

Fiscal Year 1999 Statement of Work

StreamNet: The Northwest Aquatic Resource Information Network

(October 1, 1999 - September 30, 1999)



Introduction

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 Endangered Species Act activities (ESA) and other state and regional-level planning, policy, and management activities that complement the Program. In doing this 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.

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 the Bonneville Power Administration (BPA). The Northwest Power Planning Council (Council) provides policy oversight. Other agencies with a contractual commitment to the project include:

- 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 project direction and products.

BPA has assigned a Contracting Officer's Technical Representative (COTR) to oversee the StreamNet contract. The COTR has responsibility for ensuring that the project work statement adequately addresses Fish and Wildlife Program requirements in a cost effective manner, and that satisfactory progress is made toward producing work statement deliverables. It is understood that situations may arise that require a change in project deliverables, as, for example, when the project must respond to new laws and regulations, or regional priorities. In these cases, project managers and the Steering Committee may request a modification of the contract or otherwise gain concurrence from BPA.

Funding. The project is a component of the Council's Fish and Wildlife Program and receives funding through the BPA. The project is also supported through contributed services on the part of participating agencies and through limited contracts and other forms of financial support from participating agencies and others.

The NMFS is contributing funds through a separate contract to allow for the compilation of anadromous fish data for coastal Oregon, Washington, and California. This arrangement provides the opportunity to expand the StreamNet data system to anadromous fish zones outside of the Basin, thus providing a broader context for decisions. In the past year additional funds have come from the USFS and the EPA. These funds have assisted in the development of the 1:100,000-scale river reach system, the purchase of computer equipment, and other activities that have directly supported the core mission of the project. Project participants will continue to pursue cooperative funding to support data development activities that complement overall StreamNet goals - especially for data development outside of the Columbia Basin, for the development of data on habitat, and for maintenance of the 1:100,000-scale river reach system.

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.

This statement of work addresses only those tasks that will be performed during FY 1999 using BPA-administered Fish and Wildlife Program funds.

Work Plan Summary

Overview of Tasks. The work statement that follows identifies five primary objectives that the StreamNet project will address in FY 1999. For each objective the work statement identifies one or more tasks that will be completed during the fiscal year. Tasks are divided into sub-tasks as appropriate. For each task one or more products are identified. Attachment I presents a proposed budget for the project for FY 1999. Included are an overall budget and a budget for each participating organization.

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, 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 Fish and Wildlife Program projects and initiatives. Internet access will also be provided to information from Fish and Wildlife Program projects lacking in this capability. 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 geographic scope for data development will be the four state region, with the Columbia River Basin being the principal focus. Data related to areas in the region but outside of the Basin may be incorporated if this does not add to the overall cost and produces information that directly supports Fish and Wildlife Program activities. (Data from outside of the Basin may also be compiled using funds outside of the BPA contract.)

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. The tasks described below often include subtasks and these, in turn, may include references to specific data types. It is important to recognize that this is a multi-agency work statement and that not all of the data types referenced here are available within all jurisdictions. Typical of this is task 1.1c, Adult Abundance, which references escapement, redd counts, trap counts, and dam counts as specific data types. These represent the universe of indicators of adult abundance. Participating agencies are asked to focus attention on the data types that are readily available and that are recognized as key indicators. For example, in Idaho, redd count data have been collected for several years. Redd count data are not universally available for all watersheds in other states, where other indicators of adult abundance have been relied upon.

Project Record. The FY 1999 work statement includes tasks that may involve the preparation of internal strategy reports. These reports provide a means to explore specific issues or opportunities and to create consensus regarding how these might best be addressed. They also provide a mechanism for documenting decisions regarding project direction and proposed expenditure of funds. Typically, strategy reports will address issues related to either 1) changing and expanding demands within the region for fish and wildlife data, or 2) advancements in data management and

delivery technology. These reports are considered to be internal working documents that generally are not appropriate for wide circulation or formal review.

