

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification for the

**BATTLE CREEK SALMON AND STEELHEAD
RESTORATION PROJECT PHASE 2**

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 1121

SOURCE: Battle Creek

COUNTIES: Shasta and Tehama

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

BY THE EXECUTIVE DIRECTOR:

I. Background and Project Description

Pacific Gas and Electric Company (PG&E or Licensee) filed a water quality certification (certification) application with the State Water Resources Control Board (State Water Board) on March 9, 2016 for a Federal Energy Regulatory Commission (FERC) license amendment to implement Phase 2 of the Battle Creek Salmon and Steelhead Restoration Project (Restoration Project). The Restoration Project is a joint proposal by PG&E, the United States Department of the Interior – Bureau of Reclamation (Reclamation), California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), to reestablish naturally producing salmon and steelhead habitat on Battle Creek and its tributaries (Figure 1).

The Restoration Project will reestablish approximately 42 miles of Chinook salmon and steelhead habitat in the north and south forks of Battle Creek, plus an additional six miles of habitat on its tributaries. Habitat restoration will restore ecological processes that will allow safe passage for naturally-producing salmonids and facilitate their growth and recovery within the restoration area and the Sacramento River. Restoration will be accomplished primarily through the modification of the existing Battle Creek Hydroelectric Project (Hydroelectric Project, FERC Project No. 1121) facilities and operations, including instream flow releases. Facility and operational modifications are designed to meet habitat improvement goals without excessive loss of renewable electric generation. Specifically, the Restoration Project is intended to benefit: Central Valley spring-run Chinook salmon, state and federally listed as threatened; Sacramento River winter-run Chinook salmon, state and federally listed as endangered; and Central Valley steelhead, state and federally listed as threatened.

The Restoration Project includes modifications to facilities at nine dam sites located on the north and south forks of Battle Creek and its tributaries. This certification covers the modifications to the Hydroelectric Project from the Restoration Project elements only, not the entire Hydroelectric Project. The State Water Board will review the Hydroelectric Project's effects on

water quality and beneficial uses as part of its certification of the entire Hydroelectric Project as part of the FERC relicensing process. The FERC license for the Hydroelectric Project expires in 2026.

The Restoration Project is being implemented in phases, each with independent ecological and environmental benefits. Phases 1A and 1B of the Restoration Project were approved under a certification issued by the State Water Board on December 9, 2008. The work associated with Phases 1A and 1B of the Restoration Project commenced in early 2012 and will continue concurrent with Phase 2 activities.

PG&E's application for certification covers Phase 2 of the Restoration Project. Phase 2 includes completion of the remaining Restoration Project improvements including the removal of: Coleman Diversion Dam; Lower Ripley Creek Feeder Diversion Dam; Soap Creek Feeder Diversion Dam; and South Canal/South Diversion Dam.

II. Regulatory Authority

Water Quality Certification and Related Authorities

The federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) Section 101 of the Clean Water Act (33 U.S.C. § 1251 (g)) requires federal agencies to "co-operate with the State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources."

Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 (33 U.S.C. § 1313). Clean Water Act section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project. The State Water Board is designated as the state water pollution control agency for all purposes stated in the Clean Water Act and any other federal act. (Wat. Code, § 13160.) The State Water Board's Executive Director has been delegated the authority to issue a decision on a certification application. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

PG&E filed a certification application for the Project with the State Water Board on March 12, 2015. On March 9, 2016, PG&E withdrew and resubmitted its certification application for the Project. On July 1, 2015, the State Water Board provided public notice of the application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the State Water Board's website. No comments were received. The Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) Redding Office was consulted on the contents of this certification on March 7, 2016 and comments were incorporated into the certification conditions.

A Biological and Essential Fish Habitat Assessment (BA) was developed by the Licensee for each phase of the Restoration Project. Based on the BA, NMFS issued a Biological Opinion

(BO) for Phases 1A and 1B of the Restoration Project on July 21, 2009 and April 27, 2010, respectively. It is anticipated that NMFS will issue a BO based on the most current BA for Phase 2 of the Restoration Project before construction activities begin.

