
Written Responses to the NOP

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Non-Profit Organization Responses





[www.americanwhitewater.org](http://www.americanwhitewater.org)

Dave Steindorf  
California Stewardship Director  
4 Baroni Drive  
Chico, CA 95928  
530-343-1871  
[dave@americanwhitewater.org](mailto:dave@americanwhitewater.org)

June 24, 2013

State Water Resources Control Board  
Division of Water Rights  
Attention: Peter Barnes  
P.O. Box 2000  
Sacramento, CA 95812-2000

Sent via electronic mail to: [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov)

Dear Mr. Barnes,

American Whitewater appreciates having the opportunity to provide comment in response to the State Water Resources Control Board's Notice of Preparation ("NOP") of an Environmental Impact Report for the proposed amendment to the Pit 1 Hydroelectric Project's (FERC #2687) 401 Water Quality Certification ("401 Certification").

American Whitewater is a 501(c)(3) non-profit organization whose mission is to conserve and protect America's whitewater resources and enhance opportunities to enjoy them safely. Founded in 1954, American Whitewater represents the conservation interests of tens of thousands of whitewater paddlers across the country. As avid whitewater recreationists, we place a high value on protecting naturally functioning river ecosystems and restoring their values. We have a strong membership base in Northern California, and our members recreate on the Pit River Bypass Reach when flows are high enough to enjoy the river by raft, kayak or canoe. We intervened in the FERC relicensing process for the Pit 1 Hydroelectric Project in 1995, and were a key stakeholder in the relicensing negotiations for the FERC license issued in 2003. We have also been involved in the process since we were made aware of the proposal to cancel the summer flushing/whitewater boating flows in 2009, and we have a strong interest in the outcome of these proceedings.

## **I. Introduction.**

Through the CEQA process, American Whitewater seeks to ensure that the daily operation of the Pit 1 Hydroelectric Project both protects endangered species and meets water quality goals and objectives outlined in the Basin Plan, including COLD water habitat, RARE preservation of rare and endangered species and REC-1 contact recreation opportunities. For reasons we outline below, and testified to at the public hearing in Redding on June 8<sup>th</sup>, 2013, American Whitewater does not believe that the CEQA Project as currently defined in the Notice of Preparation will accomplish these goals. We believe that the Water Board has a duty under CEQA and the Basin Plan to examine numerous reasonable alternatives that will protect the endangered Shasta crayfish in the Pit 1 Bypass Reach and address the ongoing temperature impacts of the Pit 1 Project. As

discussed below, these include developing barriers to keep invasive crayfish out of Shasta crayfish habitat, examining temperature control devices or ways to mitigate the temperature impacts of the project, and assessing a variety of minimum instream flow release scenarios, both with and without temperature mitigation in place.

Further, there are fundamental pieces of scientific information that need to be assessed before the Water Board can make an informed decision about the impacts of the Pit 1 Project on the Shasta crayfish. These issues include population surveys, temperature tolerances of the species, and an assessment of how cancelling the flushing flows will benefit Shasta crayfish when similar, and often more extreme population declines are seen in other populations outside of the influence of the flushing flows.

Finally, the summer flushing/whitewater flows provided a whitewater recreation opportunity between 2003 and 2009. This opportunity was in addition to the whitewater recreation flows required by the license in the fall. In the event that the Water Board determines, using the best available science, that cancelling the flushing flows will benefit the Shasta crayfish, CEQA requires the Water Board to consider full mitigation of the loss.

## **II. The State Water Board Should Ensure Power Operations Are Not Contributing to the Degradation of Shasta Crayfish.**

New information about water quality and the Shasta crayfish has been presented since the 401 Certification was issued for the Pit 1 Project in 2001 that suggests that the entire project as a whole is likely causing significant adverse environmental impacts. We believe that these issues should be analyzed by the Water Board during the reopening proceeding.

The 401 Certification for the Pit 1 Hydroelectric Project includes conditions preserving the Board's authority to reopen and amend the 401 Certification as necessary to assure the Project's continuing compliance with water quality standards, including new or modified designated uses. It appears to be undisputed that Shasta crayfish in the project area are in decline. We believe that this is prima facie evidence that the Pit 1 Project is not complying with the designated uses of cold freshwater habitat (COLD)<sup>1</sup> and preservation of rare and endangered species (RARE).<sup>2</sup> Accordingly, the Board has an

---

<sup>1</sup> Cold Freshwater Habitat is defined as "[u]ses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates." Basin Plan, p. II-2.00

<sup>2</sup> RARE is defined as "[u]ses of water that support aquatic habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered." *Id.* Based on our review the Basin Plan, it appears that the State Water

<sup>2</sup> RARE is defined as "[u]ses of water that support aquatic habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered." *Id.* Based on our review the Basin Plan, it appears that the State Water Board has not identified surface waters that support the designated use of RARE:



affirmative duty to reopen and amend the 401 Certification to assure that the Project is properly conditioned to protect these uses from further degradation and to contribute to the restoration of the physical, biological, and chemical integrity of project waters. In carrying out its duty, the Board should not limit itself to consideration of PG&E's proposal to eliminate flushing flows, but should consider changes to any controllable factors that may be necessary to protect the endangered Shasta crayfish and bring the Pit 1 Project into compliance with the Basin Plan. As discussed below, the available information indicates that eliminating flushing flows alone will not assure that the CEQA Project as currently defined protects Shasta crayfish.

**A. Daily Operations of the Pit 1 Hydroelectric Project Increase Water Temperatures.**

The primary sources of water for the Pit 1 Hydroelectric project are the spring waters that emanate near the town of McArthur. These springs, which come together into the Fall River, include Big Lake, Tule River, Ja-She Creek, and Lava Creek, forming one of the largest fresh water spring systems in the country.<sup>3</sup> These crystal clear springs provide high quality cold water habitat and are home to the largest remaining Shasta Crayfish populations in existence. These springs also support abundant populations of trout and other cold water species. The Fall River winds its way through the Fall River Valley until it is impounded by the Pit 1 Forebay, where approximately 90% of the flow is diverted and the remaining water is subject to thermal loading before being released into the Lower Fall and Pit Rivers.

The Pit River is a different story. It is listed as temperature impaired on the state's 303(d) list from the confluence of the North and South Forks to Shasta Lake.<sup>4</sup> Water quality monitoring data in reports by PG&E outline that the Pit 1 Project increases water temperatures throughout the summer during daily operations, playing a role in contributing to the water quality impairment. Between 1990 and 1992, for the period between June through September, the temperature of the Fall River below the Pit 1 Forebay and Fall River Pond was, on average, 2.9 °C (5.22 °F) warmer than the Fall River above project impoundments (with a maximum daily average of 4.8 °C (8.64 °F)), and between 2004 and 2008, the Fall River below project impoundments was 2.2 °C

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Surface waters with the beneficial uses of Groundwater Recharge (GWR), Freshwater Replenishment (FRSH), and Preservation of Rare and Endangered Species (RARE) have not been identified in this plan. Surface waters of the Sacramento and San Joaquin River Basins falling within these beneficial use categories will be identified in the future as part of the continuous planning process to be conducted by the State Water Resources Control Board.

Basin Plan, p. II-5.00, note. However, this is a de facto use of project waters, as Shasta crayfish are present. CWA section 401(d) allows the Board to impose "other limitations" on the project in general to assure compliance with various provisions of the Clean Water Act and with "any other appropriate requirement of State law." *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology*, 511 U.S. 700, 711-12 (1994).

<sup>3</sup> [http://www.parks.ca.gov/?page\\_id=464](http://www.parks.ca.gov/?page_id=464), last visited June 20, 2013.

<sup>4</sup> Information obtained from 2010 Integrated Report–303(d) List, available at: [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml), last visited June 20, 2013.

warmer (3.96 °F) than above project impoundments (with a maximum daily average of 4.1 °C (7.38 °F)). PG&E 2009 Water Quality Monitoring 5-Year Summary Report, FERC eLibrary no. 20090701-5302, p. 35. PG&E's 2012 water quality report shows that the Pit 1 Project continues to increase water temperatures in the Fall River, with the maximum daily change in temperature being 3.0 °C warmer (5.4 °F). PG&E Pit 1 Water Quality Monitoring Results 2012 Annual Report, FERC eLibrary no. 20130531-5135, p. 16.

Based on our review, these temperature increases appear to violate the water quality objectives for temperature outlined in the Basin Plan, which state that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5 °F above natural receiving water temperature.”<sup>5</sup> Further, the Project appears to be out of compliance with water quality standards outlined in the Central Valley Region’s Basin Plan, harming COLD water habitat and RARE beneficial uses.<sup>6</sup>

The Water Board is required to examine the factors that are controllable by and related to the Pit 1 Hydroelectric Project that are impacting water quality standards. These “controllable factors” are defined as “those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State.”<sup>7</sup> The Pit River is listed as temperature impaired on the 303(d) list due to agricultural runoff. However, “controllable factors are not allowed to cause further degradation of water quality in instances where uncontrollable factors have already resulted in water quality objectives being exceeded. The Regional Water Board recognizes that man made changes that alter flow regimes can affect water quality and impact beneficial uses.”<sup>8</sup>

It would be most efficient for the Water Board to consider the impacts of the daily operations of the Pit 1 Project on the Shasta crayfish in the current proceedings. In the event that the Water Board does not examine the impact of the operations of the Pit 1 Project beyond the flushing flows on beneficial uses, water quality criteria, and potential ongoing take of a state and federally listed endangered species, American Whitewater reserves its right to file a Petition for Reconsideration to address these matters.

**B. The Record Does Not Include Adequate Information to show that the Elimination of Flushing Flows Will Protect Shasta Crayfish.**

The NOP outlines the CEQA Project Objective as to: “Amend the existing 401 Certification to permanently eliminate or modify the requirement for flushing flows that

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<sup>5</sup> Basin Plan, Water Quality Objective III-8.00 (August 13, 2009).

<sup>6</sup> In their 2012 Annual Water Quality Report, PG&E cites to the Basin Plan which states that “the natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Quality Control Board that such alteration in water temperature does not adversely affect beneficial uses.” Basin Plan, p. III-8.00. However, to our knowledge the RWQCB has not found that the alteration in water temperature is not adversely affecting beneficial uses.

<sup>7</sup> Basin Plan, pp. III-1.00 to III-2.00—The 2<sup>nd</sup> important point that applies to water quality objectives (September 1, 1998).

<sup>8</sup> *Id.* (Emphasis added).

may be detrimental to endangered Shasta crayfish.” NOP, p. 3. As indicated on the face of this statement, the record does not contain adequate evidence to show that flushing flows are detrimental to Shasta crayfish, or that elimination of flushing flows will contribute to their recovery.

An EIR must be supported by substantial evidence in the record. *See, e.g., Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 C4th 412, 435; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 C3d 553, 566, 575. The substantial evidence standard applies to “conclusions, findings and determinations” and also to disputes regarding the scope of an EIR’s analysis of a given topic, the methodology used for studying an impact, and the reliability or accuracy of the data upon which the EIR relied. *City of Long Beach v. Los Angeles Unified Sch. Dist.* (2009) 176 Cal.App.4th 889, 898.

### **1. Population Trends Indicate That a Cause Other Than Flushing Flows Is Leading to Shasta Crayfish Decline.**

A decline in the number of Shasta crayfish found at a 600-meter reach just above Pit River Falls triggered concerns about Shasta crayfish populations in the Pit 1 Bypass Reach. There, 21 Shasta crayfish were found in October 2005, while one was found in September 2008. During this same time period in the same reach, the number of signal crayfish almost tripled and the number of fantail almost doubled. 2010 Shasta Crayfish Annual Report, FERC eLibrary no. 20110525-5070, pp. 11-13.

PG&E cites that this decline has occurred since the new flow regime was implemented with the new license in 2004, which included an increase in minimum instream flows and the summer flushing/whitewater flows. Evaluation of Thermal Effects from Summer Flushing/Whitewater Flows, FERC eLibrary no. 20100106-5009, p. 13. A decline in Shasta crayfish in the Pit 1 Bypass Reach and nowhere else would support this hypothesis. However, similar and often more extreme declines in Shasta crayfish, and corresponding increases in invasive crayfish populations, have been seen throughout the Pit River Basin in the same timeframe, all in areas *without* flushing flows. 2010 Shasta Crayfish Annual Report, FERC eLibrary no. 20110525-5070, pp. 11-13. In light of this information, there is insufficient basis to conclude that the flushing flows are a unique cause of the decline of Shasta crayfish populations in the Pit 1 Bypass Reach.

The Fish and Wildlife Service concluded in their 1998 Shasta Crayfish Recovery Plan (“Recovery Plan”) that “the non-native signal crayfish (*Pacifastacus leniusculus*), which is both a competitor and predator of the Shasta crayfish, is considered the greatest threat to the continued existence of the Shasta crayfish (USFWS 1998, Ellis 1999).” 2011 Shasta Crayfish Technical Review Committee Annual Report, FERC eLibrary no. 20120530-5174, p. 1. The Recovery Plan states that in order to prevent the extinction of the species, invasive signal crayfish must be removed immediately. 1998, USFWS, p. iv.

The inverse relationship between populations of Shasta crayfish and invasive crayfish outlined above further supports this finding.<sup>9</sup>

Shasta crayfish populations have benefitted where recovery efforts have focused on building barriers to keep invasive crayfish out. PG&E reported:

The two largest Shasta crayfish populations, which are in Thousand Springs and upper Spring Creek in the upper Fall River drainage, have not suffered the dramatic declines observed in other Shasta crayfish populations sympatric with signal crayfish (Spring Rivers 2009, 2011). The Shasta crayfish populations at Thousand Springs and upper Spring Creek have benefited from the crayfish barriers and signal crayfish removal surveys implemented as part of the Crayfish Barrier Plan (PG&E 2006a) developed for License Article 413.

PG&E, Pit 1 Shasta Crayfish Study Report, FERC eLibrary no. 20130131-5321, (Jan. 2013), p. 17.

PG&E's proposal to protect Shasta crayfish by eliminating flushing flows contradicts its own evidence that competition from and predation by nonnative crayfish species are the primary cause of Shasta crayfish decline. The Water Board should weigh PG&E's proposal to eliminate flushing flows accordingly, in light of the paucity of evidence supporting that it would benefit Shasta crayfish. It should consider alternatives to amending the 401 Certification to eliminate flushing flows as necessary to protect Shasta crayfish.

## **2. PG&E's Argument That Flushing Flows' Effect on Temperature Is Contributing to Shasta Crayfish Decline Is Not Supported by the Evidence.**

PG&E states that the flushing flows are harming Shasta crayfish because the species is not adapted to short-term fluctuations in temperature (Biological Evaluation, FERC eLibrary no. 20110316-5009, p. 100), and flushing flows reduce the size of coldwater habitat and eliminate diel temperature fluctuations and cooler nighttime water temperatures (2010 Shasta Crayfish Technical Review Committee Annual Report, FERC eLibrary no. 20110525-5070, p. 25). To date, there have not been any studies conducted which define the temperature tolerances of the Shasta crayfish. In combination with the population trends throughout the Pit River Basin, temperature tolerance data for Shasta and signal crayfish must be more substantial than what PG&E provides in order to amend the 401 Certification. Without specific quantitative information about critical and

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<sup>9</sup> Numerous other studies support this finding: "Competition from exotic crayfish species remains a significant threat." Shasta Crayfish 5-Year Review, p. 10, USFWS, 2009; "Shasta crayfish have declined in both abundance and range since the previous comprehensive study (Daniels 1980). According to Light and Clarke (1991) and Erman et. Al. (1992), the rapid range-expansion of *P. Leniusculus* [signal crayfish] seems to be the most immediate threat to the persistence of Shasta crayfish populations." Mojica, C.L., Mire, J.B., Erman, D.C., "The effect of *Pacifastacus leniusculus* on the behavior of the endangered Shasta crayfish (*Pacifastacus fortis*) in an experimental setting," University of California, Berkeley (1993) (prepared for the California Department of Fish and Game), p. 2.

maximum temperature thresholds of Shasta and signal crayfish, temperature surveys and modeling information about the flushing flows, or discussion of other factors that might affect crayfish temperature tolerance, PG&E's citations in their Final Shasta crayfish study report released in January 2013 do not provide the substantial evidence needed.<sup>10</sup>

**C. The EIR Must Consider Significant Environmental Impacts.**

The EIR must analyze the significant environmental effects of the proposed action on any of the listed environmental factors. Pub. Res. Code § 21100(b)(1); 14 CCR §§ 15126(a), 15126.2(a), 15143. American Whitewater is particularly concerned that the proposed action, as defined in the NOP, will have significant environmental impacts on whitewater recreation.

The 2003 license called for *both* 6 days of summer flushing flows (401 Condition #13) and whitewater recreation flows between September 15<sup>th</sup> and October 30<sup>th</sup> (Article 424, which lead to 4 days of whitewater flows ordered by FERC in 2011. See FERC Order Approving Final Whitewater Boating Flow Schedule, eLibrary no. 20110614-3011). If not for the Pit 1 Hydroelectric Project, the Pit River could provide year-round whitewater recreation opportunities. The balance that was struck during relicensing restored a total of 10 days of whitewater recreation flows to the Pit River each year.

It is clear that the flushing flows were intended to provide a whitewater recreation opportunity in addition to controlling aquatic vegetation growth and mosquito production.<sup>11</sup> Between 2003 and 2009, the summer flushing flows provided an opportunity for six days of whitewater recreation on the Pit 1 Bypass Reach. The public enjoyed this intended purpose of the flushing flows for the whitewater recreation opportunity, and PG&E documented it during each flushing flow by recording the number of boaters on the reach.

In the event that the Water Board determines that the best available science supports a determination that cancelling the flushing flows will benefit the endangered Shasta crayfish, REC-1 beneficial uses of the Pit River, which include contact recreation and rafting and canoeing, will be significantly impacted. CEQA requires that the Water Board develop and analyze mitigation measures to replace the lost recreation opportunities. Pub. Res. Code § 21002.

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<sup>10</sup> It is useful to look to other examples for the kind of quantitative information that is necessary to achieve scientific validity. For example, salmonids have been extensively studied, and an example of temperature tolerance data for salmon can be found at: <http://www.krisweb.com/stream/temperature.htm>. The referenced information speaks of lethality thresholds in terms of the upper incipient lethal temperature ("UILT"), and the critical thermal maxima ("CTM").

<sup>11</sup> Personal communications with Jim Canaday, former Water Board staff present at the relicensing negotiations and development of the 401, June 6, 2013. While the language was left out of the 401 at PG&E's request, all parties agreed to this fact. Canaday states that "there was an intended co-purpose, and even if the flushing flows were not necessary to control the vegetation and mosquitoes it was still incumbent on the project to provide the summer flushing flows for on-water recreation in the Pit 1 diverted reach.

**D. The EIR Should Consider a Reasonable Range of Alternatives to the Proposed Action.**

Under CEQA, the Board must develop and analyze a reasonable range of mitigation measures and alternatives. Pub. Res. Code § 21002. The Board has an obligation to develop and consider alternatives to PG&E's proposed action that include other changes to the controllable factors of the Pit 1 Project's operations and facilities. In addition to examining whether cancelling or modifying the flushing flows will benefit Shasta crayfish, the Water Board should analyze whether the following changes will improve Shasta crayfish habitat and protect beneficial uses.

- 1. Install barriers that will exclude invasive crayfish from the Shasta crayfish's preferred habitat in the Pit 1 Bypass Reach.**
- 2. Consider ways to eliminate thermal loading in the Fall River from the Pit 1 Project.** This could include a temperature control device; a pipe, tunnel or ditch to bring cold Fall River water directly into the Pit River; moving the inlet for the diversion to a point lower in the Forebay; or other solutions that would accomplish this goal of bringing colder spring water from the Fall River into the Pit. These solutions should also be considered in combination with a variety of increased flow levels, as outlined below.
- 3. Assess whether increasing minimum instream flows will protect beneficial uses.** 401 Certification Condition 17 states that reasonable protection of beneficial uses shall be measured by and limited to factors controllable by and related to the Pit 1 Hydroelectric Project operations. If initial streamflow releases are not found to be reasonably protective of the beneficial uses of the Fall and Pit Rivers, the Water Board has reserved the authority to make additional flow releases, up to 400 cfs between June 1 and October 31. As outlined above, the Pit 1 Project is contributing to the impairment of an already impaired water body, and fails to reasonably protect the beneficial uses of the Pit River due to controllable factors.

To date, there has not yet been a scientifically sound investigation into whether increasing minimum instream flows will help protect beneficial uses and mitigate the impacts of Pit 1 Project operations on the Fall and Pit Rivers. At the 5-Year Water Quality Review in 2009 required by Condition 17, PG&E recommended that additional flow releases not be required. The Water Board later agreed. 2012 Water Quality report, p. 3.

PG&E's recommendation was based on SNTTEMP modeling completed with data obtained from 1990-1992 and 2004-2008, including a flushing flow event between August 12<sup>th</sup> and August 18<sup>th</sup>, 2008. PG&E 5-Year Water Quality monitoring Report, 2009, p. 100. In their Draft Shasta Crayfish Study Report, PG&E cited this information as evidence for why increased minimum instream flows would not provide a benefit. The California Department of Fish and Wildlife provided comment on the Draft Report on December 21<sup>st</sup>, 2012, and the agency cited concerns with the SNTTEMP model and recommended an updated or a new model. PG&E removed the SNTTEMP model and


related results from their Final Shasta Crayfish Study and has not conducted additional monitoring or modeling of increased instream flows to support their recommendation. We urge the Water Board to revisit the adaptive flow release recommendation and seek an updated and comprehensive model of a variety of minimum instream flow release scenarios, including those that bring cooler Fall River water directly into the Pit River, as discussed above.

### **III. Conclusion**

In order to protect the Shasta crayfish and the beneficial uses of the Pit River, the Water Board must look beyond the question of flushing flows and examine the controllable factors of the Pit 1 Hydroelectric Project. We encourage the Water Board to consider the alternatives outlined above, and to seek ways to protect the Shasta crayfish based on substantial evidence.

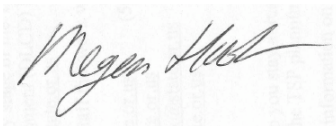
American Whitewater greatly appreciates your consideration of our comments and concerns on the proposed amendment to the 401 Certification for the Pit 1 Hydroelectric License. We look forward to continuing to be involved as the CEQA process moves forward.

Sincerely,



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Dave Steindorf  
California Stewardship Director



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Megan Hooker  
Associate Stewardship Director



2. The Department also believes the entire Project's flow regime (January 1 thru December 31) should be evaluated and compared to baseline conditions in order to avoid or minimize potential effects to Shasta crayfish and other fish and wildlife resources within the Project area. The NOP identifies only the flushing flows (May or June, July, and August) being evaluated in the EIR.
3. The NOP identifies that Pacific Gas and Electric (PG&E) would minimize or avoid unplanned outages and out-of-season pulse flows in the Pit 1 bypass reach by implementing new operational procedures that will lower the Pit 1 forebay by 0.5 feet. The Department agrees this will provide some flexibility to PG&E, but it does not eliminate unforeseen operational outages or natural events that will result in pulse flows in the Pit 1 bypass reach. The EIR needs to evaluate unplanned outages and out-of-season pulse flows for the entire flow regime and compare these to baseline conditions in order to avoid or minimize potential effects to Shasta crayfish within the Project area.
4. Other interested parties have expressed a need for a single table to summarize all the historic Pit 1 Project surveys and results, which have been conducted for Shasta crayfish and non-native crayfish. The Department supports the need for this table and it should be included in the EIR.

If you have any questions regarding these comments, please contact Mr. Matt Myers, Staff Environmental Scientist, at (530) 225-3846 or email [matt.myers@wildlife.ca.gov](mailto:matt.myers@wildlife.ca.gov). Thank you for the opportunity to comment on the subject document. The Department looks forward to working with the State Water Board and all other interested parties.

Sincerely,



Mr. Neil Manji, Regional Manager  
Region 1 - Northern

ec: Mr. Peter Barnes  
State Water Resources Control Board, Division of Water Rights  
[pbarnes@waterboards.ca.gov](mailto:pbarnes@waterboards.ca.gov)

Messrs. Neil Manji, Curt Babcock, Curtis Milliron, Michael Harris, Matt Myers, Steven Baumgartner and Mss. Donna Cobb and Annie Manji  
California Department of Fish and Wildlife  
[neil.manji@wildlife.ca.gov](mailto:neil.manji@wildlife.ca.gov), [curt.babcock@wildlife.ca.gov](mailto:curt.babcock@wildlife.ca.gov),  
[curtis.milliron@wildlife.ca.gov](mailto:curtis.milliron@wildlife.ca.gov), [michael.r.harris@wildlife.ca.gov](mailto:michael.r.harris@wildlife.ca.gov),  
[matt.myers@wildlife.ca.gov](mailto:matt.myers@wildlife.ca.gov), [steven.baumgartner@wildlife.ca.gov](mailto:steven.baumgartner@wildlife.ca.gov),  
[donna.cobb@wildlife.ca.gov](mailto:donna.cobb@wildlife.ca.gov), [annie.manji@wildlife.ca.gov](mailto:annie.manji@wildlife.ca.gov)



Appendix C  
Written Responses to the NOP

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Landowner/Local Resident Responses



## Barnes, Peter@Waterboards

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**From:** [REDACTED]  
**Sent:** Friday, May 24, 2013 4:22 PM  
**To:** Barnes, Peter@Waterboards; [REDACTED]  
**Subject:** Pit 1 flushing/whitewater flows

Hello Mr. Barnes,

It is my understanding that you are taking public comment on recreational flow releases for the Pit River above Pit Powerhouse #1. I would love to add my two cents and ask that it be made as part of public record for any official part of your decision making for the Pit and releases.

I have been paddling for over 42 years now and have always enjoyed paddling the Pit River. I have boated much of the drainage from as far east as the West Valley Lake and the river below that. Other runs I have done were from Highway 395 to 299. And from 299 to near Canby to Lookout Road. My regular runs are Fall River Mills to Pit 1 and below Pit 1 to Lake Britton. When you folks offered the opportunity to do Britton to Pit 3, Pit 3 to Pit 4 and Pit 4 to Pit 5 I also went and enjoyed those as well. Looking back it is an incredible shame that so much really enjoyable whitewater is behind dams and not available to the public for recreation in the Pit drainage. It seems to be that this issue should be larger than just Fall River Mills to Pit 1. You control one hell of a lot of water and basically only Pit 1 to Highway 299 is all you share with the paddling public.

Do you really think that is how it should be? #@%& the public, we only care about power generation and obscene profits that we make from publicly owned water? You folks need to re think your vision of the world. It should not be all about you and your profits at our expense.

