

**Bonneville Power Administration  
Fish and Wildlife Program FY99 Proposal Form**

**Section 1. General administrative information**

**Title of project.**

Development of a Cowlitz Watershed Management Plan

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**Bonneville project number, if an ongoing project**    9127

**Business name of agency, institution or organization requesting funding**  
Sustainable Fisheries Foundation

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**Business acronym (if appropriate)**    SFF

**Proposal contact person or principal investigator:**

**Name**                            Cleveland Steward    (Director)  
**Mailing Address**    P.O. Box 206  
**City, ST Zip**            Bothell, WA 98041-0206  
**Phone**                        425-670-3584  
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**Subcontractors.**

List one subcontractor per row; to add more rows, press Alt-R from within this table

<b>Organization</b>	<b>Mailing Address</b>	<b>City, ST Zip</b>	<b>Contact Name</b>
Friends of the Cowlitz	P.O. Box 721	Toledo, WA 98591	Dave Becker
CPR-Fish	135 Ridgecrest Drive, P.O. Box 925	Toledo, WA 98591	Bob Reid
Trout Unlimited	2401 Bristol Court SW	Olympia, WA 98502	Bill Robinson
American Rivers	440 E. Pine, Suite 225	Seattle, WA 98122	Rob Masonis
Donaldson Natural Resources Service	10029 SW 53 <sup>rd</sup> Ave	Portland, OR 97219	Jack Donaldson

**NPPC Program Measure Number(s) which this project addresses.**

Fish and Wildlife Program measures addressed (referenced to Table of Contents), with priority noted (\*\* high, \* medium, \* low):

<b>Section</b>	<b>Priority</b>	<b>Description</b>
<b>SECTION 7</b>		<b>COORDINATED SALMON PRODUCTION AND HABITAT</b>
<b>7.0</b>	***	<b>Coordinated Implementation of Habitat and Production Actions</b>
7-2	***	Ten-Year Implementation Plan for Production and Habitat Projects
7.0C	***	Regular Updating and Distribution of Subbasin Plans
<b>7.1</b>	***	<b>Ensure Biodiversity</b>
7.1A	***	Evaluation of Carrying Capacity
7.1B	***	Conserve Genetic Diversity
7.1C	***	Collection of Population Status, Life History and Other Data on Wild and Naturally Spawning Populations
7.1D	***	Wild and Naturally Spawning Population Policy
7.1F	***	Systemwide and Cumulative Impacts of Existing and Proposed Artificial Production Projects
7.1G	***	Adjust Total Number of Hatchery Fish Released to Stay Within Basin Carrying Capacity
7.1H	***	Reprogramming of Existing Hatchery Stocks and Facilities
<b>7.2</b>	***	<b>Improve Existing Hatchery Production</b>
7.2A	***	Hatchery Policies, Coordination and Operations
7.2B	***	Hatchery Evaluation
7.2C	***	Creative Partnerships in Hatchery Production
7.2D	***	Improved Propagation at Existing Facilities
<b>7.4</b>	***	<b>Pursue New Production Initiatives</b>
7.4A	***	Identify, Evaluate and Implement New Production Initiatives
<b>7.5</b>	***	<b>Specific Actions to Assist Weak Stocks</b>
7.5C	***	Lower Columbia River Coho Salmon
<b>7.7</b>	***	<b>Cooperative Habitat Protection and Improvement with Private Landowners</b>
7.7A	***	Coordination of Watershed Activities
<b>7.8</b>	**	<b>Implement State, Federal and Tribal Habitat Improvements</b>
7.8A	**	Land Management
7.8B	**	Best Management Practices
7.8D	**	Streambanks, Streambeds and Plant Nurseries
7.8E	**	Land Exchanges, Purchases and Conservation Easements
7.8F	**	Water Regulation
7.8G	**	Instream Flows for Salmon and Steelhead
7.8I	**	Water Resource Information Coordination and Development
<b>SECTION 8</b>		<b>SALMON HARVEST</b>
<b>8.1</b>	***	<b>Develop Harvest Goals and Escapement Objectives</b>

8.1A	***	Management Goals and Escapement Objectives
8.1B	***	Rebuilding Schedules
<b>8.2</b>	<b>**</b>	<b>Adopt Exploitation Rates and Regimes</b>
8.2A	**	Harvest Management
8.2C	**	Fall Chinook
8.2D	**	Spring Chinook
8.2F	**	Voluntary Harvest Reduction for All Fisheries
<b>8.5</b>	<b>**</b>	<b>Pursue Other Harvest Measures</b>
8.5A	**	Review Sport Fishing Regulations
<b>SECTION 10</b>		<b>RESIDENT FISH</b>
<b>10.1</b>	<b>**</b>	<b>Resident Fish Goal: Recover and Preserve Health of Native Resident Fish Injured by Hydropower System</b>
10.1A	**	Mitigation Objectives, Rebuilding Schedules, Survival Targets and Performance Standards
<b>10.2</b>	<b>*</b>	<b>Implement Resident Fish Policies</b>
10.2A	*	Priorities
10.2B	*	Natural and Artificial Propagation
10.2C	**	Comprehensive Watershed Management
10.2D	*	Project Implementation and Selection

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**NMFS Biological Opinion Number(s) which this project addresses.**

NA

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**Other planning document references. I**

Watershed: Refer to the organizations and individuals identified as subcontractors. Letters of support are being sent under separate cover.

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**Subbasin.** List subbasin(s) where work is performed. Use commas to separate multiple subbasins. Coordination projects or those not affecting particular subbasins may omit this field.

**Cowlitz River Subbasin (Water Resource Inventory Area)**

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**Short description.**

A planning body and a watershed management plan are needed to protect the natural resources of the Cowlitz River watershed for the benefit of present and future generations. We propose to convene a Watershed Council representing a wide range of public values and interests, and local, state, federal, and tribal entities, and to provide it with technical assistance necessary to develop an *Aquatic Resource Management Plan for the Cowlitz River Watershed*.

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## Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish		Construction	X	Watershed
+	Resident fish		O & M		Biodiversity/genetics
	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
		+	Planning/admin.	+	Supplementation
			Enforcement		Wildlife habitat enhancement/restoration
			Acquisitions		

### Other keywords.

Watershed management, fish habitat, fish production, subbasin plans, biodiversity, carrying capacity, population status, cumulative impacts, hatchery fish, hydropower, salmon, steelhead, watershed, land management, best management practices, water quantity, water quality, instream flows, harvest, escapement, sport fishing, resident fish, mitigation, artificial propagation, monitoring and evaluation, adaptive management; Endangered Species Act; Clean Water Act; Wild Salmonid Policy

## Section 3. Relationships to other Bonneville projects

NA

## Section 4. Objectives, tasks and schedules

Objective	Task
<p><b>Objective 1.</b> <u>Convene public “focus” meetings</u> to discuss the composition and function of a watershed planning body (“Watershed Council”) that would supervise the development of an integrated Cowlitz Watershed Management Plan.</p>	<p><b>Task 1a.</b> <u>Hold 3 to 4 public meetings</u> at different locations within the Cowlitz watershed to identify public values and needs, and to discuss the composition, purpose, and responsibilities of a Cowlitz Watershed Council.</p>
<p><b>Objective 2.</b> <u>Establish a Watershed Council</u> which would meet at monthly intervals to solicit and review information and guidance regarding the development of a Cowlitz Watershed Management</p>	<p><b>Task 2a.</b> <u>Formally establish the Cowlitz Watershed Council</u>, using input and guidance received at the public forums (see Objective 1). The Council will consist of individuals representing local,</p>

<p>Plan, to coordinate that process with other ongoing management planning processes and activities in the watershed, and to identify issues to be analyzed and included in the Cowlitz Watershed Management Plan.</p>	<p>tribal, state, and federal interests. It members will work together and try to reach consensus in developing the components of the Cowlitz Watershed Management Plan.</p>
	<p><b>Task 2b.</b> <u>The Council would hold regular meetings</u> to discuss natural resource issues, and to define and review content of a contract technical assistance that it is cost-effective, that will assist in achieving the watershed restoration goals and objectives.</p>
	<p><b>Task 2c.</b> <u>Contract technical assistance.</u> The Council will hire an aquatic ecologist/fisheries expert to assist in data collection and analysis, and in the writing of the Cowlitz Watershed Management Plan.</p>
	<p><b>Task 2d.</b> <u>Oversee development of Cowlitz Watershed Management Plan.</u> See Objective 3, below.</p>
<p><b>Objective 3.</b> <u>Write a Cowlitz Watershed Management Plan.</u> The Cowlitz Watershed Council, with the assistance of one or more technical experts, will write a <i>Cowlitz Watershed Management Plan</i> that.</p>	<p><b>Task 3a.</b> <u>Evaluate Water Supply, Uses, and Rights</u></p> <p><b>Task 3b.</b> <u>Evaluate Water Quality, Sources of Impact, and Remedial Measures</u></p>
	<p><b>Task 3c.</b> <u>Identify fish and wildlife habitat restoration opportunities.</u></p>
	<p><b>Task 3d.</b> <u>Evaluate hatchery operations and strategies.</u></p>
	<p><b>Task 3e.</b> <u>Evaluate natural production and harvest regimes.</u></p>
<p><b>Objective 4.</b> <u>Secure technical assistance.</u> The Watershed Council will contract technical assistance that it is cost-effective, assists in achieving the watershed restoration goals and objectives, and ensures that planning is consistent with all habitat conservation plans and permits, management or recovery plans, or other cooperative or</p>	<p><b>Task 4a.</b> The Council will contract technical assistance to help in the collection and analysis of data and the writing of the Cowlitz Watershed Management Plan.</p>

conservation agreement between federal or state natural resource agency executed under its statutory authority for fish and wildlife protection.	
<b>Objective 5.</b> <u>Publish and distribute the Cowlitz Watershed Management Plan.</u>	<b>Task 5a.</b> Submit the Cowlitz Watershed Management Plan, along with a prioritized list of restoration activities, to local citizens and governments, and to the appropriate tribal, state and federal authorities.
<b>Objective 6.</b> <u>Conduct follow-up activities, as necessary.</u> (Note: funding for this objective and associated tasks is not being sought through this proposal).	<b>Task 6a.</b> The Cowlitz Watershed Council will need to prescribe and oversee monitoring and evaluation activities to ensure that progress was being made or that actions were taken to correct deficiencies.

**Objective schedules and costs**

<b>Objective #</b>	<b>Start Date mm/yyyy</b>	<b>End Date mm/yyyy</b>	<b>Cost %</b>
<b>Objective 1</b>	10/98	2/99	10,000
<b>Objective 2</b>	12/98	10/99	10,000
<b>Objective 3</b>	1/99	8/99	5,000
<b>Objective 4</b>	1/99	10/99	30,000
<b>Objective 5</b>	9/99	9/99	3,000
<b>Objective 6</b>	10/99	10/99	0
			<b>TOTAL \$58,000</b>

**Schedule constraints.** Identify any constraints that may cause schedule changes.

Describe major milestones if necessary.

NA

**Completion date.** Enter the last year that the project is expected to require funding.

1999

## Section 5. Budget

This section has two tables: 1) FY99 budget by line item, and 2) Outyear costs. Instructions for each part follow the heading.

### ***FY99 budget by line item***

List FY99 budget amounts for each category. If an item needs more explanation, provide it in the Note column. If project uses PIT tags, include the cost (\$2.90/tag). **Press Alt-C to calculate total.**

<b>Item</b>	<b>Note</b>	<b>FY99</b>
Personnel		0
Fringe benefits		0
Supplies, materials, non-expendable property		5,000
Travel		5,000
Indirect costs		3,000
Subcontracts		40,000
Other	(Facility rental)	5,000
<b>TOTAL</b>		<b>\$58,000</b>

### ***Outyear costs***

NA

## Section 6. Abstract

The purpose of this project is to develop a management plan (Cowlitz River Watershed Plan) for the Cowlitz River subbasin so that its water-related natural resources are protected and managed for the benefit of present and future generations. The management plan will identify the current status and trend of existing aquatic resources in the watershed, long-term, community-based goals for those resources, constraints to achieving those goals, and strategies for overcoming those constraints. Our goal is to encourage collaboration and cooperation between citizens representing a wide range of interests, and local, state, federal, and tribal governments, to identify and take specific actions to protect, restore, and enhance the ecological health of the watershed.

