Appendix C

Documentation Associated with the Greater Battle Creek Working Group

Draft Greater Battle Creek Watershed Adaptive Management Framework and Organization

Battle Creek Watershed Community Strategy, June 2000

The Battle Creek Watershed Conservancy Position on the Battle Creek Salmon and Steelhead Restoration Program and Related Activities, July 24, 2000

Battle Creek Watershed Conservancy Task List (DRAFT), August 31, 2000

Managing Risk to Facilitate the Success of the Battle Creek Salmon and Steelhead Restoration Project, January 29, 2001

Battle Creek Watershed Conservancy Position on the Restoration Project, June 11, 2001

Four-Agency Letter, September 20, 2001

Draft Greater Battle Creek Working Group Memorandum of Understanding, August 8, 2002

Correspondence from Battle Creek Watershed Conservancy to CALFED, October 25, 2002

Draft Greater Battle Creek Watershed Adaptive Management Framework and Organization

Draft Greater Battle Creek Watershed Adaptive Management Framework and Organization– Developed by the Stakeholders of BCWG

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The following summary and proposed adaptive management framework and organization has been prepared by NGO stakeholders as comments for consideration for inclusion in the:

- PG&E Battle Creek Hydroelectric Project FERC No. 1121 Project License Amendment process.
- Battle Creek Salmon and Steelhead Restoration Project Adaptive Management Plan.
- Programmatic EIS/EIR PG&E MOU Restoration Project.
- Coleman National Fish Hatchery (CNFH) evaluation project HARZA
- CNFH "Steelhead Supplementation Program"
- CVPIA (B)(3) Water Acquisition Program

Executive Summary
It is the opinion of the stakeholders that unless a landscape scale watershed adaptive management framework and organization is developed and integrated into all components currently in place or proposed for the greater Battle Creek watershed, the ability to learn from success and failures and to meet goals and objectives of funded programs is compromised. Without this type strategy which links actions to one another, it is unlikely that the goals of CNFH, CVPIA, CALFED, ESA and FERC are to be met. Simply stated we do not endorse an incremental restoration strategy but rather suggest a process which evaluates and directs restoration actions which are compatible and synergistic.

Historical Context

Since the establishment of the Battle Creek Working Group (BCWG) in 1997, the NGO stakeholders of BCWG have been instrumental in promoting restoration opportunities in the Battle Creek watershed. As part of this process, the NGO stakeholders have advocated a collaborative approach and encouraged the development of a landscape scale watershed approach to identify and solve problems in the watershed that may have contributed to the decline in anadromous fish population and ecosystem health. Central to this approach is having open dialogue with all interested parties, stakeholders and agencies engaged with planning, funding and implementation of restoration actions and projects in the Battle Creek watershed. For the purposes of this document, the greater Battle Creek watershed refers to the entire Battle Creek watershed from its confluence to the headwaters and major tributaries as well as the upper Sacramento River to the extent that the Livingston Stone Fish Hatchery is connected to the Battle Creek hatchery program.

Funding Linkages:

Restoration in the Battle Creek Watershed has been underwritten in part by CALFED Category III, CVPIA B3 funds for water acquisition, CVPIA funds for rehabilitation of CNFH and CALFED ERP direct funding of other actions (PG&E MOU) and numerous other public and private funders.

Funding has been provided to numerous state and federal agencies to prepare and conduct planning and environmental documentation required for promulgation of the Record of Decision (ROD) for the Restoration Project (PG&E), development of watershed plan (USFWS /Kier Report), interim water acquisition program (USBR) as well as funding to NGO partners e.g. CALFED /AFRP Battle Creek Watershed Conservancy Upper Watershed Plan and CVPIA/WCB/private funding for conservation easement acquisition and restoration projects initiated by TNC.

Because of these apparent funding and programmatic linkages, it is incumbent of all recipients, government agencies and NGO stakeholders to demonstrate how implementation of proposed actions and projects meet the goals and objectives of program funding actions in the greater Battle Creek watershed under the auspices of CALFED ERP and CVPIA AFRP goals and FERC amendment commitments.

Fundamental Principle

Science-based **adaptive management** is a decision process and a tool which involves the development of conceptual models, testable hypotheses and evaluation of experiments. A critical component of adaptive management is experimentation and assessment of resource management alternatives and actions. These experiments are designed to clarify and remove scientific uncertainties and risk associated with current and future management actions and alternatives and can lead to more efficacious restoration opportunities. For example, by confirming with experiments and guided by testable hypotheses, that recommended management actions and alternatives fail to meet explicit goals and objectives, managers will be able to alter future actions and alternatives appropriately to make prudent management decisions.

Stakeholder Issues

A landscape scale watershed adaptive management organization and framework must be established to provide the needed forum and process to facilitate effective planning, implementation and progress in the greater Battle Creek watershed.

Hypothesis based actions must disclose explicit indicators, measures of success and cause and effects relationships associated with restoration actions and respective conceptual models must be developed. Furthermore, linkages of proposed programs must be apparent, disclosed and evaluated in total not as separate, incremental solutions as currently proposed within the context of CNFH reevaluation and Restoration Project (PG&E MOU), for example.

Unfortunately, NGO stakeholder participation in this type of meaningful dialogue has not been institutionalized in either of the restoration programs mentioned above. Of equal concern, proposed approaches being disclosed in draft documents for both the CNFH and PG&E projects suggest that, at best, NGO stakeholder input is likely to be marginalized in the future.

In addition, PG&E, a major stakeholder of the Restoration Program, has suggested to FERC that the proposed AMP has been reviewed and received acceptance by all stakeholders to date. Unfortunately, verbal comments articulated by stakeholders at workshops have not always been accurately recorded, detailed or made part of the institutional record. We feel it is important that NGO stakeholder comments are recorded in sufficient detail to accurately reflect our positions.

We also support the comments made by Dr. Healy regarding the Adaptive Management Plan and hope to understand how his comments are incorporated into the proposed AMP.

INSTITUTIONAL CONSTRAINTS AND ISSUES

Restoration Project PG&E MOU

An adaptive management organizational structure is proposed under the existing MOU and current Adaptive Management Plan (AMP) component of the MOU. However, the structure does not include meaningful participation of many stakeholders in the watershed and specifically participant NGO stakeholders of the Battle Creek Working Group. Also, under the proposed AMP the role of independent peer review is not identified or addressed. Furthermore, linkages to CVPIA and CALFED goals are not apparent for the greater Battle Creek watershed.

CNFH Reevaluation

A reevaluation of CNFH operations is currently in progress by Harza, contractor to USFWS. NGO stakeholders have consistently stated that the reevaluation is too narrow in scope and tends to focus on current operations instead of operation of CNFH under restored conditions. Stakeholders have pointed out that it is unlikely that the current reevaluation adequately addresses linkages and potential impacts to overall CALFED, CVPIA and ESA restoration and recovery goals as well as other watershed projects. Stakeholders have also recommended that in order to meet the objectives of the intended unbiased assessment of alternatives and reevaluation of operations of CNFH, an independent peer review be instituted in a timely fashion and prior to finalization.

It is our understanding that since 1995, operators of CNFH have included supplementation (passage of hatchery steelhead above CNFH) as a restoration tool for Battle Creek watershed. This supplementation strategy appears inconsistent with the CALFED and CVPIA Record of Decision (ROD) for implementation of PL 102-575 CVPIA specifically AFRP, and the CALFED Ecosystem Restoration Program.

This supplementation action also warrants management and policy review to determine if "supplementation of federally listed species" is an acceptable restoration tool and policy. Furthermore, technical and policy review is warranted to determine if supplementation is consistent with CVPIA and CALFED restoration goals and objectives.

It is important to note that a current Biological Opinion from NMFS has not been promulgated on the topic of supplementation as an acceptable tool for restoration of federally listed steelhead in the Battle Creek Watershed and at CNFH. It is incumbent that NMFS prepare a BO which addresses the supplementation issue.

The BO should also provide a credible risk assessment in order to allow policy makers to determine if current CNFH supplementation actions are compatible with CVPIA AFRP goals to at least double "natural populations" and CALFED ERP goals and objectives to restore habitat to restore naturally produced salmonids in Battle Creek.

USBR Interim Flow Agreement

USBR and USFWS have secured funding for an interim flow agreement for the past three years. It is unclear what monitoring and assessment protocols or indicators and measures of success were used during this period to evaluate the efficacy of the interim flow agreement.

Furthermore, without development of peer review and disclosure of monitoring, research and assessment tools proposed to be used in the future, it is unlikely that a true active adaptive management program can be implemented in the greater Battle Creek watershed.

The NGO stakeholders also need a better understanding of the "no conservation value" declaration.

CONCLUSION

Restoration of the greater Battle Creek watershed is a comprehensive effort involving numerous funding sources with multiple goals and objectives, numerous potential government and non-government partners and stakeholders. Success can only be achieved with active participation of all stakeholders in the overall process and in all relevant forums affecting watershed or landscape management.

As a result of both the lack of adequate avenues for stakeholder input and lack of linkages between major programmatic actions within the greater Battle Creek watershed, the NGO stakeholders recommend the following:

1. An inclusive adaptive management framework for the greater Battle Creek watershed must be established.
2. Stakeholder involvement should be inclusive and formalized.

Planning and implementation of all fisheries and restoration actions in the watershed and appropriate adaptive management processes should be discussed and approved through the auspices of a formal advisory group similar to, if not the Battle Creek Working Group (BCWG). This type of broad, inclusive forum can contribute to advancing progress for ESA recovery, CVPIA doubling goals of naturally produced salmonids pursuant to AFRP and CALFED ecosystem restoration goals to restore habitat, ecosystem functions and processes. Furthermore, this adaptive management framework and organization would be valuable to landowners and stakeholders throughout the watershed and other parties associated with planning concerned with other relevant issues in the watershed including CNFH operations, PGE, CDFG, TNC, BCWC, etc.

We ask that these comments be incorporated into the draft EIS and be considered comments for other documents as well.

As we continue to move forward with the myriad of greater Battle Creek watershed projects, we also look forward to establishing a process within the Battle Creek Working Group to discuss and further develop these ideas.

Proposed Battle Creek Organization and Framework For Adaptive Management Greater Battle Creek Watershed

Battle Creek Goals and Objectives

Are derived from an agreed upon

Comprehensive watershed plan (Similar to Kier approach) which

Incorporates CVPIA, CALFED, ESA, CNFH, FERC and CONSERVANCY

Goals and Objectives

1. **ESA goals: population recovery and habitat protection**
2. **CVPIA: goals 2x natural populations, habitat restoration**
3. **CALFED goals: restore ecosystem functions processes, habitat and MSCS protective measures**
4. **FERC goals : Project License Amendment Process**
5. **Conservancy goals: Program compatibility with Greater Battle Creek Watershed**

Program success, failures measured by:

- **ESA based populations factors, habitat indicators, fish screen criteria, genetic robustness**
- **CVPIA performance guidelines based on performance pursuant to and population responses (cohort recruitment, survival rates and habitat restoration (quality and quantity)**
- **CALFED goals and objectives based on ecosystem processes and functions responses and scientific experiments which address uncertainty.**
- **FERC goals may be measured with the selection of the preferred alternative pursuant to the PG&E MOU**
- **CONSERVANCY goals include reduced risk to landowners of Upper Battle Creek and recognition as partner in the restoration process.**

Current Battle Creek Organization and Framework
Battle Creek Goals and Objectives

(No agreed on overall watershed strategy or comprehensive plan for greater watershed)
Lack of landscape indicators or measures of success

CVPIA and CALFED Goals and Objectives

ESA goals: population recovery and habitat protection
CVPIA: goals 2x natural populations, habitat restoration
CALFED goals: restore ecosystem functions processes, habitat and MSCS protective measures

Funding Sources: (CVPIA Restoration Funds, CALFED ERP and Private Sources)
Funding Oversight: CVPIA Restoration Roundtable, CALFED Ecosystem Roundtable Successor and Other Private Sources

Restoration Programs

CVPIA	CNFH	ESA	CALFED
AFRP 2x plan	CVP Mitigation	Population Recovery	Ecosystem Attributes
AFSP	Supplementation	Critical Habitat	MSCS
B3 Water Acquisition	CVPIA B11	CNFH BO	Habitat/Land Acquisition
CAMP	IEP CWT Program	Genetics	Watershed Partnering
			Science Program

Current and Proposed Restoration Actions

TNC	CNFH	PG&E MOU	CONSERVANCY
Land acquisition	Harza Evaluation	Restoration Project	Education
Habitat	Supplementation	Interim Water Acquisition	Partnerships
Restoration	Intake Screening	FERC Project License	Facilitation
	Barrier Weir	Amendment Process	Public Affairs
	LSFH	Adaptive Management	Watershed Assessment

Missing Links

No apparent linkage or role for BCWG or NGO's
Lack Overall Program Synergy
Lack of Adaptive Management Strategy
Lack of Program Connectivity
Lack of Peer Review
Lack of Indicator Development
Lack of Comprehensive Monitoring
Lack of Stakeholder Buy in or Consensus

Greater Battle Creek Watershed Programmatic Linkages and Proposed Organization

Greater Battle Creek Watershed Plan Goals and Objectives

Funding Sources

USBR/USFWS	**CALFED Management Group**	**Private Partners**
CVPIA Restoration	**CALFED Ecosystem Roundtable**	
Roundtable	**Successor Group**	

Restoration Programs

CVPIA	CNFH	ESA	CALFED
AFRP 2x plan	CVP Mitigation	Population Recovery	Ecosystem Attributes
AFSP	Supplementation	Critical Habitat	MSCS
B3 Water Acquisition	CVPIA B11	CNFH BO	Habitat/Land Acquisition
CAMP	IEP CWT Program	Genetics	Watershed Partnering
	LSFH		Science Program

Greater Battle Creek Working Group

(Formalized Working Group including stakeholders)

This group shall provide a forum to:

Consensus for partnering and collaboration.
Discuss and identify linkages of current and proposed restoration actions.
Review technical merit of proposed actions
Review conceptual models, hypotheses and adaptive management experiments.
Review indicators and measures of success to evaluate program performance.
Serve as facilitator.
Recommend projects for funding.

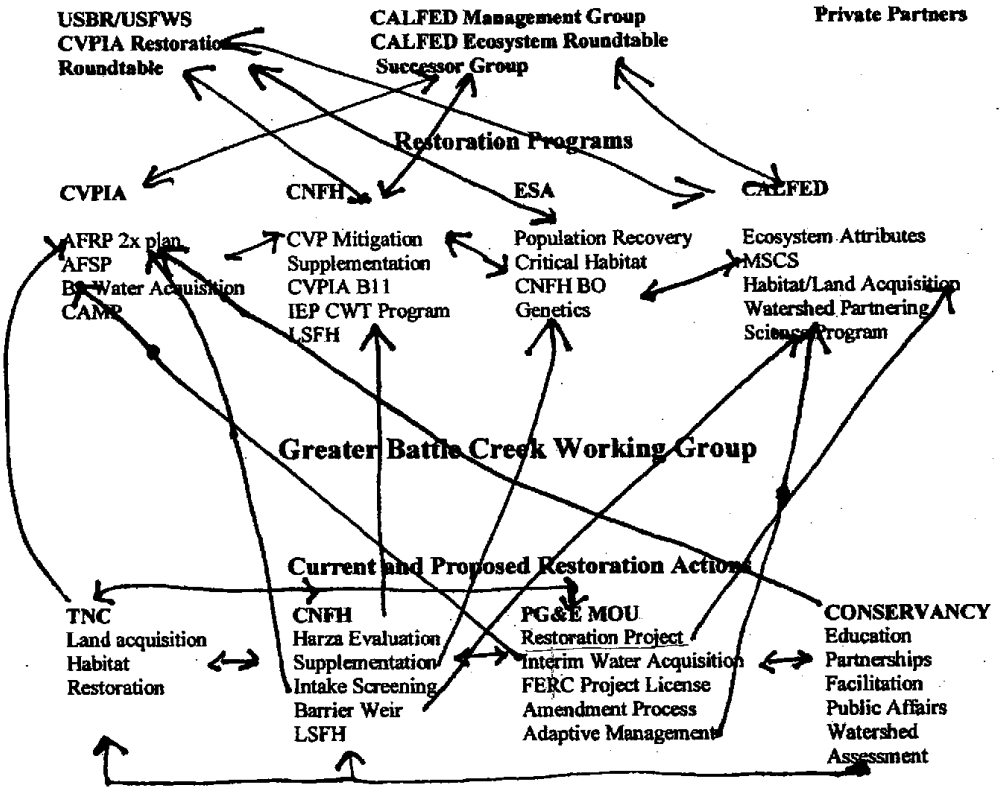
Current and Proposed Restoration Actions

TNC	CNFH	PG&E MOU	CONSERVANCY
Land acquisition	Harza Evaluation	Restoration Project	Education
Habitat	Supplementation	Interim Water Acquisition	Partnerships
Restoration	Intake Screening	FERC Project License	Facilitation
	Barrier Weir	Amendment Process	Public Affairs
	LSFH	Adaptive Management	Watershed Assessment

Proposed Greater Battle Creek Watershed
Organization and Framework

GBW Watershed Plan
Goals and Objectives

Funding Sources



Battle Creek Watershed Community Strategy, June 2000

INTRODUCTION

Battle Creek, among other habitats in the Central Valley, was once home to a large population of salmon and steelhead. Little now remains of the historic habitat for these fish; present Battle Creek is degraded, primarily due to a lack of instream flow caused by hydroelectric generation (USFWS 1995). Now, Californians are seeking every opportunity to restore Central Valley salmon and steelhead runs.