The procedure for preparing and reviewing project reports will be as follows:

Assignments for preparing reports will be made by the project manager in consultation with the Steering Committee. Reports may range in length from a single page to several. To the extent possible, papers will follow a common format with the most important component being a recommended course of action. Draft papers will be distributed to the Steering Committee and BPA's COTR for review and comment, typically via the StreamNet internal home page. Particularly important or complex issues will be discussed at Steering Committee meetings; others may be handled in a less formal manner. Steering Committee members and the COTR may, at their discretion, solicit additional review from others in their respective organizations. All draft products will also be made available to the public upon request. Depending on the issue, the Steering Committee may also wish to solicit comments from the Council, the agencies and tribes, or others.

Following review, draft reports will be revised, made final, and posted to the management section of the StreamNet web site. For matters that may be of broader interest, or that are particularly controversial, the Steering Committee may determine that additional public review is warranted.

Finally, all final reports will be assembled into a "project record" that will be made available on the StreamNet web site. The project record provides both a convenient means for compiling internal reports and an efficient way to allow for more formal review by BPA, the Council, and others wishing to do so. Upon completion, appropriate recommendations from the project report will be integrated into the project's data plan and/or the next year's work statement.

StreamNet FY 1999 Work Statement

Overall FY 1999 Goal: StreamNet seeks to contribute to the region's efforts to protect and restore aquatic resources by 1) acquiring the most current data and source materials available concerning fish and wildlife life history, production, habitat, and restoration efforts, 2) incorporating these data and materials into a regionally consistent whole, and 3) providing critical data to managers and the interested public via the Internet, library services, and custom products. During FY 1999 StreamNet will specifically focus on providing data services that can assist in 1) monitoring the effectiveness of Fish and Wildlife Program projects, 2) implementing ESA recovery plans, 3) responding to concerns raised in the Independent Scientific Review Panel report, and 4) facilitating fish and wildlife resource management decisions by - and especially among - federal, state, and tribal resource agencies.

Objective 1 - Data Development. *Increase the knowledge base concerning the region's fish and wildlife resources through the acquisition of new information that responds to emerging needs as well as the updating and enhancement of production and survival trends and other existing information.*

The data elements described in Tasks 1.1 through 1.6 represent the range of resource data to be compiled in FY 1999. Within this range, the various project participants have identified specific data elements to be compiled, based on regional and state-level priorities and the availability of data from other sources. In some cases the work will involve updating existing trends with current year data. This is common for anadromous fish data. In others, the work involves seeking out new types of data, as, for example, with habitat data. Tasks differ among participating organizations depending on resource character, data availability, and other factors. Specifics regarding data development responsibilities of each participating agency are detailed in subcontractor work statements. Data will be compiled and delivered to the Regional Data Manager using prescribed data exchange formats in Access-compatible database files for tabular data and ARC/INFO format for spatial data. Where applicable, data will be referenced to geographical location, with the 1:100,000-scale river reach system used as the standard referencing system for aquatic data. Data will be referenced to source materials according to existing reference protocol. Source documents will be forwarded to the StreamNet Library, again in accordance with existing protocol. Data reports will be developed as appropriate to describe data, sources, and methods.

Task 1.1 **ANADROMOUS FISH**

Prepare and maintain standardized data on anadromous salmonids and, where data are readily available, other anadromous fish, to include:

- a) **Distribution and Life History.** Freshwater distribution, life history, and barriers. *Note: The highest priority is to attach existing anadromous salmonid distribution and life history information to the current version of the PNW 1:100,000-scale hydrography. Enhancement of these data may be undertaken as resources permit. Barriers information will focus on existing information. It*

is acknowledged that accurate barrier information is not currently available, especially for natural barriers.

