I.F. Document History and Purpose

In June 1999, PG&E, NOAA Fisheries, CDFG, U.S. Fish and Wildlife Service (USFWS), and U.S. Bureau of Reclamation (USBR) entered into a MOU that signaled the intent of these MOU Parties to pursue a salmon and steelhead restoration effort on Battle Creek that would modify the facilities and operations of PG&E's Battle Creek Hydroelectric Project (FERC Project No. 1121). Consequently, a federal-state interagency program known as the CALFED provided $28 million in directed funding for the planning and implementation commitments of the Resource Agencies' portions of any approved project elements resulting from the proposed Battle Creek Salmon and Steelhead Restoration Project (Restoration Project).[5]

The MOU Parties agreed that Adaptive Management is an integral component of the Restoration Project. Adaptive Management is a process that (1) uses monitoring and research to identify and define problems; (2) examines various alternative strategies and actions for meeting measurable biological goals and objectives; and (3) if necessary, makes timely adjustments to strategies and actions based upon best scientific and commercial information available.[6]

The primary reason for using an Adaptive Management process is to allow for changes in the restoration strategies or actions that may be necessary to achieve the long-term goals or biological objectives of the Restoration Project and to ensure the likelihood of the survival and recovery of naturally spawning Chinook salmon and steelhead. Using Adaptive Management, restoration activities conducted under the Restoration Project will be monitored and analyzed to determine if they are producing the desired results (i.e., properly functioning habitats).[6]

To formalize the use of Adaptive Management in the Restoration Project, an AMP was developed by the PG&E, NOAA Fisheries, USFWS, and CDFG (collectively known herein as "Parties"). Biological goals are the broad guiding principles for the AMP and are the rationale behind the minimization and mitigation strategies or actions. Specific biological objectives are the measurable targets for achieving the biological goals. The goal of the AMP is to implement specific actions to protect, restore, enhance, and monitor salmonid habitat at FERC Project No. 1121 to guard against false attraction of adult migrants and ensure that Chinook salmon and steelhead are able to fully access and utilize available habitat in a manner that benefits all life stages and thereby maximizes natural production, fully utilizing ecosystem carrying capacity.[7]

As implementation of the Restoration Project proceeds, results will be monitored and assessed. If the anticipated goals and objectives are not being achieved, adjustments in the restoration strategy or actions will be considered through the AMP, which has been developed consistent with the relevant CALFED guidelines. A Water Acquisition Fund (WAF), AMF, and Licensee Commitment are elements of Adaptive Management which will provide funding for potential changes to Restoration Project actions that result from application of the AMP. [6]

[5] Notice Of Preparation Project Background
[6] MOU 9.0
[7] MOU 9.1.A.2.(a). Ecosystem carrying capacity is not specifically defined in the MOU or AMP. Rather, the use of that term in this document conforms to the sense of the definition of "maximum carrying capacity" in Odum (1983), which says that theoretical maximum carrying capacity is reached when no further increase in the size of a population occurs because maintenance energy costs balance available energy.

The AMP will be submitted by PG&E to the FERC at the time that PG&E files its license amendment application pursuant to the MOU. The Parties acknowledge that implementation of the AMP could later involve proposals for changes in operations, project facilities, and possible decommissioning of some additional FERC Project No. 1121 facilities to improve biological effectiveness and habitat values for Chinook salmon or steelhead.[8]

The AMP is designed to be consistent with and fulfill the goals and objectives of the Restoration Project. The primary goal of the Restoration Project is to restore and enhance approximately 42 miles of anadromous fish habitat in Battle Creek plus an additional 6 miles of habitat in its tributaries while minimizing the loss of clean (emission-free), renewable energy produced by the Battle Creek Hydroelectric Project. The primary objective of the Restoration Project is to provide increased habitat and reliable upstream and downstream migration routes for salmonids. Reliable migration routes for salmonids refers not only to safe passage but also includes measures that allow returning adult salmonids to find their natal streams by minimizing the false attraction of North Fork fish to the South Fork of Battle Creek. Current hydroelectric project operations result in transfer of most of the natural flow of the North Fork to the South Fork, which could cause false attraction of returning adult migrants born in the North Fork to the South Fork.

The MOU described the following goals, or benefits, of the Restoration Project: restoration of self-sustaining populations of Chinook salmon and steelhead and their habitat in the Battle Creek watershed through a voluntary partnership with state and federal agencies, the Packard Foundation, and PG&E;[9] up-front certainty regarding specific restoration components;[10] timely implementation and completion of restoration activities;[11] and joint development and implementation of a long-term Adaptive Management Plan with dedicated funding sources to ensure the continued success of restoration efforts under this partnership.[12] Furthermore, implementation of the Restoration Project will be consistent with the following restoration directives and programs:

- Central Valley Project Improvement Act (CVPIA; Public Law 102-575 Section 3401 et seq.) Anadromous Fish Restoration Program (AFRP);
- State Salmon, Steelhead Trout, and Anadromous Fisheries Program Act (State Senate Bill 2261, 1990) Central Valley Salmon and Steelhead Restoration and Enhancement Plan;
- NOAA Fisheries Recovery Plan for Sacramento River Winter-run Chinook Salmon;
- CALFED Ecosystem Restoration Program;
- Upper Sacramento River Fisheries and Riparian Habitat Management Plan (State Senate Bill 1086, 1989);
- Restoring Central Valley Streams- A Plan for Action (1993); and
- Steelhead Restoration and Management Plan for California (1996).[13]

[8] MOU 9.1
[9] MOU 1.4.A
[10] MOU 1.4.B
[11] MOU 1.4.C
[12] MOU 1.4.D
[13] MOU 1.7