Water Quality Control Plans and Related Authorities

The California Regional Water Quality Control Boards adopt, and the State Water Board approves, water quality control plans (basin plans) for each watershed basin in the State. The basin plans designate the beneficial uses of waters within each watershed basin, and water quality objectives designed to protect those uses pursuant to section 303 of the Clean Water Act. (33 U.S.C. § 1313.) The beneficial uses together with the water quality objectives that are contained in the basin plans and state and federal anti-degradation requirements constitute California's water quality standards.

The Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) adopted, and the State Water Board and the United States Environmental Protection Agency approved, the *Water Quality Control Plan for the Central Valley-Sacramento and San Joaquin River Region* (Basin Plan). The Basin Plan identifies existing beneficial uses for Battle Creek and its tributaries as: irrigation; stock watering; power; contact recreation; canoeing and rafting; non-contact recreation; warm and cold freshwater habitat; cold migration; warm and cold spawning; and wildlife habitat.

Construction General Permit

The State Water Board has adopted a Construction General Permit, which is required for activities that disturb one or more acres of soil (Construction General Permit; Water Quality Order 2009-0009-DWQ and National Pollutant Discharge Elimination System No. CAS000002, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ). Construction activities subject to the Construction General Permit include clearing, grading and disturbances to the ground such as stockpiling or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit was used for portions of Phases 1A and 1B of the Restoration Project, and it is expected that it will be used similarly for Phase 2 of the Restoration Project.

California Environmental Quality Act

The State Water Board previously certified the adequacy of the *Battle Creek Salmon and Steelhead Restoration Project Final Environmental Impact Statement/ Environmental Impact Report* (July 2005) (State Clearinghouse No. 2000042043) (Final EIS/EIR) on September 19, 2006. The Final EIS/EIR addresses impacts and mitigation for the entire Restoration Project, including the Phase 2 portion. No subsequent or supplemental environmental impact report is required under California Code of Regulations, title 23, section 15162. California Environmental Quality Act (CEQA) findings for the Restoration Project are detailed in Attachment A of this document. Mitigation measures applicable to Phase 2 activities are incorporated as enforceable conditions of this certification.

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER RESOURCES CONTROL BOARD CERTIFIES THAT THE BATTLE CREEK SALMON AND STEELHEAD RESTORATION PROJECT PHASE 2 will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law, provided that Pacific Gas and Electric Company complies with the following terms and conditions:

CONDITION 1. The minimum instream flows specified in Table 1 shall be implemented after completion of construction of the facilities necessary to release and measure the flows. Once the facility modifications necessary to release the new flows are complete, the Licensee shall make all reasonable efforts to meet the minimum instream flows in Table 1, even if measurement devices or other ancillary facilities are still under construction. The Licensee shall notify the Deputy Director as soon as possible if minimum instream flows are not being released within six months of the completion of flow release facilities. This notification shall include information on why the minimum instream flows are not being met, what steps will be taken to provide the minimum instream flows at that location, and the timeline for the construction of measurement devices or other ancillary facilities that are hindering the release, or the initiation of, the minimum instream flows in Table 1. The Licensee shall immediately implement the minimum instream flows specified in Table 1 if the Deputy Director makes such a determination upon review of the information provided in this notice.

CONDITION 2. To prevent adverse effects of rapid changes in regulated stream flow that are inconsistent with the natural rate of change in stream flow, the Licensee, when returning the North Battle Creek Feeder (NBCF), Cross Country Canal (CCC), Eagle Canyon Canal (ECC), Inskip Canal (IC), and Coleman Canal (CC) back to service following forced or scheduled outages where the flow that had been available for diversion into the water conveyance facility had instead been released to the natural stream channel, shall divert water from the natural stream channel back into the water conveyance facility at a target ramping rate in the natural stream channel of 0.1 feet per hour (ft/hour). Compliance with the target ramping rate will be met if at least 75 percent of the actual incremental changes in flow is less than or equal to the specified ramping rate, and all of the actual incremental changes in flow are less than 150 percent of the specified ramping rate.