- b) **Adult Abundance.** Escapement, redd counts, trap counts, dam counts.
- c) **Juvenile Data.** Sample records, abundance indices (as available)
- d) **Harvest.** In-river, terminal, and other harvest as available.
- e) **Hatchery Production.** Releases, returns, disposition, straying.
- f) **Natural Production.** Survival, production factors, spawner recruit. *Note: The factors listed in Task 1.1(b) also might serve as measures of natural production. A separate sub-task is included here to provide for the opportunity to capture other indicators, including spawner recruit estimates from PATH.*
- g) **Age.** Age/sex composition for returning adults
- h) **Genetics.** Areas where genetics data exists and the sources of these data.
- i) **Populations.** Population delineation, as determined by others. Emphasis will be placed on compilation of existing information - including agency designated gene groups (e.g., Oregon Wild Fish Policy, Washington SASSI, NMFS ESUs) and the identification of regionally consistent exchange formats for future data collection.
- j) **Historic Range.** As available at the watershed-level. Compilation at the reach level is an option if these data are available. *(Note: Data for watershed-level historic range is available from existing sources. What is required here is to incorporate these data into the StreamNet system.)*

Products: Regionally consistent data sets for salmon and steelhead gathered and forwarded to PSMFC in exchange format and incorporated into the StreamNet system.

Task 1.2 **RESIDENT FISH AND OTHER AQUATIC SPECIES**

Prepare and maintain standardized data on native resident fish and, where specifically identified, other aquatic species, to include:

- a) **Distribution and Life History.** Transferring existing 250K distribution data to 100K hydrography is the highest priority. Updating of bull trout distribution and life history, where necessary, is next. The third priority is other native salmonids including redband and cutthroat subspecies. The fourth priority is fish and aquatic vertebrate and invertebrate species that are either listed or candidates for listing under either federal or state sensitive species programs. The fifth priority is key

competitor/predator species, both native and non-native. The sixth priority is other native species. *Note: It will not be possible to compile these data for all species in all states during FY 1999. The target for FY 1999 is completion of distribution for native salmonids. Priorities four, five, and six are included here to allow individual states the opportunity to work on these data should time permit.*

- b) **Adult Abundance.** Escapement, redd counts, trap counts, dam counts. *Note: prototype only, to determine data availability and establish future protocol. Initial emphasis on bull trout.*
- c) **Angler Use.** Fishing pressure, creel census.
- d) **Hatchery Production.** Hatchery production (releases and outplants) for salmonids (other species may be included if data is readily available).
- e) **Genetics.** Areas where genetics data exists and the sources of these data.
- f) **Population.** Population delineation, as determined by others (Genetic origin, production type, stock and population identification - emphasis on compilation of existing information - including agency designated gene groups and ESA-related groupings - and the identification of regionally consistent exchange formats for future data collection). *Note: While population delineation for any fish species is difficult, this is doubly so for resident species as detailed studies are not typically available. The concept is, however, important when considering issues such as species stability and habitat fragmentation. StreamNet will not make any independent determinations regarding this but rather will compile such information as comes available.*
- g) **Historic Range.** As available at the watershed-level. Compilation at the reach level is an option if these data are available. *(Note: Data for watershed-level historic range is available from existing sources. What is required here is to incorporate these data into the StreamNet system.)*
- h) **Status.** Population stability index. For example, stable, declining, etc. *Note: This has been identified as a high priority need for species that are listed or being considered for listing under the ESA. StreamNet efforts with this will be to encourage development of standardized protocol and, when available, to capture data developed by others.*

- Products:
- 1) Regionally consistent data exchange standards.
 - 2) Data available through existing sources incorporated.

Note: Resident fish data development is viewed as a long-term project and will, at least for the next few years, lag behind anadromous data development. The reasons are: 1) anadromous fish data continues to be a higher priority (except in Montana

and blocked areas of other states), and 2) there is far less field survey data available for resident species. Task 1.2 provides for Montana to continue with development of their existing resident fish data system and for other states to initiate similar efforts. In Washington and Idaho the most likely means to do this will be to coordinate with proposed resident fish stock assessment projects (see task 4.4).