Battle Creek is considered to be the watershed with the highest potential for restoring salmon and steelhead in the Sacramento River Watershed for a number of reasons, including: historic and current land uses, private stewardship of much of the land, and the minimal development of most of the watershed. The rural landscape, which is highly valued by the residents of the watershed, includes ranches owned by generations of the same family, timberlands, and higher alpine areas, which are economically and historically valuable.

In 1997, a stakeholder-based Battle Creek Working Group (BCWG) was formed to accelerate salmon and steelhead restoration in the watershed based on the AFRP. The BCWG includes stakeholder representatives from the State and federal resource agencies, and fishery, environmental, local, agricultural, power, and urban stakeholders communities. Also in 1997, the Battle Creek Watershed Conservancy (BCWC) was formed to provide representation for landowners, stakeholders, and residents of the watershed. Its purpose was to look beyond efforts to simply “fix” the creek, but to consider the long-term health of the entire watershed.

An opportunity exists for the landowners and residents of the Battle Creek watershed to retain their rural landscape and lifestyle while at the same time working to restore Battle Creek and its surroundings to a healthy environment for both fish and other wildlife. Preserving the rural lifestyle, agricultural heritage, and existing land uses of the Battle Creek watershed is recognized as essential for the resurgence of the anadromous fish populations. It is becoming widely recognized and accepted that maintaining farmland saves wildlife, including anadromous fish. The intent of this document is to provide watershed residents with the framework for continued responsible stewardship through effective management practices.

STRATEGY SUMMARY

The Battle Creek Watershed Community Strategy is the framework for future watershed restoration and education activities in the Battle Creek Watershed. It was developed in response to the Anadromous Fish Restoration Program (AFRP) led by the U.S. Fish & Wildlife Service, which saw an opportunity to increase natural production of anadromous fish by augmenting and assisting restoration efforts presently conducted by local watershed workgroups. The program emphasizes strategies and actions to support the restoration of large runs of chinook salmon to Battle Creek and the continuation of a healthy, fully functioning watershed. Recognizing the stewardship responsibilities all landowners assume within the watershed, the strategies emphasize on-the-ground actions and best management practices to ensure the future continued health of the watershed.

The most significant part of this document consists of thirteen strategies and related recommendations to achieve the goal of the Battle Creek Watershed Conservancy: “To preserve the environmental and economic resources of the Battle Creek watershed through responsible stewardship, liaison, cooperation, and education.”

The strategy was developed with information gathered during numerous community meetings held throughout the watershed during the past two years (1997-1999). Many of the meetings were sponsored by the Battle Creek Watershed Conservancy, or were jointly sponsored by both the Conservancy and the Battle Creek Watershed Project. The Conservancy also sponsored a series of six meetings from March-April 1999 to provide residents of the watershed communities with the opportunity to review the strategy document draft and to make comments and recommendations. The resulting document reflects the input received from stakeholders at the community meetings.

This community strategy is a living and adaptive management document and planning guide that will reflect new resource management issues, and also guide implementation priorities. It provides us with the framework for continued responsible stewardship through effective management practices.

We look forward to working with our many stakeholders to provide the improvements necessary to protect and enhance our watershed, one of the most unique in California.

Detailed Battle Creek Watershed Community Strategy

I. Strategy: Work to restore and maintain suitable habitat conditions for Chinook salmon, steelhead and other aquatic resources of the Battle Creek watershed.

Action items:

A. Continue to help resolve stream flow and fish passage issues in Battle Creek through active participation in the Battle Creek Working Group (BCWG).

B. Encourage and support restoration programs determined by the BCWG and supported by the BCWC as best for the fish and in cooperation with property owners.

C. Encourage on-going monitoring of restoration areas (reaches) to evaluate in-stream flow conditions.

D. Encourage on-going monitoring of restoration areas (reaches) to evaluate and ensure proper operating efficiency of fish ladders and screens at water diversions and appropriate/necessary controls at diversion outflows.

E. Seek funding for watershed-wide assessment of existing conditions to identify impacts on anadromous fish restoration efforts.

F. Plan strategies to address assessment findings which impact the health of the watershed and restoration activities.

G. Seek funding for implementation of actions based on assessment recommendations.

H. Facilitate educational opportunities for landowners to address their own stewardship needs.

I. Encourage public agencies to resolve impacts identified on public lands.

K. Request funding to continue the Battle Creek Working Group, to foster agency/stakeholder coordination and additional restoration work in the Battle Creek watershed.

II. <u>Strategy</u>: Seek to identify and protect critical holding, spawning and rearing habitats and anadromous fish resources.

<u>Action items:</u>

A. Encourage California Department of Fish and Game maintain sufficient staff for the protection of the anadromous fishery resources, and encourage staff activities and on-the-ground monitoring.

B. Work to ensure that all monitoring activities respect landowner's rights.

C. Consider forming a Stream Watch program on Battle Creek, similar to a Neighborhood Watch, to monitor activities on the creek in coordination with CDF&G, the regulatory authority.

D. Provide educational forums to help individuals understand the significance of critical habitats and life cycle needs of anadromous fish.

E. Work to ensure that human disturbances do not create negative impacts on the fishery restoration efforts.

F. Encourage support of federal monitoring efforts. Examples of such efforts are: In 1999 and 2000 the Fish and Wildlife Service (FWS) operated two rotary screw traps to estimate production of juvenile salmon and steelhead in Battle Creek. For about the past five years, California department of Fish and Game has conducted the carcass/redd surveys in the lower six miles of Battle Creek.

III. **<u>Strategy:</u> Improve and maintain water quality throughout the Battle Creek watershed.**

<u>Action items:</u>

A. Encourage private and public landowners/operators to develop ranch and farm plans to ensure Best Management Practices on all watershed lands. Best Management Practices (BMPs) are a combination of management, cultural, and structural practices that agricultural scientists, the government, or some other planning agency decide to be the most effective and economical way of controlling problems without disturbing the quality of the environment.

B. Encourage private and public landowners/operators to support forest management practices to maintain optimum water quality.

C. Facilitate educational opportunities for landowners /operators in support of the their stewardship actions.

D. Support development of appropriate monitoring protocols to assess water quality of the watershed.

E. Facilitate educational opportunities for landowners to receive information on available financial support programs which address their own responsible stewardship needs.

IV. <u>Strategy:</u> Seek to delineate, improve and maintain riparian corridors along Battle Creek and its tributaries.

<u>Action items:</u>

A. Work to ensure continued connectivity of riparian corridors throughout the watershed.

B. Coordinate the assessment of and the eradication of non-native (noxious) plant species in riparian areas.

C. Seek funding for actions to ensure healthy riparian corridors into the future.

D. Encourage documentation of current resource management protections already provided throughout the systems' riparian corridors, demonstrating no need for either National Wild and Scenic designation, or for designation under the State of California Wild and Scenic program.

V. **<u>Strategy:</u> Support Best Management Practices (BMPs) in the continuation of existing upland land uses, such as livestock grazing, farming, wildlife habitats, open space, and other uses in support of local sustainable economies.**

<u>Action items:</u>

A. Encourage private and public landowners/operators to develop ranch/farm plans, including grazing strategies and monitoring plans to support and accomplish their own stewardship actions.

B. Encourage landowners/operators to include plans for management of multiple species of plants and animals in their ranch/farm plans.

C. Develop an invasive weed management strategy for the watershed for the control of noxious weed species.

E. Work with cooperators to reduce the spread and quantity of noxious weeds immediately.

F. Develop protocols to identify and determine species, location, control methods, monitoring, citizen involvement, education, coordination with agencies and governmental entities, and impact of invasive weeds.

G. Seek funding for a weed management strategy, partnering with all appropriate agencies, groups and landowners.

H. Implement a weed management strategy for the Battle Creek watershed.

I. Encourage landowners/operators to support sustainable oak woodlands with the assistance of the Hardwood Advisory Committee in Tehama County, and by understanding and following the Shasta County Oak Woodland Management Guidelines, (Board of Supervisors, Resolution No. 95-157)

J. Facilitate dispersal of information about potential funding for landowner assistance for resolution of impacts identified on private lands.

K. Support regulations and economic activities which will increase the viability of ranching as a long-term contributor to the economic base and lifestyle of the area.

VI. <u>Strategy:</u> Support forestland management practices which sustain healthy forestlands in the upper watershed and which, in turn, support local sustainable communities.

<u>Action items:</u>

A. Encourage landowners to utilize sustained yield forest management to provide for the long-term economic health of the watershed community.

B. Encourage landowners to use forest management activities that provide healthy vigorous forests, which create habitat for a diversity of species, reduce forest fuel loads that create conditions for catastrophic wildfires, and increase groundwater availability by reducing the transpiration rate.

C. Encourage landowners to use resource management tools such as logging, prescribed fire, and biomass chipping to create and maintain shaded fuel breaks and defensible fuel profile zones, which also maintains a diversity of healthy wildlife habitat.

D. Encourage USFS and private landowners to survey road systems within the watershed for erosion and other problems that impact water quality and other aspects of the watershed.

E. Encourage the correction of problem areas and the maintenance of the road infrastructure to facilitate fire suppression, forest management and recreational activities. Close roads in sensitive areas, and discontinue roads that, because of poor road design, cannot be corrected and have a negative impact on water quality .

VII. <u>Strategy:</u> Encourage prefire management prescriptions to reduce wildfire impacts to natural resources and assets.

<u>Action items:</u>

A. Encourage the use of VMP (Vegetation Management Plans) for both wildlife habitat improvements and a prefire management prescription to reduce the threat of wild fire.

B. Encourage the use of shaded fuel breaks for wildfire protections. Implement, plan, and encourage strategic fuel breaks throughout the watershed.

C. Continue to use controlled fire as a management tool to improve wildlife habitat and forage for domestic animals, for vegetation controls, including noxious weeds, and as a tool for wildfire protections.

D. Seek cooperation among regulatory agencies to ensure the continued use of fire as a management tool until appropriate and economically viable alternatives for fuel management become available.

E. Seek sources of funding for vegetation management plans and shaded fuel breaks with interested landowners.

VIII. <u>Strategy:</u> Support land use planning that supports sustainable communities and land uses throughout the Battle Creek Watershed.

<u>Action items:</u>

A. Assess land use and zoning plans for the Battle Creek watershed as described in the Tehama County General Plan and the Shasta County General Plan.

B. Encourage any expansion of new development within community spheres of influence.

C. Encourage adoption of reasonable community growth boundaries to meet projected demands.

D. Promote land use planning that supports the agriculturally based economy and open space throughout the watershed.

E. Support mitigation of land use conflicts between watershed neighbors.

F. Ask the Board of Supervisors and Planning Departments of each county to accept the BCWC Strategy as community input into future planning activities.

IX. **<u>Strategy:</u> Seek to protect in-basin water rights and support appropriate beneficial water use policies.**

<u>Action item:</u>

A. Monitor planning activities of organizations, agencies and legislation that might impact any water rights in the watershed.

X. **<u>Strategy:</u> Strive to maintain and restore natural processes and functions throughout the watershed**

<u>Action items:</u>

A. Protect meadow functions, riparian habitats, wildlife habitats and all interrelated natural processes, as well as stream flows.

B. Protect the hydrology and geological functions of the area – specifically the aquifers - from disturbances, such as drilling and mining, to the ancient stream channels buried by lava flows (lava tubes)

C. Develop opportunities for interested landowners to coordinate restoration projects, utilizing the assistance of experts familiar with the Battle Creek watershed.

D. Set standards and monitor those standards.

XI. **<u>Strategy:</u> Encourage commercial outdoor recreational opportunities which support local sustainable economies and which operate within the constraints of adequate resource management protections.**

<u>Action items:</u>

A. Encourage interested private landowners to provide a variety of viable recreational opportunities throughout the watershed.

B. Seek appropriate lands for public access in the mid-range of the watershed to provide a broader range of available recreational opportunities, utilizing, whenever possible, existing public-owned lands.

XII. <u>Strategy:</u> Promote land and water stewardship through outreach and education.

<u>Action items:</u>

A. Encourage landowners to seek ways to maintain the integrity of their ranch lands for future generations.

B. Promote land and water stewardship through school education programs.

C. Work with local schools to develop curriculum regarding the watershed.

D. Promote land and water stewardship through community education programs

E. Create a liaison between schools and the communities to encourage an open exchange of information and educational programs regarding the watershed.

F. Seek to include more natural spawning, habitat and life cycle needs of salmon and steelhead in the Battle Creek watershed at the Return of the Salmon Festival.

G. Continue producing a newsletter to inform local residents about watershed activities.

XIII. <u>Strategy:</u> Monitor plans and activities of organizations outside the watershed and evaluate proposed policies with regards to their local effects and implications.

<u>Action items:</u>

A. Partner with local organizations with similar interests and concerns.

B. Publish results of monitoring and research in the BCWC newsletter.

CONCLUSION

Community commitment to restoring the Battle Creek Watershed to a healthy, functioning state is high. The opportunity is here at the end of the 20th century, to make alterations to man's past actions and once again enable Battle Creek to be home to vast runs of chinook salmon and steelhead trout. It is an opportunity to use our best science to make the hydroelectric system more compatible with the habitat requirements of the fisheries and to ensure the naturally functioning processes of the watershed. This is an opportunity to accommodate both the needs and desires of mankind for development and economic growth with the essential requirements for a productive fishery and a healthy functioning watershed.

It is clear from the many public meetings that have been held by the Conservancy that local residents are interested in the health and well-being of their environment—in the appearance of the land, the health of the streams and forests, the health of the natural and hatchery produced fish populations, the health of the local economy—and that they would like to participate in the decisions which will affect the future of the area. Over and over the comment was voiced, "We like our way of life and would like to retain it for our children and our children's children." How to maintain the current "way of life" and ensure its survival in the future is the real issue for local people.

Battle Creek is about to undergo a major transformation to become one of the state's most important salmon and steelhead streams. As this transformation occurs, it is the goal of the Battle Creek Watershed Conservancy to listen to and represent the people of its watershed by being actively involved in the decision making process of the Battle Creek Restoration Project. It is only through active participation in the restoration process and the education of the citizenry of the watershed concerning the process that the Conservancy can achieve its mission, which is "to preserve the environmental and economic resources of the watershed." This community strategy, then, is one step towards the achievement of this goal, one that will benefit the entire watershed.

The Battle Creek Watershed Conservancy Position on the Battle Creek Salmon and Steelhead Restoration Program and Related Activities, July 24, 2000

The Battle Creek Watershed Conservancy Position on the Battle Creek Salmon and Steelhead Restoration Program and related activities

The purpose of this document is to outline the concerns which have led the Conservancy to consider withdrawing its support for the Battle Creek Salmon and Steelhead Restoration Program, the CNFH Barrier Weir improvement program, and the CNFH intake screening program.

This document outlines the issues which have led the Conservancy to feel that it has not been effective in communicating local issues to the agencies, and it suggests some actions which we believe will help the Restoration Program over the long term as well as secure the support of a large segment of the local community.

In providing this draft to the agencies we seek suggestions for actions by the agencies and the Conservancy which will help us achieve our goals. We want to keep the lines of communication open as long as possible, but since the Program implementation will be soon upon us the Conservancy must act now.

If the agencies treat this document as a target, and "prove" that the Conservancy positions and suggestions are "wrong" or "impractical" then we shall have accomplished nothing. We need to seek positive solutions to the problem, solutions which will help the community as well as provide the critical support necessary for the long-term success of the Restoration Program.

1. Introduction

When we began our public meetings in the watershed, in response to the advent of the Restoration Program, we learned that the following two concerns summarized the feelings of most of the residents toward the Program:

- A fear that the presence of endangered salmonids in the watershed would bring increased environmental regulation and enforcement to the area, with potentially serious effects upon local economic activities and even upon ordinary living conditions;
- A fear that local water rights would be adversely affected by the Restoration Program.

On the positive side, we learned that the most commonly expressed desire of the local residents was to keep the area more or less like it is now, with the scenic values associated with large ranches and wide-open spaces.

For three and one half years we have worked closely with the agencies, at great cost in energy and volunteer time, in an attempt to minimize the probability of the two negative effects cited, and to see if the Restoration Program could not somehow be used to help preserve the scenic values cited as important to the residents. The key to preserving the scenic values was thought to be conservation easements, which would preserve ranching as a viable economic activity in the watershed, and would thus help protect the fish as well as local scenic values.

Now that the Restoration Program is nearing its implementation phase, we can look back and see that all our work has had little or no impact:

- The Restoration Program has been focused very narrowly upon water acquisition and water management in the PG&E reaches of Battle Creek;
- Because of this narrow focus, issues which were important to the Conservancy and the citizens have been by and large rejected as outside the scope of the Program;
- As the cost of the program has continued to escalate, it has become clear that the agencies are so wrapped up in the implementation of the program that they have no time for or interest in local issues.

If we have had an effect upon the project it has been through our program of bringing information to the public, and bringing back issues to the agencies. Our many public meetings have helped calm down the watershed residents, and have thus provided an appearance of support for the entire program, which has no doubt helped the agencies to get funding for it.

But this appearance of "public support" is deceptive. After recent public meetings we hear people say that the meetings are a waste of time, that the agencies are not responsive to our concerns, and that the sources for funding to address our concerns will dry up once the concrete is poured. Based upon the history of this area, this suggests a future of increasing local mistrust of agency activities, increased poaching and vandalism, and sporadic fights over land development and other economic activities.

The Conservancy does not look forward to such a future any more than the agencies do, but this is the future in store for us if the Restoration Program is not well planned and well executed. What do we mean by this?

The Memorandum of Understanding (MOU) which defines the Restoration Program was developed between PG&E and the resource agencies. This agreement sets out the costs and benefits to PG&E and to the agencies; each signatory to the MOU can look at these costs and benefits and decide whether its participation is justified. PG&E made this decision, giving up some generation capacity in exchange for very significant capital improvements and important regulatory certainty for the future.

There was no such MOU for the local citizens, who also have costs and potential benefits from this program. The costs are environmental regulations and agency intrusion in the watershed; the benefits are uncertain – we had hoped for compensation for affected landowners in the form of conservation easements, a lacing together of Project and watershed residents' interests, and so on. Now we find that the potential benefits are fading away while the costs to the residents are becoming increasingly clear.

So we have a big agency program, on the order of $100 million, which has failed to consider real and perceived costs to the community. This failure jeopardizes the long-term success of the Restoration Program, because without public support and involvement none of us can hope to preserve the fish and the environment of the Battle Creek watershed over the long haul.

We cannot support this program in its present form. If you are going to implement this program, do it right: integrate the plan with other watershed activities, be responsive to local concerns, and protect this massive investment over the long term by providing meaningful environmental assistance to the watershed community.

It simply doesn't make sense to spend this amount of money without thinking about the future, and without thinking about the rest of Battle Creek, including its human inhabitants. We want the agencies to treat us as they have PG&E – we want our costs to be addressed, we want our benefits to be in proportion to our costs. If the balance sheet remains negative for our community, we have every right to refuse to cooperate. Furthermore, we then have the duty to refuse to support the program, because it would be a waste of the taxpayer's money for a project which will ultimately fail through lack of community involvement and support.

2. Issues which have helped to create a lack of faith in the agency activities

The negative feeling of the community toward the Restoration Program has not appeared out of nowhere – it is the result of the cumulative impact of many small events, brought to a crisis by the fact that the Restoration Program is in the last months of the design phase, and that Project implementation seems inevitable. Some of these problems result from the fact that the community is not very effective in bringing its concerns to the agencies, and the agencies haven't the faintest idea of how to talk to "folks." Whatever the causes, the following are some of the issues which are important:

- The Conservancy has worked hard for several years to bring information about the program to the community, and to bring back public concerns to the agencies. In the process we have the support of nearly one hundred dues-paying members, a rather remarkable number for our sparsely-populated area. But these members are expecting results – they have brought their problems to us, and if we can't help them then the membership will fade away, along with the apparent goodwill of the community toward the salmon. The fact is that when we look at the last three-plus years of work, we have not been successful. We don't have much to show the community, especially for the long term.
- As a result the feeling right now is clearly that the bottom line for the Restoration Program is a net negative impact upon community.
- The agencies do not seem to recognize or have any empathy for this negative impact. Perhaps this is the fault of the Conservancy, for not voicing our concerns loudly enough or often enough, but the public perception of agency apathy is clear.
- There is a distinct feeling that the various sources for funding our watershed community organizing, watershed assessment, etc. will go away as soon as Restoration Program construction is implemented. Residents will then be left with the burden of living and working with endangered species in the area. The agencies can promise PG&E that all will be well in the future – and the PG&E/agencies MOU does precisely that – but the local residents can be given no such assurances.
- We have been urging a watershed-wide, unified approach to planning for Battle Creek for at least two years now. It is clear that this will not happen under the current plan.
- The agencies have not been responsive to community concerns raised at public meetings. For example, the Restoration Program "scoping" meeting in January 2000 raised a long list of questions and issues, none of which have been addressed six months later.

- Many in the community feel that some agency personnel have not been responsive during public meetings, and that local speakers have been "put down" on several occasions.
- It is clear from some agency actions that "scenic impact" is not a consideration for project design, despite the fact "scenic values" has long been identified as a prime community concern.
- It is clear to the Conservancy and many local citizens, even if it is not clear to the agencies, that the activities at Coleman National Fish Hatchery are a critical part of the salmon problem of Battle Creek. The Conservancy is hoping that some of the management alternatives for CNFH raised during the recent "re-evaluation" will help separate the operations at the hatchery from the creek. But it now seems clear that the evaluation of these alternatives will not be complete when the concrete is poured for the Restoration Program. This does not make sense: the hatchery problems must be resolved as part of the planning for the Restoration Program. Don't spend another $50 million before you know whether it will work. This is a prime example of a complete absence of planning on the watershed scale.

3. The proposed solution

How do we respond to the concerns of the community in a meaningful way, without unduly delaying the Restoration Program? Our proposal must address the immediate problems, which mainly concern program planning, as well as the long-term needs of the community.

- For the short term, the agencies can fix what is in their power to fix right now – the items listed below in Section 4, and perhaps something from Section 5.
- The long term is more difficult, for the community will face the negative effects of the Restoration Program over the foreseeable future. We thus need to provide continuing help for the community over an indefinite time span. Our proposed solution is to create the Battle Creek Endowment, with funds from foundations and other private sources, acquired through the help of the agencies – with a goal of providing future funding to help local citizens and groups cope with the side effects of the Restoration Program. The Endowment is described in Sections 6 and 7.

4. Issues which need to be addressed by the agencies

Most of the time when a community concern is voiced it turns out that the agencies feel that the concern is "outside the scope of the Restoration Program." The reason for this is the attempt by PG&E and the MOU agencies to keep the Program simple and concise, to make it easier to gain NEPA/CEQA and FERC compliance through the acquiescence of all five MOU agencies.

But the fact that the agencies have a reason for not responding to community concerns does not do the residents any good – somebody needs to respond, or the project is not good for the community.

The following list of issues sets forth only those issues which the agencies can fix. They may not want to fix them in all cases, but we want them to, and they have the power to do so.

- When planning the Restoration Program **look at Battle Creek as a whole**, including the upper watershed and the residents, to identify other actions that need to be taken to ensure the success of the Program. Create a top-level watershed-wide plan for the Restoration Program which does not ignore tough issues simply because it would offend another agency.
- Work hard to find a way of separating operations at CNFH from Battle Creek. Alternatives are available and they need to be tried. If it doesn't work out, and you can't fix it – move the hatchery, or much of its production. It doesn't make sense to have 100,000 hatchery salmon dying in Battle Creek without spawning, crowding out the wild fish, when there is unused spawning habitat in the Sacramento River.
- Don't even think of increasing the water diversion capacity of CNFH. We need to be thinking about reducing operations at CNFH, and moving some or all of their production elsewhere – not of increasing production. Reduce the scope of the "intake screening" program to just that – intake screening. Don't turn it into a $5 million hatchery expansion plan.
- Short of blasting out the CNFH weir, at least install an inflatable weir, so that the hatchery presents the minimum obstruction to the wild fish for the maximum amount of the year.
- Help local trout hatcheries protect themselves from pathogens brought up Battle Creek by the wild fish.
- Find a way to plant trout in the PG&E canals after they are screened. Lots of folks fish in these canals. One way to do this would be to set up a bit of public land on a canal for a park, so CDF&G would be able to plant there.
- Don't be so cavalier about cost overruns on the Restoration Program. The managers throw around $5 million here and $5 million there, just assuming that CALFED will pick up the bill, when no one seems to have any money for conservation easements or other projects to help the community. The large program costs have themselves become an issue in the community.
- Put scenic values back into the design equation, with an architect involved. Often a bit of texture, or color, or a small design change can greatly reduce the visual impact of the Pharaonic amounts of concrete which the Restoration Program will pour. We don't need ugly gauging stations at our most scenic spots, or massively ugly concrete, or miles of chain link fence. We note that the ugliest building in the watershed was built by an agency. The watershed has survived over 100 years of ranching quite nicely, but we are concerned that its appearance may not withstand the "restoration" program.
- Give us some spots where the locals can see the salmon without bothering them. Otherwise these will be mythical fish, as all of Battle Creek from CNFH to Mineral or Shingletown is in private hands. If we are putting up with assorted environmental regulations because of these fish, we should at least be able to verify that they exist.

- Fund and build restoration structures in proportion to their need and usefulness for the project; do not spend massive amounts on structures which will be rarely used, when a much simpler, less costly, and less obtrusive solution would suffice.
- Identify roles for the community in the Restoration Program's adaptive management program. As things now stand there is no significant role for the community in gathering or analyzing the data which will measure the Program's success or problems, nor in deciding upon actions to take in response to the data – despite the fact that a community role could help get community involvement and "buy in."

5. Other issues which may require other outside help in addition to agency assistance

The following issues are important both from the point of view of protecting the investment in the Battle Creek Salmon and Steelhead Restoration program, and in gaining public support for the program – but these issues may require foundation assistance in addition to support from the agencies:

- Number one is a funded program for conservation easements to compensate the owners of riparian land for being good to the fish and giving up their development rights. It would cost roughly $10 million over a decade to put the most important (willing) ranches into such agreements. This investment is critical for the long-term survival of Battle Creek as a prime salmonid creek.
- A fear of future environmental regulatory actions is a major stumbling block to public acceptance of the Restoration Program. The best solution for this problem would be regulatory relief of the sort provided to PG&E by the MOU, but this does not seem feasible since we can't define precisely the situations where it would be needed. But perhaps the agencies can suggest ways in which possible future regulatory activities can be better defined, so that the residents have a better idea of their future prospects.
- Public projects are a tried and true way to gain the hearts and minds of the people – politicians have been doing this for thousands of years. In the case of Battle Creek, public projects which both protect the salmonids in the creek and provide a visible public benefit are obvious winners – such projects protect the huge investment represented by the Restoration Program, and compensate the local residents for the future uncertainties of environmental regulation. A number of such projects have been studied by the Conservancy and other local groups:
    - How about a local park for the middle reaches of Battle Creek? There is no public access to the local creeks between CNFH and Mineral or Shingletown, and the folks need access to a tributary where they could have some fun without hurting the salmon, so that they won't spend so much time trespassing in Battle Creek and spearing salmon for the barbecue. An integrated plan has been developed for a park which would address a number of significant local issues, while providing a venue for continued environmental education.

- All areas of the watershed can benefit from additional shaded fuel breaks. CALFED provided the Conservancy with $11,000 for an initial fuel break in the Manton area, and public appreciation for this work has been high.
- A few dozen 10,000 gallon fire water tanks dispersed throughout the area would mean that a significant percentage of fire starts would be stopped locally. For example, the Rock fire of last year, which caused extensive evacuations in the Manton area, could have been stopped near its origin had such a tank been nearby.
- Improved recreational facilities would help the community while reducing the impact of local kids on Battle Creek.

6. The Battle Creek Endowment

The purpose of the Battle Creek Endowment is to provide modest funding, over an extended period of time, for local initiatives supportive of the Restoration Program and the environmental and economic needs of the community as expressed in the Battle Creek Watershed Strategy.

The local residents will have to live with endangered salmonids for the foreseeable future. Their needs for support and assistance will not stop with the completion of the Restoration Program infrastructure in the next three or four years. The Endowment is designed to provide this assistance over an indefinite term, at an expense of perhaps one-tenth of the Program cost.

- The Endowment fund is to be raised from foundations and other private sources with the help of the agencies involved in the Restoration Program (federal and state funds cannot be used for this purpose because of the indefinite nature of the endowment).
- A funding level of $10 million is suggested, based roughly upon the funds required to create conservation easements on the most important riparian lands, though the fund would leverage, not fully fund, such easements.
- The Endowment would be held by a reputable NGO (perhaps The Nature Conservancy or some such responsible entity).
- The Endowment would spend about 5% of the current value of the endowment annually. This should give a long life to the Endowment, depending upon interest rates.
- The Endowment is intended to support projects with long-term value.
- Endowment funds would be disbursed with the advice of the agencies and the trustee NGO, which parties might have seats on the Endowment Board.
- The Endowment would be run by a Board, which could be related to BCWC, or could be independent.
- The Endowment would support proposals developed within the watershed, by local groups, individual landowners, etc., which support environmental efforts related to the Restoration Program or its side effects.
- The Endowment funds would revert to the trustee NGO in the event the local management of the Endowment disbanded.

- The Endowment could be extended with gifts, bequests and additional grants.

7. The potential uses of the Battle Creek Endowment

The purpose of the Endowment is to assist community groups and individual landowners to pursue actions supportive of the Restoration Project and in overcoming the negative impacts of endangered-species and other environmental regulation upon their economic or other activities (ranching, farming, aquaculture, and so on). Some of the potential uses for Endowment funds are the following:

- Matching funds for partial funding of conservation easements. The Endowment would not have the level of funding required to support conservation easements on its own – the matching percentage would be limited by the Endowment bylaws.
- Funding to support continuing analysis of the watershed to identify situations where remedial action may be required to achieve environmental goals.
- Modest amounts to help individuals and groups implement projects required to help them comply with the environmental consequences of the Restoration Program.
- Funds to help groups and individuals prepare applications for grants to support larger projects related to compliance with the environmental consequences of the Restoration Program.
- Matching funds for group or individual projects for work related to the environmental consequences of the Restoration Program.
- Funds to help provide technical expertise for groups or individuals for work related to the environmental consequences of the Restoration Program.
- Modest base funds to help watershed-interested groups stay active. This is not intended to fully funds groups such as the Conservancy, but rather to keep community groups alive until they can find other funding.
- Modest funds to assist in supporting social or educational programs which help the community adapt to the needs of the Restoration Program.
- Modest funds for the maintenance of public access and park areas.
- Modest funds for fencing, fuel breaks, and other activities in situations where they will be beneficial to the Restoration Program.

8. Risks of this approach

This action by the Conservancy clearly has its risks. Through our hard work for the community we have built up considerable respect, both locally and with agency personnel. We risk “blowing” this credibility by what some may take as impulsive, irresponsible action.

On the other hand, we should consider our credibility as our working capital, and we should be willing to risk it if the benefits are worth it. There is no point in being above the fray if we are unable to help the community achieve reasonable goals in exchange for

their support of the Restoration Program, and there is nothing to be gained by letting our community be damaged by a program which we cannot support in its current form.

The risk is worth taking if the goals – benefits for the community and long-term benefits for the Restoration Program – are worth it, and if the probability of success is sufficient.

- If the agencies are unwilling or unable to help us achieve this proposed solution, the BCWC will lose its credibility with its membership and, thereby, become ineffective in dealing with the agencies.
- If this approach is not successful the BCWC will probably lose support from the local residents, because we will have failed to bring a positive value to the community from the Restoration Program.
- This approach risks delaying the Restoration Program. However, a year's delay in the program is less important than making it a successful program over the long term.

If we are successful in convincing the agencies to adopt our comprehensive approach to restoration then we believe that the Program will benefit along with the community.

9. Summary

We believe that the watershed community will support the Restoration Program over the long term, and will endure the inevitable regulatory problems, provided that the program is well designed, and that a suitable provision is made to help the community comply with reasonable and needed environmental regulations. In order to achieve that better program design and those stronger program ties with the community it is necessary to bring to the agencies' attention the fact that the BCWC is prepared to publicly oppose the present form of the Restoration Program because of its institutional inadequacies.

Implement a well integrated program, provide for the residents, and everybody wins. Concentrate on the Restoration infrastructure without considering the impact upon the community, and you sow the seeds for a contentious future and failure of the Program.

Battle Creek Watershed Conservancy Task List (DRAFT), August 31, 2000

Battle Creek Watershed Conservancy Task List (DRAFT)

The purpose of this document is to provide a defined list of tasks which together implement the short-term (10 year) vision of the Conservancy for the Battle Creek watershed fishery. By identifying specific tasks for the Conservancy, and tasks the Conservancy thinks appropriate for the agencies and other organizations involved in Battle Creek, we hope to clarify our vision by exposing it for detailed examination, comment, and suggestions by all concerned. The list will be revised as the issues are examined by all involved.

Obviously the Conservancy cannot dictate programs to the agencies or to other stakeholders. What we can do is to seek opportunities to enhance the environmental aspects of the watershed, and to examine alternatives proposed by others, and to determine what actions seem to make sense to us in terms of our goals, especially those goals expressed in the Battle Creek Watershed Community Strategy, a document which summarizes the concerns and interests of the local community as expressed in a long series of public meetings. When we have found actions which seem to meet our requirements, we will support these actions for funding and implementation. Where we find that actions are planned by others which do not seem to make sense, or are not well coordinated with other activities in the watershed, we will express this opinion wherever appropriate.

It may just be possible that the Conservancy and other stakeholders can reach something like consensus on most of the issues presented in this document, and then this list can become the basis of a partnership of mutual support among the stakeholders and agencies. If this can be achieved then the restoration of Battle Creek can go forward with strong momentum.

In that spirit we solicit ideas, criticisms, suggestions for new entries, etc. The tables provide space for the positive and negative aspects of each task, as well as required links with other tasks or agencies.

It may be useful to articulate in draft form a set of goals for the watershed, as seen from the Conservancy's point of view. These goals, which we believe are consistent with the Action Plan for Fishery Resources and Aquatic Ecosystems (USFWS, 1994) and similar goals of CDFG and NMFS, as well as the Battle Creek Watershed Community Strategy, may be categorized into long-term and short-term goals.

Long term goals:

- To provide habitat for natural production of the five anadromous races in Battle Creek from the Sacramento River to the natural limits of fish passage;
- To ensure that this habitat has substantially the maximum extent, quality, and fish passage possible given the natural physical properties of Battle Creek;

- To ensure that that natural production and habitat is not seriously encumbered by PG&E facilities and operations;
- To ensure that that natural production and habitat is not seriously encumbered by CNFH facilities and operations;
- To ensure that that natural production and habitat is not seriously encumbered by landowner facilities and operations;
- To ensure that these goals are accomplished without placing undue burdens upon local landowners and communities;
- To ensure that these goals are accomplished with the support of the local communities and other stakeholders involved;
- To ensure that the net benefit/cost ratio of the overall program for the local communities is positive;
- To ensure that these goals are protected over the long term through conservation easements, education, communication, and other means;
- To ensure that adequate supplemental hatchery production can continue as long as required;
- To ensure that the Battle Creek Working Group is maintained as a forum for planning and coordinating environmental activities on Battle Creek;
- To achieve these goals as much as possible through a partnership involving the Conservancy, other individual and commercial stakeholders, and the many resource and other state and federal agencies whose efforts are important to Battle Creek.

Short-term implementation goals:

- To ensure that the Restoration Program and other Battle Creek projects are implemented in a coordinated manner;
- To ensure that all Battle Creek projects are designed with due consideration to the watershed as a total system;
- To ensure that the Restoration Program and other Battle Creek projects are well designed, are appropriate for the functions served, have minimum visual impact upon the watershed, and are cost effective;
- To ensure that the Restoration Program and other Battle Creek projects are designed with open access for stakeholder input;
- To ensure that the needs and concerns of the community are communicated well to the agencies, and that the agencies are in turn responsive to these needs and concerns;
- To ensure, through a long-term educational program, that the local community members are well informed about their environment and their relationship with that environment;
- To encourage, through education and workshops, best-management practices for agriculture and ranching, good forest management practices, and good watershed stewardship;

- To ensure, through the provision of recreational access to the watershed, that the local community members can enjoy and relate to the unique Battle Creek watershed environment;
- To ensure, through the development of a watershed assessment, that the Conservancy is fully aware of the environmental needs in the watershed;
- To ensure that the needs of the local community for environmental assistance in the face of regulatory requirements can be met over the long term, through an endowment;
- To ensure that the local community is involved in agency activities on Battle Creek to the maximum extent possible;
- To provide visible benefits to the local community to offset to some degree the risks of future environmental regulation.

- **Tasks to be carried out primarily by the Battle Creek Watershed Conservancy**

Task Name	Descriptions	Advantages	Disadvantages	Externals
Top-level watershed vision	Look at the watershed as a single system, and encourage the agencies to do likewise, making maximum use of the BCWG	Better coordination among the many Battle Creek programs; create a long-term vision for salmonids in the watershed	Time and staff requirements	Cooperate with the agencies as well as other stakeholders (sport and commercial fishermen, CVPWA, landowners, etc.)
Endowment	Seek private funding for the Battle Creek endowment	Provides, over the long term, support for technical assistance to local landowners with environmental problems, modest funding for small restoration programs; provides insurance that the community will not be left without resources to comply with regulatory actions over the long term	Difficult to raise private funds of this type	Cooperate with TNC or other NGO to hold funds and provide backup in case BCWC goes away
Watershed assessment	Seek funding for and develop a watershed assessment	Defines areas/situations in the watershed potentially requiring assistance/remediation; can help BCWC get ahead of agencies on environmental violations; can help BCWC provide useful services to the watershed community	Time and staff requirements; funding	Learn from neighboring watershed assessments
Education	Continue the extensive educational program of the Conservancy, and reach out to parts of the community not yet heard from	Provides education on watershed issues for most of the community and helps ensure public support for the Restoration Program	Time and staff requirements; funding	Helps gain public support for the Restoration Program; cooperate with agencies to get “expert” assistance in educational programs
Park	Develop a local park site	Provides a visible public benefit; potential educational component; takes pressure off of Battle Creek riparian areas; improves public acceptance of Restoration Program	Cost, level of effort, long term support required; liability issues	Cooperate with many agencies to realize; Helps gain public support for the Restoration Program

Recreation	Provide local recreational opportunities with an educational component	Allows residents to experience the special values of the watershed; visible public benefit; helps gain public support for the Restoration Program	Funding; liability issues	Cooperate with PG&E, BLM, and other agencies to achieve this goal
Conservation easements	Cooperate with TNC and other organizations to seek willing sellers and funding	Conservation easements are the most important long-term protection available to the watershed; avoids future land use controversies; compensates ranchers for loss of development rights; makes ranching viable in the face of development pressure	Many landowners are reluctant to enter into these agreements; funding	Supports Strategy goal for scenic values and rural atmosphere
Newsletter	Provide general information to the public about the progress of the many programs on Battle Creek	Public information is badly needed, and it can “short circuit” the local rumor mills; considerable educational component; keeps people aware of the continuing need for environmental action	Time	Seek agency inputs for articles
Regulatory certainty	Cooperate with DFG and RWQCB to provide updates to the community on regulatory actions	Public information and workshops on these issues are quite important to the community; avoids “surprises” to local landowners	Time and staff requirements	Helps keep public support for the Restoration Program
Coordination	Coordinate the provision of technical and financial assistance to local landowners with environmental problems	The BCWC can provide a user-friendly interface between shy local landowners and the agencies whose help they need. The Endowment can be used to assist these landowners with technical assistance or modest funding.	Time and staff requirements	Coordination with many agencies required

Liaison	Continue close liaison with the agencies, the BCWG, and the public	Public concerns need to be brought to the attention of the agencies at the earliest opportunity	Time and staff requirements	Coordinate with neighboring watershed groups
GIS	Seek funding to extend the KRIS-Battle Creek GIS system to include additional layers and information, and make it available to schools and on the Internet	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	Seek GIS layer contributions from several agencies
Adaptive management program	Help develop a significant role for the BCWC in the adaptive management program	Provides some local control over monitoring; provides local input into the adaptive management process; provides local involvement with the Restoration Program	Time and staff requirements; difficult to find meaningful role for local residents and students	Cooperate with USBR, PG&E, USFWS, DFG
CNFH re-evaluation	Provide substantial input during the development of the re-evaluation study	Stakeholder concerns can be made part of the investigation at an early stage	Time and staff requirements	Seek stakeholder input
Gover Ditch proposal	Help coordinate the development of a proposal to evaluate the Gover Ditch as an alternative connection between CNFH and the Sacramento River	Potential to provide substantial separation between CNFH operations and Battle Creek; could be highly beneficial for natural populations in BC	Questions have been raised about whether enough salmon will use the ditch; Close cooperation with ditch owners required	Need to coordinate with CNFH and the re-evaluation program
Fuels management	Seek funding for and implement a program of fuels reduction and other measures (tanks, etc.)	Provides a visible benefit to the community; provides reduction in wild fire hazard for the watershed	Funding	Helps gain public support for the Restoration Program; cooperate with CDF, LNF, SPI, etc.
Liaison with other watershed groups	Liaison with other Sacramento River area watershed groups	Learn from the success/failure of other groups to minimize re-inventing the wheel	Time and staff requirements	Proposed Battle Creek activities affect upper Sacramento

Tasks to be carried out primarily by CDF&G

Task Name	Descriptions	Advantages	Disadvantages	Externals
Water purchase	Purchase all or part of 13 cfs right from willing seller and dedicate to environmental uses	Reduces water and screening requirements at CNFH; adds dedicated water to Battle Creek	Cost (but net cost may be small, when reduction in CNFH screening cost is taken into account)	Coordinate with CNFH intake design
Effluent use on wetland	Direct all or part of CNFH effluent onto DFG wetland	Reduces pollution in Battle Creek; potential beneficial effects on wetland growth	Minor costs	Must be coordinated with Gover Ditch operations
Lower Battle Creek riparian improvements	Re-form riparian areas on lower Battle Creek where the creek has become channelized	Improves riparian habitat;	Cost	Need to coordinate with local landowners
Gover Ditch proposal	Coordinate the development of a proposal to evaluate by experiment the Gover Ditch as an alternative connection between CNFH and the Sacramento River	Potential to provide substantial separation between CNFH operations and Battle Creek; could be highly beneficial for natural populations in BC	Questions have been raised about whether enough salmon will use the ditch; Close cooperation with ditch owners required	Need to coordinate with CNFH and the re-evaluation program
CNFH re-evaluation	Provide substantial input during the development of the re-evaluation study	DFG concerns can be made part of the investigation at an early stage	Time and staff requirements	
Pathogens	Consider using certified stock for planting local creeks	Better protection for local hatchery operations	Cost	Coordinate with Mt. Lassen Trout, CNFH, Darrah Springs
Canal stocking	Work with the BCWC to find a way to stock some PG&E canals	Important for local sports and commercial fishing	Cost; need to stock at public sites	Coordinate with PG&E
Viewing sites	Cooperate with USBR to provide their Battle Creek viewing sites with educational components	Gives the public a chance to see the creek, and perhaps the fish, in a situation where they are not likely to harm the fish; provides educational opportunities	Cost; liability issues	Coordinate with USBR

Adaptive management program	Help develop a significant role for the BCWC in the adaptive management program	Provides some local control over monitoring; provides local input into the adaptive management process; provides local involvement with the Restoration Program	Time and staff requirements; coordination required	Cooperate with USBR, PG&E, USFWS
Park	Consider the possibility of assisting the BCWC in their park project, particularly regarding the educational component	Visible asset to the community; possible educational aspects	Capital cost; operating cost; liability issues	
Conservation easements	Consider cooperating with BCWC to seek willing sellers and funding	Conservation easements are the most important long-term protection available to the watershed	Cost; many landowners not willing at this time; staff time	Coordinate with TNC and other NGOs
Fishing regulations	Continue cooperation with the BCWC to keep the public informed of probable future policies	Public information on this issue is important for the residents, to avoid surprises; get stakeholder involvement in regulation process	Staff time	
GIS	Cooperate with BCWC to add GIS layers to the KRIS-Battle information system	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	

Tasks to be carried out primarily by USFWS

Task Name	Descriptions	Advantages	Disadvantages	Externals
Barrier weir	Take likely hatchery management alternatives into account during design, to optimize natural production	Allows minimum inflatable dam; no change required in fish ladder; cost savings	Possible delay	Enhances natural production
Intake design	Re-evaluate options for lower-cost design, based upon 109-cfs water right	Cost savings; puts to rest public concern over CNFH water right	Some delay in construction; possible delay in funding	
Move late-fall production (potential)	Transfer all or part of CNFH late-fall production to Livingston Stone facility	Reduces water requirements at CNFH; reduces time barrier weir needs to be closed; takes advantage of unused habitat in upper Sacramento; takes advantage of trap infrastructure at Keswick and gravel program; imprints late-fall on Sacramento; in-kind, in-place mitigation	May require expansion of Livingston Stone; further divides CNFH staff; cost	May reduce screening requirement at CNFH; allows lower-density raising of fall run at CNFH
Move steelhead production (potential)	Transfer all or part of CNFH steelhead production to Livingston Stone facility	Reduces water requirements at CNFH; reduces time barrier weir needs to be closed; takes advantage of unused habitat in upper Sacramento; takes advantage of trap infrastructure at Keswick and gravel program; imprints steelhead on Sacramento; imprints late-fall on Sacramento; in-kind, in-place mitigation	May require expansion of Livingston Stone; further divides CNFH staff; cost	May reduce screening requirement at CNFH; allows lower-density raising of fall run at CNFH
Viewing sites	Cooperate with USBR to provide their Battle Creek viewing sites with educational components	Gives the public a chance to see the creek, and perhaps the fish, in a situation where they are not likely to harm the fish; provides educational opportunities; improves public acceptance of Restoration Program	Cost; liability issues	Coordinate with USBR, BCWC

Adaptive management program	Help develop a significant role for the BCWC in the adaptive management program	Provides some local control over monitoring; provides local input into the adaptive management process; provides local involvement with the Restoration Program	Time and staff requirements	Cooperate with USBR, PG&E, DFG
Gover Ditch proposal	Cooperate in the development of a proposal to evaluate the Gover Ditch as an alternative connection between CNFH and the Sacramento River	Potential to provide substantial separation between CNFH operations and Battle Creek; could be highly beneficial for natural populations in BC; could reduce limits on CNFH production caused by need to protect natural spawning population	Questions have been raised about whether enough salmon will use the ditch; Close cooperation with ditch owners required	Need to coordinate with DFG and BCWC
Park	Consider the possibility of assisting the BCWC in their park project, particularly regarding the educational component	Visible asset to the community; possible educational aspects	Cost; liability issues	
Conservation easements	Consider cooperating with BCWC to seek willing sellers and funding	Conservation easements are the most important long-term protection available to the watershed	Cost; many landowners not willing at this time; staff time	Coordinate with TNC and other NGOs
Water requirements	Settle the matter of water requirements through the intake design	Puts contentious issue to rest; reduces cost of intake project	Possible loss of flexibility	
GIS	Cooperate with BCWC to add GIS layers to the KRIS-Battle information system	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	

Tasks to be carried out primarily by USBR

Task Name	Descriptions	Advantages	Disadvantages	Externals
Restoration Program visual impact	With the aid of a landscape architect and computer models, evaluate and minimize the visual impact of Restoration Program features	Better public acceptance of the Restoration Program; less impact upon the watershed	Small increase in cost	Coordinate with stakeholders
Restoration program costs	Verify the cost-benefit ratio of low-usage infrastructure	Shows the public that the planning was cost sensitive	Cost, time	Use BCWG as much as possible
Restoration Program EIS/EIR	Extend EIS/EIR to include cumulative impacts	Brings related but out-of-scope issues out in the open for full discussion	Cost	Coordinate with stakeholders to identify issues
Restoration Program concurrency	Resolve Restoration Program and CNFH issues concurrently prior to final EIS/EIRs	Concurrent resolution allows global planning	Possible delay	Requires considerable coordination, which is facilitated by the fact that USBR is the contracting agency for CNFH activities as well as the Restoration Program
Viewing sites (1)	Install some viewing sites for Battle Creek	Gives the public a chance to see the creek, and perhaps the fish, in a situation where they are not likely to harm the fish; provides educational opportunities	Cost; liability issues	Cooperate with USFWS and DFG
Viewing sites (2)	Consider developing with PG&E a public viewing site at a PG&E facility (Coleman dam site?)	Visible asset to the community; potential educational component	Access; liability issues	Cooperate with PG&E and the BCWC
Pathogens	Develop protection measures for local hatchery operations, and partially fund using cost shares	Protects and important local industry; improves public perception of the Restoration Program	Cost	Coordinate with Mt. Lassen Trout Farms, DFG
Park	Consider the possibility of assisting the BCWC in their park project	Visible asset to the community; possible educational aspects	Cost; liability issues	

Conservation easements	Consider cooperating with BCWC to seek willing sellers and funding	Conservation easements are the most important long-term protection available to the watershed	Cost	
CNFH issues forum	Address issues of controversy in open forum	Brings concerns into open discussion		Cooperate with other agencies
Watershed assessment	Assist BCWC in funding a watershed assessment	Defines areas/situations in the watershed potentially requiring assistance/remediation; can help BCWC get ahead of agencies on environmental violations; can help BCWC provide useful services to the watershed community	Cost	Use BCWG as much as possible
Barrier weir project	Take into account the likely CNFH operations in the design, and minimize the weir impact on the creek; try to resolve some re-evaluation issues early to avoid delay	Probable cost reduction due to operation of the weir only during fall-run passage; no need for new ladder		Coordinate with stakeholders
Intake project	Take into account the likely CNFH operations in the design, and minimize the weir impact on the creek; try to resolve some re-evaluation issues early to avoid delay	Probable cost reduction due to reduced flow requirements and alternative design	Possible delay; additional costs due to re-design requirement	Coordinate with stakeholders
GIS	Cooperate with BCWC to add GIS layers to the KRIS-Battle information system	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	

Tasks to be carried out primarily by the Pacific Gas & Electric Company

Task Name	Descriptions	Advantages	Disadvantages	Externals
Education	Cooperate with the BCWC in their "your watershed at work" program for the hydropower portion	Gives students a better picture of the role of hydropower in the community and the environment	None	Involve adults as much as possible
Park	Consider the possibility of assisting the BCWC in their park project	Visible asset to the community; possible educational aspects; helps gain support for the Restoration Program	Cost; liability issues	Coordination required
Recreation	Consider cooperating with the BCWC in providing additional recreational facilities at PG&E sites	Visible asset to the community; helps gain support for the Restoration Program; possible educational aspects	Cost; liability issues	Coordination required
Viewing site	Consider developing with USBR a public viewing site at a PG&E facility (Coleman dam site?)	Visible asset to the community; potential educational component	Access; liability issues	Coordination required

Tasks to be carried out primarily by The Nature Conservancy

Task Name	Descriptions	Advantages	Disadvantages	Externals
Conservation easements	Continue cooperating with BCWC to seek willing sellers and funding	Conservation easements are the most important long-term protection available to the watershed	Cost; many landowners are not yet willing to enter into these agreements; long-term program required	Coordination with other agencies for funding
Education	Cooperate with BCWC to provide education regarding conservation easements as well as environmental and ranching issues	Critical part of conservation easement program; opportunity for educational programs on ranch issues	Time	
Park	Consider the possibility of assisting the BCWC in their park project	Visible asset to the community; possible educational aspects; excellent chance to gain local support for the Restoration Program	Cost; liability issues	Coordination with other agencies will be required
Endowment	Assist the BCWC in the search for private funding; provide long-term backup as holder of funds	Important long-term insurance for community against unknown future regulatory activity	Difficult to find such funding; program will have to be long term	

Tasks to be carried out primarily by the Bureau of Land Management

Task Name	Descriptions	Advantages	Disadvantages	Externals
Conservation easements	Consider cooperating with BCWC to seek willing sellers and funding	Conservation easements are the most important long-term protection available to the watershed	Cost; a long-term program is required, as many landowners are not ready to enter into such agreements	
Park	Consider the possibility of assisting the BCWC in their park project, possibly as holder of property title	Visible asset to the community; possible educational aspects; helps gain public support for the Restoration Program	Cost; liability issues	Requires coordination with other agencies
Noxious weeds	Consider the possibility of assisting the BCWC in their noxious weeds project	Potential cooperation important to restore working relationship between BLM and BCWC		Coordination with ranchers required
Land holdings	Consider land trades or sales to reduce number of small or included parcels in ranching area	Important action for the viability of ranching; possible BLM purchase of non-ranching lands of riparian importance		
GIS	Cooperate with BCWC to add GIS layers to the KRIS-Battle information system	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	

Tasks to be carried out primarily by the Battle Creek Working Group

Task Name	Descriptions	Advantages	Disadvantages	Externals
Coordination	Continue serving as the public forum for Battle Creek environmental issues, expanding from the Restoration Program to the creek as a whole system	The right mix of stakeholders and agency personnel are already available in the Working Group	Time, though meetings would become less frequent as the Restoration Program moves from implementation to the adaptive management phase	
Adaptive management	Take a leadership role for the non-MOU stakeholders in overseeing the adaptive management program	The Working Group includes the MOU agencies as well as the non-MOU stakeholders, so it is the ideal platform to maintain oversight over the adaptive management program	The MOU agencies have the legal obligation to manage the adaptive management program, so non-MOU stakeholders have only an informal advisory role. This may keep some stakeholders from participating.	Coordinate with out-of-area agencies to extend the scope of consideration to a broader range of stakeholders

Tasks to be carried out primarily by the Regional Water Quality Control Board

Task Name	Descriptions	Advantages	Disadvantages	Externals
GIS	Provide funding to the BCWC to add GIS layers to the KRIS-Battle information system and to make that system available in local schools and on the Internet	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	
Non-point-source pollution	Cooperate with The BCWC to provide local workshops in the watershed to inform the ranching, aquaculture, and agricultural community of regulations and remedies for pollution problems	Non-point-source pollution is considered by many in the community to be a potential threat, and educational programs can do much to convert this fear into reasonable compliance actions; technical information on compliance is an important part of this education	Time and staff requirements	Coordinate with ranchers and other affected stakeholders
Education	Provide funding to the BCWC for educational programs	Education to acquaint the students with the environmental characteristics and needs of their community is one of the best long-term strategies available for protecting the watershed	Cost	

Tasks to be carried out primarily by California Division of Forestry

Task Name	Descriptions	Advantages	Disadvantages	Externals
Fuels (1)	Continue the fuel management practices in the Manton area (shaded fuel break); seek funding for other fuels management programs in all areas of the watershed	Fuels management is seen as an excellent public benefit by the local residents; gains acceptance for the Restoration Program; reduces the probability of wildfire in the watershed, and thus provides some protection for the salmonids	Costs	
Fuels (2)	Consider seeking funding for a “fire safe” program in the Manton area	The “fire safe” program has been quite successful in the Shingletown area	Costs	
GIS	Cooperate with BCWC to add GIS layers to the KRIS-Battle information system	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	

Tasks to be carried out primarily by Lassen National Forest

Task Name	Descriptions	Advantages	Disadvantages	Externals
Fuels (1)	Continue the fuels inventory study now in progress on the LNF portions of the Battle Creek watershed	The result of this inventory can be used to seek funding for fuels-management work	None (already funded)	
Fuels (2)	Seek funding for fuels management activities suggested by the fuels (1) study above	Fuels management is seen as an excellent public benefit by the local residents; gains acceptance for the Restoration Program; reduces the probability of wildfire in the watershed, and thus provides some protection for the salmonids		
GIS	Cooperate with BCWC to add GIS layers to the KRIS-Battle information system	The KRIS-Battle information system can be used by the BCWC, BCWG, the agencies, and the public to support educational and planning activities relating to the watershed environment	Cost	

Tasks to be carried out primarily by the National Marine Fisheries Service

Task Name	Descriptions	Advantages	Disadvantages	Externals

Managing Risk to Facilitate the Success of the Battle Creek Salmon and Steelhead Restoration Project, January 29, 2001

Managing Risk to Facilitate the Success of the Battle Creek Salmon and Steelhead Restoration Project

A proposal for protecting the public investment in the Battle Creek Salmon and Steelhead Restoration Project, and for improving local public acceptance of the Project, by independently evaluating potential risks to the Project and by shaping appropriate science-based responses to them

prepared by the

Battle Creek Watershed Conservancy

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January 29, 2001

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1. BACKGROUND

The Battle Creek Salmon and Steelhead Restoration Project is the Federal-State (CalFed) Central Valley Ecosystem Restoration Program's best opportunity to restore naturally-spawning runs of winter-run, spring-run, and late-fall-run chinook salmon and steelhead to the San Francisco Bay-Delta watershed. The project, currently in advanced planning stages at the U.S. Bureau of Reclamation's Sacramento offices, will remove five Pacific Gas and Electric Company (PG&E) dams from, and will restore flows and access for salmon, to over 42 miles of stream habitat in Battle Creek, a tributary to the Sacramento River rising in Shasta and Tehama counties. The project is being funded by the CalFed program ($27 million); PG&E ($20+ million) and the David and Lucile Packard Foundation ($3 million).

A number of highly-regarded CalFed ecosystem restoration proposals in other watersheds have run headlong into fatal landowner opposition. The landowners and other interested parties in the Battle Creek watershed have taken a different approach, forming a non-profit corporation (The Battle Creek Watershed Conservancy) to engage with the agencies in the planning process, hoping to help shape the Project into one that could benefit (or at least not harm) the local economy. After all, the same environment which can support the salmon (low-density rural atmosphere, large parcel sizes devoted primarily to cattle ranching) also provides the scenic values which attracted many of the residents.

After four years of work, dozens of public meetings, countless agency meetings, and significant educational outreach programs by the Conservancy, many of the fears of the local community have been laid to rest through the process of investigation, cooperation, and compromise. But a fundamental skepticism about the Restoration Project remains unaddressed throughout the community.

This skepticism is grounded on the large amount of money being spent on the fish, and on the fact that the Restoration Project focuses narrowly on the PG&E hydropower project. Local residents recall how abundant the spring-run salmon were in the area, as recently as 1980 and some 80 years after the hydropower dams were installed – and then how the salmon disappeared when the fish ladders on the dams were closed to "protect" the water supply of Coleman National Fish Hatchery (CNFH). Rightly or wrongly, many in the community have come to associate the reduction in the natural salmon population with CNFH, especially with the adverse effects of the hatchery's barrier weir and closure of the fish ladders.

Whether or not this perception is correct, all parties agree that local support is critical for the success of the Restoration Project: after all, the local residents will be the de-facto trustees of the ESA-listed and other anadromous fish in their backyards. Unless the residents are convinced that all reasonable measures are being taken to reduce the risk of failure of the Restoration Project, they are very unlikely to support the Project. Should the project fail many residents fear that the resource agencies will look toward curbing land uses and water rights in their attempts to rescue an endangered species. The biological risks to the Restoration Project that the landowners perceive from their knowledge of the stream and its fish are, therefore, turning into a political risk that threatens landowner support for the Restoration Project.

The resolution of this local concern requires a serious response, and the Conservancy has argued for some years that the planning of the Restoration Project should include a full analysis of the potential impact of the hatchery upon the natural production of the five anadromous runs to be restored in Battle Creek, as part of an overall watershed analysis.

A part of the solution to this problem will be provided by the CNFH re-evaluation program currently underway. Several hatchery management alternatives, which could mitigate potential impacts of artificial propagation upon natural production in Battle Creek, will be examined during the coming year.

The Conservancy is participating vigorously in the re-evaluation program, but due to the number of management alternatives being reviewed by the CNFH subcontractor (Harza Inc.), and the limited funds available, we feel that some of the issues most critical to the local community may be overlooked, and will require further study before the potential risks to the Restoration Project can be properly evaluated.

What is needed to supplement the ongoing work at CNFH is an objective, science-based analysis of the potential risks to the Restoration Project posed by the operation of a very large hatchery on a relatively small stream critical for natural production. To avoid assumptions of bias by local residents, this analysis needs a clearly-visible independence from the hatchery operators.

We propose that the issues be evaluated by qualified outside experts, who will consult closely with the Battle Creek-interested agencies and communities, including Harza Inc., and then submit their findings to an open symposium to be organized by the Conservancy and to involve additional scientific authorities on other pertinent subjects.

By means of the thoroughness with which the issues will be evaluated and the openness with which the research results will be reviewed at the symposium, the Conservancy hopes that mid-course corrections based upon the best available science can be made in Battle Creek restoration efforts so that the watershed community's flagging confidence in the Restoration Project can be restored.

Should the research prove that the hatchery poses no significant risk to the planned restoration, then the community will know that this result has been verified independently by the researchers cooperating with the Conservancy. On the other hand, should significant risks be predicted by the investigation, appropriate changes will be suggested to improve the success of the Restoration Project.

The landowners share with other stakeholders and the resource agencies the goal of restoring the productivity of Battle Creek. They, perhaps more than any of the other parties, want the Restoration Project to succeed. The work proposed here should contribute substantially to that goal.

2. SCOPE OF WORK

While the focus of this project is to address the concerns of the local community, these concerns about potential risks to the Restoration Project are also shared by other Battle Creek stakeholders, including sport and commercial salmon fishermen and Central Valley-Delta water users. These three groups – the landowners, fishermen, and water users – together with PG&E and the resource agencies formed the Battle Creek Working Group in early 1997. It was the Working Group that produced the 1999 Battle Creek Salmon and Steelhead Plan (Ward and Kier, 1999a) that defined the current Restoration Project.

A second Working Group product, Maximizing Compatibility Between Coleman National Fish Hatchery Operations, Management of Lower Battle Creek, and Salmon and Steelhead ("Compatibility Report", Ward and Kier, 1999b) drew on the stakeholders' knowledge of local conditions and upon consultations with fisheries and hatchery experts throughout California and the Pacific Northwest to identify a number of concerns that CNFH's operations on lower Battle Creek raise relative to efforts to restore naturally-reproducing salmon and steelhead populations in the watershed.

The issues raised in the Compatibility Report have not been addressed in the planning of the Restoration Project, since this planning was confined to the reach of Battle Creek above Coleman National Fish Hatchery. The focus of this proposal is to supplement the ongoing work of the hatchery re-evaluation program through the development of an objective, independent analysis of the risks posed by the hatchery to the Battle Creek salmon and steelhead restoration effort, to enable the development and evaluation of science-based measures for reducing or eliminating any risks found to be significant.

Because many of the proposed tasks are supplementary to the ongoing CNFH re-evaluation program, being implemented at Harza Inc., it is important that those performing the analyses maintain close contact with Harza personnel, in order to avoid duplication of effort and to have a maximum exchange of ideas and interpretations.

The members of the project team are highly-qualified individuals who are, for the most part, from outside the project area and who can approach Battle Creek problems and solutions with a degree of independence impossible for those of us who have worked so long on the Restoration Project.

The proposed project tasks are listed in the table below and in the narrative that follows:

1.0 Risks posed by summer and fall production at CNFH

- 1.1 Impact of the CNFH barrier weir on natural production
- 1.2 Impacts of CNFH water use and intakes on natural production
- 1.3 Impacts of hatchery steelhead production
- 1.4 Assessment of the benefits and costs of relocating CNFH warm-season production
- 1.5 The effects of juvenile release sites on the Sacramento River fishery

2.0 Risks posed by fall-run chinook production at CNFH

- 2.1 The impact of superimposed redds on natural production
- 2.2 Impact of waste loading of Battle Creek by fall-run carcasses
- 2.3 Disease risk to natural production due to hatchery production

2.4 Evaluation of means to isolate CNFH from Battle Creek

3.0 Planning and execution of a symposium for project reporting

4.0 Public outreach to make the results of the project available to the community

Note that for tasks 1 and 2 the draft findings and recommendations should be suitable for distribution and discussion at the symposium (Task 3) on Battle Creek salmon and steelhead conservation to be convened by the Battle Creek Watershed Conservancy.

3. Task 1. Evaluate the risks of dry-season production of late-fall-run chinook salmon and steelhead at the Coleman National Fish Hatchery to both the Restoration Project and upper Sacramento River salmon and steelhead populations

Dry-season production at Coleman National Fish Hatchery is limited to the culture of late-fall chinook salmon and steelhead. This production begins with broodstock collection of late-fall chinook and steelhead from November through March, and continues with juvenile rearing which spans the dry season (July through September). Such production requires roughly half the summer flow of Battle Creek, and necessitates the operation of a barrier weir to collect late-fall chinook and steelhead during the period of November-March.

CNFH previously attempted to culture winter-run chinook, a species now protected under the federal Endangered Species Act, but high hatchery water temperatures precluded optimal production, and after a campaign by the Working Group, production was moved in 1998 to Livingston-Stone Hatchery at Shasta Dam. Production at this site has proven highly successful.

Should the work done under this project find that dry-season production at CNFH poses a significant risk for the Restoration Project, the Conservancy and other stakeholders have suggested that the same remedy – moving dry-season production to Livingston-Stone Hatchery – should be seriously considered. Such a move would populate 29 miles of excellent, under-utilized habitat in the upper Sacramento River with steelhead and late-fall chinook, taking advantage of a $500 million public investment (Shasta Dam temperature control device, Iron Mountain mine runoff mitigation, spawning gravel program, Keswick fish trap improvements) to restore this river reach.

Task 1.1: Impact of the CNFH barrier weir operations from November through March

The hatchery's barrier weir across Battle Creek, operated to capture salmon and steelhead for hatchery use, impedes the upstream migration of salmon and steelhead to about 90 percent of the Battle Creek watershed, including the Restoration Project area. The practice of blocking fish with this small dam, and holding migrating adult fish in hatchery ponds, has caused mortalities of adult steelhead of 25 to 40 percent. Such mortalities, were they allowed to continue, would severely hamper the restoration of natural runs of steelhead to upper Battle Creek.

To accomplish this task we propose to perform the following subtasks:

- Consult with CNFH personnel and others;
- Collect and analyze information concerning pre-spawning mortality of steelhead and other runs blocked by the hatchery barrier weir;
- Collect and analyze information concerning the impact of the barrier weir operation upon the passage of juvenile populations;
- Review plans for continued operation of the weir;

- Evaluate the impact of continued weir operations on plans for the restoration of anadromous fish upstream of the weir;
- Prepare and issue draft findings and recommendations for reducing negative impacts, if any, of weir operation on upstream anadromous fish restoration efforts.

Task 1.2: Impacts of CNFH water use and intakes on natural production

The hatchery requires approximately 50% of the dry-season flow of Battle Creek, and maintaining the current production mix will require extensive improvements to the hatchery water intake system while decreasing the amount of water available for salmonid rearing and migration from the Restoration Project area. This task addresses the potential impacts of hatchery water use, and the possible benefits which could accrue from transferring dry-season production to Livingston-Stone Hatchery.

To accomplish this task we propose to perform the following subtasks:

- Consult with CNFH personnel and others;
- Collect and analyze information concerning CNFH's dry-season water requirements;
- Evaluate the water use costs and the benefits, if any, of transferring juvenile steelhead and late-fall-run chinook salmon production from CNFH to Livingston Stone Hatchery;
- Evaluate fisheries management/restoration costs and the benefits, if any, of transferring juvenile steelhead and late-fall-run chinook salmon production from CNFH to Livingston Stone Hatchery;
- Evaluate the benefits, if any, of reducing CNFH diversions from Battle Creek;
- Evaluate CNFH's current plans for upgrading its water intake system and recommend measures for lessening the impact, if any, of such plans on the Battle Creek ecosystem;
- Issue draft findings and recommendations for reducing negative impacts, if any, to the Restoration Project of continued dry-season water withdrawals from Battle Creek to CNFH, and of the benefits to Sacramento River natural production, if any, of transferring juvenile steelhead and late-fall-run chinook salmon production from CNFH to Livingston Stone.

Task 1.3: Impacts of hatchery steelhead production

The hatchery produces about 1 million steelhead juveniles each year. Concerns have been raised about possible genetic and ecological effects of this production upon the natural production expected in Battle Creek following the Restoration Project.

To accomplish this task we propose to perform the following subtasks:

- Consult with CNFH personnel and others;
- Collect and analyze information concerning the impact of CNFH steelhead production, to the extent that it can be determined, on the growth, survival, and

genetic stability of steelhead that will be produced naturally in the Restoration Project reaches of Battle Creek;

- Issue draft findings and recommendations for minimizing the adverse impacts, if any, of continued CNFH steelhead production on the success of steelhead restoration in upper Battle Creek

Task 1.4: Assessment of the benefits and costs of relocating CNFH dry-season production

Should it be determined that CNFH dry-season operations have a significant impact upon natural production and thus pose a risk to the success of the Restoration Project, the costs, benefits, and risks of alternatives need to be considered. The alternative suggested by the Conservancy and other stakeholders involves moving dry-season CNFH production to an expanded Livingston-Stone Hatchery at Shasta Dam. This task considers this alternative in some detail.

To accomplish this task we propose to perform the following subtasks:

- Consult with CNFH and USBR personnel and others;
- Estimate the costs of transferring CNFH juvenile steelhead and late-fall-run chinook salmon production to Livingston Stone Hatchery in terms, at minimum, of constructing and outfitting additional Livingston Stone Hatchery capacity, loss of power generation at Shasta Dam, and reduced efficiency of CNFH operations;
- Estimate the benefits, if any, on natural production, sports fishing, and commercial fishing due to the increased natural populations of late-fall chinook and steelhead in the upper Sacramento River;
- Determine the benefits, if any, of reduced dry-season power consumption at CNFH attributable to transferring CNFH juvenile steelhead and late-fall-run to Livingston Stone;
- Issue draft findings and recommendations concerning proposals for transferring CNFH's juvenile steelhead and late-fall-run to Livingston Stone.

Task 1.5: The effects of juvenile release sites on the Sacramento River fishery

One potential consequence of the alternative hatchery site studied in Task 1.4 is that hatchery late-fall chinook and steelhead could be released at sites along the Sacramento River. Releases at a site in the Redding area could potentially populate the upper 29 miles of the Sacramento River above Battle Creek with late-fall chinook and steelhead, with potential natural production by those fish not needed for hatchery production. This reach of the river has been the subject of extensive restoration, and there are large amounts of excellent-quality underutilized habitat.

To accomplish this task we propose to perform the following subtasks:

- Consult with U.S. Fish and Wildlife Service, California Department of Fish and Game personnel and others;
- Identify the likely advantages and disadvantages, if any, of releasing juvenile salmon and steelhead from sites on the Sacramento River as opposed to the

CNFH release sites, in terms of sports and commercial fishing opportunity and the utilization of upper Sacramento River restoration investment;

- Issue draft findings and recommendations concerning the advantages and disadvantages of releasing juvenile salmon and steelhead from the alternative sites.

4. Task 2. Evaluate the risks of the production of fall-run chinook salmon at CNFH to the Restoration Project

Coleman National Fish hatchery annually produces about 10 million juvenile fall-run chinook salmon, for release on Battle Creek. About 100,000 of these fish return each year to the hatchery as adults. About 90% of these returning fish die in Battle Creek without spawning, overloading the 3 miles of spawning habitat below the hatchery, and leaving a huge, decaying biomass in the creek.

The hatchery returnees not only disrupt natural spawning below the hatchery by super-imposition of redds, but most of these fish carry various pathogens, including IHN and whirling disease, the latter spread through worm hosts which may feed on the salmon carcasses.

The Conservancy and other stakeholders have proposed an alternative connection between the hatchery and the Sacramento River which could potentially minimize any such risks, if analysis shows them to be significant.

The purpose of this task is to assess the risk posed to natural production and the Restoration Project through the presence of the large numbers of fall-run hatchery chinook in Battle Creek, and through the management of the barrier weir which is used to block fall-run chinook, and at limited times the threatened spring-run chinook, from upper Battle Creek. The merits of an alternative management strategy which could minimize any such risks would also be evaluated.

Task 2.1: The impact of superimposed redds on natural production

The large numbers of returning fall-run hatchery chinook are approximately twenty times the number which the habitat in Battle Creek below the hatchery can support, even when the number required for hatchery spawning is removed. These fish generally attempt to spawn in the creek, but such spawning is generally unsuccessful, due to the repeated destruction of redds by other fish trying to use the same space. The purpose of this task is to evaluate the risk to natural production in lower Battle Creek due to redd super-imposition (the stacking of spawning redds or re-use of the same areas).

To accomplish this task we propose to perform the following subtasks:

- Consult with U.S. Fish and Wildlife Service and California Department of Fish and Game personnel and others;
- Estimate the extent of the super-imposition of salmon redds in lower Battle Creek and the effect of such super-imposition on the natural production of anadromous fish in the stream;
- Issue draft findings and recommendations concerning the crowding of salmon below the CNFH barrier weir and the impact of the super-imposition of redds on natural production in the lower creek and prospects for salmonid restoration in upper Battle Creek.

Task 2.2: Impact of waste loading of Battle Creek by fall-run carcasses

The large mass (hundreds of tons) of dead fall-run hatchery chinook in lower Battle Creek poses a potential water-quality issue, apart from its impact upon natural production. The purpose of this task is to evaluate the risk the carcass biomass poses to water quality.

To accomplish this task we propose to perform the following subtasks:

- Consult with the California Regional Water Quality Control Board, Central Valley Region, California Department of Fish and Game, and others;
- Estimate the impact on lower Battle Creek water quality caused by the deposition of salmon carcasses downstream of the CNFH barrier weir;
- Evaluate the lower Battle Creek salmon carcass situation in terms of State and federal water quality anti-degradation policies;
- Issue draft findings and recommendations concerning the salmon carcass and water quality situation below the CNFH barrier weir.

Task 2.3: Disease risk to natural salmonid populations due to hatchery production

Most of the returning hatchery adults carry various pathogens, such as IHN (Infectious Hematopoietic Necrosis) virus. The presence of these pathogens in the live fish and in the decaying carcasses may pose a significant threat to anadromous fish using lower Battle Creek, including outmigrating juveniles. The purpose of this task is to evaluate the risk posed by the presence of large numbers of diseased hatchery adults to natural populations in Battle Creek.

To accomplish this task we propose to perform the following subtasks:

- Consult with CNFH and California Department of Fish and Game personnel and others;
- Determine the extent of fish disease transmission among hatchery salmon and between hatchery- and non-hatchery salmon that is likely occurring as a result of the deposition of salmon carcasses and other hatchery-related effluvia in lower Battle Creek;
- Issue draft findings and recommendations concerning disease transmission attributable to carcass deposition and other CNFH production-caused impacts on Battle Creek salmon.

Task 2.4: Evaluation of means to isolate CNFH from Battle Creek

The Conservancy and other stakeholders have suggested that an alternative means to connect CNFH to the Sacramento River be investigated. This alternative uses an existing agricultural ditch, which begins near the hatchery and ends at the river. This ditch has historically had problems with in-migrating salmon, so it is know to be attractive to the fish, and it is large enough to support the 12,000 or so fall-run returns required for hatchery operation. The purpose of this task is to evaluate the potential for this

alternative to function, and to estimate the advantages and disadvantages of such operation.

To accomplish this task we propose to perform the following subtasks:

- Consult with affected land and water owners and others;
- Investigate the costs and benefits of isolating CNFH from lower Battle Creek (and thereby reducing CNFH-attributable risks to the creek's ecology) through, among other things, routing adult salmon returning to the hatchery, and juvenile salmon leaving the hatchery, through the nearby Gover Ranch irrigation ditch (Gover Ditch);
- Identify the engineering features, if any, that would have to be added to the Gover Ditch to support such an isolation strategy, together with preliminary estimates of their costs;
- Identify any water rights issues that might arise from using hatchery effluent, rather than Battle Creek withdrawals, to operate the Gover Ditch for irrigation and CNFH connectivity;
- Investigate the potential for routing CNFH effluent through the California Department of Fish and Game's wetland restoration project, which adjoins the Gover Ditch, as a means of obtaining a higher level of wastewater remediation than either CNFH's present discharge to Battle Creek, or simple re-routing of CNFH effluent via the Gover Ditch directly to the Sacramento River;
- Evaluate the water quality benefits to Battle Creek of such isolation strategies. Identify the adverse impacts, if any, on Sacramento River water quality. Identify the effects such isolation measures might have on the efficacy of juvenile hatchery salmon release strategies: e.g., on imprinting and potential straying. Identify the costs and benefits that such isolation measures would likely have on the collection of surplus fish for rendering;
- Evaluate the hatchery barrier weir requirements at CNFH if an isolation plan were implemented. Identify the costs and benefits of alternative barrier weir configurations;
- Issue draft findings and recommendations concerning the potential isolation of CNFH from Battle Creek through the use of the Gover Ditch; the engineering requirements of such a dual-use ditch; the water quality impacts and benefits of such an isolation scheme, with and without DFG wetlands connectivity; the impact such an alternative hatchery release strategy might have on salmon straying and on spawning in the Sacramento River; and how such an isolation strategy would influence CNFH barrier weir requirements.

5. Task 3. Organize and conduct a workshop to ensure full consideration by both the scientific community and the general public of the findings and recommendations resulting from the proposed project

The Conservancy will organize a one or two-day symposium, most likely in Red Bluff, to enable full and frank discussion of the findings and recommendations arising from the project's analyses. The symposium will follow the formats used by the American Fisheries Society and other professional fish-science organizations. It will be open to all interested parties.

The investigation team's draft work products will be widely circulated to interested parties, including additional independent experts, in advance of the symposium.

The purpose of the symposium is to bring the expertise of the wider fisheries-science community to bear upon the results of the studies funded by this project, and to ensure that the final fish cultural and structural alternatives to be recommended for the Restoration Project represent the best current knowledge.

6. Task 4. Public outreach to ensure that the project efforts and outcomes are brought to the attention of the local community, and that community concerns are effectively brought to the attention of the resource agencies

Many in the local community are skeptical of the Restoration Project, partly on the basis of widely-held suspicions that the Project is at risk due to activities at Coleman National Fish Hatchery. Public acceptance of the Restoration Project is critical to its success, as the local residents will be the de-facto trustees of the anadromous fish in their backyards.

The purpose of this task is to ensure that the local watershed community is fully aware of the results of the science-based risk assessments to be produced by this program, which are focused directly on the issue of local concern, CNFH operations. Public acceptance will come only when the community is convinced that their concerns about the hatchery have been fully and independently assessed, and that any significant issues of risk have been addressed.

The Conservancy, through watershed coordinator Sharon Paquin-Gilmore and consultant Dr. Michael Black, will conduct an outreach effort using the Conservancy newsletter, the region's print and television news media, and public meetings. Dr. Black is the author of "Shasta Salmon Salvage Efforts: Coleman National Fish Hatchery on Battle Creek, 1895-1992."

The outreach effort will include publicity for the symposium (Task 3), to ensure that a significant number of members of the local community participate.

7. Deliverables and schedule

The proposed program will result in the following deliverables being provided to the sponsors, as well as to the agencies and stakeholders involved in the Battle Creek Salmon and Steelhead Restoration Project:

- One interim progress report indicating the progress to date and any changes in the detailed task definitions, issued 120 days into the project.
- Draft scientific reports for each of the subtasks identified in this proposal, issued 60 days prior to the symposium.
- Final scientific reports for each subtask, after draft review by the interested agencies and stakeholders, issued following the symposium.
- An open public symposium for the discussion of the scientific results in the broader fisheries and stakeholder community, convened near the end of the program.
- A refereed proceedings of the symposium, tentatively planned to be issued through the American Fisheries Society.
- Extensive public-outreach materials intended for distribution in the media, at public meetings, and through the Battle Creek Watershed Conservancy newsletter.

It is intended that these deliverables reach the widest possible audience of interested parties and stakeholders, both to make the scientific results generally available, and to facilitate comment on the scientific results by a broad community of interests.

It is proposed that a one-year program is appropriate for the scientific work and the symposium. It is of course to be expected that not all the significant questions addressed by the studies will be resolved in one year, but it is important that the results of the independent studies be available in time to support the Restoration Project, both through the scientific results themselves, and through the improved public support which will accrue from the independent study.

8. PROJECT PERSONNEL

Richard Grost is an independent fisheries scientist who has worked for government and industry clients throughout the Pacific Northwest, including the Klamath River basin in Northern California. He has not worked in the Sacramento River Basin. Mr. Grost, who has an M.S. in zoology and physiology and a B.S. in fisheries biology and management, will manage the technical aspects of the project, will lead data acquisition and scientific analysis of fisheries issues, and assist with outreach and symposium presentations.

Thomas Quinn, Ph.D. is a professor of fisheries at the School of Aquatic and Fisheries Science at the University of Washington. Dr. Quinn will direct analyses of issues concerning fish behavior, genetics, ecology, and competition among and between species.

Fran Borcalli is a Sacramento-based civil engineer who has substantial experience with the analysis of barriers to salmon and steelhead migration and with the design and construction of fish screens and other fish-passage facilities in the Sacramento Valley. He designed and supervised construction of the CalFed project dam removals and modifications on Butte Creek. Mr. Borcalli will provide analysis and recommendations concerning hatchery barrier weir and hatchery water intake alternatives.

Kenneth Ferjancic is a Puget Sound-based fisheries engineer whose firm has worked extensively with agencies and tribes in the development of hatchery facilities. Much of Mr. Ferjancic's recent work has involved the creation of small-scale fish cultural facilities to ensure the conservation of species at risk of extinction. He has worked with Mr. Borcalli in the design and construction of northern California fish facilities. Mr. Ferjancic will provide analysis and recommendations concerning fish hatchery design alternatives.

Daniel Frost is a Redding-based attorney with extensive experience in ranch management and water rights. Mr. Frost's firm has for many years provided legal services to the Gover Ranch on Battle Creek. Mr. Frost will provide analysis of legal issues and remedies concerning Battle Creek water use alternatives.

Sharon Paquin-Gilmore, a Battle Creek landowner and resident long interested in environmental issues, is the Battle Creek Watershed Conservancy's watershed coordinator. Before assuming her BCWC duties, Ms. Paquin-Gilmore taught English at California State University, Chico for 13 years and at Shasta College for four. Ms. Paquin-Gilmore will provide administrative management for the proposed project.

Michael Black, Ph.D. is a San-Francisco-based environmental historian and policy analyst. His history of Coleman National Fish Hatchery is forthcoming in the California Department of Fish and Game's Fish Bulletin, and he is working on a history of salmon on the Sacramento River for the University of California Press. He is a Visiting Associate Professor of Political Science at Harvey Mudd College. Dr. Black will assist the Conservancy Watershed Coordinator in providing public dialog, education, and outreach in the local community.

Additional expertise will be solicited as necessary to enhance the strength and value of specific analyses. Such experts may include fisheries researchers associated with universities and institutions throughout the Northwest.

9. REFERENCES

Black, Michael. 1998. Shasta Salmon Salvage Efforts: Coleman National Fish Hatchery on Battle Creek, 1895-1992.

Ward, M. B. and W. M. Kier. 1999a. Battle Creek Salmon and Steelhead Restoration Plan. Prepared for the Battle Creek Working Group by Kier Associates.

Ward, M. B. and W. M. Kier. 1999b. Maximizing compatibility between Coleman National Fish Hatchery operations and salmon and steelhead restoration in Battle Creek. Prepared for the Battle Creek Working Group by Kier Associates.

10. PROJECT BUDGET SUMMARY

Task	Task subject	Professional services	Direct costs	Indirect costs	Task total
1.1	Impact of the CNFH barrier weir during dry-season production	16000	3000	1900	20900
1.2	Impacts of CNFH water use and intakes on natural production	19000	2800	2180	23980
1.3	Impacts of hatchery steelhead production	9000	2500	1150	12650
1.4	Assessment of the benefits and costs of relocating CNFH dry-season production	24000	3500	2750	30250
1.5	The effects of juvenile release sites on the Sacramento River fishery	4400	2000	640	7040
2.1	The impact of superimposed redds on natural production	5500	2000	750	8250
2.2	Impacts of waste loading of Battle Creek by fall-run carcasses	3100	2500	560	6160
2.3	Disease risk to natural salmonid populations due to hatchery production	7500	2500	1000	11000
2.4	Evaluation of means to isolate CNFH from Battle Creek	36000	3000	3900	42900
3.1	Organize and conduct a workshop to ensure full consideration by both the scientific community and the general public of the findings and recommendations resulting from the proposed project	9500	35000	4450	48950
4.1	Public outreach to ensure that the project efforts and outcomes are brought to the attention of the local community, and that community concerns are effectively brought to the attention of the resource agencies	9200	2500	1170	12870
-	Additional expert opinion as required	9000	5000	1400	15400
-	Project accounting services	2100	250	235	2585
-	Project legal review services	4600	250	485	5335
-	BCWC project coordination	11000	1000	1200	13200
	Subtotals	169900	67800	23770	261470

Battle Creek Watershed Conservancy Position on the Restoration Project, June 11, 2001

Battle Creek Watershed Conservancy

Post Office Box 606, Manton, California, 96059

June 11, 2001

Mr. Patrick Wright
Director, CALFED Bay-Delta Program
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Sacramento, CA 95814

Mr. Wayne White
Sacramento Fish and Wildlife Office
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Sacramento, CA 95825

Mr. Donald B. Koch
State of California - The Resources Agency
Department of Fish & Game
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Redding, CA 96001

Mr. Mike Aceituno
National Marine Fisheries Service
650 Capitol Mall
Sacramento, CA 95814

Mr. Kirk Rodgers
Acting Regional Director
US Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Subject: Battle Creek Watershed Conservancy position on the Restoration Program

As you are well aware, the Battle Creek Watershed Conservancy has been energetically attempting to bring local concerns to the attention of the several agencies developing the Battle Creek Salmon and Steelhead Restoration Project for over four years. Now that this Project is moving from the design phase to the implementation phase, we have been forced to realize that our concerns will not be addressed.

For the last three years the Conservancy has repeatedly called for the issues on Battle Creek to be addressed in a systematic way, looking at the entire watershed as a connected system.

The agencies, however, have preferred to concentrate on a program narrowly focused upon the PG&E facilities, telling us that increasing the scope would complicate the project to the point where it might collapse.

The Conservancy and some of the other NGO stakeholders have felt frustrated during this process because all decision-making authority was clearly in the hands of the MOU parties – PG&E and the trustee agencies – and the rules of the "collaborative process" have consistently been used to prevent dialog between the stakeholders and the agencies.

The result of our inability to make significant progress with the agencies has been an increase in local opposition to the Restoration Project, after a long period where opposition had died down while the Conservancy membership felt that the Conservancy was "on top of things." This increasing frustration culminated in a very well attended Annual Meeting of the Conservancy, where the following resolution was passed overwhelmingly by the membership on May 16th:

> **A resolution to oppose the Battle Creek Salmon and Steelhead Restoration Project in its current form**
>
> The Battle Creek Watershed Conservancy opposes in its present form the Battle Creek Salmon and Steelhead Restoration Project. We believe that potential problems for natural production in Battle Creek due to the operations at Coleman National Fish Hatchery have not been properly taken into account in the planning for the Project, and that there is a substantial probability that the Project will fail as a result. If the project fails the agencies will try all means to save the $50 million investment, with the likely result that local residents and economic activities will suffer serious restrictions. We take this action reluctantly, as our membership is as concerned for the health of Battle Creek as the agencies, but we would rather see the Restoration Project implemented well, or not at all.
>
> This opposition will continue until the Conservancy Board is satisfied that all possible steps will be taken to protect natural production in Battle Creek, without curtailing hatchery production for the mitigation of the presence of Shasta Dam.
>
> The Board is directed to make the appropriate agencies, including CalFed, aware of its position.

This motion was designed to make the urgency of the situation felt, while still leaving room for a solution.

Obviously it is not enough just to express our frustration. The purpose of this letter is to identify a series of steps which the Conservancy Board feels will adequately ensure that the concerns of our members will eventually be addressed. While there have been many issues important to our constituents, the limited time available clearly shows the need to focus upon the most critical of our concerns, the potential negative effects of the operations at Coleman National Fish Hatchery upon natural production in Battle Creek.

Some of these issues are being belatedly examined in a cursory way in the current CNFH re-evaluation program. We feel that this review is valuable, but quite inadequate considering the complexity of the problems. Let me summarize the key problems which must be addressed to reach a real solution to our problem:

- The Restoration Project design and implementation, including the Adaptive Management Plan, is narrowly focused upon the PG&E facilities. As a result the Project environmental review will not address issues critical to the Conservancy.
- The Project, including the Adaptive Management Plan, is under the control of the MOU agencies and PG&E, with little NGO stakeholder input. While the agencies have politely listened to us for years, in over 100 meetings, they cannot identify any substantive steps taken to address issues of concern to the Conservancy.

- Substantial distrust exists between the Conservancy and the USFWS, to the point where the membership will not trust science coming out of USFWS programs, and USFWS personnel seem to feel that the Conservancy is attempting to put CNFH out of business.
- While many local residents support the idea of the Restoration Project, there is very serious local concern that the Restoration Project could fail due to activities at CNFH. Local opinion associates project failure with inevitable restrictions on land uses, water rights, and economic activities.

To overcome these problems it seems clear to us that the solution must contain the following elements:

- The uncertainties behind the disagreement among the agencies regarding the likely impacts of CNFH upon a restored Battle Creek need to be resolved through an extensive and well planned science program considering Battle Creek and the upper Sacramento River as a complete system.
- The Conservancy and other NGO stakeholders need to play a leading role in this science program, to establish the independence of the work to the satisfaction of the local community, and to help make the community an active part of the Restoration Project.
- Such a science program will take years. A way needs to be found to ensure that the concerns of the community will be addressed in the future, so that the community can withdraw its opposition to the Restoration Project in time to prevent serious delays in the program.
- Pending the resolution of the issues through the science program, major activities at the hatchery which could be affected by the science, such as the barrier weir replacement, should be delayed. The intakes screening project should be limited to screening the present diversions.
- The agencies involved must somehow convince the Conservancy that they are committed to this scientific process, and that any significant problems uncovered will produce appropriate remedial actions by the agencies.

It is the opinion of the Conservancy Board that each of these elements is necessary, and that the five together will be sufficient to allow us to withdraw our opposition.

The following summary describes one possible approach to the problem which meets the requirements just mentioned.

The proposed science program

The science program would study in some depth the issues of competition, genetics, predation, water quality, habitat quality, and pathogens, as affected by the presence of CNFH and as potentially mitigated by various changes in operations – the subjects of a current proposal from the Conservancy to the Packard Foundation.

In addition the program would consider two related issues – the scientific rationale behind CNFH goals (which seem ad hoc to us and are not clear even to the CNFH contractor for the re-evaluation), and the various approaches to re-establishing the anadromous stocks in Battle Creek (it seems strange to us that a $50 million program is about to be implemented without a trace of a plan for the fish).

Many of these issues involve the upper Sacramento River as well as Battle Creek, so the science program must have a broad perspective.

The science program would include on-the-ground work as well as demonstration projects, so that environmental monitoring could provide data to the scientists, and the scientists in turn could guide monitoring and demonstration efforts.

There would be at least one AFS-sanctioned public symposium during the program, to get the science results out to the scientific community, and to facilitate thorough discussion of the issues. In addition, there would be a significant public outreach program, to bring the results of the program to the general public.

Organization of the program

The task force leading the science program should consist of the NGO stakeholder groups, including the Conservancy (representing local residents, ranchers, timber interests, agricultural interests, and sports fishing interests), the Central Valley Project Water Association (representing agricultural water users), the Pacific Coast Federation of Fishermen's Associations (representing commercial fishing), and The Nature Conservancy (with several local Battle Creek projects).

We suggest that this task force enlist the services of an advisory group to provide advice regarding planning and direction of the science work. This group would include USFWS, NMFS, CDFG, USBR, and possibly DWR and CRWQCB.

The task force would seek review of its activities and advice from the CalFed science panel.

The program would be financed by a combination of public and private funding.

Community buy-in

The science program would take several years. The Conservancy understands the need for urgency in the development of the Restoration Project, so the Conservancy Board is willing to put its faith in science and support the Restoration Project, provided that the science program is under way and the agencies truly support it. We believe that good science will eventually drive reasonable decisions by the agencies in the future. This may not be easy for our constituents to understand, but we see no other way to get reasonable assurance that our concerns will be addressed, without delaying the project for years.

In conclusion, we would like to be able to support the Restoration Project, and we hope that our actions will help make the Project more successful by resolving issues not considered in the initial design. Public support is critical for the success of the Restoration Project, since our local members will be the de-facto trustees of the fish living in our backyards – but this public support cannot be won without a fundamental shift in agency policies, combined with a first-rate, Conservancy-led science program. We are ready to do our part, and invite your cooperation.

Sincerely,

Robert Lee, Secretary
Battle Creek Watershed Conservancy

Four-Agency Letter, September 20, 2001

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

IN REPLY REFER TO:

September 20, 2001

Mr. Leland Davis, President
Battle Creek Watershed Conservancy
Post Office Box 606
Manton, CA 96059

Dear Mr. Davis:

We would like to propose a problem solving approach to address concerns the local community has voiced through the Battle Creek Conservancy (Conservancy) over some of the activities of government agencies (Agencies) in the Battle Creek watershed. These concerns relate to the Battle Creek Salmon and Steelhead Restoration Project (Restoration Project), that is presently going through the environmental review process, as well as operations of the Coleman National Fish Hatchery (Hatchery), that are now going through consultations under the Endangered Species Act (ESA) and a voluntary reevaluation process. The Conservancy has expressed a vote of opposition to the Restoration Project conditioned on defining a way forward on several issues relating to the future operation of the Hatchery (Conservancy Resolution dated May 16, 2001 described in June 11, 2001 Conservancy letter). The Conservancy concerns are important to the agencies. We have been exploring ways to resolve these issues through a process that will provide meaningful input by all parties including the Conservancy and CALFED. Our collective goal is to restore the salmon and steelhead habitats of the Battle Creek watershed, upstream to its waterfall barriers to maximize naturally reproducing runs, with a priority on the listed species (winter-run chinook, spring-run chinook, and steelhead).

The primary issues as we understand them from your correspondence and subsequent discussions are:

1) There are concerns regarding potential impacts of the Hatchery on the anadromous fisheries of Battle Creek, both now and as the Restoration Project is implemented. The need is to ensure the operations of the Hatchery contribute to the recovery of species listed under the ESA in the Sacramento River system. Some of the operations of concern include the Hatchery's water supply and brood stock collection systems.

2) The focus of the Adaptive Management Plan for the Restoration Project is narrow and needs to operate at the watershed level using a community-based approach.

3) There is a need to provide a long-term way to work with the community at the watershed level such that implementation of the wide array of land and water use decisions in the watershed will address stakeholder input; especially with respect to potential regulatory issues of local concern.

Our analysis of these issues and proposed solution strategies for your consideration are:

Coleman National Fish Hatchery:

- The U S Fish and Wildlife Service (USFWS) in consultation with the National Marine Fisheries Service (NMFS) is bound by the Federal ESA to ensure that federal operations of the Hatchery will not jeopardize the future existence of listed species (winter-run chinook salmon, spring-run chinook salmon, and steelhead). The USFWS has attempted to minimize impacts on listed stocks since 1993 in consultation with the NMFS under the ESA. Under this process, all previous operations have complied with the ESA. A formal consultation is now being conducted on the current operations of the Hatchery under present conditions in Battle Creek. The current Biological Opinion considers existing habitat conditions in Battle Creek that include extremely poor stream flow, high water temperatures, and reduced passage conditions associated with hydroelectric dams above the hatchery. As the Restoration Project improves habitat conditions and thus increases salmonid populations, the USFWS and NMFS will complete further consultations to ensure hatchery operations are consistent with conservation of listed species.

- The USFWS is a resource conservation agency devoted to the restoration of all salmon and steelhead and their habitats in California. The USFWS is striving not only to minimize its impacts on listed species, but to improve their situation through the conservation and restoration of those species in Battle Creek. In working towards the implementation of the Restoration Program and looking forward to having restored habitat conditions in Battle Creek above the hatchery, the USFWS is voluntarily completing a Hatchery Reevaluation, which includes suggestions of the Conservancy. The Agencies support the Conservancy becoming a more active participant in independent scientific review of the Hatchery Reevaluation done in concert with the independent CALFED Science Program. We also recognize that some of the new alternatives being evaluated have a high degree of uncertainty that will require further scientific analysis.

- The USFWS will complete the engineering and environmental evaluations for the Hatchery's water supply and barrier weir facilities using the open processes that have been in place, including all alternatives suggested by the Conservancy. Furthermore, the USFWS commits to not increasing Hatchery water diversions from Battle Creek above the current legal water rights including the water that is required to be passed to non-Hatchery landowners downstream.

- While the environmental process for the permanent water supply project is underway, the USFWS will continue to find ways to minimize diverting juvenile fish into the hatchery. Interim modifications that have been put into place to reduce entrainment include placing a temporary flat plate fish screen at intake 3, installing the flap gate on intake 2 and precluding adult fish to enter the Coleman Powerhouse tail race. In addition juvenile fish are trapped out of the hatchery canal and returned to Battle Creek. Each of the Hatchery intakes have different levels of risk ranging from no risk at the main intake at Coleman Powerhouse, to some risk at the outdated screened intake on the creek, to high but infrequently occurring risk with use of the emergency intake.

- The Coleman barrier weir will be managed and operated to maximize passage for salmon and steelhead populations targeted for restoration in Battle Creek.

Because of its location and purpose, the barrier weir is a useful fishery management tool that may be useful in preventing overcrowding in upstream restored habitats as well as for monitoring fish populations. The environmental process to improve the Coleman Hatchery Barrier Weir is underway and the USFWS will continue to adaptively manage the ladders at the weir to support the Restoration Project. This includes monitoring of the fish populations and keeping hatchery populations from over-crowding the habitat upstream of the weir. In recent years the fish ladder at the weir has been opened more during the summer period based upon monitoring results.

Adaptive Management:

- The Agencies have committed to an Adaptive Management Plan having an open decision-making process with many criteria, including one requiring that community acceptance be considered when making modifications in the PG&E project area. We recognize that the Draft Adaptive Management Plan for the Restoration Project has a narrow focus on the PG&E hydroelectric project. However, this is a necessary constraint due to the dedicated budget for adaptive management of structures and properties licensed under Federal Energy Regulatory Commission.

- The Agencies commit to work with the Conservancy on the development of a broader framework that can coordinate the community-based restoration actions in the watershed with the Restoration Project, and actions at the Coleman Hatchery; especially if, or when, management actions are subjected to adaptive management. The Environmental Document for the Restoration Project being prepared by the Agencies will include our belief that the different projects that are occurring in the watershed have to be closely coordinated to ensure the full success of the restoration project. It would appear that the Battle Creek Working Group and/or the Battle Creek Conservancy are both good candidates for taking on a long-term role in coordinating the various activities in the watershed. We support Stakeholder leadership and involvement in this broader forum, with the understanding that the Federal and state agencies cannot abrogate their statutory decision making authorities and responsibilities.

Community-based Implementation:

- We are currently seeking to hire a coordinator to the assist the Agencies and the Conservancy in working together to develop a broader science and community-based framework for completing projects throughout the watershed, not just the Restoration Project area. The Agencies and the Conservancy share the goals for restoring Battle Creek as expressed in our respective strategy documents (The Conservancy's "Battle Creek Watershed Community Strategy" dated March 1999 and the Agencies efforts beginning with "Sacramento River Fisheries and Habitat Management Plan" dated 1989, "Final Restoration Plan for the Anadromous Fish Restoration Program" dated January 23, 2001", USFWS's April 3, 1998 position paper on Battle Creek watershed and in the CALFED Watershed and Ecosystem Restoration Programs Record of Decision - August 2000).

- We continue to support the Conservancy's leadership role on land and water management issues in the watershed outside of the PG&E Hydroelectric Project license amendment process. Currently the Conservancy has the lead in addressing watershed issues through the CALFED/CVPIA grant process.

- We invite the Conservancy to pursue their interests in examining Battle Creek fishery management issues within the regional context of the Upper Sacramento River basin. We suggest the use of the CALFED Watershed and Ecosystem Restoration Program in association with the CALFED Science Program for this regional approach. The goals of these programs are to provide financial and technical assistance for watershed activities that help achieve fisheries restoration goals, and to promote collaboration and integration among existing and future local watershed programs.

- We would like to work with the local landowners on evaluating the risk they believe exist if the Restoration Project fails to meet its long-term objective of maintaining viable populations of anadromous fish in the creek. We understand the local landowners believe that in the event of such a failure they may somehow be made to assume the burden to restore the fish through restrictions on land uses, water rights and/or other economic activities. The objective of the Restoration Project is based on using the bed and banks of Battle Creek in their existing condition and providing needed water and passage through modification of the PG&E project. We believe that the current land use practices and activities within the Battle Creek watershed have maintained the bed and bank of the creek in good condition, especially considering the type of low flow conditions in the creek, due to the hydroelectric project. In terms of water use for the project, we have determined that over the past decades PG&E and their predecessors have collected all the water rights needed for reallocation to the Restoration Project, thus providing the basis for the MOU with PG&E.

- We support measures to assist landowners to continue their current land uses, such as conservation easements consistent with the "Battle Creek Watershed Community Strategy". Because we cannot predict the future, we must recognize the possibility that major changes in land use practices may occur that are not compatible with laws on keeping the water clean or the bed and bank of the stream in adequate condition. The public entrusts the resource Agencies to monitor the fish and wildlife resources, properly review proposals for new projects under environmental decision making processes, recommend mitigation, and conserve habitat and salmon and steelhead. We will follow our conservation mandates, while at the same time working cooperatively with all parties, including the local landowners, to conserve these resources.

- The agencies feel strongly that the Restoration Project move forward on schedule. We believe that we can implement the Restoration Project using the established environmental decision making processes that are based upon providing full disclosure and addressing the concerns of the stakeholders and the public. We intend to address the main issues of concern that the Conservancy has expressed within the environmental document, since they are related to the Restoration Project. However, it is not practical to wait for all the related projects to be fully developed prior to implementing the Restoration Project. For instance, many of the Coleman Hatchery issues and future decisions may depend upon the full effects of the Restoration Project and the expected recovery of the listed species above the Hatchery.

We would like to meet with the Conservancy to further clarify the main issues of concern so together we can develop a framework that will scientifically address all the details within a community-based decision making process. Through this effort we can set a time line for resolution of the issues. As we go down this path, the agencies will improve the effectiveness of our efforts to involve the public and disseminate information. Perhaps the best forum to accomplish this is through the Battle Creek Working Group. We appreciate your good

stewardship and interest in conservation and restoration of the salmon and steelhead fisheries of the upper Sacramento River and Battle Creek.

If you have any questions regarding this information or the goals of the restoration program please contact any of the following signatories to this letter.

Sincerely,

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Draft Greater Battle Creek Working Group Memorandum of Understanding, August 8, 2002

DRAFT
GREATER BATTLE CREEK WATERSHED WORKING GROUP

MEMORANDUM OF UNDERSTANDING

VISION

The signatories of this Memorandum of Understanding (MOU) recognize the value of coordinating the planning, implementation, and evaluation of all fisheries, restoration and watershed projects among public agencies, nonprofit organizations and private landowners within the Greater Battle Creek Watershed in order to maximize restoration of all naturally produced anadromous fish and maintain, and restore, as necessary, a healthy watershed and landscape. They seek to create a Greater Battle Creek Watershed Working Group (GBCWWG or Working Group) that:

- Identifies proactive approaches to resource management on an ecosystem basis using principles of adaptive management;
- Utilizes sound scientific information and full consideration of public input in order to maintain and restore a healthy watershed and landscape that provides for robust, sustainable populations of naturally produced anadromous fish, including steelhead, fall-run, late fall-run, spring-run and winter-run chinook salmon;
- Recognizes the federal mandates and commitments to:1) restore naturally produced salmon and steelhead in the Battle Creek Watershed, 2) mitigate for anadromous fish habitat lost above Shasta Dam, 3) rebuild depleted anadromous fish populations and 4) maximize the compatibility of the Coleman National Fish Hatchery (CNFH) and the Livingston Stone National Fish Hatchery (LSNFH) with other watershed projects including the Battle Creek Restoration Project;
- Commits to extensive communication and education programs;
- Considers local economic and societal impacts of proposed actions; and
- Supports traditional land uses that contributes to the maintenance and enhancement of the watershed and its native species.

PURPOSE

The purpose of this MOU is to create a forum for identifying, reviewing and coordinating various watershed activities in the Greater Battle Creek Watershed and evaluating the activities' consistency with a Greater Battle Creek Watershed strategy. The signatories seek to encourage projects that are consistent with a community- and science-based greater watershed strategy and that (1) incorporate the principles of adaptive management to be adopted by the Working Group and (2) establish programmatic linkages between the major actions in the watershed, on the stream course and with CNFH and LSNFH. Working Group members will provide advice and recommendations on plans or projects reviewed by the Working Group on behalf of the MOU signatory represented by the member, including public agencies and nonprofit organizations. Signatories also seek to advance the Multi-Species Conservation Strategy; Central Valley Project Improvement Act (CVPIA) doubling goals of naturally produced salmonids pursuant to the Anadromous Fish Restoration Project (AFRP); Federal Energy Regulatory Commission (FERC) policy regarding hydroelectric project compatibility with comprehensive plans; CALFED ecosystem restoration goals to restore and enhance habitat, ecosystem functions and processes; and Battle Creek Watershed Conservancy (BCWC) community strategy goals. The goals and objectives of these programs are summarized in Appendix A, attached and incorporated herein by this reference.

For the purposes of this document, **Greater Battle Creek Watershed** means the entire Battle Creek watershed from its confluence with the Sacramento River to its headwaters and its major tributaries

and associated riparian and upland areas as well as the upper Sacramento River to the extent that the LSNFH is connected to the Battle Creek hatchery program.

OBJECTIVES

- Establish a transparent, balanced, collaborative, respectful and inclusive forum for communication that ensures activities within the watershed are synchronized, and that goals, objectives and evaluative processes of agencies and organizations are coordinated.

- Take necessary steps to develop a comprehensive greater watershed strategy to ensure that fisheries, habitat restoration or watershed projects support and make important contributions to the recovery of, and has no long term adverse effect on, listed species (winter-run and spring-run chinook salmon and steelhead), the restoration of non-listed naturally produced runs (fall-run and late fall-run chinook salmon), production of chinook salmon for sport and commercial uses, production of steelhead for in-river sport uses as well as continued health of the riparian and upland habitat.

- Identify specific needs for new projects based on the comprehensive greater watershed strategy and current or planned activities within the watershed.

- Adopt and apply principles of science and, as appropriate, adaptive management processes to actions considered and undertaken in the comprehensive greater watershed strategy.

- Engage agencies, organizations and the public to provide information on the comprehensive greater watershed strategy and adaptive management processes, identify and communicate issues and proposed projects, and maximize compatibility of activities of the CNFH, LSNFH, the Battle Creek Restoration Project and other agencies, private industries and nonprofit organizations operating within the Greater Battle Creek Watershed.

- Establish and implement a review process for fisheries, restoration and watershed projects undertaken within the Greater Battle Creek Watershed that may result in endorsement by members of the Working Group.

- Define and develop administrative processes to guide the Working Group in accomplishing its objectives effectively and efficiently.

- Review and propose communication and education programs for the Battle Creek community.

ORGANIZATIONAL STRUCTURE

1. **General**. The Working Group meetings are open to participation by the general public, and by any agency, organization or individual involved in the Greater Battle Creek Watershed. All Greater Battle Creek Watershed Working Group meeting notices will be made available to the general public and the meeting agendas will include a time for the general public to provide comment on issues before the Working Group for consideration or that relate directly to the purposes of the Working Group.

2. **Greater Battle Creek Watershed Working Group Membership**. To accomplish the objectives of this MOU, there will initially be no more than 16 signatory members of the Greater Battle Creek

Watershed Working Group to be comprised of no more than 8 public agencies and no more than 8 non-public entities, all of whom shall be signatories to the MOU. Initial signatories include:

Non-Public Entities:	Public Agencies:
Battle Creek Watershed Conservancy	U.S. Fish & Wildlife Service
Pacific Gas and Electric Company	CA Department of Fish and Game
The Nature Conservancy	U.S. Bureau of Reclamation
Central Valley Project Water Association	National Marine Fisheries Service
Pacific Coast Federation of Fishermen Association	CA Department of Water Resources
Nor-Cal Fishing Guides and Sportsmen's Association	U.S. Bureau of Land Management
Friends of the River	

The initial signatories shall each appoint one primary representative and at least one alternate to the Working Group. An entity or public agency wishing to become a signatory member of the Working Group subsequent to the Working Group's initial formation shall submit a letter of commitment to the Working Group that describes the organization's commitment to ongoing involvement in the Working Group and discusses the organization's consistent and significant involvement and knowledge of Battle Creek issues and of the Working Group in the previous four consecutive meetings. If attendance records show consistent attendance and involvement for the previous four consecutive meetings and upon submission of the letter, the entity or agency may become a provisional member of the Working Group for the ensuing four consecutive meetings. If the provisional member regularly attends meetings and is consistently involved in the Working Group for the four meeting period, the provisional member may become a signatory member. Because the Working Group signatory members strive to achieve balance between the public agency and non-public entity representation, at no time shall the number of public agency signatory members or the number of non-public entity signatory members total more than one additional member than the other group.

Signatory members are expected to regularly attend meetings of the Working Group. The signatory members shall annually review attendance and if a signatory member has missed meetings for four consecutive meetings, the signatory member shall become a provisional member and is subject to the provisional membership provisions described above. A signatory member may withdraw as a member of the Working Group at any time, and for any reason, by submitting a written letter to the Working Group expressing the desire to no longer be a member. A withdrawing signatory member shall incur no liability to the Working Group or its other signatory members as a result of such withdrawal. If such a withdrawal creates an imbalance between the number of public agency and non-public entity members, the Working Group shall seek another signatory member to rebalance the membership, or if no additional signatory member is available, the Working Group shall maintain the imbalance until another signatory member is available to reestablish the balance.

No later than twenty (20) working days after the final execution of this MOU, each initial signatory shall notify the other signatories of the names, addresses, email addresses, telephone numbers and facsimile numbers of that signatory's primary and alternate representative. Signatories shall notify the other signatories of any changes in their representatives.

At the first meeting of the Working Group, signatory members shall nominate and elect a chairperson, vice chairperson and secretary for a one year term. Future communications regarding Working Group meetings shall be addressed to the primary and alternate representatives, as well as through the public notice described above. The signatory members will determine how information will be disseminated

in the future. For the chairperson or the vice chairperson positions, one shall be from a non-public entity and one shall be from a public agency which is not a federal agency. The Working Group shall hold an annual meeting. Additional meetings may occur, as the Working Group deems necessary.

The signatory members of the Working Group may revise, as necessary, the vision, purpose, objectives and organizational structure for the Greater Battle Creek Watershed. In addition, the signatory members shall:

a. Provide a forum for discussing current and proposed projects that impact the Greater Battle Creek Watershed.

b. Identify linkages for current and proposed fisheries and restoration actions and ensure that current and proposed actions appropriately coordinate activities with agencies and organizations based on the linkages.

c. Review and comment on current and proposed actions by signatory members regarding their consistency with the greater watershed strategy.

d. Review and comment on conceptual models, hypotheses, and adaptive management experiments for proposed actions based on the greater watershed strategy and sound scientific principles.

e. Review and evaluate indicators and measures of success regarding program performance for implemented actions in regard to the greater watershed strategy.

f. Develop proactive responses to address regulatory requirements.

g. Determine how best to accomplish the administrative activities of the Working Group.

3. **Project Review**. The signatories to this MOU agree that the Working Group will review and discuss Battle Creek projects of signatory members for consistency with the greater watershed strategy prior to a signatory member submitting a project proposal for public funding to any federal, state or local government agency. The Working Group shall prepare a written statement providing a synopsis of all comments on the project by the signatory members. If a majority of the comments are in favor of the project, then it shall be considered an endorsement of the project; if a majority of the comments are opposed, it shall be considered a non-endorsement. Comments from provisional members or members of the public shall be summarized in the statement. No comment by the members of the Working Group can require any signatory to violate any laws, license agreements or adopted agency policies and procedures. The signatory recommending a project for review by the Working Group agrees to provide a copy of the Working Group's written statement along with any proposal it submits for public funding from a federal, state or local government agency.
4. **Committees**. The Working Group may establish such committees as are necessary to assist in fulfilling the objectives of this MOU.

OPERATING PRINCIPLES

1. Members of the Working Group shall respect the viewpoints of others, and expect that their viewpoints will be respectfully heard and considered. They understand that they each are responsible for maintaining an atmosphere where ideas and positions can be freely exchanged and discussed. They refrain from personal attacks on others, avoid hidden agendas, and conduct themselves in a manner that fosters group building.
2. This MOU is a dynamic document; it may, through a written document, be amended, repealed or altered by a unanimous decision of all the signatory members attending any duly organized Working Group meeting provided that notice of the proposed change(s) is included in the meeting notice and agenda prior to the meeting.

3. Nothing in this MOU may be the basis of any third party challenges or appeals. Nothing in this MOU may be the basis of any legal challenges, causes of actions or appeals.
4. Nothing in this MOU is intended to expand or limit the legal authority or obligation of any signatory, agency, entity or organization.
5. In establishing meeting schedules, the Working Group shall try to accommodate all members' schedules.

FUNDING

1. Each signatory of this MOU and any participant of the Working Group is responsible for costs associated with their participation in meetings resulting from this MOU. This provision shall not preclude any signatory or participant from obtaining funding from sources outside their agency or group for the purposes of the Working Group nor getting funded directly from Working Group members, if appropriate.
2. Participation in the Working Group and performance of activities by any participant of the Working Group is subject to customary appropriation or allotment of funds. No liability shall accrue to the participant, his/her agency , or the United States in the event funds are not appropriated or allotted.

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APPENDIX A

REFERENCES

Introduction
This appendix is meant to present the goals and objective statements of some of the public agencies, non-government organizations and other interested entities engaged in planning and implementing federally and state mandated restoration programs and community based conservation programs in the Greater Battle Creek Watershed which are likely to advance natural fish and wildlife populations, habitat health, and ecosystem functions while at the same time acknowledging resource and economic constraints.

The Battle Creek Watershed Conservancy Community Strategy goal is to preserve the environmental and economic resources of the Battle Creek watershed through responsible stewardship, liaison, cooperation and education.

CALFED ecosystem restoration goals for the North Sacramento Valley are to restore important fishery, wildlife and plant communities to a healthy condition. Comprehensive watershed management plans should be developed and implemented to restore important ecological processes that create and maintain habitats for fish, wildlife and plant communities. For Battle Creek specifically, objectives are to develop and implement a comprehensive watershed management plan, increase flows, improve the water supply to Coleman National Fish Hatchery, remove diversion dams or install new ladders, and install positive-barrier fish screens to protect juvenile Chinook salmon and steelhead. It is envisioned that Battle Creek will provide much-needed habitat for spring-run and winter-run Chinook and steelhead, in addition to maintaining its existing importance to fall- and late-fall Chinook.

CVPIA's Anadromous Fish Restoration Program (AFRP) is a set of actions developed by USFWS and USBR to help guide the Department of Interior to make all reasonable efforts to at least double the natural production of anadromous fish in Central Valley streams and rivers on a sustainable long term basis. CVPIA Central Valley doubling goals are based on population averages for the baseline time period 1967-1991 for fall-run, late fall-run, winter-run, and spring-run chinook salmon and steelhead. Production targets for Battle Creek and its tributaries are not available for all the runs because population estimates did not exist for 1967-1991 for each run. However fish population increase estimates were made in the AFRP Working Paper (USFWS 1995, adopted 2001). These estimates are based on the amount of potential spawning substrate in river reaches where salmon and steelhead spawn in the Battle Creek watershed. The anadromous fish population increase estimates are as follows: 4,500 for fall-run, 4,500 for late fall-run, 2,500 for winter-run, 2,500 for spring-run chinook salmon and 5,700 for steelhead.

The Multi-Species Conservation Strategy (MSCS) for the CALFED Bay-Delta Program is an approach that entities implementing CALFED actions may use to fulfill the requirements of the federal Endangered Species Act, California Endangered Species Act and Natural Community Conservation Planning Act. The MSCS analyzes CALFED's effects on species and communities, identifies species and community goals and conservation measures to achieve the goals. The measures are incorporated into the CALFED Ecosystem Restoration Program Plan.

FERC policy in section 10 of the Federal Power Act concerns hydroelectric project compatibility with comprehensive plans. Licenses issued pursuant to section 10 require projects be part of a comprehensive plan, some of the conditions of which include providing for the adequate protection,

mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat) and for other beneficial public uses.

For the purpose of this MOU, the signatories consider naturally produced fish or natural fish to be the offspring of naturally spawning parents.

DRAFT
SIGNATURES

_____ _____
National Marine Fisheries Service Date

Correspondence from Battle Creek Watershed Conservancy to CALFED, October 25, 2002

October 25, 2002

Mr. Patrick Wright
Director, CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Dear Mr. Wright,

On behalf of the Battle Creek Watershed Conservancy Board, I am pleased to report that significant progress is being made to resolve local concerns regarding the Battle Creek Salmon and Steelhead Restoration Project (Restoration Project). We understand that one of the factors cited by CALFED for not approving additional funding for the Restoration Project has been lack of local support. The purpose of this letter is to provide an update on this issue and to outline issues that need to be addressed to facilitate local support for the Restoration Project as we move forward.

Background

As you know, at the 2001 Annual Meeting of the Battle Creek Watershed Conservancy, the membership voted to oppose the Restoration Project "in its present form." The resolution also stated that opposition would continue until the Conservancy Board was satisfied that "all possible steps will be taken to protect natural production in Battle Creek, without curtailing hatchery production for the mitigation of the presence of Shasta Dam." One of the Conservancy's main concerns has been that Coleman National Fish Hatchery (CNFH) operations could jeopardize natural production of Battle Creek salmon populations once the Restoration Project is implemented. Although the Board still has reservations and concerns regarding some of the issues it has expressed to the Battle Creek Working Group and CALFED regarding CNFH operations and its impact on the success of the Restoration Project, the Board is actively seeking ways to move forward that will maintain local support.

Gaining Local Support for the Restoration Project

We have seen substantial progress in resolving issues with the formation of the Greater Battle Creek Working Group and the signing of the MOU. Additionally, the participation of the CALFED Science Program in setting up a science symposium on lower Battle Creek will help to resolve many of the issues connected to the success of the Restoration Project. We look forward to establishing a base of independent science which can be used to help evaluate future actions on Battle Creek.

Since no member of our group has the scientific expertise or credentials to participate in the science process, we need to find funding to continue the services of Mike Ward of Terraqua. As you may know, Mike played a key role in developing technical recommendations that were developed to support the negotiations for the Restoration Project. He is well respected both in the local community and with the signatories of the Restoration Project MOU. We anticipate the cost of these services to be $60,000 a year for five years. Twenty percent of the funding would go to overhead and administrative support, and eighty percent would be used for Mike's time and expenses. The five year funding would allow Mike to participate, on behalf of the Conservancy, through the construction phase of the Restoration Project, the next CNFH Biological Assessment, and, hopefully, into the adaptive management phase of the Restoration Project. Looking at the economic picture, $300,000 over five years is a very small percentage of money that will be spent on Battle Creek, but it will assure that the local residents are part of the process.

The one remaining issue of concern to the BCWC Board is the exposure of Mount Lassen Trout Farms (MLTF) to contamination of three of its facilities by the Restoration Project. The construction of the ozone system at CNFH, and the evaluation of Bill Cox, a disease pathologist with California Department of Fish and Game, indicate that there is significant risk.

MLTF is one of the largest primary sector employers in the watershed. Several large ranches in the area rely on the cash flow provided by MLTF leases to stay economically viable when cattle ranching won't support them. The loss of this revenue could cause environmental problems in the watershed if those creek front ranches are sold or divided.

We understand that there is insufficient time to resolve the exposure problem at the threatened MLTF hatchery facilities, but if the environmental documents contain full disclosure of the problem, along with a commitment to solve the problem in a timely manner, we can move forward.

Given the progress made, if the BCWC Board of Directors can see a timeline and a format for the science symposium, a source of funding to hire a technical advisor, and an environmental recognition and commitment to solve the Mount Lassen exposure problem, we will issue a provisional approval of the Restoration Project pending a meeting of the membership. We would fully expect the membership to concur with our decision.

Thank you for your consideration.

Sincerely,

Larry Lucas
Secretary, BCWC Board