You control one hell of a lot of publicly owned land and river bed, dry river bed, owned by the public. Maybe if you actually cared about crawfish and other river creatures you would allow them to live in an environment that predates your presence in the Pit River canyons.

Last time I looked all the river and creek beds of this state belong to the public. Not you, both of us, that means maybe you should learn to share more with your partners on this planet. That means fish, crawdads, river side environments, paddlers, campers and all the rest of us. Not just your share holders and overcharged power clients.

Thanks for your time. You probably think I am upset at your decision making options. I am. I realize that you are a state official and not a public utility but you also need to see that power companies are using our water and have for years de watered our rivers and creeks for profit and have incredible impunity from responsibility for the damage that they do to rivers and every creature and plant that they affect. They need to share what they call "their water" with the rest of us. PG and E need to start sharing water along the whole river with the public and riverside environment all the way to Lake Shasta. Not just Fall River Mills to Pit 1.

## Barnes, Peter@Waterboards

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**From:** Kyle Allred [REDACTED] >  
**Sent:** Monday, May 27, 2013 8:20 AM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Please keep the summer flows going on the pit river

Hello-

I have gone to the pit river for a summer release several times. It is a wonderful recreation opportunity for boaters. Please keep these going if you can!

Thanks,  
Ke

Sent from my iPhone

Kyle Allred  
[REDACTED]

## Barnes, Peter@Waterboards

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**From:** Barnes, Peter@Waterboards  
**Sent:** Friday, May 10, 2013 2:24 PM  
**To:** Bob Baiocchi  
**Subject:** RE: NOTICES POSTED - PIT 1 HYDROELECTRIC PROJECT (FERC #2687) AND FEATHER RIVER FISH SCREEN PROJECT

Mr. Baiocchi,

Thank you for the comment regarding the proposed Pit 1 Hydroelectric Project Water Quality Certification Amendment (Proposed Project). It has been placed in the record and will be taken into consideration. If you have any future questions or comments, I can be reached at this email address.

The State Water Resources Control Board will be issuing a Notice of Preparation for the Proposed Project shortly. This Notice will contain information regarding a scoping meeting and how to submit additional comments concerning potentially significant impacts of the Proposed Project, potential alternatives, and mitigation measures that should be analyzed. I will electronically send you a copy of this Notice when it is issued.

Peter Barnes

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**From:** Crader, Phillip@Waterboards  
**Sent:** Thursday, May 09, 2013 4:27 PM  
**To:** Bob Baiocchi  
**Cc:** Ragazzi, Erin@Waterboards; Kassel, Jim@Waterboards; Barnes, Peter@Waterboards  
**Subject:** RE: NOTICES POSTED - PIT 1 HYDROELECTRIC PROJECT (FERC #2687) AND FEATHER RIVER FISH SCREEN PROJECT

Dear Mr. Baiocchi,

By copy, I am forwarding your message to Mr. Barnes. I am also copying Erin Ragazzi. Ms. Ragazzi is the Program Manager over the water quality certification program.

Best,  
Phil Crader

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**From:** Bob Baiocchi [REDACTED]  
**Sent:** Thursday, May 09, 2013 4:23 PM  
**To:** Kassel, Jim@Waterboards  
**Subject:** Fw: NOTICES POSTED - PIT 1 HYDROELECTRIC PROJECT (FERC #2687) AND FEATHER RIVER FISH SCREEN PROJECT

May 9, 2013  
Mr. Jim Kassel  
Division of Water Rights

Regarding the amendment to water quality certification for the Pit 1 Project. The Board's notice did not provide the e-mail address of Peter Barnes of the Division. Please forward to Mr. Barnes the following:

Said amendment should include a daily bypass flow requirement from the Fall River Dam in compliance with California Fish and Game Code 5937 to protect fish species and their habitat in Fall River below PG&E's Fall River Dam and also fish species and their habitat in the Pit River below the dam in the Pit River. Taking all of the water from Fall River by PG&E is a direct violation of Article 10 X, Section 2 of the State Constitution because it is the unreasonable diversion of the state's water. The time has arrived to enforce state law to protect all beneficial uses of Fall River and Pit River as shown in the Basin Plan.

Place this letter into the records and forward a written response.

Respectfully Submitted

Bob Baiocchi  
California Fisheries and Water Unlimited

----- Forwarded Message -----

**From:** "lyris@swrcb18.waterboards.ca.gov" <lyris@swrcb18.waterboards.ca.gov>

**To:** Water Rights Water Quality Certification <waterights\_waterquality\_certification@swrcb18.waterboards.ca.gov>

**Sent:** Thursday, May 9, 2013 3:41 PM

**Subject:** NOTICES POSTED - PIT 1 HYDROELECTRIC PROJECT (FERC #2687) AND FEATHER RIVER FISH SCREEN PROJECT

**This is a message from the State Water Resources Control Board.**

The State Water Resources Control Board has posted the following Public Notices on our website:

- 1) Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment (Federal Energy Regulatory Commission Project No. 2687)
- 2) Feather River Fish Screen Work Period Amendment

To view the complete notices, visit our website located at:

[http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/wqcertnotices.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/wqcertnotices.shtml)

If you are receiving this notice in a forwarded message and would like to subscribe to the Water Rights Water Quality Certification notice list, go to:

[http://www.waterboards.ca.gov/resources/email\\_subscriptions/swrcb\\_subscribe.shtml](http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml)

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You are currently subscribed to waterights\_waterquality\_certification as: [bobbaiocchi@yahoo.com](mailto:bobbaiocchi@yahoo.com).

To unsubscribe click here: [leave-474241-](mailto:leave-474241-510562.ee15f074fdfa5bb5a8af396afabbb049@swrcb18.waterboards.ca.gov)

[510562.ee15f074fdfa5bb5a8af396afabbb049@swrcb18.waterboards.ca.gov](mailto:510562.ee15f074fdfa5bb5a8af396afabbb049@swrcb18.waterboards.ca.gov)

## **Barnes, Peter@Waterboards**

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**From:** Daniel Brasuell [REDACTED]  
**Sent:** Friday, June 07, 2013 3:00 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit River Summer Releases

I recently heard that the State Water Resources Control Board is proposing permanent cancellation of summer flows on the Pit River on the Pit 1 section. I am a 20 year avid kayaker and author of [www.awetstate.com](http://www.awetstate.com) which provides kayakers and other river enthusiasts the information they need to access the rivers safely. I have enjoyed the Pit river for the past 6 years as a go to place for enjoyable summer boating.

I have seen many times, similar to the North Fork of the Feather River, the damage that the dewatering of these river channels causes on the habitat of native species and the resulting overgrowth of the riparian zone on these rivers. This is of course not to mention the affect that the artificial reservoirs have on the habitat. Drowning breeding areas of many species and permanently scarring the rocks and canyons around them.

So it is with this background that I am curious what studies have been done to show that summer releases are the cause of the Shasta Crayfish population decline. Has it been ruled out that unnatural water temperatures due to the powerhouses and reservoirs could have caused it? Or that the deviation from natural flow year round could have caused it? What direct knowledge do we have that a pulse of water a few weekends a year is the root cause? Also, if the recreational pulse of water is not allowed, what restrictions will be levied on the owners of the powerhouses and reservoirs? Will they be punished if they decide for whatever reason (turbine goes down, peak power generation, dam maintenance, whatever) they release water into the stream?

Without proper study to find that in fact these pulse weekends are the cause, and without proper due diligence to ensure that all parties controlling the river are legally bound to the same ruling, I do not see how it can be said that due diligence has been done nor that the Board is acting in good faith.

Thank you,

Daniel Brasuell  
[www.awetstate.com](http://www.awetstate.com)

## **Barnes, Peter@Waterboards**

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**From:** Ida Crawford [REDACTED]  
**Sent:** Friday, June 07, 2013 5:14 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit 1 Whitewater Flows

Hello,

I have kayaked above Pit 1 Powerhouse during the whitewater releases several years in a row. It is a fabulous class 3/4 run and very popular with my boating friends from Chico. It would be a shame to lose the summer releases forever. Please keep them coming.

Ida Crawford



**\*\*PLEASE SUBMIT TO STATE WATER BOARD STAFF\*\***  
**SPEAKER/COMMENT CARD - PIT 1 PROJECT SCOPING MEETING**

June 11, 2013

Please identify yourself before beginning your comments. Thank you.



Please check this box if you DO NOT wish to speak, but want to submit your written comments below for the record.

YOUR NAME: Virginia Dye TITLE (if applicable): Mom-grandmother & great-grandmother

ORGANIZATION (if applicable): A member of "We the People"!  
(Please identify, such as self, name of firm, public agency, environmental agency)

If you would like to provide written comments only, please provide them below either during this meeting or mailed to the address below (attach additional sheets as necessary)

REMARKS: I & there is a truthful concern over this Crayfish, as you people put bill, why have you not included the effects of: 1) the weather, War, done by heating the clouds, chemical sprays, and "E.L.F." waves and the various advances in Tech technology, such as H.A.A.R.P. stations in Alaska & elsewhere? That has & is causing this country to either dry up or drown! And then there is the Monsanto Co. That is polluting the hell out of us with Barium, Strontium & aluminum oxide poisoning + killing everything...!!

Your Contact Information:  
Name: Virginia Dye  
Address: [REDACTED]  
E-mail (optional): \_\_\_\_\_

**Please return comment card by Noon (12 PM) on June 24, 2013**

Peter Barnes  
State Water Resources Control Board, Division of Water Rights  
P.O. Box 2000, Sacramento, CA 95812-2000  
Or by e-mail to: [PBarnes@waterboards.ca.gov](mailto:PBarnes@waterboards.ca.gov)

more government  
hypocrisy!?  
where has all the intelligent people gone??!!

## **Barnes, Peter@Waterboards**

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**From:** MARY ELLIOTT <MARY.ELLIOTT@patagonia.com>  
**Sent:** Thursday, June 27, 2013 9:35 AM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit 1 Whitewater Flows

To: State Water Resources Control Board

As a kayaker, I love being able to paddle the Pit River! Over the past few years, the Pit has become one of my (and many other paddlers) favorite places. I would be unfortunate to lose the releases in the summer. I also like to do what is best for our environment. We need valid reports and data before losing an awesome recreational site

Mary Elliott  
PO Box 361  
Verdi, NV 89439

## **Barnes, Peter@Waterboards**

---

**From:** Travis Geddes [REDACTED]  
**Sent:** Monday, June 10, 2013 9:03 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit 1 Releases

Dear State Water Resources Control Board,

My name is Travis Geddes, a 25 year old California resident and whitewater enthusiast. I am writing to express to you why I value the annual summer and fall releases on the Pit 1 reach of the Pit River near Fall River Mills, Ca.

For the last two years, I have made the pilgrimage to the Pit river for the fall releases on Pit 1. The whitewater and scenery in the Pit River Canyon are absolutely wonderful. My skills as a kayaker and my enjoyment of California whitewater have increased tremendously from the opportunity to paddle the Pit 1 reach twice each fall.

I have had the privilege of taking several less experienced kayakers down that canyon and the challenges of the rapids, beauty of the canyon, and majesty of Pit Falls are memories we will all share for the rest of our lives.

I beseech you to thoroughly consider the ramifications of cancelling the annual releases in the Pit 1 canyon. Not only would it force veteran Pit 1 boaters to find an alternative place to paddle in the fall, but it would prevent countless others from experiencing the beauty and excitement of that particular canyon.

It is my opinion that there is no other river in California that provides the opportunity for intermediate boaters to experience the magic that comes from

paddling off a large waterfall into a large pool where adequate safety can be set.

The Pit 1 reach is a classic destination for California boaters; Please help keep it that way!

The questions that I would request the CSWRCB please consider before making any permanent decisions regarding the Pit 1 releases are:

1. How are the releases causing the numbers of Shasta Crayfish to decline?
2. What were the methods used to gather the data about the dwindling crayfish numbers?
3. How does the state of the Shasta Crayfish population in the Pit 1 reach compare to Shasta Crayfish populations in other areas of the Pit

Thank you very much for considering the perspective of a recreational river user who values the beautiful natural environment of Northern California.

Sincerely,

Travis Geddes

--

Travis Geddes



**Barnes, Peter@Waterboards**

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**From:** connor herdt [REDACTED]  
**Sent:** Monday, June 03, 2013 1:15 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit River releases

As I am sure you know, the Pit River releases are a wonderful resource for whitewater enthusiasts, and I just want to be another voice to oppose the proposed cancellation of the recreational releases. More and more we are losing the opportunity to run the world class rivers of California that we and visitors from all over the world are blessed with. Please hear our outcries and reconsider the decision to end the few releases that we do have. We are so lucky in California to have such fun and gorgeous rivers, and we must protect them before they are nothing but stories we tell our Grand children. Thank You.

Connor Herdt

## Barnes, Peter@Waterboards

---

**From:** Roland McNutt [REDACTED]  
**Sent:** Monday, June 10, 2013 12:30 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit River

Dear Mr. Barnes:

As an avid whitewater boater in northern California, I urge you in the strongest possible terms to continue the agreed upon releases on the Pit I reach. The NorCal boating community and boaters everywhere value this river, its ecological health, and its recreational benefits.

Drastic management action by eliminating flows altogether should be based on sound science, which we believe is lacking in this case. The summer flushing/whitewater flows were temporarily suspended when PG&E and the U.S. Fish and Wildlife Service expressed concern that the flows were harming the endangered Shasta crayfish. Monitoring showed a decline in the number of Shasta crayfish and an increase in invasive crayfish within the Pit 1 Reach after flushing flows started.

However, equally dramatic declines in Shasta crayfish and increases in invasive crayfish were also seen throughout the entire Pit River Basin in the same timeframe - *all in areas where summer flushing/whitewater flows do not occur* . NorCal boaters, including me, want Shasta crayfish populations to fully recover, but in light of the basin-wide monitoring data, we have little confidence that eliminating the summer flows will help.

In the past, PG&E has used shoddy science to further their economic gain. I SUGGEST CONTINUING SUMMER RELEASES AS A CONTOL GROUP TO COMPARE WITH CRAYFISH DECLINES IN OTHER AREAS.

I urge you to continue the agreed upon releases!

Thank you,  
Roland McNutt  
Chico, CA  
[REDACTED]

## Barnes, Peter@Waterboards

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**From:** Phat [REDACTED] >  
**Sent:** Thursday, May 23, 2013 7:31 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit 1 Whitewater Flows

Hello,

My name is Matthew Phillips of El Dorado County. I am a whitewater kayaker and enjoy the recreational use of the Pit river summer flows. I know many other whitewater enthusiasts and whitewater kayakers thoroughly enjoy these summer releases. Permanently canceling these summer releases would be extremely disappointing to me and many of my friends as well as the entire whitewater community. Many of us travel great distances to use the pit river for recreational purposes. It is very sad to see that invasive species have moved into this river from previous cancelations, and permanently canceling these flows would be doing a great amount of damage to the beautiful natural landscapes which have already been altered enough as it is by the dam. I am very concerned with the proposal to eliminate these flows completely especially since this river has already been degraded enough by the dam and canceling the flows would only further the degradation of mother nature. I strongly oppose canceling these special releases or any other release on a dammed river. We should be granted these flows forever.

If you have any questions feel free to call me 916 803 3737

Sent from my iPod

## **Barnes, Peter@Waterboards**

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**From:** james reed <[REDACTED]>  
**Sent:** Monday, May 27, 2013 7:45 AM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit 1 Whitewater Flows

Peter Barnes,

My name is James Reed and I am both a healthcare provider in the state of California and an enthusiastic whitewater kayaker. I have paddled the Pit River 1 section several times and enjoy it as a recreation resource immensely. The summer flushing flows afford area paddlers the opportunity to enjoy a beautiful river when little else is running. I hope that you recognize the value that this resource gives to the paddling community and continue the summer flows. The Pit is a river best seen from a whitewater craft and one that I hope will continue to be available to the paddling community in the summer months.

Thank You.

James Reed



**Barnes, Peter@Waterboards**

---

**From:** Eli Ren [REDACTED]  
**Sent:** Sunday, June 23, 2013 2:45 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit River Summer Releases.

Dear Mr. Barnes,

I am writing in regards to the proposal to cancel summer releases on the Pit River. As a kayaker and resident of CA, I value the Pit as a source of whitewater recreation and would be severely disappointed if summer flows were to be permanently canceled. I also feel that the basis for canceling the flows is not based on sound scientific evidence. I value biological diversity more than most, but the evidence clearly does not point to summer releases as the cause of invasive crayfish out-competing the Shasta Crayfish. The decline in Shasta Crayfish populations throughout the Pit River basin (where no such releases occurred), should be clear evidence that other causes are to blame, and that canceling such releases would do nothing to solve the problem. I feel that PG&E's motives in requesting the cancellations are more about corporate profits than they are about saving native crayfish populations. If you reexamine the evidence, I think you will find that releases are not significantly contributing to the decline in native crayfish populations, and other factors play a far larger roll. I hope that PG&E's request will be denied, and ask that summer releases on the Pit resume as soon as further study shows that summer releases are not to blame. Thank you for your consideration.

Sincerely, Eli Ren

--  
Eli Ren  
[REDACTED]  
[REDACTED]

**Barnes, Peter@Waterboards**

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**From:** kenny rosecrance [REDACTED]  
**Sent:** Monday, June 10, 2013 10:28 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit 1 Releases

To whom it may concern,

I have boated this section of whitewater many times though never done the waterfall. It would be a shame for me as well as the many other recreational boaters to lose this opportunity to boat during the summer months when nothing else is available.

Thanks,

Kenneth Rosecrance

## **Barnes, Peter@Waterboards**

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**From:** Lee Schmelter [REDACTED]  
**Sent:** Friday, May 24, 2013 12:40 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit+1+flushing/whitewater+flows -- Don't throw out the baby with the bathwater -- or diminish summer flushing flow w/o good reason

The decision to eliminate summer flushing flows to benefit the Shasta crawfish is illogical, because similar reductions in crawfish population in the water basin occurred regardless of water flushing .

It seems this decision is an attempt to conserve water (laudable, always), but at the expense of boaters who use the summer flows, and without logical reason.

Please reconsider.

Lee Schmelter  
Attorney at Law

E: [REDACTED]  
V: 916.457.9001  
F: 916.457.3200

## **Barnes, Peter@Waterboards**

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**From:** Bob Simmons <[REDACTED]>  
**Sent:** Friday, May 24, 2013 5:39 AM  
**To:** Barnes, Peter@Waterboards  
**Cc:** David Payne  
**Subject:** Pit 1 Whitewater Flows

Has anyone done a financial analysis of shutting down the river flows? How many tourist dollars does it generate and where does it go? Sometimes they are made to care that way.

Also, just another example of bogus scientific hocus locus from the Feds! Demand real science to back up their claims if anyone really cares about the proportional decline of one class of crayfish vs. their cousins or crayfish vs. the boaters/rafters.

Bob Simmons Sent from my iPad

## Barnes, Peter@Waterboards

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**From:** george williams <[REDACTED]>  
**Sent:** Thursday, May 23, 2013 4:16 PM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit River Flows

It is disconcerting that this subject is constantly coming up. With all the information on how important that some of these fluctuations are to the community, environment, and to the river and its wild life with in and around it. This subject should be understood long before now. I have often looked at the river gauges. One thing I have seen is that there are numerous releases that occur through out the year above Pit 1. Unfortunately those releases happen in the middle of the night. Often people scream but have no solutions to many of these issues. So here is my voice with a possible solution.

Why not time many of the increased flows above Pit 1 for times that can be accommodating to many of the varied recreation industries in the area. If these releases are occurring anyway. Could it be timed to benefit a wider variety of the public. Much of this "power war" I see is not so much brought on by the power companies themselves. But appear to be spear headed by many of the fishing industry. I do not intend to get into a fight with them here. However, it is common knowledge among all rec. users outside of fishing that there lies an animosity to increasing flows from them. It simply baffles me that the Power Industry would buckle to the needs of this one group. Yet attempt to ignore a large percent of their energy using customers.

No one has asked that higher flows be a predominant feature of this river or any other river. But it should occur. We all know it is in the best interest of the health of the river itself. And that in turn is in the best interest of the community and all industries connected to it. This disconnect that the power companies are continually throwing out there. Will only lead to the end of their own company in the long run. So it stands to reason that the current governing people. Don't really care for the community in the long haul. It appears that they are only out to make what dollars they can now, and devil be hanged what happens after they retire.

Please keep the flows for Pit 1 and any other section of the Pit river system flowing. Changing a few time lines that these flows occur can and will be beneficial to all parties involved. This is a good thing for everyone.

Thank you for listening.  
George Williams Sr.  
[REDACTED]

## Barnes, Peter@Waterboards

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**From:** Lisa Williams [REDACTED]  
**Sent:** Sunday, June 09, 2013 9:45 AM  
**To:** Barnes, Peter@Waterboards  
**Subject:** Pit I river flows

Dear Mr. Barnes:

As an avid whitewater boater in northern California, I urge you in the strongest possible terms to continue the agreed upon releases on the Pit I reach. The NorCal boating community and boaters everywhere value this river, its ecological health, and its recreational benefits.

Drastic management action by eliminating flows altogether should be based on sound science, which we believe is lacking in this case. The summer flushing/whitewater flows were temporarily suspended when PG&E and the U.S. Fish and Wildlife Service expressed concern that the flows were harming the endangered Shasta crayfish. Monitoring showed a decline in the number of Shasta crayfish and an increase in invasive crayfish within the Pit 1 Reach after flushing flows started.

However, equally dramatic declines in Shasta crayfish and increases in invasive crayfish were also seen throughout the entire Pit River Basin in the same timeframe - *all in areas where summer flushing/whitewater flows do not occur* . NorCal boaters, including me, want Shasta crayfish populations to fully recover, but in light of the basin-wide monitoring data, we have little confidence that eliminating the summer flows will help.

I urge you to continue the agreed upon releases!

Thank you,

Lisa Williams

Chico, CA

[REDACTED]

Pit 1 Hydroelectric Project  
401 Certification Modification EIR

APPENDIX

D

PUBLIC SCOPING MEETING  
TRANSCRIPT





Appendix D  
Public Scoping Meeting Transcript

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Morning Meeting in Redding, CA  
June 11, 2013



**In The Matter Of:**  
*PIT 1 HYDROELECTRIC PROJECT*  
*REDDING, CA*

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*June 11, 2013*

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*Original File 6-11-13.TXT*

*Min-U-Script® with Word Index*



SCOPING MEETING FOR  
PIT 1 HYDROELECTRIC PROJECT  
401 WATER QUALITY CERTIFICATION AMENDMENT

Tuesday, June 11, 2013  
Central Valley Regional Water Quality Control Board  
364 Knollcrest Drive, Suite 205  
Redding, California  
9:00 a.m.

Meeting Presented by:

PETER W. BARNES, Environmental Scientist,  
State Water Resources Control Board

Also Present:

Susan Monheit, Senior Environmental Scientist,  
State Water Resources Control Board

Shruti Ramaker, Senior Project Scientist,  
Cardno ENTRIX

Steve Youge, Cardno ENTRIX

Cheryl K. Smith, CSR

License No. 5257

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- June 11, 2013

1 SCOPING MEETING FOR PIT 1 HYDROELECTRIC PROJECT

2 401 WATER QUALITY CERTIFICATION AMENDMENT

3 Tuesday, June 11, 2013

4 9:00 a.m.

5 ---o0o---

6 MR. BARNES: I guess we'll get started. I think  
7 everybody who is going to show up has shown up already.

8 My name is Peter Barnes. I'm the project manager  
9 for this project, the Pit 1 Water Quality Certification  
10 Amendment on the Pit River. This is Susan Monheit, my  
11 supervisor.

12 MS. MONHEIT: Hi.

13 MR. BARNES: So the objective of this meeting is  
14 to solicit comments on potential impacts of the proposed  
15 Amendment of Pit 1, the Hydroelectric Project 401 Water  
16 Quality Certification. We have a pretty short and  
17 straightforward agenda. We're going to go over some ground  
18 rules, do a presentation which will go over the background  
19 and overview of the proposed Project. And we'll have a  
20 comment period in which you can submit verbal comments. And  
21 then we'll just have a little closing. I also will be able  
22 to answer any general questions you might have regarding the  
23 Project.

24 If you don't wish to submit verbal comments today,  
25 you can submit written comments up until noon on June 24th, 3

1 so that's about a week and a half from today. I know I've  
2 already gotten a substantial number of comments from the  
3 general public via email, so my email address is up there.  
4 It's also on the notice of preparation. I believe there's a  
5 stack of my cards in the back of the room. So if you have  
6 any questions regarding this Project, feel free to shoot me  
7 an email or a phone call.

8 I want to go over the ground rules real quick.  
9 Just makes the meeting go a little easier if everybody  
10 follows these rules.

11 First, concerns regarding the Project and  
12 suggestions regarding alternative project solutions should  
13 be raised during the public comment period so that they can  
14 be appropriately addressed when analyzing the facts of the  
15 Project in the Environmental Impact Report.

16 Comments may be limited to a set amount of time  
17 based on the number of people wishing to speak. I don't  
18 think we're going to have that problem today.

19 The purpose of the meeting is not to discuss  
20 comments, but we will answer general questions.

21 Please respect all speakers. All points of view  
22 are valid.

23 No decisions will be made today.

24 Everyone should agree to make a strong effort to  
25 stay on track with the agenda and move the discussion



1 forward.

2 Questions of clarification are encouraged.

3 Disparaging comments are discouraged.

4 And as you can see, we don't really have a  
5 microphone set up here, so if you can't hear me tell me to  
6 speak up. Also when you're giving your comments, please  
7 speak loudly and clearly and state your name.

8 So I'm going to start with the presentation.

9 ---o0o---

10 SLIDE SHOW IS PRESENTED ALONG

11 WITH THE FOLLOWING ORAL PRESENTATION

12 ---o0o---

13 So we're here for the Pit 1 Hydroelectric Project  
14 401 Water Quality Certification Amendment Public Scoping  
15 Meetings. All right. We're holding one here this morning  
16 in Redding, and we're going to hold one this evening up in  
17 McArthur near where the Project is located. And if anybody  
18 wants to attend that one, it's at the Intermountain  
19 Fairgrounds and should be starting at 6:00.

20 So the meeting is set up. We have a sign-in sheet  
21 in the back with speaker cards. Please fill out a speaker  
22 card and bring it up here if you'd like to speak. As we  
23 said before, comments may be limited to a set amount of  
24 time. We're not here to discuss comments, but I will answer  
25 general questions. No decisions will be made today. Please

1 respect all speakers. And all points of view are valid.