Task 1.3 **HABITAT**

Prepare and maintain standardized data relating to fish and aquatic habitat, to include:

- a) **Stream Habitat.** Incorporate applicable Interior Columbia Basin Environmental Management Plan (ICBEMP) stream habitat data and comparable westside datasets, as these become available.
- b) **Watershed Habitat.** Secure access to additional applicable Interior Columbia Basin Environmental Management Plan (ICBEMP) watershed habitat data and analysis products. Incorporate comparable westside datasets where available.
- c) **Water Quality.** Incorporate existing Clean Water Act 303(d) data.
- d) **Stream Surveys.** Prototype the concept of incorporating agency stream survey data (may be undertaken in conjunction with watershed planning projects - see task 4.3).
- e) **Miscellaneous Habitat Data.** Identify and - where feasible and appropriate - incorporate information available from other sources that can contribute to a meaningful characterization of the state of the region's aquatic habitat. Examples: proposed and final critical habitats for fish and aquatic wildlife in accordance with the Endangered Species Act, GAP. *Note: This sub-task is included to allow for opportunistic capture of data that may become available and/or that may be necessary to meet StreamNet data services as defined in Objective 4.*

Task 1.4 **FACILITIES**

Maintain standardized data relating to facilities affecting fish and aquatic habitat.

- a) **Dams and Fish Passage Facilities.** Enhance the existing StreamNet dams dataset by updating relevant data from the Pacific Northwest Hydropower Data Base and Analysis System (NWHS) and the National Inventory of Dams. Develop data exchange formats and initiate compilation of available data on man-made blockages and fish passage facilities, including location, character, and status. *Note: The resultant dataset will include data on location and identification, physical and hydrological characteristics, licensing status, and/or other features that have a direct bearing on the management of fish resources. This product is not viewed as a replacement or duplication of the NWHS or of mainstem smolt monitoring.*

- b) **Hatcheries.** Maintain a dataset on anadromous and resident hatchery facilities containing information on location, design, management, authorization, etc.
- c) **Diversion/screening.** Create data exchange format and prototype data compilation in conjunction with watershed planning projects, task 4.3.

Products: 1) Data exchange formats for diversions and fish passage facilities.
 2) Acquire available and applicable data on dams, blockages and fish passage facilities, and hatchery facilities.

Task 1.5

AQUATIC MITIGATION AND RESTORATION PROJECTS

Prepare and maintain standardized data relating to the tracking of aquatic management and restoration projects, to include:

- a) **Fish and Wildlife Program Projects.** Maintain and make available standardized data that tracks fish and wildlife enhancement projects funded through the Fish and Wildlife Program. (StreamNet's role is to provide technical support to BPA, Council, and CBFWA.)
- b) **Federal MOA.** Develop procedures for tracking aquatic restoration projects funded by Federal agencies in accordance with the 1996 interagency Memorandum of Agreement on this subject. Incorporate data provided by these agencies, with highest priority to projects required under the Endangered Species Act. *Note: Work on this is, in part, contingent upon completion of an agreement among applicable agencies to participate. It is not StreamNet's responsibility to secure this agreement. StreamNet can, however, play a support role to BPA and the Council in this.*
- c) **Other Projects.** Monitor opportunities for capturing data on other fish and aquatic habitat restoration, protection, and mitigation projects sponsored by federal land managers, states, tribes, and/or others and that complement the Fish and Wildlife Program and/or regional ESA activities. Encourage others to adopt the StreamNet project data exchange format and to provide these data to Streamnet. Compile data as these become available. *Note: This will be accomplished primarily through participation in watershed projects, as described in task 4.3. Other ongoing efforts, including the Oregon Plan, the Idaho bull trout plan, and the Washington wild fish policy will also be monitored to identify collaborative opportunities for securing project data.*

Products: 1) Data exchange formats.
 2) Applicable data compiled and incorporated.

Objective 2 - Data Management and Delivery: *Provide high quality data management services, with specific emphasis on the creation of regionally consistent data sets and the timely delivery of data to users in formats that meets their policy, planning, and management needs.*

Task 2.1 **Database Management.** At both the regional and state levels, provide database management and administration necessary for accomplishing StreamNet objectives, to include: 1) maintaining regional and state-level StreamNet data sets, 2) processing exchange data into the regional database, 3) transporting data to SQL environment, 4) enhancing StreamNet database structures and capabilities, and 5) providing programming services to project participants to allow for efficient data entry and transfer.

Products: Summary of services in quarterly status and annual reports.