This ramping rate shall not apply on the South Fork of Battle Creek (IC, CC) when flows in the South Fork of Battle Creek are greater than 460 cubic feet per second (cfs). In addition, with the concurrence of the CDFW, NMFS, and USFWS, the Licensee may develop and submit for approval by the State Water Board Deputy Director for Water Rights (Deputy Director) threshold flows for any of the above-referenced locations (NBCF, CCC, ECC, IC, CC) at which the ramping rate restriction would no longer apply.

CONDITION 3. All minimum stream flows are the moving, seven-day average of the mean daily flow. Individual mean daily flows may be less than the required minimum stream flow. The instantaneous, 15-minute stream flow shall be at least 90 percent of the required minimum stream flow. No ramping is required when changing between required monthly minimum streamflows.

Battle Creek Salmon and Steelhead Restoration Project Phase 2
Water Quality Certification

Table 1: Post Phase 2 Minimum Instream Flow Releases Below Dams in North and South Forks of Battle Creek

	Minimum Instream Flow Releases by Month (cfs)											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
North Fork Battle Creek												
North Battle Creek Reservoir Dam ¹	0	0	0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0	0
Macumber Reservoir Dam ²	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Al Smith Diversion Dam	3	3	3	3	3	3	3	3	3	3	3	3
Keswick Diversion Dam ³	3	3	3	3	3	3	3	3	3	3	3	3
North Battle Creek Feeder Diversion Dam ⁴	88	88	88	67	47	47	47	47	47	47	47	88
Eagle Canyon Diversion Dam ⁵	46	46	46	46	35	35	35	35	35	35	35	46
South Fork Battle Creek												
South Diversion Dam	Facility removed; no instream flow requirement											
Inskip Diversion Dam ⁶	86	86	86	61	40	40	40	40	40	40	40	86
Coleman Diversion Dam	Facility removed; no instream flow requirement											
Baldwin Creek												
Asbury Diversion Dam	5	5	5	5	5	5	5	5	5	5	5	5

Notes:

1. To be measured at the existing weir below the dam.
2. Seepage or a controlled release may account for this flow.
3. As this release is made from the canal, it will not be required when flows are not being diverted from North Fork Battle Creek.
4. In the event that the inflow is below the instream flow requirement, the Licensee shall pass all inflow from upstream, and if necessary, release enough water from the junction box of the Volta 2 Powerhouse tailrace to satisfy the minimum instream flow requirement.
5. Release requirement is met by water released from dam and from Eagle Canyon Springs.
6. The instream flow shall be the total inflow in South Fork Battle Creek upstream of the South Powerhouse at times when the total inflow is less than the minimum instream flow for the Inskip Diversion Dam specified in Table 1.

CONDITION 4. Within six months of license issuance, the Licensee shall file a Gauging Plan with the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. The Gauging Plan shall include details of how the Licensee will measure and record minimum instream flows in order to demonstrate compliance with the flow requirements included in Table 1 of Condition 1. At a minimum the Gauging Plan shall include the: location of each gauge that will be used to demonstrate compliance; type of gauge to be installed at each location; operations and maintenance schedule for the gauges, including rating; manner and frequency the data will be recorded; and how the gauging data will be made available to the public.

CONDITION 5. The Licensee shall provide written notification to the Deputy Director when temporary modifications of the minimum stream flow requirements listed in this certification will occur due to required facility maintenance or modifications. Notification shall be provided at least 30 days prior to implementation of the temporary modifications and shall include information on the type, extent, and duration of the repairs and anticipated effect on minimum instream flows. The Licensee shall not vary from the minimum instream flow requirements if the Deputy Director objects to the temporary modification described in the notification.

CONDITION 6. Flow requirements of this certification are subject to temporary modification if required by any of the following circumstances:

- a) Equipment malfunction, emergency conditions or law enforcement activity, or critical electric system emergency beyond the control of the Licensee;
- b) A change in operation becomes necessary to comply with an order issued by the Division of Dam Safety;
- c) A change in operation becomes necessary to protect public safety; or
- d) A change in operation is requested by CDFW to protect fish and wildlife.

Prior to any temporary modification in the flow requirements, the Licensee shall provide 14 days advance notification to the Deputy Director. If advance notification is not possible because an event is unforeseeable, the Licensee shall notify the Deputy Director immediately but no later than 48 hours from the time that any temporary modification has occurred. If the temporary modification to the flow requirements is still in effect, the Licensee shall provide, with the notification, information on the anticipated duration of the temporary modification and the plan to return to the required flows. Within 30 days of the temporary modification under this condition, the Licensee shall file a report with the Deputy Director that provides details on the event that caused the flow modification and what actions the Licensee plans to implement to prevent the flow modification in the future, if feasible. If the actions in the report require a permanent change to Phase 2 of the Restoration Project then Deputy Director approval is required prior to implementation of that change.

CONDITION 7. The Licensee shall comply with Mitigation Measures 1-16, 19-20, 29-33, and 40-42 as applicable to Phase 2 of the Restoration Project, identified in the *California Environmental Quality Act Findings and Mitigation Monitoring and Reporting Plan for the Battle Creek Salmon and Steelhead Restoration Project* (Attachment A). The Licensee shall be responsible for implementation of these mitigation measures even if the mitigation measures are directed to Reclamation. Violation of the conditions of this certification, including Attachment A, may subject the Licensee to enforcement actions, including administrative civil liability under Water Code section 13385.

CONDITION 8. Notwithstanding any more specific conditions in this certification, Phase 2 of the Restoration Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee must take all reasonable measures to protect the beneficial uses of Battle Creek and associated tributaries.

CONDITION 9. Notwithstanding any more specific conditions in this certification, Phase 2 of the Restoration Project shall comply with the Construction General Permit.

CONDITION 10. Restoration Project construction activities shall not cause an increase in turbidity downstream of the Project area greater than those identified in the Basin Plan. Waters shall be free of changes in turbidity (due to Restoration Project construction activities) that cause nuisance or adversely affect beneficial uses. Increases in turbidity shall not exceed background levels (natural turbidity measured in Nephelometric Turbidity Units [NTU] prior to the start of Restoration Project construction activities) by more than the thresholds identified below and as outlined in the Basin Plan:

Background Level or Natural Turbidity	Downstream Turbidity (after starting construction)
Less than 1 NTU	Total turbidity shall not exceed 2 NTU
Between 1 and 5 NTU	Increases shall not exceed 1 NTU
Between 5 and 50 NTU	Increases shall not exceed 20 percent
Between 50 and 100 NTU	Increases shall not exceed 10 NTU
Greater than 100 NTU	Increases shall not exceed 10 percent

Standard turbidity limits may be eased during in-water working periods to allow an increase over the background turbidity of up to 15 NTU as measured in surface waters at a location no more than 500 feet downstream from the working area. For in-water working periods, turbidity shall not exceed 15 NTU over background turbidity, using an averaging period of four consecutive hours. Alternate averaging periods, monitoring locations, or monitoring frequencies may be applied provided that the alternative is approved in writing by the Deputy Director.

Monitoring shall occur every hour during Restoration Project construction activities in Battle Creek or the affected tributary during in-water Restoration Project construction activities. If monitoring shows that turbidity downstream of Restoration Project construction activities has exceeded the specified turbidity levels outlined in this condition, construction will cease and the violation will be reported immediately to the Deputy Director and the Central Valley Regional Water Board's Executive Officer (Executive Officer). Construction may not re-commence without the permission of the Deputy Director.

By the end of each month during the Restoration Project Phase 2 construction period, the Licensee shall provide State Water Board staff with electronic monthly reports of the turbidity sampling records collected as part of Phase 2 of the Restoration Project construction activities performed for the previous month. The report shall include information on how background turbidity was established, a map of the locations where background and compliance turbidity samples were collected, information on why these locations were selected, and quality control/assurance documentation for the turbidity measurements/results.

Similar to CEQA mitigation measures, the Licensee shall be responsible for implementation of this condition even though, per the Restoration Project Memorandum of Understanding¹, Reclamation will perform the construction monitoring and reporting.

CONDITION 11. All equipment must be washed prior to transport to the Project site and must be free of sediment, debris and foreign matter. All equipment used in direct contact with surface water shall be steam cleaned prior to use and, if applicable, shall use non-toxic hydraulic fluid. All equipment using gas, oil, hydraulic fluid, or other petroleum products shall be inspected for leaks prior to use and shall be monitored for leakage. Stationary equipment (e.g., motors, pumps, generators, etc.) shall be positioned over drip pans or other types of containment. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be maintained onsite at all locations where such equipment is used or staged.

CONDITION 12. Onsite containment for storage of chemicals classified as hazardous shall be kept away from watercourses and include secondary containment and appropriate management as specified in California Code of Regulations, title 27, section 20320.

CONDITION 13. This certification does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (ESA) (Fish & Game Code §§ 2050-2097) or the federal ESA (16 U.S.C. §§ 1531 - 1544). If a "take" will result from any act authorized under this certification or water rights held by the Licensee, the Licensee must obtain authorization for the take prior to any construction or operation of the portion of Phase 2 of the Restoration Project that may result in a take. The Licensee is responsible for meeting all requirements of the applicable ESAs for Phase 2 of the Restoration Project authorized under this certification.

CONDITION 14. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation is subject to all remedies, penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

CONDITION 15. In response to a suspected violation of any condition of this certification, the Deputy Director or the Executive Officer may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the Deputy Director deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. (Wat. Code §§ 1051, 13165, 13267 and 13383). The State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

¹ Memorandum of Understanding by and among National Marine Fisheries Service, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, California Department of Fish and Game and Pacific Gas and Electric Company to Memorize the Agreement Regarding the Proposed Battle Creek Chinook Salmon and Steelhead Restoration Project, Located in the Battle Creek Watershed in Tehama and Shasta Counties, California. Executed February 1999.

CONDITION 16. No Restoration Project activities shall commence until all necessary federal, state, and local approvals have been obtained.

CONDITION 17. Any requirement in this certification that refers to an agency whose authorities and responsibilities are transferred to or subsumed by another state or federal agency, will apply equally to the successor agency.

CONDITION 18. The Licensee must submit any changes to Phase 2 of the Restoration Project which would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the State Water Board for review and written approval prior to implementation. If the State Water Board is not notified of a significant change to Phase 2 of the Restoration Project, it will be considered a violation of this certification.

CONDITION 19. Future changes in climate projected to occur during the license term may significantly alter the baseline assumptions used to develop the conditions of this certification. The State Water Board reserves authority to add to or modify the conditions in this certification to require additional monitoring and/or other measures, as needed, to verify that Restoration Project operations meet water quality objectives and protect the beneficial uses assigned to the Restoration Project-affected stream reaches.

CONDITION 20. The Licensee shall comply with all applicable requirements of the Basin Plan. The Licensee must notify the Deputy Director and Executive Officer within 24 hours of any unauthorized discharge to surface waters.

CONDITION 21. The State Water Board reserves the authority to add to or modify the conditions of this certification: (1) if monitoring results indicate that continued operation of the Restoration Project could violate water quality objectives or impair the beneficial uses of Battle Creek; (2) to implement any new or revised water quality objectives and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Act or section 303 of the Clean Water Act; or (3) to implement a total maximum daily load developed by the State Water Board or the Central Valley Regional Water Board.

CONDITION 22. Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action if necessary to prevent any unauthorized or threatened unauthorized diversions of water.

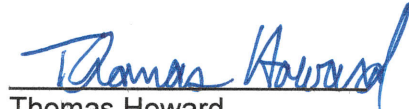
CONDITION 23. The State Water Board shall provide notice and an opportunity to be heard in exercising its authority to modify any of the conditions of this certification.

CONDITION 24. This certification 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).

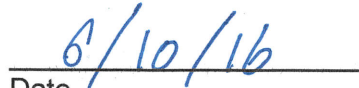
CONDITION 25. This certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to California Code of Regulations, title 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.

CONDITION 26. This certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, chapter 28 and owed by the Licensee.



Thomas Howard
Executive Director



Date

Figure 1: Post Restoration Project Facility Map

Attachment A: California Environmental Quality Act Findings and Mitigation Monitoring and Reporting Plan for the Battle Creek Salmon and Steelhead Restoration Project

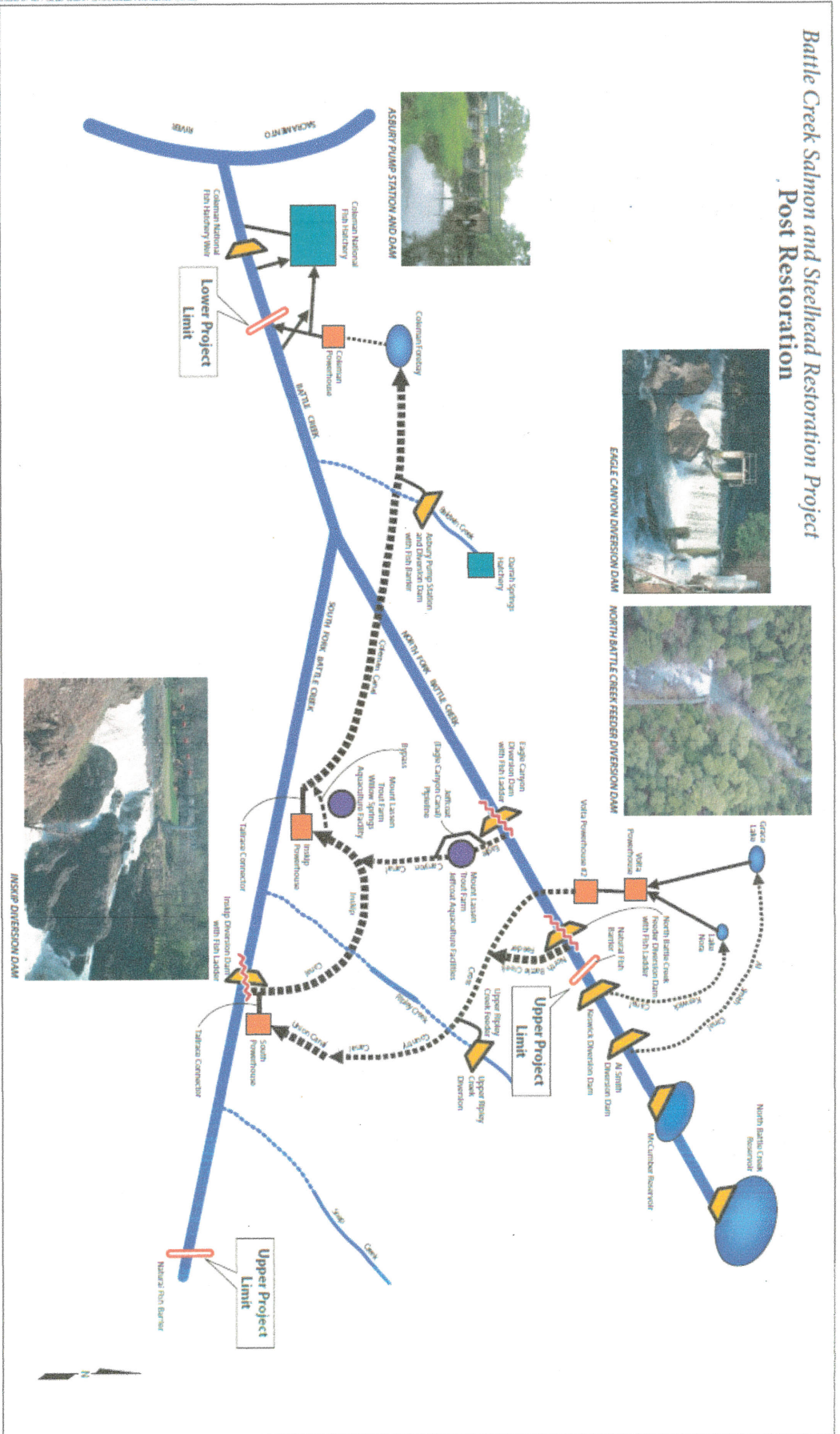


Figure 1: Post Restoration Project Facility Map