2 Just a little outline of the presentation. I'm  
3 going to go through a background and discuss the State Water  
4 Board's Mission, the original Pit 1 Water Quality  
5 Certification, and then PG&E's request for the Water Quality  
6 Certification Amendment. And then we're going to go talk  
7 about CEQA and the State Water Board's role, the CEQA  
8 process, the public input process, and then the next the  
9 step is moving forward.

10 State Water Board Mission Statement. The Mission  
11 of the State Water Board is to preserve, enhance, and  
12 restore the quality of California's water resources, and  
13 ensure their proper allocation and efficient use for the  
14 benefit of present and future generations.

15 And as always, more information will be found on  
16 our website at [waterboards.ca.gov](http://waterboards.ca.gov). You can always contact  
17 me by phone or email.

18 The State Water Board is a joint authority over  
19 water rights and water quality in order to protect --  
20 provide for protection of California's waters. And they  
21 basically -- we protect, enforce and balance the many  
22 beneficial uses of water. And some of these beneficials --  
23 beneficial uses include, but are not limited to, irrigation,  
24 power, recreation, municipal, whitewater boating, fish and  
25 wildlife preservation or enhancement. Additionally the

1 State Water Board is charged with preventing waste and  
2 unreasonable use of water.

3 So here's some background on the Pit 1 Water  
4 Quality Certification. It was issued December 4th, 2001 as  
5 a result of the Federal Energy Regulatory Commission  
6 relicensing of the Pit 1 Hydroelectric Project which is  
7 owned and operated by PG&E.

8 The Federal Energy Regulatory Commission, or FERC,  
9 issued their license on March 19th, 2003. And the Water  
10 Quality Certification was a part of that license.

11 In this Water Quality Certification there are two  
12 conditions which we're discussing today, it's Condition 13  
13 and 14.

14 Condition 13 requires PG&E to release flushing  
15 flows through Fall River Pond for two consecutive days, a  
16 Saturday and a Sunday three times per year. And those are  
17 to occur in May or June, and then July and August. And the  
18 flushing flows were put in place to control aquatic  
19 vegetation and mosquito production in Fall River Pond.

20 Condition 14 requires PG&E to monitor the  
21 effectiveness of flushing flows in controlling aquatic  
22 vegetation and mosquito production at Fall River Pond.  
23 Initial monitoring required for five years after the  
24 issuance of a new license. And after a five-year monitoring  
25 report, the State Water Board may modify it or terminate

1 the -- the flushing flow monitoring program as it sees  
2 necessary.

3 So PG&E has requested an amendment to that Water  
4 Quality Certification to eliminate those conditions. And  
5 this came about, it started first on May 21st, 2009 when the  
6 State Water Board received a letter from the United States  
7 Fish and Wildlife Service requesting the suspension of  
8 flushing flows due to concerns that the flows were  
9 contributing to the decline of the Shasta crayfish.

10 The Shasta crayfish is listed as endangered under  
11 both the California and Federal Endangered Species Acts.  
12 And they were listed in 1988.

13 On June 14th, 2009, PG&E submitted a request to  
14 the State Water Board to amend the Pit 1 Water Quality  
15 Certification to remove Conditions 13 and 14. And this  
16 request was based on monitoring results which indicate  
17 higher base flow of 150 cubic feet per second may be more  
18 effective in controlling aquatic vegetation and mosquito  
19 production than flushing flows; that fact, coupled with the  
20 belief that the flows were harming the endangered Shasta  
21 crayfish.

22 So CEQA and the State Water Board's role. In  
23 order to take action on a Water Quality Certification  
24 Amendment request, the State Water Board must comply with  
25 CEQA, the California Environmental Quality Act.

1           And although flushing flows provide an incidental  
2 whitewater recreational opportunity, the State Water Board  
3 has temporarily suspended flushing flows out of an abundance  
4 of caution for endangered species protection while CEQA  
5 process is completed. And those are orders that have been  
6 issued and they're available on our website. They've all  
7 been posted there.

8           And CEQA, or the California Environmental Quality  
9 Act. The Amendment of the Water Quality Certification to  
10 eliminate or modify flushing flows is a discretionary  
11 action. Since PG&E is not a public agency, the State Water  
12 Resources Control Board is the CEQA lead agency. Therefore,  
13 that means the State Water Board determines the type of  
14 document that must be completed in order to satisfy CEQA  
15 requirements. And this document must represent State Water  
16 Board's independent judgment.

17           The objectives of CEQA. To disclose significant  
18 environmental effects of proposed activities. Identify ways  
19 to avoid or reduce environmental damage. Prevent  
20 environmental damage by requiring implementation of feasible  
21 alternatives or mitigation. Disclose reasons for agency  
22 approval of projects with significant environmental effects.  
23 Foster interagency coordination in review of projects. And  
24 enhance public participation in the planning process.

25           For this proposed project, the State Water Board

1 has decided to prepare an Environmental Impact Report, or  
2 an EIR. An EIR is designed to identify significant impacts  
3 and mitigation measures to reduce those significant  
4 impacts. Excuse me. Alternatives will be evaluated with  
5 regards to how they meet project objectives and overall  
6 feasibility. Final feasibility of alternatives will be  
7 determined when the State Water Board adopts the findings  
8 based on the final EIR.

9 For the development of the CEQA documents, the  
10 State Water Board has entered a three party Memorandum of  
11 Understanding, or MOU, with PG&E and Cardno ENTRIX.  
12 Cardno ENTRIX is the environmental consultant and they will  
13 develop the environmental documents under the sole direction  
14 of the State Water Board. Cardno ENTRIX is compensated for  
15 its work by PG&E, but PG&E is not allowed to direct any of  
16 the work done by Cardno ENTRIX.

17 And then finally we have public input. In  
18 addition to this meeting, we'll -- we're accepting comments  
19 regarding the Notice of Preparation until noon of June 24th,  
20 2013. And the draft EIR will also be released for public  
21 review and comment. We'll take all those comments into  
22 consideration and review them carefully.

23 Additional information can be found on the  
24 website. The link is kind of long. I don't expect you to  
25 write it down, but it is available in the Notice of

1 Preparation.

2 And if you would like to receive future updates  
3 you can sign up for our emails online at this email address.  
4 You select "State Water Resources Control Board," enter  
5 email address and full name. Under category select "Water  
6 Rights," and then select box for "Water Rights Water Quality  
7 Certification," and click "subscribe" button at the bottom  
8 and that will put you on the email list and then you will  
9 get updates on all of our Water Quality Certification  
10 projects.

11 So I'm here to take any general questions you  
12 might have regarding the Project. And following those  
13 questions, we'll proceed with the public comment period.  
14 Any questions?

15 MR. STEINDORF: My name is Dave Steindorf,  
16 S-T-E-I-N-D-O-R-F.

17 So Peter, could you describe in a little more  
18 detail the -- what is on the Water Board's plate in terms of  
19 what is the actual amendment that you're evaluating.

20 MR. BARNES: Yes. Under CEQA, the scope of our  
21 project is we're looking at the removal of those two  
22 conditions from the Water Quality Certification, what are  
23 the impacts of doing that. So that's what our sole focus is  
24 on, and how do we mitigate any impacts that might come about  
25 from doing that, what would those impacts be and how do we

1 do that. So the removal of the flushing flows and the  
2 monitoring of those flushing flows, that's the focus of this  
3 EIR.

4 Any other questions?

5 MR. WILLIAMS: My name is George Williams.

6 Oh, at what time would the flushing flows be  
7 removed during the year?

8 MR. BARNES: They're -- right now they're  
9 required for one weekend in either May or June, July and  
10 August, and those are the ones we're looking at. We're not  
11 looking at any -- removing any of the fall flushing flows,  
12 just the summer ones that are used to control -- that were  
13 put in place to control aquatic vegetation and mosquito  
14 production in the fall.

15 MR. WILLIAMS: So the flows that would normally be  
16 seasonally flushing the river if the dam wasn't there would,  
17 generally speaking, still be done in the fall?

18 MR. BARNES: The fall flows that are in place now  
19 would remain. And then the base flows that are in place now  
20 would remain. It's just the -- the elimination of the  
21 flushing flows.

22 MR. WILLIAMS: And PG&E wants to increase the  
23 flows to 150 CFS?

24 MR. BARNES: It's already been increased to 150  
25 CFS.



1 MR. WILLIAMS: Continuously throughout the year?

2 MR. BARNES: As directed in the Water Quality  
3 Certification. But I believe in the summer months the 150  
4 CFS is being maintained, and that's what they're -- that is  
5 what is believed to be controlling aquatic vegetation and  
6 mosquito production.

7 MR. WILLIAMS: U.S. Fish and Wildlife has made  
8 that determination?

9 MR. BARNES: No, PG&E is monitoring the  
10 situation. As they have been doing monitoring for five  
11 years after implementation of the Water Quality  
12 Certification, they saw that it was most likely the -- it  
13 was the higher base flows are controlling the vegetation.  
14 They've continued to monitor -- as we've temporarily  
15 suspended flushing flows, they've continued to monitor  
16 vegetation, and it's my belief that -- excuse me -- 150 CFS  
17 has been adequately maintained.

18 MR. WILLIAMS: Okay. But there hasn't been any  
19 studies done by Cal. Fish and Game -- there hasn't been any  
20 studies done by Cal. Fish and Game or U.S. Fish and Wildlife  
21 on the Pit?

22 MR. BARNES: They've done substantial amount of  
23 studies, just nothing regarding --

24 MR. WILLIAMS: The crayfish.

25 MR. BARNES: No, the vegetation. They've studied

1 the crayfish to the best of their abilities which is allowed  
2 by law. Certain studies aren't allowed because it's  
3 believed that it would be too harmful to the crayfish.

4 Any other questions?

5 All right. We'll open up for public comment.

6 Prior to speaking, please state and spell your name for the  
7 recorder. Pretty straightforward. I know a couple of you  
8 have done this before, very similar.

9 We'll start off with Dave Steindorf.

10 MR. STEINDORF: I think I was going to let Matt go  
11 first.

12 MR. BARNES: All right. Well, Matt can go first  
13 and then Dave.

14 MR. MYERS: Do you want us to come up there or  
15 just --

16 MR. BARNES: Yeah, just the closer you can get  
17 would be the better. She does have a little microphone.

18

19 PUBLIC COMMENT SUBMITTED BY MATT MYERS

20 ---o0o---

21 MR. MYERS: Okay. I'm Matt Myers, M-Y-E-R-S, from  
22 California Department of Fish and Wildlife. I'm the Region  
23 1 FERC Coordinator. So I just have a couple of comments.

24 First one, the California Department of Fish and  
25 Wildlife believes that a new survey for Shasta crayfish and

1 non-native crayfish in the Pit 1 Project is needed in order  
2 for the EIR to evaluate the potential effects. It is our  
3 understanding that the last survey was conducted in 2009 in  
4 the Pit 1 Bypass Reach, and that very few Shasta crayfish  
5 were found.

6 According to CEQA guidelines, Section 15125  
7 Environmental Setting, an EIR must include the description  
8 of the physical and environmental conditions in the vicinity  
9 of the Project as they exist at the time the Notice of  
10 Preparation is published.

11 It further states this environmental setting will  
12 normally constitute the baseline physical conditions by  
13 which a lead agency determines whether an impact is  
14 significant.

15 The Department believes the 2009 survey results  
16 are outdated and new surveys are needed in order for the EIR  
17 to accurately define the current baseline conditions.

18 The Department also believes that the entire  
19 Project's flow regime should be evaluated and compared to  
20 the baseline conditions in order to avoid or minimize  
21 potential effects to Shasta crayfish within the Project  
22 area.

23 Other interested parties have expressed a need for  
24 a single table to summarize all the historic Pit 1 Project  
25 surveys and results which have been conducted for the Shasta

1 crayfish and non-native crayfish. The Department supports  
2 the need for this table, and it should be included in the  
3 EIR.

4 We have no other further comments. We will submit  
5 written comments if something else comes up by the June 24th  
6 deadline.

7 Thanks for your time.

8 ---o0o---

9  
10 MR. BARNES: Thank you.

11 Dave.

12  
13 PUBLIC COMMENT SUBMITTED BY DAVE STEINDORF

14 ---o0o---

15 MR. STEINDORF: My name is Dave Steindorf,  
16 S-T-E-I-N-D-O-R-F. I'm the California Stewardship Director  
17 for American Whitewater.

18 So 17 years ago American Whitewater began working  
19 on the Hydroelectric Project and its relicensing. Over the  
20 next seven years we attended numerous meetings and spent  
21 countless hours working on this Project for a variety of  
22 interests, including whitewater recreation.

23 The State Water Resources Control Board has an  
24 agency that had mandatory conditioning authority  
25 fortunately recognizing that whitewater recreation was a

1 beneficial use that needed to be considered. In fact, just  
2 last week I spoke with Jim Canaday, who wrote the 401  
3 Certification for this Project. C-A-N-A-D-A-Y.  
4 And Jim was very explicit that the flushing flows for this  
5 Project were there for a dual purpose.

6 One is that the purpose it was stated for flushing  
7 aquatic vegetation. The other one was that it was there  
8 specifically for the purpose of -- of providing for  
9 whitewater recreation. He said that the PG&E Project  
10 manager, Jim Holman, H-O-L-M-A-N I believe, he also  
11 corroborated that -- that version of events.

12 We do have a problem that is not explicitly stated  
13 within the 401; however, Jim is certainly willing to sign an  
14 affidavit to that point. The main thing there is looking at  
15 the fact that there were dual purpose for this, so just  
16 simply looking at the -- the aquatic vegetation component of  
17 the flushing flows we believe is inadequate, and we need to  
18 evaluate both of those. But also as -- as the Board has  
19 acknowledged under CEQA, you know, the baseline for this is  
20 with those recreational flows, flushing flows in place, that  
21 needs to be evaluated.

22 And in going to relicensing, we did come to this  
23 balancing where the six days of summer flushing flows was  
24 going to meet our interest. We determined that that was an  
25 acceptable balance, even though under the unimpaired flow

1 regime there would have been 365 days of flows on this  
2 particular Project. We did not contest the license, we said  
3 that that was acceptable, and our assumption was that these  
4 flows would be in place for the duration of the license.

5 And we also recognize that even though those were  
6 in the license, this proposed amendment would significantly  
7 reduce the amount of whitewater recreation on the Project,  
8 and that's something that -- that needs to be evaluated not  
9 only for the effect of removing that opportunity, but also  
10 it fundamentally changes the license and it changes the  
11 reason why we actually engaged in this relicensing in the  
12 first place.

13 Looking at the stated reason for this proposed  
14 amendment is that they're saying that the flushing flows via  
15 water temperature are actually causing harm to the Shasta  
16 crayfish.

17 Over Memorial Day weekend, a little thing of what  
18 I did on my summer vacation, I just had the chance to go  
19 paddle up to AjeMaui Springs, which is the headwaters for  
20 the Fall River. Pristine spring creek, the largest spring  
21 creek in California. Some of the best Shasta crayfish  
22 habitat that is still in existence. That water comes down  
23 the Fall River and eventually enters the -- the Pit 1  
24 Forebay. At this point the water enters the Forebay and is  
25 warmed substantially as it crosses the Forebay, then it's

1 mixed with the water from the Pit River which is warmer yet.  
2 And then because of the small minimum in-stream flows that  
3 are required to go in the channel, those flows go through  
4 the Pit River ponds adding additional thermal loading or  
5 warming of the water. In the summertime this reaches up  
6 to -- up to nine degrees during summer months, and it  
7 averages anywhere from three degrees Celsius to five degrees  
8 Celsius.

9           So the concept that the flushing flows are  
10 actually causing the harm to the Shasta crayfish we think  
11 is -- is completely erroneous. Clearly the Project is what  
12 is warming the water. The release of the actual natural  
13 flow from the Fall River back into the river system is just  
14 a short term conveyance of that warm water pulse. If you  
15 allow that pulse to continue, it will eventually drop water  
16 temperatures and the river would be returned to its natural  
17 condition, which again we know that the Shasta crayfish  
18 existed throughout this system when it was in its natural  
19 condition.

20           So we recommend that the Board conduct the  
21 modeling necessary to evaluate what would happen if you  
22 release that full flow of the Pit River back -- back into  
23 the Bypass Reach.

24           Additionally there is -- there is a provision  
25 within the 401 to evaluate 50 CFS flow increments to see

1 what those effects would be on not only Shasta crayfish, but  
2 other aquatic species all the way up to a minimum in-stream  
3 flow of 400 CFS. That recommendation was not adopted upon  
4 review, but we recommend that the Board revisit that  
5 particular certification requirement.

6 Unfortunately the water temperature effects on  
7 Shasta crayfish were not assessed when this -- the 401 was  
8 issued for this Project. In order to meet the water quality  
9 standards that are required, as we pointed out earlier, we  
10 feel that those temperature effects need to be assessed in  
11 this amendment process.

12 So the correct scope under CEQA should be for the  
13 protection of Shasta crayfish, not to evaluate the -- just  
14 the narrow effects of flushing flows. The real purpose for  
15 the debates, plans and standards, and really the mandate of  
16 the Water Board is to protect the water quality conditions.

17 Several weeks ago I actually went and spoke  
18 before the Board protecting -- or trying to support the  
19 Board in their ability to actually exercise their reserved  
20 authority for changing conditions just such as this -- this  
21 situation requires.

22 So we ask that the Board use that authority in  
23 this case to reevaluate this particular Project of whether  
24 it's meeting water quality conditions. If you do determine  
25 ultimately that limiting the flushing flows are necessary in



1 order to protect the Shasta crayfish, we're prepared to work  
2 with the Board to find other alternative mitigations in  
3 order to make up for lost whitewater opportunities on this  
4 Project.

5 Thank you.

6 ---o0o---

7 MR. BARNES: Thank you.

8 Any volunteers next? Charlie Guilbault.

9  
10 PUBLIC COMMENT PRESENTED BY CHARLIE GUILBAULT

11 ---o0o---

12 G-U-I-L-B-A-U-L-T.

13 I'm Charlie Guilbault. I've known about the  
14 Project for probably ten years or more due to my association  
15 with Dave, and have been boating up there and bringing my  
16 family up there to recreate for at least seven years or so,  
17 and it's a wonderful, wonderful place. It started out as a  
18 beginner slash intermediate boater, and it's since grown my  
19 bag of tricks into at least advanced/intermediate so that I  
20 can go from foraging some of the rapids on the river to  
21 running just about everything except for the big falls,  
22 that's not in my interest.

23 But anyways, I'm concerned that, as Dave said,  
24 that if the Board decides to take this -- or -- or use  
25 science to investigate why the crayfish are declining, in

1 the same sense it seems like they should investigate the  
2 recreational uses as well in the same scope that were  
3 valued, and if this -- if this pulse flow is stopped do we  
4 get, you know, do we get recreation some other way. Is  
5 there a way that that can be channeled around in some other  
6 way, because obviously our recreational needs are best  
7 fitted by removing all the dams, but that's not, you know,  
8 we're not asking for that, we just want to consider if there  
9 is a loss of it, then can we regain that in some way.

10 So, thank you.

11 ---o0o---

12 MR. BARNES: Thank you.

13  
14 PUBLIC COMMENT PRESENTED BY MIKE MARTINI

15 ---o0o---

16 Mike Martini, M-A-R-T-I-N-I.

17 My name is Mike Martini. I've been going to the  
18 Pit Project for eight years, I believe, and it's just a  
19 really good recreational opportunity. It started off with  
20 the summer pulses, if I'm correct, in the very beginning. I  
21 didn't move to the fall until later on. And have gone from  
22 going up there by myself to go boating with friends to now  
23 my daughters have utilized the same resource, and have been  
24 able to do the Class 2 Reach, which is down below the  
25 campground. So you've got everything from Class 4, 5 down

1 to family fun, which is Class 2. And that's in the  
2 summertime when my daughters are off the same time these  
3 pulses are -- could be taken away.

4 So once again, we just want mitigation as far as  
5 if you're removing these recreational opportunities for an  
6 entire family, how do they get moved to another time. But  
7 don't just remove them because they're such a valuable  
8 resource for -- not just for whitewater boating, but for  
9 families and a myriad of people who are recreating on the  
10 river. So looking at the pulses and, you know, the removal  
11 of them, how is that going to be not removed, but mitigated  
12 to another time, or whatever. So that's what I would like  
13 to see.

14 So thank you.

15 ---o0o---

16 MR. BARNES: Thank you.

17 We got our last speaker. If anybody else would  
18 like to speak, you can still submit cards. But last we have  
19 Ronald Rogers.

20

21 PUBLIC COMMENT PRESENTED BY RON ROGERS

22 ---o0o---

23 MR. ROGERS: Hi, my name is Ron Rogers, that's  
24 R-O-G-E-R-S.

25 I've lived in Shasta County since 1981, and I've

1 enjoyed boating the rivers in the North State, including the  
2 Pit River since 1981, so I'm very familiar with the river.  
3 It's an outstanding boating resource. The upper stretch  
4 that we're referring to, the Pit 1 stretch unfortunately has  
5 a major diversion on it that PG&E operates. As an avid  
6 whitewater kayaker we -- or I recognize the necessity for  
7 cheap hydroelectric power, and I'm all in favor of the  
8 operation of the power plant in an environmentally sensitive  
9 manner, and also in a manner that acknowledges that there  
10 are other competing uses of that water, including fishing,  
11 kayaking, nature study, the -- the environment of the river  
12 system itself, and the health of the river system itself.  
13 So I'm not in favor of precluding other uses just for the  
14 sake of whitewater.

15           Due to numerous summer diversions -- or diversions  
16 of other rivers in the state, the whitewater boating  
17 community depends on releases on -- from some of these  
18 hydroelectric facilities such as Pit 1. And we look forward  
19 to those releases when the rest of the rivers are dry either  
20 due to natural conditions or to dams. So it was very  
21 disappointing to hear that -- that our the summer releases  
22 are being curtailed.

23           American Whitewater spent a lot of time and effort  
24 working with the -- the FERC and the -- and the rest of the  
25 stakeholders with coming up with what we felt was a very

1 fair solution to the competing uses of -- of the Project.  
2 So I don't feel that the curtailments of that agreement  
3 should be taken very lightheartedly or without a lot of due  
4 consideration.

5 The -- it's questionable whether or not the Shasta  
6 crayfish even are in existence on that Pit 1 stretch. I --  
7 I agree with the previous speaker that better studies need  
8 to be conducted and to see if there are in fact any  
9 remaining populations down there. The water is generally  
10 just too warm due to the diversion of the Fall River to  
11 support a healthy population of crayfish in there.

12 Any threatened endangered protection standards  
13 should also apply across the board to other users such as  
14 PG&E. Maybe we should be looking at more -- at a higher  
15 base flow release continuously into the Pit River to -- to  
16 establish or maintain any -- any crayfish populations that  
17 are in there.

18 And lastly, if these releases are taken away, then  
19 other mitigations need to be considered such as better  
20 access for whitewater boating on that stretch.

21 Thank you.

22 ---o0o---

23 MR. BARNES: Thank you.

24 Are there any other people who wish to submit  
25 verbal comments at this time? All right, yes.

1 FURTHER PUBLIC COMMENT BY DAVE STEINDORF

2 ---o0o---

3 MR. STEINDORF: If I could just make one quick  
4 addendum. Is there anyone here from Fish and Wildlife  
5 Service?

6 MR. BARNES: No.

7 MR. STEINDORF: No. Okay. I would make the same  
8 comment either way. One, I appreciate the State Board  
9 providing this forum for people to express their concerns in  
10 having an open and transparent process whereby we can go  
11 through this amendment process and develop the necessary  
12 information.

13 The fact that the Fish and Wildlife Service, who  
14 is the entity that recommended this amendment has not showed  
15 up to explain their concerns, in my opinion as somebody who  
16 spends a lot of time protecting endangered species and  
17 fighting for resource agencies, I find their actions  
18 completely shameful. And they absolutely should be here to  
19 explain what their rationale is for making this amendment.

20 I appreciate the fact that both of our State  
21 agencies have showed up here to provide comment and provide  
22 this forum. The fact that both FERC and the Fish and  
23 Wildlife Service that we have requested meetings with them  
24 even under threat of lawsuit, and they refused to meet and  
25 discuss this topic.

1           So thank you to our State agencies. And a big  
2 pile of shame for our Federal agencies on this one.

3           Thank you.

4                           ---o0o---

5           MR. BARNES: Thank you. All right. Well, that  
6 wraps up our meeting. I'll be available in the back to  
7 answer any questions you might have regarding the rest of  
8 this process, how we're going to move through this.

9           Also if you know of anybody who couldn't attend  
10 this morning, we're having another Scoping Meeting up in  
11 McArthur at the Intermountain Fairgrounds this evening at  
12 6:00, so you can tell them to head up there if they would  
13 like to.

14           Also you can submit written comments until June  
15 24th - noon, June 24th. So please feel free to do so. I've  
16 already received a substantial number of comments, and I  
17 really appreciate it.

18           I appreciate those who came out today, this  
19 morning, because having collaboration makes this a better  
20 process. So thank you. Have a nice day. Thank you.

21           (The scoping meeting was adjourned at 9:47 a.m.)  
22  
23  
24  
25

1 STATE OF CALIFORNIA )  
2 ) ss.  
3 COUNTY OF SHASTA )  
4  
5  
6

7 I, CHERYL K. SMITH, Certified Shorthand Reporter,  
8 do hereby certify:

9  
10 That I acted as such Shorthand Reporter in the  
11 above-entitled scoping meeting; that I took down in  
12 shorthand notes the proceedings given and had at said time  
13 and place;

14  
15 That I thereupon caused my stenographic notes to  
16 be transcribed by computer-assisted transcribing, and that  
17 the foregoing 27 pages constitute a full, true and correct  
18 transcript thereof to the best of my ability.

19  
20 DATED: June 20, 2013.

21  
22  
23 \_\_\_\_\_  
24 CHERYL K. SMITH, CSR 5257

25



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Appendix D  
Public Scoping Meeting Transcript

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Evening Meeting in McArthur, CA  
June 11, 2013



**In The Matter Of:**  
*PIT 1 HYDROELECTRIC PROJECT*  
*McARTHUR, CA*

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*June 11, 2013*

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**J.V. KILLINGSWORTH & ASSOCIATES**  
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SCOPING MEETING FOR  
PIT 1 HYDROELECTRIC PROJECT  
401 WATER QUALITY CERTIFICATION AMENDMENT

Tuesday, June 11, 2013  
Intermountain Fair,  
44218 A Street  
McArthur, California 96056  
6:00 p.m.