Task 2.2 **Data Plan.** Update and maintain a project data plan that identifies 1) current data holdings at the regional level, 2) data items to be incorporated in the current contract period and in future years, and 3) expectations for data development and delivery from participating organizations within the current contract period.

Product: Data plan updates posted to the StreamNet web site.

Task 2.3 **Data Exchange Standards.** Design, develop, and maintain standard codes and data exchange formats for data being compiled as part of the StreamNet project, and for similar data development initiatives. At the regional level, provide technical assistance regarding standard codes and exchange formats for Fish and Wildlife Program and ESA-related projects, and for applicable tribal data compilation activities. At the state level provide similar technical assistance for state agency data activities applicable to StreamNet. The extent of this technical assistance will be determined by data manager work load.

Products: Proposed and adopted data exchange formats for specific data items as described under Objective 1.

Task 2.4 **GIS Data System.** Establish and implement procedures for coordination of StreamNet-related spatial data activities among participating organizations, to include regular meetings and or other communication links among participating GIS specialists. Designate and maintain metadata format for spatial data to be used by StreamNet participants. Prepare map products in hardcopy and/or electronic format for use in Program-related aquatic resource policy, planning, and management.

Product: Activities summarized in quarterly and annual reports.

Task 2.5 **StreamNet Internet Site.** Continue to maintain and enhance the existing client-server system to provide access to StreamNet data products through the Internet. The StreamNet home page will continue to be recognized as the project's primary data delivery vehicle. Priority will be given to incorporating data developed through

Objective 1 and providing access to reference materials secured through Objective 3. Appropriate training on the use of the system will be provided through a combination of on-line help and in-person training sessions.

Maintain and enhance other components of the StreamNet home page and incorporate new features that complement existing components. Possibilities include but are not limited to educational materials, visual materials including photographs, links to related projects and activities, and information concerning project administration.

Product: Enhancements described in the “what’s new” section of the StreamNet home page and in quarterly and annual reports.

Task 2.6 **1:100,000-scale Hydrography.** Maintain the 1:100,000-scale PNW hydrography for purposes of attaching StreamNet data. Coordinate with efforts to prepare a National Hydrographic Dataset (NHD). (StreamNet may choose to serve as Pacific Northwest coordinator for a national NHD if appropriate. This, however, will require funds from outside of the Fish and Wildlife Program.)

Product: Services summarized in quarterly and annual reports.

Task 2.7 **Data Requests.** Receive and respond to requests for data, source materials, and custom products. Response to requests will be honored within the limits of available resources, with priority given to information requests having direct relevance to the Fish and Wildlife Program. Other priorities will include implementation of the Endangered Species Act and federal, state, and tribal natural resource management activities.

Product: Services summarized in quarterly and annual reports.

Objective 3 - Library / Reference Services: *Provide professional library services targeted to meeting the needs of the region’s fish and wildlife decision-makers, planners, and managers. This includes continuing to acquire and catalog StreamNet data source materials and other critical documents and providing open and efficient access to these materials.*

Task 3.1 **Collection Development.** Continue to develop a collection of materials applicable to the mission of StreamNet. These include, but are not limited to, the following:

- a) Documents used as source materials for data compiled in Objective 1.
- b) Documents prepared by contractors (including final products published by BPA and draft documents suitable for public release) under the Fish and Wildlife Program.
- c) Documents from the Council’s Fish and Wildlife Program-related collection.

- d) Additional books, journals, agency reports, gray literature, research reports, and documents that are applicable to management of the region's aquatic resources.
- e) Documents related to NMFS ESA activities. (Scope to be determined in consultation with NMFS.)

Products: A collection of relevant materials, with collection efforts summarized in quarterly and final reports.

Task 3.2 **Access to Collection.** Provide user access to the materials described in Task 3.1, including:

- a) Maintain an appropriate facility for the storage and use of the physical collection.
- b) Organize and maintain the collection for appropriate on-site use.
- c) Provide access to the StreamNet Library Catalog via the Internet.

Product: Activities described in quarterly and final reports.

Task 3.3 **Catalog and Index Materials.** