

# **Fiscal Year 1999 Environmental Protection Agency Statement of Work**

## **StreamNet: The Northwest Aquatic Resource Information Network**

(October 1, 1999 - September 30, 1999)



### **Introduction**

**Overview of the Environmental Protection Agency Statement of Work.** This statement of work addresses StreamNet tasks that will be implemented during fiscal year 1999 through a contract with the Environmental Protection Agency (EPA). This statement of work supplements StreamNet's Fish and Wildlife Program statement of work. Essentially, the EPA supplemental provides for 1) expansion of the StreamNet dataset beyond the Columbia River Basin, 2) expansion of the data factors currently included in the StreamNet system to include more habitat data, and 3) improvements in user access to biological data. The overall effect of this supplemental statement of work is to provide a broader, more applicable product for use by agencies and the public throughout the Pacific Northwest region.

**StreamNet Project Summary.** StreamNet provides data services and other technical support for activities associated with the Northwest Power Planning Council's (Council) Fish and Wildlife Program, as well as to Endangered Species Act activities (ESA) and other state and regional-level planning, policy, and management activities that complement the Program. In providing services to the Fish and Wildlife Program, StreamNet works in close consultation with the Bonneville Power Administration (BPA), the Council, the Columbia Basin Fish and Wildlife Authority (CBFWA), the Independent Science Advisory Board (ISAB)/Independent Science Review Panel (ISRP), and applicable federal, state, and tribal resource managers. NMFS and EPA are principal cooperators on ESA and other related regional data service activities.

The StreamNet data system consists of a series of databases and reference materials concerning aquatic resources in the four state Pacific Northwest region. Included are data on fish production (both natural and hatchery), fish and wildlife distribution, habitat characteristics and condition, source material references, stream hydrography, and other environmental factors. A project data plan identifies additions and enhancements planned for the future. StreamNet utilizes the Internet as a principal means to deliver data. Data are also available via a stand-alone distributed database and custom products and services. Original source materials are available through the StreamNet Library housed and maintained at the Columbia River Inter-Tribal Fish Commission in Portland, Oregon.

**StreamNet Goals and Objectives.** The overall goal of the project is to create, maintain, enhance, and provide public access to a regionally consistent set of fish, wildlife, and related resource data. These data are to be directly applicable to policy, planning, and management activities aimed at the protection and restoration of fish and wildlife resources. Specific objectives include:

1. Fish and Wildlife Program. Serve as a primary mechanism for managing fish and wildlife data related to the Northwest Power Planning Council's Fish and Wildlife Program by maintaining and providing public access to essential existing data, supplying Program projects with data and computer-generated maps, serving as a repository for data collected through these projects, and providing information services to assist the Council, BPA, CBFWA, and the ISAB/ISRP in tracking projects and, ultimately, evaluating their effectiveness through the regional monitoring and evaluation process.

2. Other Fish and Wildlife Initiatives. Provide data and services to activities within the region that are related to the conservation of fish and wildlife resources and that complement the Fish and Wildlife Program, including Endangered Species Act activities, regional environmental analyses, tribal resource management, state-level policy and planning, and federal land and resource management agency activities.

**Project Organization.** The StreamNet project is a cooperative effort on the part of the region's fish and wildlife management agencies. The project is managed by the Pacific States Marine Fisheries Commission (PSMFC), under contract to BPA, NMFS, and EPA. The Northwest Power Planning Council (Council) provides policy oversight for the Fish and Wildlife Program portion. Other agencies with a contractual commitment include:

- California Department of Fish and Game (CDFG)
- Columbia River Inter-Tribal Fish Commission (CRITFC)
- Idaho Department of Fish and Game (IDFG)
- Montana Fish, Wildlife and Parks (MFWP)
- Oregon Department of Fish and Wildlife (ODFW)
- Shoshone-Bannock Tribes (SBT)
- U.S. Fish and Wildlife Service (USFWS)
- Washington Department of Fish and Wildlife (WDFW)

Additional agencies that participate in certain aspects of the project, contribute financial resources, or that are significant beneficiaries of project products, include:

- Bureau of Land Management (BLM)
- Environmental Protection Agency (EPA)
- National Marine Fisheries Service (NMFS)
- U.S. Forest Service (USFS)

PSMFC's project management team includes a project manager responsible for overall project coordination, a data manager responsible for overseeing development of the StreamNet data system, and a GIS manager. Participating agencies have designated a project coordinator who serves as the principal contact person within the organization and is responsible for ensuring that the agency meets its obligations regarding the project work statement. Much of the actual data development occurs at the agency level. Project coordinators within each of the participating agencies oversee this and ensure that appropriate agency-level data services are provided.