Meeting Presented by:

PETER W. BARNES, Environmental Scientist,  
State Water Resources Control Board

Also Present:

Susan Monheit, Senior Environmental Scientist,  
State Water Resources Control Board

Shruti Ramaker, Senior Project Scientist,  
Cardno ENTRIX

Steve Youge, Cardno ENTRIX

Cheryl K. Smith, CSR

License No. 5257

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Opening remarks presented by PETER BARNES,  
State Water Resources Board

3

Public Comment Presented By:

ROSS JONES

22

DOUG KNOX

23

- June 11, 2013

1 SCOPING MEETING FOR PIT 1 HYDROELECTRIC PROJECT

2 401 WATER QUALITY CERTIFICATION AMENDMENT

3 Tuesday, June 11, 2013

4 6:00 p.m.

5 ---o0o---

6 MR. BARNES: Get started here. My name is Peter  
7 Barnes, I'm the project lead for this for the State Water  
8 Resources Control Board. The Project we're discussing  
9 tonight is the Pit 1 Hydroelectric Project 401 Water  
10 Certification Amendment. This is a Public Scoping Meeting.  
11 It's part of the CEQA process and the California  
12 Environmental Quality Act process. This is my Supervisor  
13 Susan Monheit. She oversees me in this project. Struti is  
14 one of the consultants, as is Steve that's in the back.

15 So just go over the meeting setup real quick.  
16 There is a sign-in sheet and speaker cards. Fill out a  
17 speaker card if you wish to present verbal comments. And we  
18 may limit the comments to a set amount of time depending  
19 upon the number of people wishing to speak. I think we have  
20 enough time where everybody will have plenty of time to  
21 submit their verbal comments. I don't see us needing to  
22 limit that tonight.

23 MR. KNOX: What do you call plenty of time? Some  
24 places you go in and they say well you can talk about three  
25 minutes, and that's it.

1 MR. BARNES: How much time will you need? Well,  
2 I don't think --

3 AUDIENCE MEMBER: Oh, you shouldn't have asked  
4 him that.

5 MR. BARNES: You will have plenty --

6 MR. KNOX: I found her down on the road here,  
7 yeah.

8 MR. BARNES: We'll give you plenty of time to get  
9 your comments across.

10 What's your name, sir, so she can have for the  
11 record.

12 MS. MONHEIT: For the Court Reporter who is making  
13 a record.

14 MR. KNOX: My name?

15 MR. BARNES: Yes.

16 MR. KNOX: My name is Doug Knox, K-N-O-X.

17 AUDIENCE MEMBER: Just think of Fort Knox.

18 MR. KNOX: Also the head of the Voice of Freedom  
19 Radio out of Alturas, KCFJ 570 AM at 12 noon in 30 minutes.

20 MR. BARNES: That's a good voice there.

21 MR. KNOX: Yes.

22

23 (Court Reporter addresses audience to make  
24 sure they state their name as they speak.)

25



1 SLIDE SHOW IS PRESENTED ALONG  
2 WITH THE FOLLOWING ORAL PRESENTATION

3 ---o0o---

4 MR. BARNES: The meeting is not intended to  
5 discuss comments, but I will answer any general questions  
6 you might have regarding the process. And we won't be  
7 making any decisions today, this is the beginning of the  
8 process. Please remember to respect all speakers, and all  
9 points of view are valid.

10 Here's the outline of the presentation. We're  
11 going to go over some background, we're going to go over the  
12 State Water Board's Mission. The Original Pit 1 Water  
13 Quality Certification. And then PG&E's request to amend  
14 that Water Quality Certification. And then the CEQA and  
15 State Water Board's role. Then we'll give you some  
16 background on the CEQA process and describe the public input  
17 process. And then we'll go over the next steps.

18 So the State Water Board, this is our mission  
19 statement, it's to preserve, enhance and restore the quality  
20 of California's water resources, and ensure their proper  
21 allocation and efficient use for the benefit of present and  
22 future generations.

23 You can find more information on our website at  
24 [waterboards.ca.gov](http://waterboards.ca.gov).

25 The State Water Board is a joint authority over

1 water rights and water quality in order to provide  
2 protection of California's waters. The State Water Board  
3 protects, enforces and balances the many beneficial uses of  
4 water including, but not limited to: Irrigation, power,  
5 recreation, municipal and industrial supply, and fish and  
6 wildlife preservation and enhancement.

7 The State Water Board also aims to prevent waste  
8 and unreasonable use of water.

9 So the reason we're here today is the Pit 1 Water  
10 Quality Certification. It was issued for the Pit 1  
11 Hydroelectric Project on December 4th, 2001 as part of the  
12 Federal Energy Regulatory Commission relicensing process.

13 On March 19th, 2003, the Federal Regulatory  
14 Commission issued a license for the Project incorporating  
15 the Water Quality Certification.

16 There are two main conditions of that Water  
17 Quality Certification that we'll be discussing today. The  
18 first is Condition 13. This requires PG&E to release  
19 flushing flows through the Fall River Pond for two  
20 consecutive days, a Saturday and a Sunday, three times per  
21 year, and these are to occur in May or June, July and  
22 August. And the flushing flows were put in place as part of  
23 this Water Quality Certification in an effort to control  
24 aquatic vegetation and mosquito production in Fall River  
25 Pond.

1           Condition 14 requires PG&E to monitor the  
2 effectiveness of the flushing flows in controlling aquatic  
3 vegetation and mosquito production in Fall River Pond. The  
4 initial monitoring is required for five years after the  
5 issuance of a new license. And after that five year  
6 monitoring report, the State Water Board may modify or  
7 terminate flushing flow monitoring program.

8           Well, on May 21st, 2009, the State Water Board  
9 received a letter from the United States Fish and Wildlife  
10 Service requesting the suspension of these flushing flows  
11 due to concerns that the flows were contributing to the  
12 decline of the Shasta crayfish. The Shasta crayfish is a  
13 crayfish that is native to these parts of the waters, and  
14 it's been listed as endangered under both the California and  
15 Federal Endangered Species Act since 1988.

16           On June 14th, 2009, PG&E submitted a request to  
17 the State Water Board to amend the Pit 1 Water Quality  
18 Certification to remove Conditions 13 and 14. This request  
19 was based upon monitoring results which indicate that a  
20 higher base flow of 150 cubic feet per second may be more  
21 effective in controlling aquatic vegetation and mosquito  
22 production than the flushing flows were. This, plus the  
23 belief that the flushing flows were contributing to the  
24 decline of the Shasta crayfish.

25           So CEQA and the State Water Board's role. In

1 order to take action on the Water Quality Certification  
2 Amendment request from PG&E, the State Water Board must  
3 comply with the California Environmental Quality Act. And  
4 although flushing flows provide an incidental whitewater  
5 recreational opportunity, State Water Board temporarily  
6 suspended the flushing flows out of an abundance of caution  
7 for endangered species protection while CEQA process is  
8 completed.

9 So CEQA, the California Quality Act. The  
10 Amendment to the Water Quality Certification to eliminate or  
11 modify the flushing flows is a discretionary action. Since  
12 PG&E is not a public agency, the State Water Board will be  
13 the lead for CEQA. The State Water Board will determine the  
14 type of document necessary to satisfy CEQA requirements.  
15 And the CEQA document must represent the State Water Board's  
16 independent judgment.

17 The objectives of CEQA. The objectives of the  
18 CEQA document, or the CEQA process, is to disclose any  
19 significant environmental effects of proposed activities.  
20 Identify ways to avoid or reduce environmental damage.  
21 Prevent environmental damage by requiring implementation of  
22 feasible alternatives or mitigation. Disclose reasons for  
23 agency approval of the projects with significant  
24 environmental effects. Foster interagency coordination in  
25 review of projects. And enhance public participation in the 8

1 planning process.

2 The CEQA process. For this project, the State  
3 Water Board decided to prepare an Environmental Impact  
4 Report, or an EIR. An EIR is designed to identify  
5 significant impacts and mitigation measures to reduce those  
6 significant impacts. Alternatives will be evaluated with  
7 regards to how they meet project objectives and overall  
8 feasibility. The final feasibility of alternatives will be  
9 determined when the State Water Board adopts the findings  
10 based on the final EIR.

11 For the development of CEQA documents, the State  
12 Water Board has entered into a three party Memorandum of  
13 Understanding, or MOU, with PG&E and Cardno ENTRIX, an  
14 environmental consulting firm. Cardno ENTRIX, excuse me,  
15 will develop the environmental documents under the sole  
16 direction of the State Water Board, but Cardno is  
17 compensated for its work by PG&E.

18 Public input. CEQA is a very transparent process  
19 that requires public input, so the comments regarding the  
20 Notice of Preparation, which you all have in hand, are due  
21 by noon on June, 24th, 2013. A draft EIR will also be  
22 released for public review and comment. And that will be  
23 available on our website, and notices will be sent out when  
24 that's available.

25 Additional information regarding the Pit 1

1 Hydroelectric Project Water Quality Certification can be  
2 found at our website. It's kind of long to write down, but  
3 it's also in the handouts you have today.

4 And future updates. If you want to receive future  
5 updates regarding this Project and other FERC Water Quality  
6 Certifications issued by the State Water Board, you can sign  
7 up for emails online by following these instructions. First  
8 you have to go to that website, select "State Water  
9 Resources Control Board," enter your email address and full  
10 name. And under category select "Water Rights" and select  
11 the box for "Water Rights Water Quality Certification" and  
12 click the "subscribe" button.

13 So that's the end of the presentation. Right now  
14 I'll open it up for general questions regarding the Project,  
15 and after those questions we'll proceed with the public  
16 comment period.

17 MS. MONHEIT: I would like you to describe the  
18 Court Reporter's duties as part of the transparency  
19 proceedings.

20 MR. BARNES: Oh, yeah. And so when you submit  
21 comments or when you're going to ask a question, we're  
22 transcribing all this for the record, and this will all be  
23 posted online. So when you speak we ask that you provide  
24 your first and last name so we know who's asking the  
25 question and who is submitting those comments. And she'll

1 ask you to probably spell your last name. If you can do  
2 that before asking any questions or submitting any further  
3 comments.

4 So does anybody have any general questions  
5 regarding the Project?

6 MR. KNOX: Don Knox.

7 What's that -- who is that environmental group  
8 that's preparing the document for PG&E, where are they  
9 located at and who are they?

10 MR. BARNES: Cardno ENTRIX is an environmental  
11 consulting firm. I don't know if you guys would like to  
12 speak.

13 MS. RAMAKER: Yes. We're representing Cardno  
14 ENTRIX tonight. And we're a global company, we're all over  
15 the world. We have presence in California and Sacramento  
16 and Concord, Santa Barbara, Los Angeles, we have offices all  
17 over California. And we have been hired to prepare the EIR  
18 for this -- for this Project.

19 Does that answer your question?

20 AUDIENCE MEMBER: Would you spell your company  
21 name.

22 MR. BARNES: C-A-R-D-N-O, Cardno, and then  
23 E-N-T-R-I-X.

24 AUDIENCE MEMBER: And PG&E is supposed to pay the  
25 bill is what it says?

1 MR. BARNES: Yes.

2 Are there any other general questions, or are you  
3 ready to move on to the comment period?

4 MR. JONES: One other question.

5 MR. BARNES: Yes, sir. Name please.

6 MR. JONES: Ross Jones, S-M-I-T-H (sic).

7 Have -- have you decided what type of research is  
8 required in order to achieve your end goal?

9 MR. BARNES: That's kind of part of what we're  
10 doing here today, is this is a scoping process, so we're  
11 getting information from the general public regarding the  
12 concerns of the proposed Project. We do have an idea of  
13 what's going to need to be assessed. Basically CEQA  
14 assesses impacts of the Project, so we will be following the  
15 CEQA process.

16 Most of the studies have already been done, and  
17 it's just going to be going through that literature and  
18 compiling the data and assessing what impacts are going to  
19 occur.

20 MR. KNOX: Don Knox.

21 What part of the Pit River are we discussing? Is  
22 it --

23 MR. BARNES: So the --

24 MR. KNOX: Are we discussing all the way from  
25 Shasta Lake up to --



1 MR. BARNES: No, sir.

2 MR. KNOX: What area?

3 MR. BARNES: We're discussing the Pit 1 -- it's  
4 what we call -- it's called the Pit 1 Bypass Reach. It's  
5 from the Pit 1 Forebay where PG&E takes water for their --  
6 the Pit 1 Powerhouse, so from that Forebay down through to  
7 the powerhouse.

8 MS. MONHEIT: It's in the yellow box.

9 MR. BARNES: Fall River Pond.

10 MS. RAMAKER: The red box actually refers to the  
11 FERC boundaries for the Project.

12 MR. KNOX: Right here.

13 MR. JONES: So -- again Ross Jones.

14 You mentioned that the U.S. Forest -- Fish and  
15 Wildlife Service has complained about the flows. What is  
16 the crux of their complaint.

17 MR. BARNES: So the Pit 1 Bypass Reach of the  
18 Project area is home to the endangered Shasta crayfish. And  
19 this crayfish is -- doesn't like warm water, and so the  
20 flushing flows bring an influx of warm water into the  
21 region, and they believe that this warm water might be  
22 causing the decline of the Shasta crayfish, might be  
23 negatively impacting them.

24 MR. JONES: So -- so how long has this crayfish  
25 been around here?

1 MR. BARNES: A very long time.

2 MR. JONES: Prior to the construction of Pit 1?

3 MR. BARNES: I'm not -- I would believe so. I'm  
4 not entirely sure. I'm not the expert on the Shasta  
5 crayfish. That's something that you could -- we can address  
6 through the comments. I would have to go and do research  
7 regarding that.

8 MR. JONES: Are you familiar with the yellow  
9 legged frog?

10 MR. BARNES: Yes, sir.

11 MR. JONES: Is the crayfish akin to the yellow  
12 legged frog?

13 MR. BARNES: No, it's a crayfish. And it's  
14 actually -- it's endangered, where I believe the yellow  
15 legged frog is a species of concern.

16 MR. KNOX: Yeah.

17 MR. BARNES: This is more impacting. It's less  
18 -- there is less Shasta crayfish than there are yellow  
19 legged frogs.

20 MR. CHANDLER: Yeah. Harold Chandler.

21 MR. BARNES: Can you spell your last name,  
22 sir.

23 MR. CHANDLER: C-H-A-N-D-L-E-R.

24 I noticed that there is a -- a non-indigenous  
25 species in there. Where in the world did that come from and

1 why are they concerned about it?

2 MR. BARNES: There is the signal crayfish, and  
3 that came -- it was probably introduced by fisherman.

4 MR. CHANDLER: Someone from Louisiana no doubt.

5 MR. BARNES: Probably. And they -- it's a  
6 heartier breed of crayfish that isn't affected by warm  
7 water. It's bigger, it's more aggressive. It --

8 MR. CHANDLER: Is it considered invasive?

9 MR. BARNES: Yes.

10 MR. CHANDLER: It is.

11 MR. BARNES: It is a non-native invasive.

12 MR. CHANDLER: So the cooling off of the water  
13 would affect its lack of --

14 MR. BARNES: It's not -- it's not affected by the  
15 influxes of temperatures as much as the Shasta crayfish.

16 MR. CHANDLER: Oh, they could care less.

17 MR. BARNES: Yeah, it's --

18 MR. CHANDLER: Why don't we trade them out for the  
19 ones we got, especially if they're there edible?

20 AUDIENCE MEMBER: Right.

21 MR. KNOX: Don Knox.

22 I've had an aquaculture license in the State of  
23 California, it's No. 36 in the middle of the 70s.

24 In this place down here where you say this Shasta  
25 crayfish is endangered --

1 MR. BARNES: Uh-huh.

2 MR. KNOX: -- is there any species of fish in  
3 there, is there any cormorants that land in there; are there  
4 any mergansers; are there any turtles; are there any snakes;  
5 or what is in that water that could possibly take the Shasta  
6 County -- the Shasta crayfish instead of blaming it on the  
7 warm water?

8 MR. BARNES: Um, I don't -- I'm not entirely  
9 sure. I don't -- I'm not the biologist that will be working  
10 on this Project. I'm not aware of any predators in that  
11 Reach that would be impacting the crayfish other than maybe  
12 the non-native signal crayfish.

13 MR. KNOX: Let me ask you this question. Don  
14 Knox. I'm not trying to be facetious with you, okay. But  
15 we come here to learn some information, and if we can't get  
16 it, where are we supposed to go?

17 MR. BARNES: Well, this is the beginning of the  
18 process. More information is going to be coming and be made  
19 available through this process. Today we're mainly going to  
20 discuss the proposed Project and the reason for that -- this  
21 Project, and take comments from the public regarding any  
22 concerns they have might with the Project in areas that they  
23 would like us to look at.

24 MS. MONHEIT: So it sounds like an area that you  
25 would like to have explored in the environmental document is

1 what potential predators to the cray -- the Shasta crayfish  
2 may exist in the Project Reach; is that correct?

3 MR. KNOX: Yes, ma'am, that's correct, because  
4 that Pit River has been there running longer than you and I  
5 and all of us in here put together. They put the Pit in --  
6 they put Pit 1 in what, the 30s, 1930s, and now all of a  
7 sudden it's endangered. That crayfish has been in that  
8 river since the starting of time, and for somebody to come  
9 up and say that the crayfish is endangered, how do they know  
10 that?

11 MR. BARNES: Well, the species has been  
12 declining.

13 MR. KNOX: But that doesn't mean -- that doesn't  
14 mean that the warm water is doing it. It means -- well, I  
15 would rather not say.

16 MR. JONES: It would -- Ross Jones.

17 It would appear to me that the research is  
18 designed to arrive at a foregone conclusion.

19 MR. CHANDLER: It even says it.

20 MR. BARNES: Your comment is noted. I can't  
21 really respond to that. It's more of a comment than a  
22 question.

23 MR. CHANDLER: Has anybody studied the raccoons  
24 to see if there's been an increase in population. They love  
25 the crayfish.

1 MR. BARNES: That's something we can look at, and  
2 we'll definitely be looking at that.

3 MR. CHANDLER: There's a decline in raccoons,  
4 there's a decline in crayfish, and vice versa.

5 MR. JONES: Am I correct in assuming that CEQA is  
6 the head organization for this effort?

7 MR. BARNES: No, CEQA is a law. It's the  
8 California Environmental Quality Act. It's a set of  
9 environmental laws that are put in place to protect  
10 California's natural resources. Before any project is  
11 implemented, or any actions taken by the state agency, it  
12 must be evaluated under CEQA. And that's to assess any of  
13 the potential impacts and mitigate those impacts where  
14 feasible.

15 MR. JONES: I agree with that. However, CEQA is  
16 overseen by some group of people; correct?

17 MR. BARNES: For this Project the State Water  
18 Board will be the lead agency, but there will be other  
19 resource agencies reviewing the CEQA documents.

20 MR. JONES: And those other agencies are?

21 MR. BARNES: I believe the California Department  
22 of Fish and Wildlife, formerly known as the California  
23 Department of Fish and Game. Any -- I mean, you guys will  
24 be -- if you choose to review the documents, the  
25 environmental documents and submit comments you're more than

1 welcome to. It's a public document that supports  
2 transparency and public input.

3 MR. JONES: We have been reviewing the Pit River  
4 IRWM. Are you familiar with that?

5 MR. BARNES: No, sir, I'm not. What does IRWM  
6 stand for?

7 MR. KNOX: Integrated Regional Water Management  
8 Program.

9 MR. BARNES: Okay. I believe that's administered  
10 by the Regional Water Quality Control Board.

11 MR. KNOX: Correct.

12 AUDIENCE MEMBER: And DWR.

13 MR. JONES: And DWR, right.

14 How is this project interrelated with that effort?

15 MR. BARNES: It's not.

16 MR. JONES: It totally stands alone?

17 MR. BARNES: Yes, sir.

18 MR. KNOX: Don Knox.

19 Who determined that those crayfish down there in  
20 that -- and the thing has been there since the starting of  
21 time has decreased, where did they -- what's their evidence  
22 of it?

23 MR. BARNES: Um, I believe it was determined by  
24 both -- well, since they're both listed -- listed under both  
25 the California and Federal Endangered Species Act, there is 19

1 probably both the United States Fish and Wildlife Service  
2 and the California Department of Fish and Wildlife through  
3 their surveys for the Shasta crayfish saw a decline in the  
4 populations. And the drop off became so precipitous that  
5 they decided to list them as endangered.

6 MR. KNOX: Tell me if Davis was -- University of  
7 California at Davis, the science department down there was  
8 involved in that?

9 MR. BARNES: I do not believe -- that's something  
10 we can look into and address. I don't -- I don't have that  
11 information available right now.

12 MR. JONES: If -- Ross Jones.

13 If flushing is reduced or minimalized --

14 MR. BARNES: Uh-huh.

15 MR. JONES: -- what's the impact on millifoil?

16 THE REPORTER: Excuse me?

17 MR. KNOX: Millifoil.

18 MR. BARNES: I can't answer that question right  
19 now because we haven't actually analyzed the Project yet.  
20 This is the beginning of the CEQA process, so these answers  
21 will come -- these questions will be answered hopefully  
22 through that process. That will be something that has to be  
23 determined through the CEQA process.

24 MR. JONES: That's exactly why I'm raising the  
25 question to make sure that it happens.



1 MR. BARNES: Okay. Well, maybe we should move on  
2 to the comment period and you guys can start submitting  
3 comments regarding what you would like to see in such a CEQA  
4 document.

5 Have you guys all submitted your cards to Shruti?

6 MR. KNOX: I have.

7 MS. RAMAKER: I have two. Does anybody else wish  
8 to comment?

9 MR. CHANDLER: Just a comment in general. You  
10 got to understand you're awfully young. These people have  
11 been through the spotted owl crap, the marble murrelet, the  
12 snail darter, the desert tortoise, all this crap, and it  
13 was -- it involved a -- in other words, it had the end, the  
14 end was to destroy custom, culture and the economy, that's  
15 all it's done. It started back in the 70s, and it's gone  
16 through. Highly suspicious of any of this stuff, especially  
17 U.S. Fish and Wildlife.

18 MR. BARNES: And I understand. But this is an  
19 action -- this action will be taken, so it's going to go  
20 through the CEQA process, and impacts to all of those will  
21 be assessed and evaluated and mitigated.

22 MR. CHANDLER: Where is the California Fish and  
23 Game's biological section, how come they didn't do these  
24 studies? That's what we're paying for.

25 MR. BARNES: I can't answer that. I am a

1 representative of the Start Water Board, so...

2 MR. CHANDLER: Somebody needs to yank their chain,  
3 because they should have all of this information, all of  
4 it, this is their bailiwick, this is their area, and that's  
5 what ought to be happening.

6 MR. BARNES: Well, I appreciate your comment.

7 MR. CHANDLER: Okay.

8 MR. BARNES: So who do we have submitting  
9 comments first?

10 MS. RAMAKER: We have Doug Knox.

11 MR. KNOX: Yeah, I got a lot of comment, but you  
12 don't want to hear them because I know what's going on.  
13 Why don't you go first.

14

15 PUBLIC COMMENT PRESENTED BY ROSS JONES

16 ---o0o---

17 MR. JONES: Ross Jones.

18 I have been in this valley for a little over 20  
19 years. Been associated with agriculture most of that time.  
20 We see the State of California reaching for our water  
21 rights. The creation of an endangered species, which is  
22 exactly what's happening right now on the Pit River, is --  
23 is an attempt to usurp our given rights. I feel that this  
24 is a scam. It's a waste of money. PG&E has been forced to  
25 pay for this, which means that we're paying for it. And it

22

1 is totally inappropriate.

2 That's my comment.

3 ---o0o---

4 MR. BARNES: Thank you.

5 I believe we have Doug Knox is the only other one.

6 MR. KNOX: Let somebody go. Let me think about  
7 this. I want to give it to you but can I pass it up to  
8 somebody else.

9 MR. BARNES: Is there anybody else who wishes to  
10 submit verbal comments at this time?

11 MR. KNOX: Am I the last one?

12 MR. BARNES: I think so.

13 MR. KNOX: Yeah, here I go. You got your seatbelt  
14 on?

15 MR. BARNES: I'm strapped in.

16

17 PUBLIC COMMENT PRESENT BY DOUG KNOX

18 ---o0o---

19 MR. KNOX: The Modoc Independent Tea Party has  
20 been studying this Pit River IRWM for some time, okay. We  
21 know the shakers and the makers in it. We know that they --  
22 that the water in Siskiyou County they want to take and get  
23 that -- the dams out, which will run the landowners out. We  
24 know that the basketful of -- in the science lab in Davis  
25 like Mr. Jeffers, Sari Arnel (phonetic spelling), Chad

1 Henson, Mr. -- Dr. Peter Moyle, who tried to run me and my  
2 wife in out of business in Sacramento County on a fish farm  
3 in the early 80s, they're all come -- they want to take this  
4 water.

5           You know what sustained development is,  
6 comprehensive planning, smart growth, smart meters, they  
7 call it Agenda 21. We know what they want. We know that  
8 the Department of Water Resources man, Mr. Gary Bardini,  
9 spoke in Lake Tahoe on the 17th and 18th of July last year  
10 at Kings Beach in California where he was sitting right next  
11 to Mr. Jim Branham of the Sierra Nevada Conservancy, and  
12 Mr. Gary Bardini informed 85 people in there that the  
13 information in the Pit River came from the United Nations  
14 and went to the feds. They didn't know what to do with it.  
15 They passed it off to the state. How do I know that,  
16 because we undermined it and we had people in that meeting  
17 to find out what they were doing. We have an audio of it.  
18 So Mr. Bardini can squeal like a pig all day long, but we  
19 know what they're up to.

20           Any time you want to come up here for an  
21 endangered species, our message to you people is get the  
22 hell out of town and go back to Sacramento.

23           Thank you.

24                           ---o0o---

25           MR. BARNES: Thank you. Appreciate your

1 comments.

2 Is there anybody else who wishes to submit  
3 comments?

4 MR. JONES: No, I just want to throw my hat in  
5 with Doug. This is a -- simply a water grab.

6 MR. KNOX: That's all it is.

7 MR. JONES: And we just are fed up with it.

8 MR. KNOX: We're so fed up with it that our Tea  
9 Party up there in Modoc County, we got that radio program  
10 every Saturday at 12 noon on KCFJ 570 AM for 30 minutes.  
11 We're going to rout the people out, we know who they are.

12 We know that Katie Burdick, who was -- is the head  
13 of this IRWM facilitator -- (Reporter interrupts)  
14 Katie Burdick, she was the facilitator of the Pit River  
15 IRWM. Gary Bardini, the State Department of Water  
16 Resources, he is the manager of all the IRWMs up and down  
17 the Sierras, okay. We know that. We know what their plan  
18 is, and we're going to fight them. Yes, we're not going to  
19 -- and Katie Burdick was in that meeting down there on July  
20 17th and 18th when Bardini told Jim -- Jim Branham of the  
21 Sierra Nevada Conservancy that this came from the United  
22 Nations. We know what they're in for. We got the  
23 recordings of it. He said they ought to take all the state  
24 agencies and actually promote all this IRW crap to the  
25 people and get them all in pontoons so they can pass. Well, 25

1 they made one mistake. The people up here in Shasta County,  
2 and Modoc County --

3 MR. JONES: Siskiyou County.

4 MR. KNOX: -- and Siskiyou County, my friends up  
5 there that's up there, they're going to fight for their  
6 land. We're not going to give up because we know what you  
7 people are up to.

8 Anybody that will take and shut off water because  
9 of a two inch minnow, a delta smelt, now what can take that  
10 down there in the delta. Any bass that's in that water, any  
11 blue gill, crappie, snake, diver ducks, mergansers,  
12 cormorants on the East Coast, they're known as water  
13 turkeys, they're all around here. They'll clean out a pond.

14 But anybody that will shut the water off to over  
15 850,000 acres of ranch land, farm land in the San Joaquin  
16 Valley, they're not environmentalists, they're domestic  
17 terrorists, and we're going to fight 'em. We'll tell you  
18 right on the radio, we don't call those people  
19 environmentalists, we call them domestic terrorists, that's  
20 what the hell they are.

21 MR. BARNES: Well, thank you. We appreciate your  
22 comments.

23 MR. KNOX: Oh, I bet you do.

24 MR. BARNES: I would just like to reiterate that  
25 we will still be accepting written comments if you have any 26

1 additional comments in the future until noon on June 24th,  
2 2013, so... and also my card is on the table. If you have  
3 any questions feel free to contact me, it's got my email  
4 address and work phone number.

5 MR. KNOX: Don Knox.

6 You know there's more endangered species in this  
7 Pit River than just that one, that Shasta crayfish that  
8 you're talking about.

9 MR. BARNES: Yeah.

10 MR. KNOX: That was in the little brochure that  
11 they put out, the Shasta crayfish, the sculpin, the sucker,  
12 the western pond turtle. Oh, yeah. But the farmers and  
13 ranchers are going to wake up, because what they're going to  
14 have to do is fence off the whole Pit River all the way up  
15 to keep their cattle out of it.

16 And now the California Department of Fish and  
17 Wildlife, they want to put the salmon in above Shasta. What  
18 are we going to have, another KBRA up here for Christ's  
19 sakes.

20 MR. JONES: Watch your language.

21 MR. KNOX: Okay. I apologize. I get upset.

22 But people want to take my friend's land on  
23 something -- and they'll put a crayfish over you as a human  
24 being, whatever, that's a God's sin. Every farmer and  
25 rancher is the creators and they take care of this land up

1 here. And you want to run them off the land. Why? Because  
2 it's called the California Wildlands Project.

3 MR. BARNES: I understand.

4 MR. KNOX: You know what I'm talking, Agenda 21?

5 MR. BARNES: Yes, I've heard of Agenda 21.

6 MR. KNOX: Uh-huh.

7 MR. BARNES: But this has nothing to do with it.

8 MR. KNOX: Oh, yes, it does. Oh, it's a back  
9 door.

10 MR. JONES: Ross Jones.

11 Ignorance is bliss.

12 MR. BARNES: Well, I appreciate you all showing  
13 up here this evening and submitting your comments. Like I  
14 said before, we'll be accepting written comments until June  
15 24th at noon, so...

16 MR. CHANDLER: Understand something else. Just a  
17 few people are here representing hundreds of people.

18 MR. BARNES: I -- I understand that.

19 MR. CHANDLER: This is just a small crowd. But  
20 he talks to thousands of people every weekend. We're just  
21 an offshoot from the main Tea Party group down in Redding.  
22 They know what's going on.

23 MR. KNOX: The radio -- the radio program that I  
24 got is on for 30 minutes, it's an AM. It goes all the way  
25 up into Burns, Oregon.



1 MR. BARNES: Uh-huh.

2 MR. KNOX: It goes south to Carson City, Nevada.  
3 It goes west to Yreka. Northwest to Doris into Oregon. And  
4 also it goes I don't know how far into Nevada.

5 Also I am a strong supporter for the Rural  
6 Sheriffs of the Sheriffs Supporting Rural America. Yes.

7 MR. BARNES: Appreciate you all coming out here  
8 tonight. Thank you for your time.

9 MR. KNOX: We will put this on the -- on the  
10 radio on Saturday. We're going to -- we're going to --  
11 we're going to make you people famous in the Intermountain  
12 area down here. It's not personal.

13 MR. BARNES: I understand.

14 MR. KNOX: When you want to cut my throat I'm  
15 going to come back any way I can. Okay.

16 MR. BARNES: Yes, sir.

17 MR. KNOX: Pure, plain and simple.

18 And -- and you don't need to go to a dictionary to  
19 decipher just what the hell I said.

20 (The proceedings were adjourned at 6:44 p.m.)

21

22

23

24

25

1 STATE OF CALIFORNIA )  
2 COUNTY OF SHASTA ) SS.

3

4

5

6 I, CHERYL K. SMITH, Certified Shorthand Reporter,  
7 do hereby certify:

8

9 That I acted as such Shorthand Reporter in the  
10 above-entitled matter; that I took down in shorthand notes  
11 the proceedings given and had at said time and place;

12

13 That I thereupon caused my stenographic notes to  
14 be transcribed by computer-assisted transcribing, and that  
15 the foregoing 29 pages constitute a full, true and correct  
16 transcript thereof.

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CHERYL K. SMITH, CSR 5257

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Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment,  
FERC Project No. 2687

APPENDIX

D

COMMENTS ON THE  
2017 DRAFT EIR





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August 15, 2017

State Water Resources Control Board  
Division of Water Rights – Water Quality Certification Program  
Attn: Meiling Roddam  
P.O. Box 2000  
Sacramento, CA 95812

Submitted via electronic mail to: [Meiling.Roddam@waterboards.ca.gov](mailto:Meiling.Roddam@waterboards.ca.gov)

Re: Comments on Draft Environmental Impact Report on the proposed amendment to the 401 Water Quality Certification for the Pit 1 Hydroelectric Project.

Dear Ms. Roddam,

American Whitewater appreciates having the opportunity to provide comment on the California State Water Resources Control Board's ("Water Board") Draft Environmental Impact Report ("DEIR") on the proposal to amend the 401 Water Quality Certification ("401 Certification") for the Pit 1 Hydroelectric Project ("Pit 1 Project") (P-2687). The DEIR contains significant factual errors that impact the analysis of whether the Proposed Project will have significant environmental impacts and how to mitigate those impacts. American Whitewater requests that the Water Board correct these errors, perform a new analysis, reconsider mitigation options, and issue a revised DEIR for public review.

American Whitewater is a 501(c)(3) non-profit organization whose mission is to conserve and protect America's whitewater resources and enhance opportunities to enjoy them safely. Founded in 1954, American Whitewater represents the conservation interests of tens of thousands of whitewater paddlers across the country. As avid whitewater recreationists, we place a high value on protecting naturally functioning river ecosystems and restoring their beneficial uses. We have a strong membership base in Northern California, and our members recreate on the Pit River Bypass Reach when flows are high enough to enjoy the river by raft, kayak or canoe.

American Whitewater intervened in the FERC relicensing process for the Pit 1 Project in 1995, and was a key stakeholder in the relicensing negotiations for the FERC license issued in 2003. Since the license was issued, we have been actively involved in license implementation. Since 2009, when PG&E and the U.S. Fish and Wildlife Service ("USFWS") recommended that the summer flushing/whitewater boating flows be cancelled, we have filed letters and sought to consult with FERC, USFWS and the Water Board. We also filed substantive comments in 2013 in response to the Water Board's Notice of Preparation ("NOP") for the Proposed Project. American Whitewater and our members have a strong interest in the outcome of the proposed amendment to the Pit 1 Project's FERC license and 401 Certification.

## **I. Introduction**

The DEIR incorrectly considers the four days of whitewater flows that take place in October as mitigation for the elimination of six days of summer flushing/whitewater flows (“summer flushing flows”). As we described in our 2013 comments on the NOP, and describe in more detail below, the October releases were set forth in the 2003 FERC license for the Pit 1 Project and implemented by FERC *independently* of the summer flushing flows established in the 401 Certification. The background plans and studies for the fall whitewater flows were initiated, and in some instances completed, well before 2009 when PG&E and the U.S. Fish and Wildlife Service (“USFWS”) first recommended that the 401 Certification be amended to eliminate the summer flushing flows. It is improper for the DEIR to consider these flows as mitigation.

As a result of this error, the DEIR determines that the Proposed Project will have a less than significant impact on recreation. Where the DEIR sets forth that there will be a loss of two days of whitewater recreation, it should instead reflect that there will be a loss of six days of whitewater recreation. This is a significant impact to the REC-3, REC-4 and REC-5 standards considered in the DEIR.

In addition to this error, the DEIR makes numerous unsubstantiated statements about recreation, and then relies on these statements to develop conclusions and support decisions about how to mitigate the impacts of the Proposed Project. As we describe in more detail below, these errors relate to boater user days, preferences for season of use, whitewater releases at other hydropower projects, and the spring flow release alternative. Existing conditions related to access and camping provide opportunities for mitigation, and we provide additional information about these conditions so that the revised DEIR can consider proper mitigation. Additionally, the DEIR makes similar unsubstantiated statements about biological resources that should be addressed in the revised DEIR.

Finally, as outlined in our 2013 comments on the NOP, American Whitewater continues to have serious concerns that the Proposed Project alone will not protect Shasta crayfish. The operation of the Pit 1 Project is increasing baseline water temperatures in the Pit River, and we request that the Water Board reconsider the minimum instream flows in order to address this issue.

## **II. The DEIR Improperly Considers Baseline Conditions as Mitigation.**

### **A. The 2003 License Set Forth Two Separate Sets of Whitewater Flows a Year**

The DEIR incorrectly describes the number of days of whitewater flows that the Pit 1 Project is required to provide each year, and therefore, misrepresents the scope of its Proposed Project. The DEIR states:

“For the purposes of this assessment, the termination of summer flushing flows would be considered equivalent to the loss of summertime whitewater boating opportunities associated with the flow releases (6 days). Similarly, the

implementation of October whitewater boating flows is equivalent to the gain of four days of whitewater boating opportunities in October.”<sup>1</sup>

As we described in our 2013 comments on the NOP, two separate license conditions in the 2003 FERC license for the Pit 1 Project require PG&E to provide two different sets of whitewater recreation opportunities each year.

- 1) Condition 13 of the Water Board’s 401 Certification requires PG&E to release six days of flushing flows each year. The 401 Certification was finalized on December 4, 2001 (15 months before the FERC license was issued) and the summer flushing flows were intended to serve the dual purpose of both controlling aquatic vegetation growth and mosquito production in the Fall River Pond and providing whitewater recreation opportunities.<sup>2</sup> Although Condition 13 does not specify that the summer flushing flows were intended to provide a whitewater opportunity, it did require that PG&E provide as much advanced public notice as possible to the boating community when the flows were going to occur. Between 2003 and 2009, the summer flushing flows provided an opportunity for six days each year of whitewater recreation on the Pit 1 Bypass Reach. PG&E documented the number of boaters on the reach each year in accordance with the intent to provide boating opportunities.
- 2) Independent of the Water Board’s 401 Certification, Article 424 of the 2003 FERC license required PG&E to file, within one year of license issuance, a recreational boating use study plan to examine the effects of whitewater flows between September 15 and October 30. These flows were contemplated independently from the summer flushing flows,<sup>3</sup> and were targeted to take place in a different season than the summer flushing flows. While Article 424 did not specify the exact number of days of whitewater flows in the fall, the outcome of the required studies was that PG&E was to provide four days of flows in October, either through two sets of weekend flows or a total of four days of consecutive flows over the Columbus Day weekend.<sup>4</sup>

The DEIR errs in framing PG&E’s implementation of the four fall whitewater flow days as mitigation for the elimination of the summer flushing flows. The plans and studies

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<sup>1</sup> Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment Draft Environmental Impact Report (June 2017). Prepared by Cardno for FERC Project No. 2687. Page 3-60.

<sup>2</sup> Personal communications with Jim Canaday, former Water Board staff present at the relicensing negotiations and development of the 401 Certification. (June 6, 2013 and August 8, 2017.) While the language was left out of the 401 Certification at PG&E’s request, all parties agreed to this fact. Canaday states that “there was an intended co-purpose, and even if the flushing flows were not necessary to control the vegetation and mosquitoes it was still incumbent on the project to provide the summer flushing flows for on-water recreation in the Pit 1 diverted reach.”

<sup>3</sup> *Id.* Mr. Canaday states that he was not part of the discussions relating to Article 424.

<sup>4</sup> *Pacific Gas and Electric Co.*, 135 FERC ¶ 62,215 (June 14, 2011) FERC Project No. P-2687. (Order Approving Final Whitewater Boating Flow Schedule) (FERC eLibrary Accession No. 20110614-3011).

related to Article 424 and the fall whitewater flows were implemented *well before* May and June of 2009 when PG&E and the USFWS recommended that the summer flushing flows be suspended.<sup>5</sup>

The following list provides the timeline of activities conducted in compliance with Article 424:

- March 19, 2003: FERC issued the license, including Article 424 (15 months after the 401 Certification was issued).<sup>6</sup>
- March 19, 2004: PG&E submitted the Whitewater Flow Impact Study Plan to FERC as required by Article 424, calling for the study to take place in two phases.<sup>7</sup>
- July 27, 2004: FERC modified and approved the Whitewater Flow Impact Study Plan.<sup>8</sup>
- May 12, 2006 and May 25, 2006: PG&E filed the Phase 1 Interim Report with FERC (5/12) and followed up with an addendum (5/25).<sup>9</sup>
- June 16, 2006: PG&E filed the Phase 2 Study Plan with FERC. In its communications, PG&E noted that part of the Phase 2 Study Plan involved refining the acceptable whitewater boating flow levels to near 1,250 cfs in light of concern that there was a low probability that there would be sufficient water to provide flows in the optimal range (1,250 cfs to 1,750 cfs) in September and October.<sup>10</sup>

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<sup>5</sup> Letter from U.S. Fish and Wildlife Service to Federal Energy Regulatory Commission and the State Water Resources Control Board, re: Request for Change in Article 401, Condition 13 of the License for the Pit 1 Hydroelectric Project, FERC Project No. 2687, in Shasta County California (May 26, 2009); and letter from Pacific Gas and Electric to the State Water Resources Control Board, re: Pit 1 Project, FERC No. 2687, Request for Change in Article 401, Condition 13 of the License for the Pit 1 Hydroelectric Project, FERC Project No. 2687, in Shasta County California (June 24, 2009). Available at: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/water\\_quality\\_cert/pit1\\_ferc\\_2687.shtml](https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/pit1_ferc_2687.shtml)

<sup>6</sup> *Pacific Gas and Electric Co.*, 102 FERC ¶ 61,309 (March 19, 2003) FERC Project No. P-2687. (Order Issuing New License) (FERC eLibrary Accession No. 20030319-0735)

<sup>7</sup> Pacific Gas and Electric Company. *Potential Impacts of Whitewater Boating Flows Study Plan Addressing License Article 424* (March 19, 2004). FERC eLibrary Accession No. 20040322-0287

<sup>8</sup> *Pacific Gas and Electric Co.* 108 FERC ¶ 62,090 (July 27, 2004) FERC Project No. P-2687. (Order Modifying and Approving Whitewater Flow Impact Study Plan Pursuant to Article 424.) (FERC eLibrary Accession No. 20040727-3003).

<sup>9</sup> Letter from Pacific Gas and Electric Company to FERC, re: Pit 1 Project, FERC No. 2687, License Article 424 - Whitewater Flow Impact Study Plan (May 12, 2006) (FERC eLibrary Accession No. 20060601-0273); and letter from Pacific Gas and Electric Company to FERC, re: License Article 424 - Whitewater Flows Impact Study Plan: Addendum to: Potential Impacts of Whitewater Boating Flows - Phase 1 Interim Report (May 25, 2006) (FERC eLibrary Accession No. 20060609-0073).

<sup>10</sup> Letter from Pacific Gas and Electric Company to FERC, re: Article 424: Whitewater Flow Impacts - Phase 2 Study Plan (June 16, 2006). At page 2. (FERC eLibrary Accession No. 20060623-0058.)



- August 24, 2006: FERC approved the Phase 2 study plan.<sup>11</sup>
- March 26, 2008: PG&E filed the Final Phase 2 Study Report with FERC. In this communication, PG&E explains that stakeholders agreed to “defer final recommendations regarding whitewater boating flows during the period September 15 - October 31 until 5-year summary results from Project specific biological resource monitoring studies are developed.”<sup>12</sup>
- July 16, 2009: FERC approved the Phase 2 Study Report, including postponing final recommendations for the fall whitewater flows. FERC’s Order set a deadline for the final schedule for fall whitewater releases to be submitted by December 31, 2010.<sup>13</sup>
- March 1, 2011: PG&E submits its Whitewater Boating Flow Recommendations, recommending that four days of whitewater flows take place in October of each year, either through two sets of weekend flows or a total of four days of consecutive flows over the Columbus Day weekend.<sup>14</sup>
- June 14, 2011: FERC accepts PG&E’s recommendations and orders that they be implemented that fall.<sup>15</sup>

The logic used in the DEIR appears to support the notion that during relicensing negotiations, stakeholders anticipated that the summer flushing flows would be eliminated at an unknown future date, and they implemented Article 424 as anticipatory mitigation. This does not make sense and is not supported by the record. Instead, the timing of the two events—the elimination of the summer flushing flows and the start of the fall whitewater flows—is coincidental, not intentional. Article 424 was put into the 2003 license, and the related plans and studies were carried out in subsequent years, to ensure that the project provided a whitewater recreation opportunity in the fall. The fall whitewater flows stand alone, and have already been implemented under FERC’s independent authority. It is therefore incorrect when the DEIR notes that October whitewater boating flows would not occur under the No Project Alternative.<sup>16</sup>

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<sup>11</sup> *Pacific Gas and Electric Co.*, 116 FERC ¶ 62,162 (August 24, 2006). FERC Project No. P-2687. (Order Approving Phase 2 Study Plan) (FERC eLibrary Accession No. 20060824-3016)

<sup>12</sup> Letter from Pacific Gas and Electric Company to FERC, re: Pit 1 License Project (FERC No. 2687) License Article 424—Whitewater Flow Impact Study Final Phase 2 Report (March 26, 2008). (FERC eLibrary Accession No. 20080327-5017.)

<sup>13</sup> *Pacific Gas and Electric Co.*, 128 FERC ¶ 62,041 (July 16, 2009). FERC Project No. P-2687. (Order Approving Phase 2 Study Report) (FERC eLibrary Accession No. 20090716-3099)

<sup>14</sup> Pacific Gas and Electric Company. *Pit 1 Hydroelectric Project, FERC Project No. 2687, Whitewater Boating Flow Recommendations* (February 2011). (FERC eLibrary Accession No. 20110301-5213)

<sup>15</sup> *Pacific Gas and Electric Co.*, 135 FERC ¶ 62,215 (June 14, 2011). FERC Project No. P-2687. (Order Approving Final Whitewater Boating Flow Schedule) (FERC eLibrary Accession No. 20110614-3011)

<sup>16</sup> Draft Environmental Impact Report at p. 5-2 to 5-3, Section 5.1.2.4. We also note that this passage concludes that, because the four October flow days would not happen, “less recreational opportunities would exist with the implementation of the No Project Alternative” when compared to the Proposed Project. This statement is incorrect. Using the logic in the DEIR, the No Project Alternative would result in six days of whitewater flows, where the Proposed Project would result

The DEIR also incorrectly cites language from FERC’s June 14, 2011 Order to support its position, quoting only part of the Order to support the idea that the fall flows were implemented “in lieu of any previously scheduled May, June, and July flows.”<sup>17</sup> However, if the Order is considered in the context of whitewater flows at the time of license issuance, it is clear that the fall flows were not intended to supplant summer flows.<sup>18</sup>

The license order reads, “[t]he proposed whitewater flow schedule(s) **should be implemented in a timely manner in order to accommodate** desired late summer or fall flows, in lieu of any previously scheduled May, June and July flows.”<sup>19</sup>

When FERC issued the 2011 Order approving the final fall whitewater boating flow schedule, the summer flushing flows had been cancelled for a year and the fall whitewater flows had yet to be implemented. As a result, the Pit 1 Project had not made any of the required releases suitable for whitewater recreation for an entire year. Additionally, FERC’s 2011 Order should not be interpreted as substituting fall flows for summer flows because FERC could not have modified the Water Board’s 401 Certification in that manner. Instead, FERC’s order was encouraging PG&E to implement the fall flows in a timely manner in order to ensure that the Pit 1 Project provided some whitewater opportunities that year.

Finally, CEQA requires that the DEIR “include a description of the physical environmental conditions in the vicinity of the project, as they exist *at the time the notice of preparation is published...*”<sup>20</sup> The fall flows have been in place since 2011, two years before the Water Board issued the Notice of Preparation in May 2013 to amend the 401 Certification. Thus, they are part of the baseline and should not be considered mitigation.

### **B. The Proposed Project has Significant Impacts to Recreation That Must be Mitigated Under CEQA.**

If not for the Pit 1 Hydroelectric Project, the Pit River would provide year-round whitewater recreation opportunities. The balance that was struck during the FERC relicensing process ultimately restored a total of 10 days of whitewater recreation flows to the Pit River each year, as described above. The proposed elimination of six days of

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in four. Implementing the No Project Alternative would result in *more* days (six) days than the Proposed Project (four).

<sup>17</sup> Draft Environmental Impact Report at 2-4 and 3-63.

<sup>18</sup> American Whitewater concedes that the FERC Order is poorly worded and leaves room for confusion, and we filed comments with FERC to that effect shortly after the order was released. See letter from American Whitewater and Friends of the River to U.S. Fish and Wildlife Service and FERC re: PG&E Biological Evaluation/FERC Biological Assessment for the Pit 1 Hydroelectric Project (P-2687) (June 16, 2011). (FERC eLibrary Accession No. 20110616-5093.)

<sup>19</sup> *Pacific Gas and Electric Co.*, 135 FERC ¶ 62,215. Emphasis added.

<sup>20</sup> 14 CCR § 15125(a). Emphasis added.

whitewater flows disrupts that balance. Additionally, the Proposed Project does not protect the water quality goals and objectives relating to REC-1 contact recreation opportunities outlined in the Basin Plan, which include whitewater boating.<sup>21</sup>

The EIR must analyze the significant environmental effects of the proposed action on any of the listed environmental factors,<sup>22</sup> and provide mitigation for significant impacts.<sup>23</sup> As we describe in more detail below, eliminating six days of whitewater flows results in a significant impact.

### **1. REC-3: Conflict with adopted plans, regulations or agreements**

The DEIR finds that the impact of the Proposed Project to REC – 3 (Conflict with adopted plans, regulations or agreements) to be less than significant. Reducing the number of days with flows available for whitewater recreation by six out of a total of ten is in conflict with the overall agreement made in the 2003 FERC license for the Pit 1 Project for how to best balance power values with recreation values, as required by the Federal Power Act. Additionally, the Proposed Project harms Water Contact Recreation (REC-1) beneficial uses that includes white water activities as outlined in the Basin Plan.<sup>24</sup>

### **2. REC – 4: Substantially reduce recreation uses**

The DEIR finds that the impact of the Proposed Project to REC – 4 (Substantially reduce recreation uses) to be less than significant. Reducing the number of days with flows available for whitewater recreation by six out of a total of ten represents a 60% reduction. American Whitewater believes that this is a substantial reduction in recreation uses.

### **3. REC – 5: Substantially diminish recreational experiences**

The DEIR finds that the impact of the Proposed Project to REC – 5 (Substantially diminish recreational experiences) to be less than significant. Reducing the number of days with flows available for whitewater recreation by six out of a total of ten represents a 60% reduction. Additionally, as we describe in more detail below, the Proposed Project also changes the season in which this recreational experience takes place and exceeds the capacity of the existing facilities. American Whitewater believes that all of these changes substantially diminish the recreational experience.

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<sup>21</sup> California Regional Water Quality Control Board, Central Valley Region, Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin. Fourth Edition, Revised July 2016 (with Approved Amendments). Table II-1, page II-5.00.

<sup>22</sup> Pub. Res. Code § 21100(b)(1); 14 CCR §§ 15126(a), 15126.2(a), 15143.

<sup>23</sup> 14 CCR § 15126.4(a)(1).

<sup>24</sup> Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin at p. II-1.00.

### III. Springtime Flow Alternative

The DEIR does not provide an adequate basis for dismissing the springtime flow alternative. The decision to dismiss an alternative should be based on sound science. Instead, the DEIR relies on unsubstantiated statements to support its alternatives analysis, rendering it inadequate.

The introduction to the analysis of springtime flows states,

“While the base temperature in the Bypass Reach is lower in spring than in summer, springtime whitewater boating flows would still represent a temporary change to base conditions. The mainstem of the Pit River does not naturally experience sudden temperature or flow changes in the summer due to a lack of precipitation. During the spring however, there can be runoff and precipitation and the river can experience natural changes in flow and temperature.”<sup>25</sup>

It is unclear whether the DEIR is citing potential changes in water temperature as a basis for eliminating this alternative. If this is the reason, the DEIR needs to better quantify the potential changes in water temperature and explain the significance of those potential changes on aquatic life. The DEIR also needs to put this discussion in the context of the Project’s cumulative impacts on water temperature. We request that the revised DEIR clarify both this statement, and a similar statement on that same page that “short, pulsed high flow events are not typical of the natural hydrology of the Pit River.”<sup>26</sup>

We note that the DEIR fails to provide supporting information for many of the conclusions throughout the Biological Resources section (Section 5.2.2.1 on page 5-3 and 5-4), noting several times that spring whitewater flows “may” have certain impacts. The Final EIR should provide supporting data that is preferably quantitative rather than qualitative for the following statements:

- 1) “Spring whitewater boating flows **may** not cause the drastic temperature changes as seen in the summer since the minimum instream base flow conditions are cooler in the spring, and have more natural variability. Temperature fluctuations would still occur, however, as a result of the spring whitewater boating flow releases...[and] spring whitewater boating flows **may** still result in a higher minimum daily water temperature than would occur otherwise.”
- 2) “Spring whitewater boating flows **may** not cause the drastic temperature changes as seen in the summer since the minimum instream base flow conditions are cooler in the spring, and have more natural variability.

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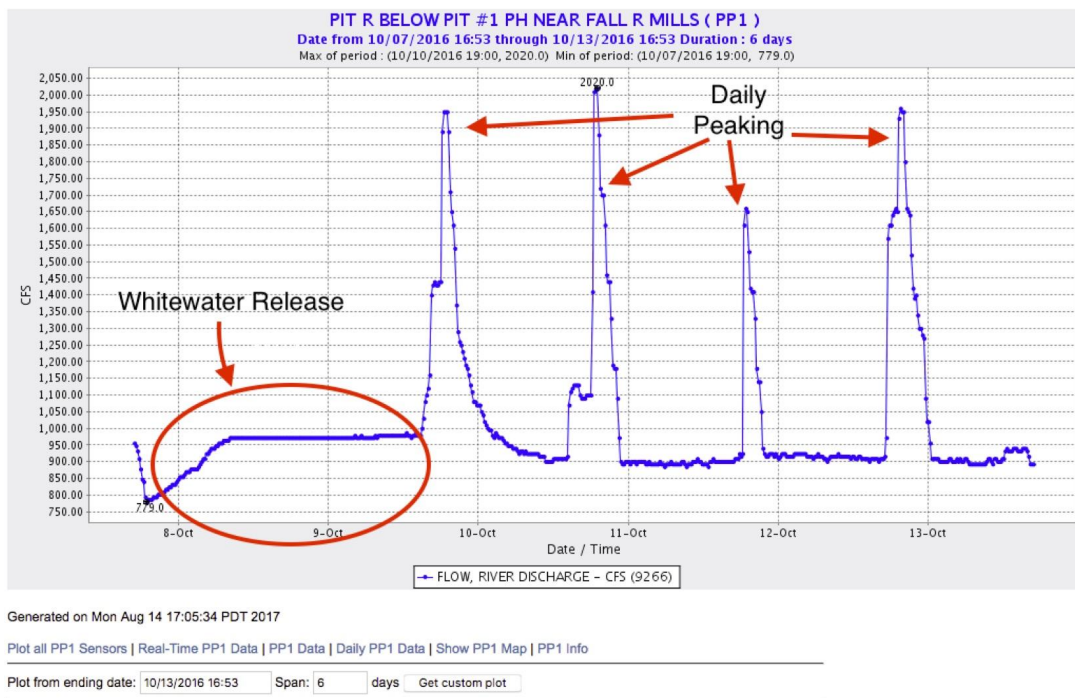
<sup>25</sup> Draft Environmental Impact Report at p. 5-3. We note that it is not clear how the statement that “the Pit River does not naturally experience sudden temperature or flow changes in the summer due to lack of precipitation” relevant to the discussion of springtime whitewater flows.

<sup>26</sup> *Id.*

Temperature fluctuations would still occur, however, as a result of the spring whitewater boating flow releases.”

- 3) “Spring whitewater boating flows **may** reduce the day-to-night water temperature fluctuations that were observed during summer flushing flows due to the presence of cooler air temperatures and spring runoff. However, spring whitewater boating flows **may** still result in a higher minimum daily water temperature than would occur otherwise.”

Additionally, the DEIR further lists concern for critical reproductive events for all three native mussel species in the Pit River Canyon, and the potential for spring whitewater flows to wash eggs and juveniles out of their habitat.<sup>27</sup> The California floater (mussel) is present downstream of the Pit 1 Powerhouse. Article 402 of the Pit 1 Project’s 2003 license requires PG&E to maintain a 700 cfs minimum instream flow below the Pit 1 Powerhouse in order to protect and enhance aquatic habitat for the California floater, among other species. This same reach is the peaking reach of the Pit 1 Project that experiences dramatic, rapid flow pulses each day. The flow upramp for peaking flows occurs much more rapidly than that of the summer flushing flows (see Figure 1 below).



**Figure 1.** California Data Exchange Center via USGS. Historic hydrograph of 2016 October whitewater flows.

If there are particular concerns about how to best protect these specific mussel species, including how to prevent their eggs and juveniles from being washed out of their habitat, the revised DEIR should evaluate whether and how the impact of these daily peaking flows is different than the potential impact of springtime whitewater flows.

<sup>27</sup> *Id.* at p. 4-3 and 5-4.

Additionally, in the recreation section of the analysis of spring whitewater flows, the DEIR concludes:

“Spring whitewater boating flows would likely be considered a less desirable opportunity for whitewater boaters since natural high flow events are more common in the spring and there are many other high-quality alternatives at the same time of year. Adding spring whitewater boating flows would not be adding much in the way of unmet demand for whitewater boating opportunities in the region...[and, concluding]...Although this alternative would provide whitewater boating opportunities on the Pit 1 Bypass Reach in the spring, it is not the ideal time of year for whitewater boaters to use this resource.”<sup>28</sup>

In 2008, PG&E released a report about whitewater recreation preferences that showed that boaters preferred to recreate in the summer rather than the spring or the fall. However, in our experience, when paddlers are questioned about whether they prefer flows in the spring or fall versus none at all, they will accept flows during those seasons. Additionally, springtime boating opportunities are particularly popular with the paddling community in dry water years.

The DEIR concludes that the alternative to provide springtime flows does not meet the Water Board’s objective of “reducing adverse impacts to the endangered Shasta crayfish, while maintaining the designated beneficial uses related to whitewater boating.” The DEIR does not provide adequate information to support the conclusion that springtime flows would harm Shasta crayfish, and is incorrect in assuming that they would fail to maintain the designated beneficial uses related to whitewater boating. Based on the information above, the revised DEIR should re-examine its conclusion. Additionally, we request that the DEIR examine whether the Pit 1 Project would be better able to provide boating flows closer to the optimal boating flows range during springtime boating flows.

#### **IV. Information on Recreation**

The DEIR relies on some inaccurate assumptions about whitewater recreation generally and specifically at the Pit 1 Project. American Whitewater offers this information to provide the Water Board with a more accurate foundation for its analysis in the revised DEIR.

##### **A. Average Boating Days**

In support of the finding that there is a less than significant impact to whitewater recreation, the DEIR states:

"Whitewater boating use during the 2011–2014 October whitewater boating flows was more than two times greater than during the 2003–2009 summer flushing

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<sup>28</sup> Draft Environmental Impact Report at p. 5-4. We note that the DEIR does not provide a citation to support the conclusions in this paragraph and instead references what is “likely.” This is an issue throughout the document that we request the revised DEIR address.

flows. During the 2003–2009 summer flushing flows, an average of 23 boaters boated the Pit 1 Bypass Reach with an average of 22 kayak runs and one raft run each day. During the 2011–2014 October whitewater boating flows, an average of 64 boaters boated the Pit 1 Bypass Reach with an average of 49 kayak runs and 6 raft runs each day.<sup>29</sup>

The average boating use numbers in the DEIR give an inaccurate picture of the amount of boating use in the Pit River during the summer flushing flows. Table 3.5-2 shows the amount of boater use from 2003 to 2009 during the summer flushing flows, and from 2011 through 2014 during the October boating releases. It is clear that there was less use during the first three years of the flows (2003, 2004 and 2005), as PG&E recorded a grand total of only 36 boater days. In 2006 that number jumped to 128 boaters days and then up to 339 boater days in 2007.

The primary reason for the low use in the first three years was due to the fact that PG&E provided little, if any advanced notice about the timing of the releases. The DEIR states that notice of the flushing flows has been published annually in local newspapers.<sup>30</sup> Aside from the fact that this is not a license requirement, we have never found newspaper notices to be an effective way to notify boaters about upcoming releases. The license requires PG&E to provide advanced notice of the releases via phone or on the web. To our knowledge this only happened to a nominal extent during the first three years of the summer flushing flows. For example, our records show that PG&E staff sent an email on July 15, 2003, notifying the Water Board and others about the July flushing flow only four days before it took place. In 2006, after working with PG&E staff to set a summer release schedule in advance and posting this information on the American Whitewater and other websites, boating use during the flushing flows increased significantly.

Simply put, attendance was low in those initial years because the whitewater boating public did not know that the flushing flows were happening due to lack of coordination between PG&E and the whitewater boating community. Rather than averaging the total number of boaters from 2003 to 2009, it makes more sense to remove the outliers and average the totals from July 2006 through 2009. When calculated this way, the average daily boating use was 42 boaters per day.

The Water Board should consider another factor when looking at the averages. While 42 boaters per day is less than the average boating use during the October releases (64 boaters per day), this is primarily a result of the reduction in the total number of days available for whitewater recreation. The summer flushing flows provided six days of recreation opportunities as opposed to four in October, meaning that there was more opportunity to spread out the demand.

As we will discuss in more detail below, this reduction in the total number of days has also strained the ability of the existing recreational access and campground facilities to meet the demand for this resource.

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<sup>29</sup> *Id.* at 3-63.

<sup>30</sup> *Id.* at 3-56.

## **B. Season of Use**

The DEIR states that “[t]he late season demand is substantiated by whitewater boating use during the 2011–2014 October whitewater boating flows, which was more than two times greater than during the 2003–2009 summer flushing flows.”<sup>31</sup> As we describe above, this is incorrect, and the data should not be used to support the idea that paddlers prefer to boat through the Pit River Canyon in October rather than during the summer. A 2008 study by PG&E shows that boaters preferred to have paddling opportunities in July, August and September as opposed to May and June.<sup>32</sup> The survey did not ask paddlers directly about flows in October, however, based on our familiarity with the whitewater boating community, we understand that colder temperatures and shorter days make releases in the late fall less attractive. Even so, the high use numbers in October are a testament to the demand for this section of the Pit River that boaters are still willing to drive long distances late in the season to experience this section of the Pit River Canyon.

## **C. The Pit River Canyon Provides a Unique Boating Experience**

The DEIR states:

“[t]he termination of summer flushing flows would reduce or potentially eliminate periodic summer whitewater recreational opportunities in the Pit 1 Bypass Reach. However, there are other summertime whitewater boating opportunities in the region, such as the August whitewater boating releases in the Pit 5 Reach downstream of the Project Area.”<sup>33</sup>

This statement assumes that whitewater rivers are completely interchangeable, which simply is not the case. One of the reasons that the Pit 1 reach has become so popular is that the Pit River Falls, a 40-foot waterfall is a very unique feature that draws paddlers from around the country. It has routes suitable for Class III as well as Class V paddlers, and there is no similar feature on any other scheduled whitewater boating release from a hydropower project in California, no matter the season.

Additionally, the four days of summer boating on the Pit 5 reach, or the eight days of boating on the Feather River do not fully mitigate the lost whitewater recreation opportunity that would have existed on these rivers 365 days a year absent these hydropower projects. To say that they can provide the summer whitewater opportunity instead ignores the cumulative impact that hydropower development has had on whitewater opportunities throughout the state.

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<sup>31</sup> *Id.* at 3-63.

<sup>32</sup> Letter from Pacific Gas and Electric Company to FERC, re: Pit 1 License Project (FERC No. 2687) License Article 424–Whitewater Flow Impact Study Final Phase 2 Report (March 26, 2008). (FERC eLibrary Accession No. 20080327-5017)

<sup>33</sup> Draft Environmental Impact Report at 3-62.



## V. Adequately Mitigating the Significant Impact to Whitewater Recreation

In the event that the Water Board determines that the best available science supports a determination that cancelling the flushing flows will benefit the endangered Shasta crayfish, then REC-1 beneficial uses of the Pit River that include contact recreation and rafting and canoeing will be significantly impacted. The DEIR incorrectly determines that the fall whitewater flows provide mitigation for the summer flushing flows. As a result, the DEIR as currently written does not propose any legitimate mitigation to whitewater recreation for the significant impact created by the elimination of the summer flushing flows. CEQA requires that the DEIR develop and analyze mitigation measures to replace the lost recreation opportunities,<sup>34</sup> and that mitigation must be “‘roughly proportional’ to the impacts of the project.”<sup>35</sup>

### A. Current Conditions

#### 1. Access

The DEIR notes that PG&E constructed a new access site across from the confluence of the Pit River with the Fall River, just downstream of the Pit River Bridge.<sup>36</sup> This access location unfortunately does not provide adequate access to the whitewater run. The parking lot is located upstream of a buoy line, requiring boaters to hike their kayaks and rafts ¼ of a mile to get to the put in. Additionally, this site is located two miles upstream of the start of the whitewater run, requiring boaters to paddle flatwater for 40 minutes.

Before PG&E constructed this facility, virtually all paddlers accessed the Pit River Canyon run at the Big Eddy Estates. Throughout relicensing, and in post licensing development of the Recreation Plan, American Whitewater repeatedly stated a preference for access at the Big Eddy location. FERC also recognized this preference in the 2003 license order.<sup>37</sup>

Big Eddy is a preferable access site because it is located just upstream of the start of the whitewater and vehicle access was available at the river. In 2012 a local landowner refused to allow paddlers to access the PG&E property at Big Eddy, and boaters have had to use the PG&E access since that time. Now, paddlers are required to make a long flatwater paddle and hike to the river. Where they once were able to make multiple runs in a day, they now typically only opt for a single run.

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<sup>34</sup> Pub. Res. Code § 21002.

<sup>35</sup> 14 CCR § 15126.4(a)(4)(B).

<sup>36</sup> Draft Environmental Impact Report at 3-48.

<sup>37</sup> *Pacific Gas and Electric Co.*, 102 FERC ¶ 61,309 (March 19, 2003). FERC Project No. P-2687. (Order Issuing New License) (FERC eLibrary Accession No. 20030319-0735). License Article 423 accordingly requires that PG&E provide recreational access and facilities (including a car-top boat launch, parking, and sanitary facilities) at Big Eddy, or a comparable site.

## 2. Camping

Most paddlers coming to enjoy the Pit River Canyon typically stay overnight for both weekend release days. This reach is a significant distance from most population centers—1.5 hours from Redding, 2.5 hours from Chico, and 4.5 hours from Sacramento.

The Bureau of Land Management's Pit 1 Campground is an ideal location for paddlers to stay and enjoy the releases. It is located at the take out for the Class IV Pit River Canyon (the bypass reach) and the put in for the Class II reach that extends three miles downstream to where Highway 299 crosses the Pit River. This campground contains six individual camping sites and one group site. Assuming that each individual campsite can accommodate up to six people, and that the group site can accommodate up to ten, we estimate that a reasonable capacity for this camping area is 45 to 50 people. Using 2006-2009 data, the summer flushing flows had an average daily use of 42 boaters per day. Assuming that there are no other recreationists staying at the site, this facility could potentially handle this level of demand. However, with the cancellation of the summer flushing flows and just four October release days, the average number of boaters per day increased to 64, and in the last few years we have seen this number grow to over 100 paddlers. At these use levels, this facility is inadequate to accommodate the current level of paddler demand. The result has been for paddlers to attempt to camp on the nearby private property, or to seek out other dispersed camping opportunities.

### B. Mitigation Recommendations

Unfortunately, reducing the number of days of paddling opportunities, along with degraded access options, has made paddling this section of the Pit River more challenging. In order to mitigate the lost whitewater recreation opportunities as a result of the Proposed Project, American Whitewater recommends all of the following mitigation measures:

- Additional days of whitewater flows in the spring or fall;
- Expanding opportunities for camping in the area; and
- Constructing improved access at the put-in for the Pit River Canyon run.

American Whitewater is willing to work with Water Board staff on the details of these recommendations.

### VI. The Water Board Should Reconsider Minimum Instream Flows to Adequately Protect the Shasta Crayfish and Other Aquatic Species

In the bigger picture, American Whitewater seeks to ensure that the daily operation of the Pit 1 Hydroelectric Project both protects endangered species and meets water quality goals and objectives outlined in the Basin Plan, including COLD water habitat, RARE preservation of rare and endangered species and REC-1 contact recreation opportunities. For reasons we outlined in our 2013 comment on the Water Board's Notice of Preparation, American Whitewater does not believe that the Proposed Project will

accomplish these goals. The Water Board has a duty under CEQA and the Basin Plan to examine numerous reasonable alternatives that will protect the endangered Shasta crayfish in the Pit 1 Bypass Reach and address the ongoing temperature impacts of the Pit 1 Project.

Most notably, in separate comments on the Notice of Preparation in 2013, both the California Department of Fish and Wildlife (“DFW”) and American Whitewater requested that the Water Board evaluate the entire flow regime of the Pit 1 Project in order to avoid or minimize potential effects to the Shasta crayfish and other fish and wildlife. Although the DEIR mentions it received comments on this issue,<sup>38</sup> it fails to address these concerns. To date, there has not been a scientifically sound investigation into whether increasing minimum instream flows will help protect beneficial uses and mitigate the impacts of Pit 1 Project operations on the Fall and Pit Rivers. At the 5-Year Water Quality Review in 2009 required by Condition 17, PG&E recommended that additional flow releases not be required. The Water Board later agreed.<sup>39</sup>

PG&E’s recommendation was based on SNTMP modeling completed with data obtained from 1990-1992 and 2004-2008, including a flushing flow event between August 12<sup>th</sup> and August 18<sup>th</sup>, 2008.<sup>40</sup> In their Draft Shasta Crayfish Study Report, PG&E cited this information as evidence for why increased minimum instream flows would not provide a benefit. The California Department of Fish and Wildlife provided comment on the Draft Report on December 21<sup>st</sup>, 2012, and the agency cited concerns with the SNTMP model and recommended an updated or a new model. PG&E removed the SNTMP model and related results from their Final Shasta Crayfish Study and has not conducted additional monitoring or modeling of increased instream flows to support their recommendation. We urge the Water Board to revisit the adaptive flow release recommendation and seek an updated and comprehensive model of a variety of minimum instream flow release scenarios, including those that bring cooler Fall River water directly into the Pit River, as discussed above.

401 Certification Condition 17 states that reasonable protection of beneficial uses shall be measured by and limited to factors controllable by and related to the Pit 1 Hydroelectric Project operations. If initial streamflow releases are not found to be reasonably protective of the beneficial uses of the Fall and Pit Rivers, the Water Board has reserved the authority to make additional flow releases, up to 400 cfs between June 1 and October 31. As outlined in our 2013 comments, we request that the Water Board study whether the Pit 1 Project is contributing to the impairment of an already impaired water body and fails to reasonably protect the beneficial uses of the Pit River due to controllable factors.

Finally, American Whitewater continues to have serious concerns about the science that is used to support the need for the Proposed Project. In sum, we believe that there are fundamental pieces of scientific information that need to be assessed before the Water

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<sup>38</sup> Draft Environmental Impact Report at p. 1-9 and 3-2.

<sup>39</sup> Pacific Gas and Electric Company, *Pit 1 Water Quality Monitoring Results 2012 Annual Report* (May 2013). Page p. 3. (FERC eLibrary no. 20130531-5135)

<sup>40</sup> Pacific Gas and Electric Company, *Pit 1 5-Year Water Quality monitoring Report*, 2009, p. 100.

Board can make an informed decision about the impacts of the Pit 1 Project on the Shasta crayfish. These include population surveys (as also requested by DFW), temperature tolerances of the species, and an assessment of how cancelling the flushing flows will benefit Shasta crayfish when similar, and often more extreme population declines are seen in other populations outside of the influence of the flushing flows. American Whitewater's concerns on these matters have not changed, and we incorporate our 2013 comments by reference.

## **VII. Unsubstantiated and Unclear Information in the DEIR**

In addition to the examples highlighted in the springtime flow analysis, the DEIR contains other unclear statements or areas of unsubstantiated information. This should be remedied in the Final EIR. We highlight several examples below.

- 1) At page 4-2, the DEIR states, “[e]xamples of types of projects that may have a cumulatively considerable effect when taking the Proposed Project into account would be discontinuation of other whitewater boating opportunities so as to cumulatively reduce whitewater boating opportunities available in the Proposed Project area. No projects are currently known to be proposed that would discontinue other whitewater boating opportunities in the area at the same time of year as the Proposed Project. Therefore, no cumulative impacts would occur from implementation of the Proposed Project.”

It appears that the DEIR is presuming that the proper assessment for determining cumulative impacts is to examine whether other hydropower projects are also planning to cancel their whitewater recreation flows. CEQA requires that the DEIR examine cumulative impacts, which includes the effects of past actions in addition to future ones.<sup>41</sup> The revised DEIR should also consider how many whitewater recreation opportunities in the region have been impaired because of hydropower projects.

- 2) On page 3-63, the DEIR states: “implementation of the Proposed Project would result in improved angling opportunities during three summer weekends. The higher flows that were associated with the summer flushing flow releases may have affected angling activities and dispersed stream corridor recreation uses. These adverse effects were tied to the loss of beach area, loss of suitable instream flow conditions for wading or swimming, diminished angling conditions, and loss or diminishment of the ability to walk along the streambank. With implementation of the Proposed Project, these high summer flushing flows would not occur.”

Please provide a citation to the recreation surveys or other data that support the conclusion that summer flushing flows have affected angling activities in the Pit 1 Bypass Reach.

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<sup>41</sup> 14 CCR §15355(b).

3) At page 3-15 and 5-5, the DEIR discusses the impact of flushing flows on the Northern Western Pond Turtle and Hardhead. Please provide citations to the data that support the conclusions set forth.

4) The DEIR sets forth inconsistent findings on the impacts to Cultural Resources. Where in Section 5.1.1.2 the DEIR finds that implementing the No Project Alternative would have a less-than-significant impact, under Section 5.2.1.2 (spring flow alternative) and Section 5.3.2.2 (barrier alternative), the DEIR finds implementing these alternatives would have no adverse effects. It is unclear in the DEIR how the differences in these alternatives lead to a different finding.

### **VIII. Conclusion**

The DEIR incorrectly represents the Proposed Project as eliminating six days of summer flushing flows and replacing them with four days of whitewater flows in October. This error has impacted the determination of whether it has a significant impact on the environment and how to best mitigate those impacts. Additionally, the Proposed Project fails to adequately protect Shasta crayfish and the DEIR does not go far enough to determine whether additional action, such as increasing the minimum instream flow, will do more to bring the Pit 1 Project into compliance with the Basin Plan. American Whitewater requests that the Water Board correct these errors, perform a new analysis, reconsider mitigation options, and re-issue a DEIR for public review and comment.

Thank you for considering our comments.

Sincerely,



Dave Steindorf  
Special Projects Director



Megan Hooker  
Associate Stewardship Director





Power Generation

245 Market Street  
San Francisco, CA 94105

August 15, 2017

*Mailing Address*  
Mail Code N13E  
P. O. Box 770000  
San Francisco, CA 94177

**Via Email**  
([Meiling.Roddam@waterboards.ca.gov](mailto:Meiling.Roddam@waterboards.ca.gov))

State Water Resources Control Board  
Division of Water Rights - Water Quality Certification Program  
**Attn:** Meiling Roddam  
P.O. Box 2000  
Sacramento, CA 95812

**RE: Comments on Draft EIR and Proposed Water Quality Certification  
Amendment – PG&E's Pit 1 Hydroelectric Project, FERC Project No. 2687**

Dear Meiling:

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the State Water Resource Control Board's (SWRCB) June 26, 2017 draft Proposed Amendment to the Water Quality Certification (WQC) and draft Environmental Impact Report (EIR) for the Pit 1 Hydroelectric Project (FERC No. 2687). In general, PG&E supports the SWRCB's proposed amendment to the Pit 1 401 certification, noting that as requested by the U.S. Fish and Wildlife Service, the amendment permanently eliminates summer flushing flows and confirms the October recreational flows ordered by FERC on June 14, 2011. PG&E has the following minor comments and clarifications.

Draft EIR - Project Description

On page x of the EIR's Executive Summary, the project description includes three components: water management, planned outage and unplanned outage. The paragraph addressing unplanned outages states the following:

*"PG&E would minimize or avoid out-of-season pulsed flows in the Pit 1 Bypass Reach during unplanned outages by implementing new operational procedures. PG&E would reduce the maximum allowable operating limit on the Pit 1 Forebay by 0.5 foot (from 3,303.5 feet to 3,303 feet NGVD [3,323 feet to 3,322.5 feet PG&E datum]) during the summer, which would provide PG&E additional time to address the unplanned outage before having to spill from the Pit 1 Forebay."*

PG&E requests that the reference to this proposed new operational procedure be deleted from the draft EIR. This proposed operational procedure has been eliminated from the latest Proposed Action in support of modification of the Project's Biological Opinion, which will be submitted to FERC on or before December 31, 2017. This procedural change has been eliminated because the data collected indicate that implementing this measure would not avert any unplanned outage spills during the summer months. The data supporting



this conclusion is included within the draft EIR in Section 2-4. Further, since the U.S. Fish and Wild Life Service requested a permanent suspension of flushing flows in 2009, no out-of-season spills have occurred at Pit 1 Forebay due to unplanned outages.

Finally, the reduction of the maximum allowable operating limit by 0.5 feet would restrict PG&E's operational flexibility, while not providing a meaningful mechanism to prevent out-of-season spills. This is true because reducing the maximum allowable operating limit by 0.5 feet would provide approximately 40 additional minutes before a spill would occur in the event of a two-unit outage, depending on the conditions at the time of the outage. During times of peak demand in the summer, PG&E may have several hours (even eight to ten hours depending on current inflow to the forebay) before needing to spill. The extra 40 minutes is not a meaningful increase.

#### Proposed Amendment to Pit 1 Water Quality Certification

The last paragraph of the proposed amendment includes the following language:

*The State Water Resources Control Board reserves the authority to modify the conditions of the amended certification if monitoring results indicate that continued operation of the Pit 1 Project could impact water quality standards or in response to new information regarding the Shasta Crayfish.*

PG&E would like to confirm that, by this language, the SWRCB's intention is to reserve the right to modify only the proposed amended language. This modification could occur if the required report summarizing the monitoring results, during the period flushing flows were suspended, provided new information regarding the Shasta Crayfish or the controlling of aquatic vegetation or mosquito production.

PG&E looks forward to working with the SWRCB in implementing the amended water quality certification. Should you have any questions, please contact PG&E License Coordinator, Sean Murphy, at (415) 973-5629, or Sean.Murphy3@pge.com.

Thank you,



Neil J. Wong  
Supervisor, Hydro Licensing



Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment,  
FERC Project No. 2687

APPENDIX

E

AMERICAN WHITEWATER 2018  
COMMENTS AND PG&E RESPONSES TO  
AMERICAN WHITEWATER COMMENTS





Theresa Simsiman  
California Stewardship Director  
7969 Madison Avenue #1706  
Citrus Heights, CA 95610  
916-835-1460

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June 29, 2018

State Water Resources Control Board  
Division of Water Rights – Water Quality Certification Program  
Attn: Meiling Roddam  
P.O. Box 2000  
Sacramento, CA 95812

Submitted via electronic mail to: [Meiling.Roddam@waterboards.ca.gov](mailto:Meiling.Roddam@waterboards.ca.gov)

Re: Lost summer boating opportunity mitigation for the Pit 1 Hydroelectric Project

Dear Ms. Roddam,

American Whitewater is writing to inform the State Water Resource Control Board (SWRCB) that we were unable to come to agreement with PG&E on appropriate mitigations for the loss of 6 days of summer recreational flows on the Pit 1 Hydroelectric Project P-2687. As recommended by the State Water Board, American Whitewater met and consulted with PG&E staff over the course of 2 site visits, 1 in-person meeting and 3 conference calls. However, our differences regarding appropriate mitigation remain unresolved and we request State Water Board staff to develop and analyze feasible alternatives to include in the re-circulated DEIR based on mitigation recommendations provided below.

### **PG&E Proposed Mitigation Fails to Address Significant Impacts to Recreation**

During our last conference call on June 12, PG&E's only mitigation was to offer a guarantee that the 4 days of Fall recreational flows would be provided through two sets of weekend flows as opposed to four days of consecutive flows over the Columbus Day weekend. However, providing two sets of weekend flows is already an option in the current license that has been exercised 10 out of the last 11 years of recreational flow releases on the Pit 1 reach. Additionally, this proposal does nothing in terms of mitigating for the impacts American Whitewater identified in our DEIR comments from August 15, 2017.<sup>1</sup> The attempt by PG&E to renegotiate agreements

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<sup>1</sup> Letter from American Whitewater to the State Water Resources Control Board, re: Comments on Draft Environmental Impact Report on the proposed amendment to the 401 Water Quality Certification for the Pit 1 Hydroelectric Project (August 15, 2017)

made in the 2003 FERC and 401 certification is inappropriate. American Whitewater supported this license and accompanying 401 because it balanced power values with recreation values. The significant reduction to whitewater recreational flows and the diminished recreational experiences at existing facilities that are exceeding capacity, need to be addressed in the new 401 certification from the SWRCB.

### **Mitigation Recommendations**

American Whitewater developed mitigations from discussions and information gleaned through our consultation with PG&E that we include them here as our recommendations.

#### **A. Improve Put-In Access**

The river access constructed by PG&E at Fall River Mills is inadequate. In addition to the undesirable location of this access facility, the eight parking places are insufficient to accommodate the level of boating use during the October releases. The SWRCB should require PG&E to increase parking capacity at this site, develop another access site, or provide a shuttle service that would allow paddlers to run the reach without parking a car at the put-in. Any shuttle service must facilitate transportation of boaters and their equipment (including inflated rafts, hardshell kayaks and inflatable kayaks) for both the Pit Falls run (Fall River Mills to Pit River Campground) and the Powerhouse run (Pit River Campground to Hwy 299). This shuttle should run continuously throughout all provided recreational boating days to accommodate the paddlers who wish to use this service. Any of these options must be approved by the SWRCB after consultation with American Whitewater.

#### **B. Expand Capacity for Camping**

It is estimated that the Bureau of Land Management's Pit 1 Campground has a normal capacity of 45 to 50 people. Typical use numbers have been 50 to 100 during the October releases. SWRCB should require PG&E to develop camping for an additional 50 people. Camping needs to be along the Pit 1 reach. PG&E owns a significant amount of property along the Pit River that would be suitable for additional camping. Any of these options must be approved by the SWRCB after consultation with American Whitewater.

#### **C. Consultation with American Whitewater Regarding Scheduled Recreational Flows**

The elimination of the six summer flushing flows days reduced the total number of whitewater boating opportunities that are provided by the current FERC license and the 401 certification by 60%. Last year, the change by PG&E to move the fall releases to 4 consecutive days over Columbus Day weekend effectively reduced boating opportunity to two days since the overwhelming majority of boaters could only boat on the weekend.<sup>2</sup> Over American Whitewater's objections PG&E is again planning on a single four-day release in 2018. While we understand that this is PG&E's prerogative as per the FERC license condition, we do not feel that this was in the spirit of the agreement negotiated during relicensing. The SWRCB needs to correct this oversight in the new 401 certification for this project by requiring PG&E to release two weekends during October. Furthermore, the new 401 needs to require that PG&E consult

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<sup>2</sup> During the October 9<sup>th</sup> 2018 site visit, American Whitewater, SWRCB and PG&E staff all witnessed that there was almost no boating use during the Monday flow release.

and gain approval from the SWRCB and American Whitewater on scheduled recreational flow days.

**D. Provide 1 Additional Weekend of Recreational Flows in October**

Understanding that some of the mitigation measures may take some time to complete, American Whitewater recommends the addition of two days over one weekend of recreational flows in October until all the above mitigation measures are in place. This will assist in meeting growing capacity demands at the existing facilities. An additional weekend of recreational flows would potentially spread out use by the public and insure that the impacts associated with additional delays are not born by the paddling public.

Thank you for considering our mitigation recommendations.

Sincerely,



Theresa L. Simsiman  
American Whitewater  
California Stewardship Director  
916-835-1460



Dave Steindorf  
American Whitewater  
California Special Projects Director  
530-518-2729

October 17, 2018

Meiling Colombano, Environmental Scientist  
Water Quality Certification Program  
State Water Resources Control Board  
1001 I Street, 14<sup>th</sup> Floor  
Sacramento, CA 94814

**RE: Pit 1 Hydroelectric Project; FERC No. 2687**

Dear Ms. Colombano,

In a letter dated January 10, 2018, the California State Water Resources Control Board (SWB) expressed concerns regarding its assessment of “the loss of incidental whitewater summer boating opportunities” in its June 2017 Draft Environmental Impact Report (DEIR). It directed Pacific Gas and Electric Company (PG&E) to seek further solutions to address the perceived potential loss of this beneficial use. This correspondence provides an update on the efforts by PG&E to resolve the concerns expressed by American Whitewater (AW) and the SWB. PG&E has given these issues careful thought and investigation, and appreciates the time provided by the SWB for this effort.

## **I. BACKGROUND**

Conditions 13 and 14 of the SWB’s 2001 Clean Water Act Section 401 Water Quality Certification (401 Cert), incorporated in the Federal Energy Regulatory Commission (FERC) License No. 2687 for the Pit 1 Hydroelectric Project (Project), require PG&E to release and monitor summer “flushing flows” to abate aquatic vegetation and mosquitoes within the Projects’ bypass section. These six days of flushing flows took place yearly from 2003 to 2009, when they were terminated after U.S. Fish and Wildlife Service (USFWS) concluded that further summer flows would harm the Shasta crayfish within the bypass section and violate the Endangered Species Act. While no further summer flushing flows could legally take place, PG&E was required to petition the SWB in 2009 to permanently remove Condition 13. In 2013, the SWB began preparing a DEIR under the California Environmental Quality Act (CEQA) solely to remove this 401 Cert requirement.

Meanwhile, comprehensive studies were being carried out under the Project’s FERC License Article 424 to address whitewater recreational interests in the context of competing beneficial uses within the Project’s bypass section. (2003 FERC license, Art. 424, par. 1.) In 2011, the resulting recommendations for four fall days of whitewater flows were submitted to and adopted by FERC “in lieu of any previously scheduled May, June, and July flows.” The balancing of interests also required PG&E to develop a Pit River boating put-in that ultimately became the Pit River Access at Fall River Mills (Put-In) and cost over \$800,000



(escalating from an estimate of approximately \$150,000 due largely to discovered cultural resources). Fall whitewater flow releases began in 2011 and have continued annually. In its studies and orders, FERC accounted for the loss of temporary summer flows after 2009 and considered the four days of fall flows and other public improvements to be adequate compensation for the loss of summer flushing flows. (See exhibits in letter dated October 13, 2017 to David Rose, SWB, from Jo Lynn Lambert (Rose letter).) Likewise, the SWB's June 2017 DEIR concluded, based in part on boating counts, that the replacement of the temporary summer flows with fall flows would have a less-than-significant impact on recreation. (See, e.g., DEIR at 3-60 – 3-63.) For reference, the average boating use of the four days of fall boating releases of the three years from 2012 to 2014 was 254 boater-days, and average boating use of the six days of last three years of summer releases from 2007 to 2009 was 268 boater days, which are roughly similar.

In a January 10, 2018 letter to PG&E though, the SWB staff revised its position. While not disagreeing with the FERC record evidence, the SWB indicated that it now disagrees with FERC's conclusion that the four days of fall recreational flows (not required in the original 2001 401 Cert) are equivalent "in lieu replacement" to the six days of summer flushing flows stopped due to adverse biological effects. The SWB directed PG&E to seek "mutually agreed-upon actions" to further address the loss of temporary summer boating opportunities before the SWB prepares and circulates a new DEIR.

PG&E continues to believe that the FERC balancing of recreational uses was a comprehensive and fair weighing of competing interests. However, in an effort to address remaining concerns and reach an agreement between all beneficial uses, while continuing to ensure less-than-significant impacts in all impact areas, PG&E has contacted members of AW to discuss their concerns. In a letter to the SWB dated June 29, 2018, AW further articulated those concerns. Although "mutually agreed-upon actions" may be unrealistic among such disparate interests, PG&E offers the following good faith recommendations to address the concerns raised by AW.

## **II. PROPOSALS**

### **A. Improve Put-In Access**

AW has indicated that access to the Pit River at the current Put-In near Cassel-Fall River Road Bridge is inadequate and asks that PG&E be required to increase parking capacity or otherwise accommodate public access during the October releases. (AW at 2, §A.) PG&E proposes to address this issue by providing 12 additional overflow parking spaces in the vicinity of the current Put-In to be completed within two years of FERC's acceptance of the amended 401 Certification. PG&E is aware from its development of the Put-In site that there are significant cultural resources in the area that complicate further construction near the Put-In. Because of these cultural considerations and the additional research, consultation, design, and construction needed for any additional development in this area, PG&E is currently investigating various options for providing overflow parking in this vicinity.

## B. Direct Boaters to Existing Overflow Camping at Cassel Campground

AW has indicated that additional camping space is needed during the October releases, citing use numbers during those weekends at the nearby U.S. Bureau of Land Management's (BLM) Pit River Campground between 50 to 100 people (AW at 2, §B.) This campground has a normal capacity of 52 campers, and with existing overflow camping areas, a capacity of 78 campers. AW has requested camping for an additional 50 people. (*Id.*) PG&E contacted the BLM about the possibility of developing additional overflow camping areas during the whitewater release weekends. BLM was not supportive of this proposal.

PG&E operates the Cassel Campground in Cassel, CA next to Hat Creek, approximately 8 miles from the BLM Pit River Campground and approximately 13 miles from the current Put-In. Cassel Campground has vault toilets, potable water, and 27 campsites that can accommodate 162 campers at a time. Over the last several years, October occupancy averaged 5 campsites per day, which means on average there are 22 unoccupied campsites that can accommodate 132 additional campers with full campground amenities and without potential environmental impacts from providing a new area to accommodate overflow campers from the BLM campground. Considering the current usage numbers, this facility has the capacity to accommodate at least an additional 50 campers at any time in October.

PG&E does not believe that this camping facility is well known by the boating public. The usage numbers of the BLM Pit River and PG&E Cassel Campgrounds indicate that the current facilities in the area are more than adequate to meet the recreational demand during the fall releases. To let campers know about this camping facility, PG&E proposes to affirmatively direct overflow campers at the BLM Pit River Campground to the nearby Cassel Campground during October whitewater releases by posting posters at the BLM campground and/or otherwise providing information about Cassel Campground as needed. AW can also communicate about this campground on its website. This nearby campground should address the need for additional camping space.

## C. Commit to Two Weekends of Whitewater Releases in October

AW has requested that PG&E be required to always perform whitewater releases over two weekends in October (2 days each weekend), rather than over one weekend (4 days in one weekend), even though the FERC license condition allows either option. (AW at 2, §C.) Doing the releases over two weekends is more difficult for PG&E because of a) additional staffing needed by operation staff, b) increased risk to public safety, c) increased risk of deviating from the License Article 402-required 700 cfs minimum instream flow release below the Pit 1 Powerhouse, and d) lost generation revenue. Nevertheless, PG&E recognizes that fewer boaters have used the river on Friday or Monday release days and proposes to commit to always perform the four days of whitewater releases over two weekends (two Saturdays and two Sundays) in October, beginning in 2018. By committing to releases over two weekends, PG&E will ensure that the boating community will have more opportunities to enjoy these whitewater releases while also distributing recreational use over two weekends.



#### D. Commit to Consult with AW to Schedule October Releases

AW has requested that PG&E consult with AW when scheduling the October releases.<sup>1</sup> (AW at 2, §C.) PG&E agrees to informally consult with AW annually regarding the scheduling of these weekends. Consultation should facilitate AW's ability to provide outreach to its members and the general boating public about when the October releases will take place, maximizing recreational uses.

### III. ADDITIONAL COMMENTS

To restate PG&E's position, Article 424 of the 2003 FERC license was intended to address all whitewater recreational releases during the year, and the required study did, in fact, incorporate the termination of temporary summer flushing flows into its conclusions and recommendations that were adopted by FERC in 2011. At no time did ten days of recreation releases (flushing flows and whitewater releases) ever occur in the same year, nor was it ever the intent of FERC to have ten days of whitewater boating releases as a License condition. AW is therefore incorrect that eliminating summer flows has reduced total whitewater boating opportunities under the FERC license by 60% (AW at 2, §C). FERC found that the balancing of recreational interests was approximately equal when it determined that the fall flows were "in lieu" of the summer flushing flows. Because FERC accounted for the lost summer flows, no boating opportunities provided under the FERC License – and certainly not a majority – were "lost." (*See gen'ly* Rose letter.) In addition, as indicated above, boating use of the four days of October whitewater release and the six days of summer flushing flow release are similar indicating that fall flows are benefiting roughly the same number of boaters.

It is also worth noting that "equivalent" replacement of the loss of the incidental summer whitewater boating opportunities is not the standard under CEQA. Rather, the question is whether the loss of the incidental summer boating flows, replaced with the fall flows, creation of the Pit River Access at Fall River Mills, and the additional proposals described in this letter, constitute a significant impact under CEQA. PG&E believes that its proposals plainly establish a less-than-significant impact on recreation under CEQA.

### IV. CONCLUSION

PG&E believes that SWB's conclusion that impacts on recreation would be less than significant was correct in its 2017 DEIR; the additional measures proposed herein

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<sup>1</sup> AW additionally suggests that PG&E should "gain approval from" AW and the SWB for the scheduled release days. PG&E believes that consulting with AW will address AW's concerns without an approval requirement and, further, that the need for approval from either AW or the SWB could be unnecessarily onerous, cause delays or interfere with operations; given that there are few fall weekends available in any event, such approval from either body does not appear justified. Instead, to ensure that AW has adequate notice of the fall flows and to facilitate communication, PG&E proposes to informally consult with AW on scheduling the fall releases.

substantially buttress that conclusion by addressing each of the concerns raised by AW.<sup>2</sup> Specifically, PG&E proposes to:

- a) Provide 12 additional overflow parking spaces in the vicinity of the current Pit River Access at Fall River Mills Put-In within two years of FERC's acceptance of the amended 401 Certification.
- b) Post posters at the BLM Pit River Campground during whitewater release weekends informing boaters that there are additional camping opportunities at the nearby Cassel Campground, or use other means to direct campers to this available local campground.
- c) Commit to perform whitewater releases over two weekends in October rather than four consecutive days over one weekend as allowed by the FERC license.
- d) Informally consult with AW annually before scheduling the October release dates.

Given that the SWB originally determined that the elimination of temporary summer flushing flows would have a "less than significant" impact on recreation, PG&E believes the above additional measures will ensure a continued, high-quality recreation experience for the boating community while still maintaining a balance of beneficial uses with environmental, cultural, and operational considerations.

Sincerely,

*Janet Walther*

Janet Walther  
Senior Manager, Hydro Licensing  
Pacific Gas and Electric Company

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<sup>2</sup> AW's request for a temporary additional fall release is unnecessary given that all PG&E proposals can be put in place at once except for the additional parking, which PG&E has committed to constructing within two years of FERC's acceptance of the amended 401 Certification. It is also unduly burdensome for the reasons stated in Section II.C above.

Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment,  
FERC Project No. 2687

APPENDIX

F

STATE WATER BOARD  
ORDER WQ 2019-0035



STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

**ORDER WQ 2019-0035-EXEC**

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In the Matter of the Request to Amend Water Quality Certification for the  
**PIT 1 HYDROELECTRIC PROJECT FOR  
PACIFIC GAS AND ELECTRIC COMPANY  
FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2687**

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SOURCE: Pit River

COUNTY: Shasta

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**ORDER APPROVING EXTENSION OF TEMPORARY SUSPENSION OF  
FLUSHING FLOW REQUIREMENTS**

BY THE EXECUTIVE DIRECTOR:

**1.0 PROJECT BACKGROUND**

The State Water Resources Control Board (State Water Board) issued a water quality certification (certification) for the Pit 1 Hydroelectric Project (Project), Federal Energy Regulatory Commission (Commission) Project No. 2687 on December 4, 2001. The certification was incorporated into the license issued by the Commission on March 19, 2003. Condition 13 of the certification requires, in part, Pacific Gas and Electric Company (PG&E or Licensee) to release flushing flows through Fall River Pond. The flows are required to be released during one weekend in each of May or June, July, and August, to reduce nuisance aquatic growth and control mosquito populations in Fall River Pond. Condition 14 of the certification requires PG&E to monitor the effectiveness of the flushing flows and allows the Deputy Director for Water Rights (Deputy Director) to modify or terminate the flushing flow monitoring program after review of the 5-year monitoring report prepared by the Licensee.

The Shasta crayfish (*Pacifastacus fortis*) was listed as endangered under both the California and Federal Endangered Species Acts in 1988. The United States Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) for the Project on October 24, 2002, that included an incidental take statement with terms and conditions to minimize incidental take of Shasta crayfish. The BO concluded that approval of a new license for operation of the Project with flushing flows, as proposed in the final Environmental Assessment, would not jeopardize the continued existence of the Shasta crayfish.

In 2003, PG&E formed a technical review committee (TRC) to oversee management activities throughout the range of the Shasta crayfish. The USFWS formed the Shasta Crayfish Recovery Team, which is comprised of a subset of the TRC members. The Shasta Crayfish Recovery Team developed a Recovery Plan for Shasta Crayfish (Recovery Plan). The Recovery Plan aims to stabilize and protect the existing populations of Shasta crayfish so that the species may recover and be reclassified as threatened and ultimately delisted. The Recovery Plan identified the introduction and expansion of non-native species of crayfish and fish as well as disturbances related to land use practices as primary threats to the continued existence of a viable Shasta crayfish population in the Pit River. PG&E monitored Shasta crayfish populations at multiple locations within the Project and the Hat Creek Hydroelectric Project areas. The TRC Summary Report (Report), dated May 2009, includes a summary of surveys conducted on Shasta crayfish populations. Three locations on the mainstem Pit River within the Project area were surveyed. The Report indicates that there has been a general decline in Shasta crayfish distribution and abundance at all sites.

## **2.0 HISTORY OF SUSPENSION OF FLUSHING FLOWS**

USFWS submitted a letter (received on May 21, 2009) to the State Water Board requesting the suspension of flushing flows for the summer of 2009 due to concerns that the flows were contributing to the decline of the local Shasta crayfish population.

On June 17, 2009, the State Water Board responded to USFWS's request for suspension of flushing flows, advising USFWS that if PG&E determines the flushing flows are no longer necessary for controlling aquatic vegetation and mosquito production in Fall River Pond, PG&E could request termination of the flushing flow conditions in the certification.

PG&E monitored the effectiveness of flushing flows at reducing aquatic vegetation and the amount of mosquito breeding habitat from 2005 to 2008. Data collected during this period indicate that increased base flows may be more effective than flushing flows for reducing unwanted vegetation and the amount of mosquito breeding habitat. On June 24, 2009, PG&E submitted a request to the State Water Board to amend the certification to remove Conditions 13 (flushing flows) and 14 (flushing flow effectiveness monitoring) based on data showing that surface vegetation in Fall River Pond has been reduced, which in turn reduced the amount of mosquito breeding habitat, under the 150 cubic feet per second minimum instream flow required by the current license conditions. In a letter dated August 28, 2009, State Water Board staff notified PG&E that before an amendment of the certification can be considered, the State Water Board must comply with the California Environmental Quality Act (CEQA).

USFWS submitted a letter to the Commission dated December 17, 2009, stating that the BO issued on October 24, 2004 expired, and there is no authorized incidental take for Shasta crayfish for the Project. USFWS also stated that flushing flows are likely resulting in take, and are facilitating the decline of the endangered Shasta crayfish in the Pit 1 Bypass Reach.



In a letter dated April 15, 2010, Commission staff requested that the State Water Board temporarily suspend the flushing flows requirement (Condition 13 of the certification) for 2010. The Commission's letter recognized that the Commission cannot unilaterally amend a water quality certification condition.

While the flushing flows provide an incidental whitewater recreational opportunity, a precautionary approach to endangered species protection is warranted, and the State Water Board determined it would be reasonable to temporarily suspend flushing flows for 2010 and 2011 while the CEQA process was undertaken for a permanent suspension of these flows. On July 6, 2010, the State Water Board issued [Order WQ 2010-0009-EXEC](#), temporarily suspending flushing flow requirements through 2011. The State Water Board and PG&E entered into a Memorandum of Understanding (MOU) for the preparation of environmental documents, which was executed on July 7, 2011. On January 23, 2017, the MOU was amended to reflect the consultant's name change and to update the Project managers for both the consultant and State Water Board; the amendment did not modify or change any provision of the MOU.

In a letter dated March 22, 2012, PG&E requested that the State Water Board's order temporarily suspending flushing flows be extended through 2012 because PG&E had not completed the studies necessary to properly evaluate the impacts of permanently suspending flushing flows. USFWS staff supported PG&E's request for this extension in an email dated March 27, 2012. On June 14, 2012, the State Water Board approved [Order WQ 2012-0008-EXEC](#), extending the suspension of flushing flows through 2012. As required by Order WQ 2010-0009-EXEC, PG&E issued the final Pit 1 Hydroelectric Project Shasta Crayfish Study Report on January 31, 2013.

State Water Board staff's work on the CEQA document was delayed from 2013 through 2016 during California's historic drought. On March 28, 2013, April 21, 2014, March 19, 2015, and March 31, 2016, PG&E submitted letters requesting additional one-year extensions to the suspension of Project flushing flows to allow for the completion of the draft environmental impact report (EIR) required by CEQA.

USFWS provided letters of support on May 17, 2013, April 21, 2014, March 19, 2015, and June 9, 2016, respectively. On June 20, 2013, June 12, 2014, June 23, 2015, and June 28, 2016, the State Water Board issued Orders [WQ 2013-0024-EXEC](#), [WQ 2014-0023-EXEC](#), [WQ 2015-0076-EXEC](#), and [WQ 2016-0072-EXEC](#), respectively, approving the temporary suspension of flushing flow requirements through 2013, 2014, 2015, and 2016, respectively.

The State Water Board released the draft EIR for public comment from June 26, 2017 through August 15, 2017. In letters dated April 18, 2017 and February 7, 2018, PG&E requested additional one-year extensions of the suspension of Project flushing flows to allow for completion of the CEQA process. USFWS provided letters of support on June 13, 2017 and March 26, 2018, respectively. On June 27, 2017 and June 26, 2018, the State Water Board issued Orders [WQ 2017-0014-EXEC](#) and

[WQ-2018-0111-EXEC](#), extending the temporary suspension of flushing flows through 2017 and 2018.

On February 7, 2019, PG&E submitted a letter requesting an extension of the suspension of flushing flows because the draft EIR will not be finalized prior to the timeframe for implementing the required 2019 flushing flows. USFWS supported PG&E's request in a letter dated May 28, 2019.

### **3.0 CEQA**

Because the potential for a significant environmental impact exists if flushing flows are permanently suspended, the State Water Board cannot amend the Project certification without subjecting the proposal to a CEQA analysis. On May 17, 2013, the State Water Board issued the Notice of Preparation and conducted public scoping meetings for an Environmental Impact Report for the Pit 1 Hydroelectric Project 401 Water Quality Certification Amendment. Public scoping meetings were held by State Water Board staff in Redding and McArthur, California on June 11, 2013. In addition to the comments submitted at the meetings, State Water Board staff received written comments from the California Department of Fish and Wildlife, American Whitewater, and 18 members of the public. The information gathered aided in the development of a draft EIR, which was released for public comment on June 26, 2017. The State Water Board received two comment letters by the conclusion of the comment period on August 15, 2017.

If the requirement for flushing flows is suspended for a limited period, with continued monitoring of effects until a full CEQA analysis can be completed, significant impacts can be avoided. The State Water Board has determined the temporary suspension of flushing flows for 2019 will not have a significant adverse environmental effect and is categorically exempt from the requirements to prepare environmental documents under California Code of Regulations, title 14, section 15307 (Actions by Regulatory Agencies for Protection of Natural Resources). A Notice of Exemption will be filed within five days of issuance of this action.

## **ORDER**

### **IT IS HEREBY ORDERED THAT:**

1. PG&E shall continue the suspension of flushing flows through the 2019 calendar year.
2. PG&E shall continue monitoring the effectiveness of the higher base flows at controlling aquatic vegetation and mosquito production in Fall River Pond as follows:
  - a. Conduct ground-level photo-point monitoring, as described in the Pit 1 Flushing Flows Effectiveness Monitoring Plan (dated November 9, 2005) (Plan).



- b. Estimate surface aquatic vegetation cover in Fall River Pond as described in the 2006 Pit 1 Flushing Flows Effectiveness Monitoring Report. If visual estimates on a given date exceed 20 percent cover of Fall River Pond, PG&E shall conduct aerial orthophotography of Fall River Pond, as described in the Plan.
  - c. If aerial orthophotography of Fall River Pond confirms that aquatic vegetation exceeds 20 percent cover (as described above), PG&E shall submit proposed measures to control aquatic vegetation to the Deputy Director for review and approval. PG&E shall implement the aquatic vegetation control measures as approved by the Deputy Director.
3. PG&E shall provide the USFWS with any information that is in PG&E's possession that is required for the completion of an updated BO for the Project.
4. PG&E shall conduct studies, as necessary, to evaluate the potential for flushing flows to cause a "take" in violation of either the Federal or California Endangered Species Acts.