## Section 7. Project description

### **a. Technical and/or scientific background.**

#### ***Background and Justification***

The Cowlitz is a major tributary to the lower Columbia River that provides substantial local and regional benefits. Like many other Columbia River subbasins, the Cowlitz faces challenges relating to water quantity, water quality, and habitat for water-related

wildlife and fish species. These challenges have been exacerbated by a burgeoning human population, expanding hydropower development, strong demand for fishing opportunities, and increasing timber harvest and agricultural activities. Recent declines in salmon and steelhead populations, the continued degradation of terrestrial and aquatic habitats, the threat of federally imposed sanctions related to the Endangered Species Act and Clean Water Act, the increasing potential for conflict over uses of water and fish resources, and recent state and federal initiatives affecting those resources (e.g., Washington State's Wild Salmonid Policy and FERC relicensing of the Cowlitz hydroelectric project), have created a sense of urgency and conviction that comprehensive watershed planning is needed to address these challenges. The key to effectively meeting these challenges is the involvement and support of local citizens and local governments working cooperatively with state, federal, and tribal governments to develop an economically sound and environmentally sensitive plan for managing human population growth and activities within the watershed.

The coordination of management issues and actions in ways that integrate local interests with federal, state, and local governmental responsibilities offers the greatest promise for achieving mutually satisfactory and comprehensive solutions.

We propose to facilitate the development of an Aquatic Resource Management Plan for the Cowlitz River Watershed (hereafter referred to as the Cowlitz Watershed Management Plan) that will serve the interests of both the resource and the local community by placing scientific principles, data, and tools in the hands of people who have the greatest local knowledge of the resources and the greatest stake in their proper, long-term management. The infusion of science into public values and decision-making will ensure that the Cowlitz' water resources are wisely used, protected and enhanced, and thus provide for the economic well-being of its citizenry and communities.

Earlier attempts to develop a basinwide management strategy for the Cowlitz watershed either failed or have become obsolete. The need for an up-to-date, comprehensive management plan is further justified by the considerable and largely uncoordinated watershed restoration work, planning, projects, and activities that have been completed, initiated, or are being contemplated by various entities within the subbasin. Examples include the recently published Conservation Option for the Cispus Adaptive Management Area and the associated Cispus River Watershed Analysis, which together provide a framework for achieving ecosystem management goals on public lands in one of the upper Cowlitz tributaries. Another notable example of resource-oriented analysis and planning is the Ecosystem Diagnosis and Treatment (Lestelle et al. 1996) modeling being conducted by Mobrand Biometrics in conjunction with Tacoma City Light's petition to the Federal Energy Regulatory Commission to relicense their hydroelectric facilities on the Cowlitz. A third example is Fish I – a proposal developed by Sport Fishing Guides of Washington that seeks to increase the production and release of hatchery fish in the lower Cowlitz River.

We propose to integrate these and other efforts to restore, mitigate, and manage the

Cowlitz watershed into a single, comprehensive, and scientifically sound management plan that has the support of the local citizenry, businesses, tribes, conservation groups, and governmental entities. In developing a new, coordinated Cowlitz Watershed Management Plan, we will thoroughly review completed or ongoing efforts, and incorporate their products as appropriate so as not to duplicate the work already performed or underway.

### ***The Importance of the Cowlitz Fisheries Resources***

The Cowlitz River provides many benefits to the residents of the Pacific Northwest. Among fishermen, it is known as one of the best salmon and steelhead rivers in Washington state. The Cowlitz has consistently ranked first or second in terms of river, sport-caught salmon in Washington State. Recent records suggest that the Cowlitz accounts for nearly a quarter of all Washington freshwater salmon caught in recreational fisheries in the Columbia River basin. On a statewide basis, Cowlitz salmon comprise 13 percent of all freshwater salmon caught.

The Cowlitz enjoys a reputation as Washington's number one winter steelhead river, a spot it has held for 22 of the past 24 years. It also consistently ranks as one of the top four summer steelhead rivers in the state. In recent years, the Cowlitz accounted for approximately 14 percent of the total Washington State sport steelhead catch. In the 1993/94 fishing season, the Cowlitz River sport catch totaled 19,619 steelhead (8,082 summer run fish and 11,537 winter run fish).

Clearly, the Cowlitz fisheries and associated resources possess high intrinsic and economic value. Their protection today will assure their availability into the future.

#### **b. Proposal objectives.**

**Objective 1.** Convene public “focus” meetings to discuss the composition and function of a watershed planning body (“Watershed Council”) that would supervise the development of an integrated Cowlitz Watershed Management Plan.

**Task 1a.** Hold 3 to 4 public meetings at different locations within the Cowlitz watershed to identify public values and needs, and to discuss the composition, purpose, and responsibilities of a Cowlitz Watershed Council.

**Objective 2.** Establish a Watershed Council which would meet at monthly intervals to solicit and review information and guidance regarding the development of a Cowlitz Watershed Management Plan, to coordinate that process with other ongoing management planning processes and activities in the watershed, and to identify issues to be analyzed and included in the Cowlitz Watershed Management Plan.

**Task 2a.** Formally establish the Cowlitz Watershed Council, using input and

guidance received at the public forums (see Objective 1). The Council will consist of individuals representing local, tribal, state, and federal interests. Its members will work together and try to reach consensus in developing the components of the Cowlitz Watershed Management Plan.

**Rationale and Approach** We have received commitments from representatives of Trout Unlimited, CPR-Fish, Friends of the Cowlitz, and American Rivers to serve as the nucleus of the Cowlitz Watershed Council. In establishing the Council, we will take care to ensure that its members represent diverse interests, both within and outside of government, and that decisions are made in a fair and democratic manner. The Watershed Council is expected to comprise representatives of (a) Lewis County government; (b) towns and cities located in the watershed; (c) tribal governments (e.g., Cowlitz, Yakama, and Puyallup Indian Tribes); (d) electric and water supply utilities; (e) conservation districts; (f) groups and entities that have been or are currently engaged in public planning processes within the Cowlitz (including those identified as contractor and subcontractors in this proposal); and (g) other interested parties.

**Task 2b.** The Council would hold regular meetings to discuss natural resource issues, and to define and review content of a contract technical assistance that it is cost-effective, that will assist in achieving the watershed restoration goals and objectives.

**Task 2c.** Contract technical assistance. The Council will hire an aquatic ecologist/fisheries expert to assist in data collection and analysis, and in the writing of the Cowlitz Watershed Management Plan.

**Rationale and Approach** High quality, timely technical assistance will ensure that that information and decisions are based on the best available science and data. The individual or group providing technical assistance will be responsible for the development of the Cowlitz Watershed Management Plan, developing methods for effectively monitoring performance, providing the criteria to measure performance for key elements of the plan, and specifying how monitoring data and information is to be disseminated and used to guide further actions. The technical expert will see that the Watershed Plan is coordinated and consistent with all other relevant watershed management plans, habitat conservation plans and permits, management or recovery plans, or other cooperative or conservation agreements between federal or state natural resource agencies executed under their statutory authority for fish and wildlife protection.

**Task 2d.** Oversee development of Cowlitz Watershed Management Plan. See Objective 3, below.

**Objective 3.** Write a Cowlitz Watershed Management Plan. The Cowlitz Watershed Council, with the assistance of one or more technical experts, will write a *Cowlitz*

*Watershed Management Plan* that would accomplish the following subobjectives:

- Improve the ability of local governments and citizens to participate in the watershed planning process and in the design and implementation of solutions to water quantity, water quality, fisheries, and habitat-related problems.
- Try to accommodate/integrate planning, projects, and activities of other groups and agencies related to issues and activities to be addressed in the Cowlitz Watershed Management Plan;
- Assimilates existing scientific knowledge, identifies critical uncertainties, and recommends steps that can be taken to reduce or eliminate them;
- Recommend management and restoration strategies that are consistent with biological and institutional/legal (e.g., FWP, ESA, CWA, and the WSP) constraints;
- Identify projects and activities in the Cowlitz watershed that will likely serve short- or long-term management goals and that warrant immediate financial assistance from local, state, or federal government. Prioritize mitigation and restoration activities based on a) presence and condition of at-risk salmon and trout populations, b) restoration potential of the habitat, c) ecological importance of the habitat, and d) resources necessary to restore the habitat;
- Retain prerogatives of state and local governments who are directly accountable to local citizens to formulate acceptable solutions to problems and opportunities identified in the Cowlitz Watershed Management Plan;
- Estimate costs and benefits so that restoration, mitigation, and other activities can be fairly and accurately evaluated; and
- Describe implementation, monitoring and evaluation, and adaptive management activities; including the specific actions to be taken, the techniques to be used, a schedule for implementation, the organizations responsible, and a tentative budget.

Specific tasks relating to water quantity and quality, fish and fish habitat are identified below.

**Task 3a. Evaluate Water Supply, Uses, and Rights**

- Identify the amount of surface and ground water present in the Cowlitz watershed;
- Determine current water usage and project future usage for the watershed;
- Estimate the amount of surface and ground water available, taking into account seasonal and other variations;
- Identify existing water rights represented by claims in the water rights claims registry, water use permits, certificated rights, existing minimum instream flow rules, and any other quantified rights to water;
- Describe the sources and amounts of surface and ground water available for further appropriation, if applicable, taking into account the minimum instream flows to be adopted for streams in the management area;
- Identify strategies and opportunities for increasing or conserving water supplies, consistent with minimum instream flow obligations and existing water rights;
- Establish a basinwide water allocation strategy for water available for further appropriation once existing rights and minimum instream flows have been

- satisfied;
- Identify instream flows necessary for the protection and enhancement of fish and other aquatic resources in the Cowlitz and its major tributaries; and
  - Determine how instream flows affect or are affected by potential impacts, both positive and negative, including implementation of other elements of the Cowlitz watershed management plan.

**Task 3b. Evaluate Water Quality, Sources of Impact, and Remedial Measures**

An assessment of water quality aspects of water resource management in the Cowlitz watershed will address the following:

- Examine the degree to which water quality standards are being met;
- Assess the causes of violations of state/federal water quality standards in the Cowlitz River, including an examination of information regarding point and nonpoint sources of pollution, both human and natural in origin, as affected by the hydrologic regime of the Cowlitz and its tributaries;
- Identify the beneficial uses of the Cowlitz River for water quality classification purposes; Identify reaches for which basin-specific water quality standards may be adopted and recommendations for the water quality standards made by DOE and EPA;
- Develop strategies for achieving compliance with water quality standards; and
- Identify monitoring and evaluation activities to determine whether actions have improved water quality sufficiently to achieve compliance with state/federal water quality standards.

**Task 3c. Identify fish and wildlife habitat restoration opportunities.**

- Analyze the potential for protecting or enhancing water-related fish and wildlife habitat in the Cowlitz; consider physical habitat management and modification of hydrosystem operations and structures;
- Identify existing and potential habitat protection or restoration activities;
- Prioritize such activities on a cost-benefit basis;
- Identify ways of ensuring that high priority activities, projects, and transactions will be implemented; and
- Identify monitoring and evaluation programs and criteria to determine whether implemented activities, projects, and transactions are having the desired effect (i.e., protecting or enhancing fish and wildlife and their associated habitats).

**Task 3d. Evaluate hatchery operations and strategies.**

- Evaluate the current goals and production targets of the Cowlitz salmon and trout hatcheries;
- Determine whether the hatcheries are meeting their goals;
- Identify causes for success or failure;

- Identify broodstock management strategies, configuration, culture practices, and release methods for consistency with local goals, scientific criteria, and state and federal policies;
- Recommend alternative strategies; determine their relative costs and benefits;
- Identify ways of implementing high priority hatchery programs, etc. will be implemented; and
- Identify monitoring and evaluation programs and criteria to determine whether implemented programs, etc. are not causing adverse impacts.

**Task 3e.** Evaluate natural production and harvest regimes.

- Assemble information on the historical and existing status of the fisheries resource;
- Review existing state and federal policies;
- Compare future goals with current status;
- Determine reasons for gaps between observed and desired conditions; and
- Make recommendations regarding how to achieve goals.

**Objective 4.** Secure technical assistance. The Watershed Council will contract technical assistance that it is cost-effective, assists in achieving the watershed restoration goals and objectives, and ensures that planning is consistent with all habitat conservation plans and permits, management or recovery plans, or other cooperative or conservation agreement between federal or state natural resource agency executed under its statutory authority for fish and wildlife protection.

**Task 4a.** The Council will contract technical assistance to help in the collection and analysis of data and the writing of the Cowlitz Watershed Management Plan.

Rationale and Approach Technical assistance will ensure that that information and decisions are based on the best available science and data. The individual or group providing technical assistance will be responsible for the development of the Cowlitz Watershed Management Plan, developing methods for effectively monitoring performance, providing the criteria to measure performance for key elements of the plan, and specifying how monitoring data and information is to be disseminated and used to guide further actions. The technical assistant will help the Watershed Council in ensuring that plan is coordinated with, and consistent with, watershed management plans and associated activities in other nearby or downstream watersheds.

**Objective 5.** Distribute the Cowlitz Watershed Management Plan.

**Task 5a.** Submit the Cowlitz Watershed Management Plan, along with a prioritized list of restoration activities, to local citizens and governments, and to the appropriate

tribal, state and federal authorities.

Rationale and Approach The draft Cowlitz Watershed Management Plan will be distributed to all Watershed Council members who will be asked to provide comments and endorse the plan after their concerns have been addressed. The revised plan will be submitted to the organizations and governmental agencies for review, comment and approval. If the plan is approved by the Watershed Council and the local city and county governments, it will be forwarded to the appropriate state and federal authorities with a request that the recommendations be made obligatory through rule making and other means.

**Objective 6.** Conduct follow-up activities, as necessary. (Note: funding for this objective and associated tasks is not being sought through this proposal). Along with the development of a comprehensive management plan, the Cowlitz Watershed Council would be responsible for the evaluation of implemented actions and progress toward management goals, coordination with other Watershed Councils, and the integration of their plan with higher institutional levels.

**Task 6a.** The Cowlitz Watershed Council will need to prescribe and oversee monitoring and evaluation activities to ensure that progress was being made or that actions were taken to correct deficiencies. The process would be a dynamic one in which new information gained through monitoring and evaluation would be continually fed into the evolving knowledge base. Council members must be willing to use this information to evaluate the consequences of their actions and to change, if necessary, earlier decisions that were made without benefit of complete knowledge.

**c. Rationale and significance to Regional Programs.**

**This project is consistent with the goals of comprehensive, cost-effective, and scientifically sound watershed management planning, conducted with input from local citizenry and resource specialists, as detailed in the Fish and Wildlife Program. A Watershed Council would achieve the specific purpose of developing a scientifically credible management plan for the Cowlitz subbasin, along with monitoring standards and protocols to evaluate the effectiveness of actions undertaken as a result of recommendations made in the plan.**

**d. Project History**

This project has not previously received funding from BPA/NWPPC. However, it is a logical extension of several planning activities and processes in the Cowlitz watershed in which the contractor/subcontractors are currently engaged. These include the Ecosystem,

Diagnosis and Treatment (Lestelle et al. 1996) modeling work being conducted as part of Tacoma City Light's relicensing application to FERC, along with the planning activities of the Fisheries Technical Team and Cowlitz Resource Planning Group. In addition, two of the sponsoring organizations – Friends of the Cowlitz and CPR-Fish – are diverse, well-established, and active fishing conservation organizations whose membership lives primarily within the Cowlitz Basin. These organizations have a long history of habitat restoration and enhancement volunteer work.

**e. Methods.**

The public workshops and meetings of the Cowlitz Watershed Council will be facilitated by the contractor. The public “focus” workshops will be designed to promote communication, coordination, and cooperation among agencies, local governments, user and advocate groups, and concerned citizens - these are important interactions that are sorely lacking in contemporary natural resource management. Without them, there is little accountability or incentive for management agencies to redefine their priorities, functions, and organizational structures to better meet today's challenges. We will use conventional facilitation and record-keeping techniques to organize and stage the workshops.

The Cowlitz Watershed Council will be staffed by local citizens and representatives of major stakeholder groups and appropriate government agencies. In this way, resource planning would reflect the needs and values of the local community, which in turn would instill a sense of ownership in the Cowlitz Watershed Management Plan. It is important that people recognize their role in restoring and protecting the watershed. The prospects of achieving a viable restoration and management plan will be greatest if people, businesses, and governments work together at the local level.

Resource specialists would assist the Cowlitz Watershed Council in developing goals, identifying critical uncertainties, and formulating strategies and standards for the watershed. With technical assistance, the Councils would be able to avail themselves of a “tool box” of resources and approaches to guide their efforts, drawing from a rich trove of experience and literature from the Columbia River basin and elsewhere in the Pacific Northwest. This project would build upon and complement those efforts.

**f. Facilities and equipment.**

The activities of the Watershed Council and the technical advisor is not anticipated to require major outlays in facilities and equipment. Rental of meeting facilities is the only anticipated significant cost in this category.

**g. References.**

Lestelle, L.C., L.E. Mobrand, J.A. Lichatowich, and T.S. Vogel. 1996. Applied Ecosystem Analysis – A Primer: Ecosystem diagnosis and treatment (EDT). Bonneville Power Administration DOE/BP 33243-2, Portland, OR.

Steward, C.R. 1997. Water, habitat, and dam management strategies for the Cowlitz River. A report prepared for the Conservation Caucus and other members of the Fisheries Technical Team. Unpublished manuscript.

## **Section 8. Relationships to other projects**

This project requires or includes collaboration among scientists and local citizens. Local communities and economic interests will be more involved in planning and decision-making processes, and government agencies should become more responsive to their needs. By working more closely with the general public, fisheries agencies will be less apt to be influenced by a few select special interest groups, and more likely to manage the resource for the benefit of society as a whole.

This project is not expected to conflict with other projects, nor is it likely to be incompatible with other resource planning activities within the Cowlitz watershed or the state of Washington.

## **Section 9. Key personnel**

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### **EDUCATION**

*University of Idaho - Ph.D.* candidate in Fisheries (Dissertation in progress). Dissertation: Seasonal habitat requirements of juvenile chinook salmon and steelhead trout. *University of Washington - M.S.* in Fisheries, 1983. Thesis: Salmonid populations in an urban stream environment, Kelsey Creek, Washington. *University of Montana - B.S.* in Wildlife, Aquatic Option. Summa cum laude, 1978.

## **PROFESSIONAL EXPERIENCE**

*Principal, Steward Consulting*, Bothell, WA. December 1992 to present. Independent consultant specializing in fisheries management, research design and implementation, Columbia River fisheries issues, dispute resolution, and programmatic review for public agencies, Indian tribes, and non-profit conservation groups. Clients include the Bonneville Power Administration, National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, Northwest Power Planning Council, Nez Perce Tribe, University of Washington, Save Our Wild Salmon, and others. Responsible for several contracts; author of key publications.

*Executive Director*, Sustainable Fisheries Foundation. 1994 to present. Co-founded an international (U.S. and Canada) 501(c)(3) research and education foundation in 1994 to promote a balanced approach to fisheries resource management and use, so that Pacific salmon and trout populations remain viable, productive, and accessible to future generations. The SFF works closely with other non-governmental and scientific organizations on a number of salmon-related initiatives, most notably the development of a Sustainable Fisheries Strategy for West Coast Salmon and Trout Populations. A cornerstone of the SFS project was a major regional fisheries conference held in Victoria, B.C. in April 1996. Mr. Steward is co-chair of the SFS Conference Steering and Publications Committees, and serves as primary author of the Sustainable Fisheries Strategy Report and co-editor of the Conference Proceedings. The Foundation sponsors, and Mr. Steward oversees, several other projects in addition to the Sustainable Fisheries Strategy initiative.

## **SELECTED PUBLICATIONS**

Sustainable Fisheries Foundation. 1996. *Toward Sustainable Fisheries: Building a Cooperative Strategy for Balancing the Conservation and Use of West Coast Salmon and Steelhead*. 82 pp.

MacDonald, D., and C.R. Steward. 1995. Sustainable strategy needed to conserve west coast salmon. *Native Issues* 10:41-46.

Steward, C.R. 1994. Assessment of the flow-survival relationship obtained by Sims and Ossiander (1981) for spring/summer chinook salmon smolts. U.S. Department of Energy, Bonneville Power Administration, Division of Fish and Wildlife, Portland, Oregon. 86 pp.

Mundy, P.R., D. Neeley, C.R. Steward, T.P. Quinn, B.A. Barton, R.N. Williams, D. Goodman, R.R. Whitney, M.W. Erho, Jr., and L.W. Botsford. 1994. Transportation of juvenile salmonids from hydroelectric projects in the Columbia River basin: An independent peer review. Final Report. U.S. Fish and Wildlife Service, Portland, Oregon.

Steward, C.R. 1994. Monitoring and Evaluation Plan for the Nez Perce Tribal Hatchery. Report prepared for the Department of Fisheries and Resource Management, Nez Perce Indian Tribe, and the Bonneville Power Administration. 259 pp. + appendices.

## **Section 10. Information/technology transfer**

Our goal is to compile textual and graphical information into a high quality report that is accessible and understandable by the general reader. The Cowlitz Watershed Management Plan will be published as a BPA document. It will be distributed to at nominal charge to news media, schools, libraries, governmental and non-governmental organizations, elected officials, and other interested parties in the Pacific Northwest. Additional funding may be sought to increase publication quantities.