A Steering Committee consisting of representatives from BPA, CRITFC, IDFG, MFWP, ODFW, PSMFC, SBT, USFS, and WDFW oversees the project. The Committee provides the principal means for interagency coordination and communication and for ensuring the needs of the various participating organizations are being addressed. It is the Steering Committee's responsibility to approve major decisions regarding direction and products.

**Coordination with other Efforts.** PSMFC is involved in several data compilation projects related to Pacific Northwest fisheries. PSMFC seeks to ensure compatibility and avoid duplication between these projects. The StreamNet team intends to maintain active contacts with PSMFC and other data development efforts in California, Alaska, and British Columbia in order to promote the development of StreamNet-type data and data systems coast-wide.

Separate statements of work presents objectives and tasks that will be performed during FY 1999 using BPA-administered Fish and Wildlife Program funds and NMFS-administered ESA funds. This statement of work is consistent with the aforementioned statements of work, both in terms of format and products. In terms of the data compiled, the EPA statement of work complements but does not overlap the data compiled through the BPA and NMFS contracts.

### **Work Plan Summary**

**Overview of Tasks.** The work statement that follows identifies an objective and six tasks that the StreamNet project will address in FY 1999. Three additional optional tasks are also identified. The objective described here is identified as "Objective 6," and the tasks as 6.1 through 6.8. This numbering scheme is consistent with the overall Streamnet statement of work. Objectives 1 through 5 are contained within the BPA contract. Objectives 7 and 8 refer to tasks undertaken through contracts with the NMFS. Titles of the 8 StreamNet objectives are:

- Objective 1. Fish and Wildlife Program Data Development
- Objective 2. Data Management
- Objective 3. Library Services
- Objective 4. Fish and Wildlife Program Data Services

- Objective 5. Project Administration
- Objective 6. EPA Environmental Data Development
- Objective 7. NMFS Anadromous Fish Trend Data Development
- Objective 8. NMFS Habitat Restoration Projects

The work statement is the product of a concerted effort on the part of participating agencies to target high priority data in light of current and projected needs. The work statement links directly to the StreamNet Data Plan, which identifies data currently in the system, data that should be compiled over the next five years, and, within this, data that should receive priority for FY 1999. (The StreamNet Data Plan may be viewed by going to the “management” section of the StreamNet home page and, within that, scrolling to “data development.”)

For FY 1999, and looking at the project as a whole, updating of anadromous fish productivity trends and resident and anadromous fish distribution and life stage use data will continue to be a priority. Available anadromous fish age and population data will be incorporated, as will biological data on resident fish. Additional areas that will receive attention are aquatic habitat and tracking of fish and wildlife projects. Considerable effort will be given to the continued development of interagency data exchange formats. The 1:100,000-scale river reach system will be maintained and additional data attached to that system. Substantial effort will be given to providing data services to select ESA projects and initiatives. The StreamNet Library will continue to provide a full range of library services to the fish and wildlife management community. The library will place emphasis on enhancing the collection through cooperative arrangements with others having relevant collections.

The work that each subcontractor performs will vary depending on ecological considerations, data availability, and other factors. Participating agencies each prepare individual work statements that correspond to this work statement but that focus directly on the tasks that the agency will undertake. These work statements are available at PSMFC.

# StreamNet FY 1999 Supplemental Work Statement

**Objective 6 - EPA Environmental Data Development.** *Expand, management, and maintain the StreamNet database to meet several high priority data needs identified by the Environmental Protection Agency.*

**Summary.** The EPA, state environmental quality agencies, and partners need assistance in the production, consolidation, and GIS linkage of aquatic resource data to the Pacific NW River Reach Files in order to evaluate aquatic resource conditions in the northwest, and to meet obligations to protect these resources under the Clean Water and Endangered Species Acts. Additionally, other data describing disturbances and landscape properties aggregated to 5<sup>th</sup> or 6<sup>th</sup>-field watersheds would be useful in prioritizing activities directed towards recovery efforts under these Acts.

This proposal addresses meeting several high priority needs for accurate, standard and readily available data on salmonids (salmon/steelhead priority) and their habitat in EPA Region 10 by incorporating this need into established interagency StreamNet data efforts. By expanding the data contents of StreamNet to include the items identified in this proposal, the system will provide a more comprehensive and long term information source for west coast resource managers, in a powerful user-friendly Web-based application.

Note: The geographic scope for data development under objective 6, tasks 6.1 through 6.8 includes the states of Idaho, Oregon, and Washington.

## Task 6.1 **SALMONID DISTRIBUTION**

Continue the collection, linkage and improvement of salmonid species distribution and population data. This will include identification of legal status (state and federal) and where available, population delineation data.

## Task 6.2 **STREAM SURVEYS**

Compile inter-agency field stream survey information and link this to the PNW hydrographic files. Develop a GIS link from the Oregon Dept. Fish & Wildlife complete suite of information to the StreamNet dataset.

## Task 6.3 **STREAM TEMPERATURE SUMMARY DATA**

Gather stream temperature summary data from agencies & groups collecting these data and link to the PNW hydrography. List of summary statistics to be developed in consultation with all parties with a stake in the likely analytical products, particularly the states & EPA.

Task 6.4      **MACROINVERTEBRATE SAMPLING DATA**

Link Xerces Society database of macroinvertebrate sampling data to the PNW hydrography via ArcInfo dynamic segmentation techniques. Coordinate with EPA, Xerces Soc. & others, if necessary, to produce an agreed-upon suite of indices that would be available for spatial display & analysis.

Task 6.5      **WATER QUALITY DATA**

Write data exchange format for spatial 303d data to standardize methods and forms used by various states in region. Conversion of existing data to new format, referencing to regional 100k hydrography. Use of event data model to allow for integration of data into participant StreamNet organization's spatial and tabular data systems.

Task 6.6      **GIS DATA PROCESSES**

Prepare a custom program written in Visual Basic and ESRI MapObjects to allow for the input and display of aquatic resource data on any PC without special GIS software. The program would utilize data exchange formats and standardized 100K hydrography to ensure that data would be easily integrated into StreamNet participants' GIS and tabular data systems. This would allow for any agency or participating data provider to create data on a variety of themes ( 303d, projects, habitat, fish distribution and populations).

Task 6.7      **DATA COMPILATION PROCESSES**

Develop and implement a program to establish mechanisms for data collection and quality assessment within States. Institute procedures to streamline and increase efficiency of collection and error checking of a variety of aquatic data within member states ( OR, WA, & ID). Integrate a mechanism for input of tabular data into the program described in task 6.6, allowing for geo-referencing of all data records to the 1:100k hydrography. Use StreamNet data exchange formats to ensure the uniformity of the data and allow for easy use in regional systems. The result would be faster data development, more extensive reference information, and improved data accuracy.

Task 6.8      **IRICC WEB PAGE**

Enhance, manage and maintain WWW page for the Interagency Resource Information Coordinating Council.

**Other Potential Tasks.** The following data items would require scoping, coordination, and time beyond what is being proposed here. These tasks may be addressed if time and resources allow but are not requirements of this statement of work:

Task 6.9      **WATER WITHDRAWAL**

Produce digital datasets linked to the PNW hydrography of water withdrawal locations, including withdrawal amounts & timing.

Task 6.10     **ROADS DATA**

Collect digital roads datasets from the major resource agencies and US Census. At a minimum, produce merged datasets without attributes for watersheds or subbasins from which road density statistics could be produced for these areas. Additionally, investigate feasibility of including road-related attributes in the merged datasets via production of crosswalk tables to handle the different attribute coding schema used by the source agencies.

Task 6.11     **SOILS DATA**

Produce merged soil property datasets by working with NRCS & USFS soil specialists that would allow production of derived mass wasting, runoff & erosion GIS datasets. USFS, BLM & others have produced some of these layers for SW Oregon NWFP Province. If scientifically valid, continue these approaches in other areas where the availability of digital soils & 10 meter elevation data allow.

## Project Administration

### Resource Allocations

task	percent of total effort				total	lead
	IDFG	ODFW	WDFW	PSMFC <sup>1</sup>		
1. Distribution	5	5	5	5	20	Freid
2. Stream Surveys	0	22	0	3	25	Freid
3. Temperature	2	2	2	4	10	Banach
4. Macroinvertebrate	0	0	0	8	8	Banach
5. Water Quality	4	4	4	6	18	Freid
6. GIS Processes	0	0	0	8	8	Freid
7. Data Processes	0	0	0	5	5	Burch
8. IRICC Web Page	0	0	0	6	6	McGill
totals	11	33	11	45	100	Parkin

### PSMFC Staff Allocation

name	position	months <sup>2</sup>	% of effort
Mike Banach	Fish biologist	2.5	16
Doug Burch	Database manager	1.5	8
Matt Freid	GIS manager	2.5	16
Karen McGill	Web designer	3	21
Drew Parkin	Project manager	0 <sup>3</sup>	0
Doug Reece	Programmer	4	26
TBA	GIS/data tech.	2	13
		15.5	100

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<sup>1</sup> PSMFC involvement in tasks 2 through 6 includes computer programming.

<sup>2</sup> .5 month data manager and 1.5 month GIS manager contributed from other sources.

<sup>3</sup> Covered by other contracts.