Dated: JUNE 28, 2019

ORIGINAL SIGNED BY:

Eileen Sobeck  
Executive Director



Pit 1 Hydroelectric Project 401 Water  
Quality Certification Amendment,  
FERC Project No. 2687

APPENDIX

G

FINAL ENVIRONMENTAL IMPACT  
REPORT RESPONSES TO  
COMMENTS





Power Generation

245 Market Street  
San Francisco, CA 94105Mailing Address:  
Mail Code N11D  
P.O. Box 770000  
San Francisco, CA 94177

May 21, 2021

**Via E-mail**

Ms. Savannah Downey  
State Water Resources Control Board  
Division of Water Rights – Water Quality Certification Program  
P.O. Box 2000  
Sacramento, CA 95812-2000

**RE: Pit 1 Hydroelectric Project; FERC No. 2687  
Response to Recirculated Draft Environmental Impact Report**

Dear Ms. Downey:

Pacific Gas and Electric Company (“PG&E”) appreciates the opportunity to provide these comments on the Recirculated Draft Environmental Impact Report (“RDEIR”) issued by the State Water Resources Control Board (“Board” or “Water Board”) for PG&E’s Pit 1 Hydroelectric Project.

**I. BACKGROUND**

Condition 13 of the Water Board’s 2001 Clean Water Act Section 401 Water Quality Certification, incorporated in the Federal Energy Regulatory Commission (“FERC”) License No. 2687 for the Pit #1 Hydroelectrical Project (“2003 FERC license”), requires PG&E to release summer “flushing flows” from Pit #1 to abate aquatic vegetation and mosquitoes. FERC recommended against recreational whitewater releases during summer months due to biological concerns. Nevertheless, in accordance with Condition 13, 6 days of flushing flows took place yearly from 2003 to 2009, when they were terminated after the U.S. Fish and Wildlife Service (“USFWS”) concluded that further summer flows would harm the Shasta crayfish and violate the Endangered Species Act. PG&E petitioned the Water Board in 2009 to permanently stop the summer flushing flows, and the Board began preparing its Draft Environmental Impact Report to comply with the California Environmental Quality Act (“CEQA”) in 2013. It was issued in June 2017 (“2017 DEIR”).

On January 10, 2018, after receiving a comment letter from American Whitewater (“AW”) on the 2017 DEIR and over strenuous objections from PG&E, Board staff issued a letter advising PG&E that the Board intended to revise and recirculate the 2017 DEIR. (See letter dated 1-10-2018, attached hereto as Exhibit A.)

According to the letter, recirculation was required solely to address the perceived “loss of incidental whitewater summer boating opportunities” occasioned by PG&E’s request to halt summer flushing flows. (Exhibit A, at 1.) The Board’s letter rejected FERC’s conclusion that the October flows subsequently required under FERC License Article 424 were “in lieu” replacement of the summer flows, and instead “strongly encourage[d]” PG&E to confer with members of the boating community, including AW, to “develop mutually agreed-upon actions” to “ensure . . . the impact of lost incidental whitewater summer boating opportunities is less than significant.” The letter concluded:

If State Water Board staff does not receive mutually agreed-upon mitigation for the lost summer boating opportunity by the date requested, State Water Board staff will develop and analyze a range of feasible alternatives to include in the re-circulated DEIR.

(*Id.* at 1-2.)

In PG&E’s view, AW had already received adequate “mitigation” under FERC License Articles 423 and 424 and was taking this opportunity to extract additional whitewater recreational improvements outside of FERC’s balancing of competing interests. In accordance with Article 424, comprehensive studies had been carried out to address whitewater recreational interests in the context of competing beneficial uses downstream from Pit #1. (2003 FERC license, Art. 424, par. 1.) In 2011, the resulting recommendations for 4 fall days of whitewater flows were submitted to and adopted by FERC “in lieu of any previously scheduled May, June, and July flows.” (See, e.g., FERC Order Approving Final Whitewater Boating Flow Schedule (June 14, 2011) 135 FERC ¶ 62,215, at par. 7.) The balancing of interests also required PG&E to develop a boating access point at Fall River Mills, under Article 423, that included not only a watercraft launch but also an interpretive display, restroom, and parking at a cost of \$800,000.

Fall whitewater flow releases began in 2011 and have continued annually. In its studies and orders concerning whitewater recreation, FERC took into account the loss of summer flows after 2009 and considered the 4 days of fall flows to be adequate compensation for the loss of summer flushing flows. (See Part II.C below.) Likewise, the Board’s 2017 DEIR concluded, based in part on boating counts, that the replacement of summer flows with fall flows would have a less-than-significant impact on recreation. (See, e.g., 2017 DEIR at 3-60 – 3-63.)

After the Board’s January 10, 2018 directive to PG&E to find additional mitigation to satisfy AW, no agreement between AW and PG&E was reached. AW submitted a letter to the Board summarizing its list of demands – including a new campground along the Pit 1 Reach – on June 29, 2018. (See RDEIR, Appendix D, AW letter.) PG&E responded to the Board in a letter dated October 17, 2018. (*Id.*, PG&E response.) While again observing that FERC had already accounted for the loss of summer

flushing flows in the Article 424 efforts *and* that impacts were already less-than-significant, PG&E proposed to provide four additional whitewater recreation amenities:

- Provide 12 additional overflow parking spaces near the current Cassel Bridge Boater Put-In within two years of FERC's acceptance of the amended 401 Certification.
- Direct campers to another local campground.
- Perform whitewater releases over two weekends in October rather than four consecutive days over one weekend as allowed by the FERC license.
- Informally consult with AW annually before scheduling the October release dates.

(*Id.* at 1-5.)

While the RDEIR included PG&E's proposal letter in Appendix D, it did not include the Water Board's January 10, 2018 letter to PG&E anywhere in the record. PG&E requests that this key document be added to the RDEIR's appendices and narrative, as it explains the reason for PG&E's proposal.

## II. IMPACT ANALYSIS

The RDEIR correctly concludes that any environmental impacts from the loss of summer flushing flows and the additional recreational enhancements made in response to the Board's January 10, 2018 letter will be less than significant. In fact, the record indicates that moving the summer flushing flows to October, alone, would not create a significant environmental impact and *would* provide a significant, legally-mandated environmental benefit. The additional enhancements contributed by PG&E under Board direction are simply that – enhancements – that further reduce less-than-significant impacts. PG&E requests that the RDEIR be revised to reflect this.

### A. **The Environmental Baseline Adopted in the RDEIR is Incorrect**

1-1

To assess the potential impacts of a project, the lead agency must determine the existing environmental conditions from which to measure those impacts, commonly referred to as the environmental "baseline." Section 15125 (a) of the Guidelines for Implementation of the California Environmental Quality Act (Cal. Code Regs., tit. 14, §§ 15000 ("CEQA Guidelines")) explains that "[t]his environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." (*Id.*, emphasis added.)

The California Supreme Court has confirmed this basic rule in three recent cases. (See *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1167-1168; *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 321-323 (*CBE v. South Coast*); *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013), 57 Cal.4th 439, 448. In all three cases, the lead agencies had employed a

baseline that was different from the existing physical conditions, and the California Supreme Court rejected the attempt.

The Water Board did not follow the general rule and adopt the environmental baseline existing at the time the Notice of Preparation (“NOP”) was issued on May 17, 2013, which would have been four days of whitewater rafting opportunities per year, in October. Continuing suspensions of the summer flushing flows had been in place since summer 2010, and FERC had approved the final recommendations on the recreational whitewater flow releases that, based on the results of several studies concerning various beneficial uses, had rejected summer releases in favor of October releases “to minimize negative impacts to biological resources.” To follow the general rule would have nullified the need for the RDEIR.

Nor did the Water Board choose to assess project impacts against the baseline existing in 2009, prior to suspension of the flushing flows, as it used for its 2017 DEIR (NOP, at 3). Instead, the Board selected a hypothetical baseline of the Pit 1 Project “as currently licensed” (see RDEIR at 3.1.1<sup>1</sup>). The California Supreme Court unequivocally rejected this approach in *CBE v. South Coast*, declaring that the baseline must be based upon actual physical conditions rather than conditions allowed by a plan or regulatory framework. (48 Cal.4<sup>th</sup> at 321-323.)

PG&E requests that the Board correct its baseline and, if summer of 2009 is selected, recognize that the baseline must include the full context surrounding the 2009 summer flushing flows.

**B. The Environmental Baseline Must Include Summer Flushing Flows in the Context of Ongoing Studies, Uncertainties and Biological Concerns**

**1-2**

To characterize the summer flushing flows that occurred between 2003 and 2009 as a permanent, incidental recreational use worthy of permanent mitigation ignores the context in which they were adopted. FERC’s environmental analysis did not recommend summer flushing flows from the outset due to biological concerns, and the Board’s Condition 14 provided the possibility of discontinuing the flows after further study.

FERC’s Environmental Assessment for Hydropower License for the Pit 1 Hydroelectric Project dated April 29, 1999 (“FERC EA” or “EA”) analyzed whitewater releases at pages 59-60, recognizing that AW and Shasta Paddlers wanted high flows during July, August and September, and that whitewater flows were also proposed by PG&E “as an alternative to mechanical harvesting of aquatic vegetation in Fall River Pond.”

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<sup>1</sup> “The environmental baseline considered for this California Environmental Quality Act (CEQA) analysis is PG&E’s Pit 1 Hydroelectric Project (Pit 1 Project) as currently licensed by FERC, which includes the occurrence of flushing flows in the summer months prior to the temporary suspension of those flows.”



Nevertheless, the FERC EA concluded that “whitewater flow releases could adversely impact fisheries in Fall River Pond and downstream areas, especially during July and August.” (Id. at 59, 60.) In the section entitled “Recreation Enhancements” at pages 155-159, the EA listed concerns about high flows during summer and early fall, even while recognizing the benefits to whitewater boating, and recommended that PG&E conduct a study to provide for whitewater boating between September 15 and October 30. (Id. at 157.) The EA explained:

We currently do not recommend that if deemed appropriate, scheduled recreational releases occur from May 1 to September 15 because of potential washout of thermal refuges that are important to trout, downstream flushing and stranding of young fish, and disruption of riparian vegetation and wildlife during the breeding and growing season.

(Id., fn. 9.)

The EA concluded that PG&E’s development of a Recreation Management Plan “would provide mechanisms to ensure that public access and recreational opportunities within the project area are developed in a comprehensive manner and in a manner such that other non-recreational resources are balanced.” (Id. at 158.)

The 2003 FERC License adopted the EA’s recommendations. In the section entitled “Whitewater Boating Flows,” the Order explained why AW’s request to schedule high flows in summer and early fall was rejected:

[AW] and Shasta Paddlers recommended that PG&E provide 13 days with flows of 1,250 cfs to 1,750 cfs during the day on weekend and holidays during the summer and early fall. Wild Trout recommended studies to assess the potential adverse effects of whitewater boating flows on environmental and cultural resources. In the final EA, staff recognized that these high periodic flow releases during the period between May 1 and September 15 could result in fish stranding; increased riparian and wetland vegetation scouring; increased direct mortality on nesting birds, small mammals, amphibians, and reptiles that breed in floodplain habitats; and an overall upsetting of the riverine cultural sites and reduce angling opportunities. *Because of these concerns, the EA recommends a study of whitewater flow releases after this period, between September 15 and October 30.*

(2003 FERC License, p. 17, § B, par. 51 (emphasis added).)

Article 424 of the License required PG&E to file a plan to conduct a recreational boating use study to assess potential impacts of whitewater boating flows on fish, wildlife, cultural and recreational resources within the project area.

Although the Water Board subsequently adopted Conditions 13 and 14 (which were incorporated into the FERC license) requiring the summer flushing flows for purposes of vegetation and mosquito abatement rather than for whitewater recreation (see Condition 13), there was no indication in these conditions that the flows would be permanent. On the contrary, Condition 14 required PG&E to monitor the effectiveness of the flows on abatement, and enabled the Chief of the Division of Water Rights to “modify or terminate the flushing flow monitoring program after review of the 5-year monitoring report prepared by the licensee.”

**C. The Boating Use Study Incorporated the Loss of Incidental Recreational Use of the Summer Flushing Flows**

1-3

After consulting with AW and other interested parties, PG&E filed the boating use study plan, which was approved by FERC on July 27, 2004. Phase 1 of the study was to review existing information, and to determine the studies needed in Phase 2. The plan for Phase 2 studies was filed on June 16, 2006 and approved by FERC on August 24, 2006. (See *gen’ly* Pit 1 Phase 2 Whitewater Boating Flow Report dated March 31, 2008 (“Phase 2 Boating Study”).)

PG&E’s Phase 2 Boating Study was submitted to FERC in accordance with Article 424. In the report, PG&E asked to defer its final recommendations on whitewater boating flows pending receipt of conclusions of monitoring studies of “critical biological resources and their habitats within the Pit 1 Project,” including studies on the flushing flows required by Condition 14:

These monitoring studies include Shasta crayfish (Article 410, 411), bald eagle (Article 419), fish (SWRCB Condition 18), northwestern pond turtles (Article 421), foothill yellow-legged frogs (Article 420), *flushing flow effects on Fall River Pond vegetation (Article 401, SWRCB Condition 14)*, and water quality (Article 401, SWRCB Conditions 16 and 17). The purpose of these license-required studies is to monitor potential effects of the changes in flow regime under the current Project license, including conditions specified in the 401 Certification.

(See Phase 2 Boating Study, § 5-3, p. 5-3 (emphasis added).)

The recommendations leave no doubt that the boating study was intended to be a comprehensive evaluation: “PG&E proposes to corroborate these resource-specific recommendations with the conclusions of this study to provide a final recommendation for whitewater boating flows during the September 15 – October 30 period specified by FERC (FERC 1999, 2003).” (*Id.*) FERC agreed to this approach on July 16, 2009.

After obtaining study results, PG&E completed the comprehensive report and filed the Pit 1 Project Whitewater Boating Flow Recommendations (Spring Rivers 2011a) (“Final Boating Recommendations”) with FERC in March 2011. In the report, PG&E proposed recreational whitewater boating flow releases in October rather than other times, such

as the summer flushing flows, “to minimize negative impacts to biological resources.” (*Id.* at 29.) The report explicitly factored the loss of summer flushing flows into its calculations:

Based on the results from the critical biological resource studies as well as the evidence that out-of-season high flows through the Pit 1 Bypass Reach, such as summer flushing flows, may have deleterious effects on Shasta crayfish habitat and populations and other sensitive aquatic organisms, PG&E is recommending recreational whitewater flow releases in October on or before the 30th to minimize negative impacts to biological resources.

Recreational Whitewater Boating Flow Releases in October on or before the 30th will:

- 1) Avoid the thermal effects of summer pulsed flows on Shasta crayfish, aquatic molluscs, fish, and their habitat.
- 2) Avoid the hydraulic changes caused by pulsed flows in the spring and summer on native freshwater mussels.
- 3) Minimize the magnitude of the flow change. (Because minimum instream flow release into the bypass reaches changes from 150 cfs to 75 cfs at the end of October, recreational boating flows will not be released after October 30th).

(*Id.*)

On June 14, 2011, FERC issued an order approving the final October whitewater boating flow schedule. (FERC Order Approving Final Whitewater Boating Flow Schedule (June 14, 2011) 135 FERC ¶ 62,215 (“Whitewater Flow Order”).) The FERC order noted that PG&E recommended October flows, but not summer flushing flows, based on the results of critical biological studies. (*Id.* at par. 3.) FERC approved the recommendation, ordering the implementation of October recreational whitewater boating flow releases in the Pit 1 Bypass Reach as a beneficial use of the Pit River and “in lieu of any previously scheduled May, June, and July flows.” (*Id.* at par. 7; RDEIR at 1-5.)

**D. Environmental Impacts from Rescheduling the Summer Flushing Flows are Less Than Significant Without the Additional Whitewater Recreation Enhancements**

1-4

The RDEIR generally provides a thoughtful and thorough assessment of environmental impacts of the project reviewed, which includes removing the 6 days of summer flushing flows, adding 4 days of October whitewater flows, and the additional enhancements proposed by PG&E at the direction of the Water Board. (See RDEIR, p. xv-xvi.) It

reviews boating studies and other available records to analyze impacts to recreation and identifies no significant impacts from project components (*id.*, p. xvii). PG&E agrees with its assessment.

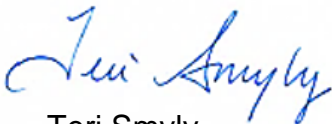
Because the additional recreational enhancements are embedded in the project, they are sometimes described as reducing a potentially-significant impact. PG&E does not believe this is accurate in light of the whole record, including the above-described consultations, studies, rulings and accommodations made during and after the FERC proceedings. As to the operational impacts described in the RDEIR, PG&E requests the following minor changes to reflect this prior history:

- Section 3.5.4, Impact REC-1: the analysis describes a positive impact on increased use of recreational facilities, including BLM's Pit River Campground and PG&E's Pit River Access, due to moving the dates of whitewater releases from summer to fall. (See RDEIR, p. 3-93.) Please revise the first 2 paragraphs on page 3-93 to indicate that the new parking facilities and other amenities will further reduce less-than-significant impacts.
- Section 3.5.4, Impact REC-5: the analysis describes a balanced view of the impacts and does not identify any impact that will "substantially reduce recreational uses" from removing summer flows and adding October flows. (See RDEIR, pp. 3-96 – 3-97.) Please revise the last paragraph to reflect that the new parking facilities and other amenities will further reduce less-than-significant impacts.

While PG&E has agreed to complete the recreational enhancements it previously proposed, the RDEIR and other supporting documents indicate that those improvements are not necessary to reduce environmental impacts to a less-than-significant level.

If you have any questions about these comments, please contact PG&E license coordinator, Sean Murphy, at (415) 309-6707.

Sincerely,



Teri Smyly  
Manager, FERC and DSOD Compliance

Attachment: (Exhibit A)

# EXHIBIT A





EDMUND G. BROWN JR.  
GOVERNOR



MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## State Water Resources Control Board

January 10, 2018

Ms. Jo Lynn Lambert  
Attorney at Law  
707 Brookside Ave.  
Redlands, CA 92373

Dear Ms. Lambert

### STATE WATER RESOURCES CONTROL BOARD RESPONSE TO PACIFIC GAS AND ELECTRIC COMPANY'S LETTER REGARDING PIT 1 HYDROELECTRIC PROJECT BASELINE, FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2687, SHASTA COUNTY

Thank you for your letter, dated October 13, 2017, discussing concerns Pacific Gas & Electric Company (PG&E) has regarding California Environmental Quality Act (CEQA) baseline conditions for the water quality certification (certification) amendment under development for the Pit 1 Hydroelectric Project. As discussed in the meeting between State Water Resources Control Board (State Water Board) and PG&E staff on October 4, 2017, State Water Board staff recognize that the September 15 - October 30 recreational boating flows under PG&E's license are not "in lieu" replacement for the loss of incidental whitewater summer boating opportunities provided by the summer flushing flows required in the existing Federal Energy Regulatory Commission (FERC) license and certification. As described in the October 4, 2017, meeting, this differs from the information presented in the draft environmental impact report (DEIR) circulated by the State Water Board on June 26, 2017. State Water Board staff intends to revise the DEIR accordingly, and recirculate the document for public comment. State Water Board staff have not yet determined the level of significance that the loss of incidental whitewater summer boating opportunities poses to recreation.<sup>1</sup> A determination of impact significance and any feasible mitigation that would lessen the impacts, if significant, will be part of the revised DEIR.

State Water Board staff strongly encourages PG&E to meet and consult with representatives of the recreational boating community, including American Whitewater, and develop mutually agreed-upon actions that would ensure the recreational beneficial use is protected and the impact of lost incidental whitewater summer boating opportunities is less than significant. State Water Board staff urges PG&E to endeavor to submit to State Water Board staff, **by February 9, 2018**, agreed-upon mitigation measures to be analyzed in the revised DEIR. If State Water

<sup>1</sup> Whitewater boating opportunities, whether planned around dedicated boating flows, or opportunistically adapted to other flows, are considered a "recreation" beneficial use as listed in the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*.

Board staff does not receive mutually agreed-upon mitigation for the lost summer boating opportunity by the date requested, State Water Board staff will develop and analyze a range of feasible alternatives to include in the re-circulated DEIR.

If you have questions regarding this letter, please contact me at (916) 341-5196, or by email at [David.Rose@waterboards.ca.gov](mailto:David.Rose@waterboards.ca.gov).

Sincerely,



David Rose  
Office of Chief Counsel  
Sincerely,

cc: **[all via mail only]**

Mr. Jim Gill  
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Ms. Annette Faraglia  
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Mail Code N11C  
P.O. Box 770000,  
San Francisco, CA 94117



**Table RTC-1. Responses to Comments on the Recirculated Draft EIR**

Comment	Response
<p><b>Comment 1-1</b>  <b>The Environmental Baseline Adopted in the Recirculated Draft Environmental Impact Report is Incorrect</b></p> <p>In both the 2017 draft Environmental Impact Report (DEIR) and recirculated draft environmental impact report (RDEIR), the State Water Resources Control Board (State Water Board) did not define the environmental baseline as the physical conditions existing at the time when the Notice of Preparation was issued on May 17, 2013. This environmental baseline would have included four days of whitewater rafting opportunities per year in October and excluded the summer flushing flows. Using this environmental baseline would have nullified the need for the RDEIR.</p> <p>Additionally, the RDEIR did not include the environmental baseline defined in the 2017 DEIR (i.e., the summer of 2009), which included implementation of the flushing flows. Instead, the RDEIR defined the environmental baseline as the Pit 1 Hydroelectric Project (Project) as currently licensed by the Federal Energy Regulatory Commission (FERC) (see RDEIR at 3.1.11).</p> <p>The Pacific Gas and Electric Company (PG&amp;E) requests that the State Water Board revise its baseline and, if the summer of 2009 period is selected as baseline, include the full context surrounding the summer flushing flows.</p>	<p>The State Water Board did not change the environmental baseline that was used in the 2017 DEIR. See Section 3.1.1 from the DEIR and RDEIR, as follows:</p> <p>DEIR: “The environmental baseline considered for this CEQA analysis is the Pit 1 Project as currently licensed by FERC, which includes the occurrence of flushing flows in the summer months prior to temporary suspension.” (2017 DEIR, page 3-1.)</p> <p>RDEIR: “The environmental baseline considered for this California Environmental Quality Act (CEQA) analysis is PG&amp;E’s Pit 1 Hydroelectric Project (Pit 1 Project) as currently licensed by FERC, which includes the occurrence of flushing flows in the summer months prior to the temporary suspension of those flows.” (2021 RDEIR, page 3-1.)</p> <p>The above two quotes demonstrate that the environmental baseline used in the RDEIR is the same as the environmental baseline used in the 2017 DEIR. The environmental baseline used in both California Environmental Quality Act (CEQA) documents includes implementation of the summer flushing flows.</p>

Comment	Response
<p><b>Comment 1-2</b>  <b>The Environmental Baseline Must Include Summer Flushing Flows in the Context of Ongoing Studies, Uncertainties and Biological Concerns</b></p> <p>To characterize the summer flushing flows that occurred between 2003 and 2009 as recreation flows that require mitigation if eliminated ignores the context in which they were adopted. FERC did not recommend summer flushing flows from the outset due to biological concerns, and the State Water Board’s Condition 14 provided the possibility of discontinuing the flows after further study.</p> <p>There was no indication in the water quality certification (certification) that Conditions 13 and 14 would be implemented for the term of the FERC license. Condition 14 required PG&amp;E to monitor the effectiveness of the flows on abatement, and enabled the Deputy Director of the Division of Water Rights to “modify or terminate the flushing flow monitoring program after review of the 5-year monitoring report prepared by the licensee.”</p>	<p>The State Water Board RDEIR appropriately described the context of the summer flushing flows as it relates to the impact analysis. The environmental baseline is, as PG&amp;E described in its Comment 1-2, the existing physical setting of the proposed project area. Including any context PG&amp;E describes in this comment would not be relevant to the environmental baseline in that the additional context provided by PG&amp;E would not add or change the physical setting used to determine impacts. The context is, however, relevant to the impacts analyses, which is why the RDEIR includes data from relevant studies/monitoring and biological concerns in Sections 3.2 to 3.5, including data from FERC’s Environmental Assessment and the recreation study required by the FERC license.</p> <p>There is no language in the Project certification indicating that the summer flushing flows were intended as temporary. The language quoted by PG&amp;E from Condition 14, regarding flushing flow effectiveness monitoring, does not imply a limitation on the duration of the flushing flows required by Condition 13. Condition 14 states that the Deputy Director of the Division of Water Rights may choose to modify or terminate the flushing flow <i>monitoring program</i>, not the flushing flows themselves. Condition 13, regarding flushing flow implementation, does not allow for modification or termination of the flushing flows, which is why PG&amp;E had to apply for a certification amendment to remove this requirement.</p>

<b>Comment</b>	<b>Response</b>
<p><b>Comment 1-3</b>  <b>The Boating Use Study Incorporated the Loss of Incidental Recreational Use of the Summer Flushing Flows</b></p> <p>After consulting with American Whitewater and other interested parties, as well as evaluating appropriate boating timing, PG&amp;E proposed recreational whitewater boating flow releases in October. The October flows were proposed to minimize negative impacts to biological resources. PG&amp;E's final boating recommendations explicitly factored the loss of summer flushing flows into its calculations.</p> <p>On June 14, 2011, FERC issued an order approving the final October whitewater boating flow schedule. The FERC order noted that PG&amp;E recommended October flows, but not summer flushing flows, based on the results of critical biological studies. FERC approved the recommendation and ordered the implementation of October recreational whitewater boating flow releases in the Pit 1 bypass reach as characterizing it as a beneficial use of the Pit River and in place of previously scheduled May, June, and July flows.</p>	<p>The State Water Board acknowledges that the Phase 2 Boating Use Study was intended to be comprehensive and discussed the loss of incidental whitewater recreation opportunities. However, the State Water Board cannot rely on a study by PG&amp;E to satisfy the requirements of CEQA. The State Water Board is required to conduct its own independent review and analysis of impacts to recreation.</p>

Comment	Response
<p><b>Comment 1-4</b>  <b>Environmental Impacts from Rescheduling the Summer Flushing Flows are Less Than Significant Without the Additional Whitewater Recreation Enhancements</b></p> <p>Since the additional recreational enhancements are embedded in the Project, they are described as reducing a potentially significant impact. PG&amp;E does not believe this is accurate in light of the whole record, including the consultations, studies, rulings and accommodations made during and after the FERC proceedings. For the operational impacts described in the RDEIR, PG&amp;E requests the following changes:</p> <ul style="list-style-type: none"> <li>• Section 3.5.4, Impact REC-1: Please revise the first two paragraphs on page 3-93 to indicate that the new parking facilities and other amenities will further reduce less-than-significant impacts.</li> <li>• Section 3.5.4, Impact REC-5: Please revise the last paragraph to reflect that the new parking facilities and other amenities will further reduce less-than-significant impacts.</li> </ul>	<p>These changes have been incorporated into the Final EIR. See the Final EIR pages 3-94 and 3-98.</p>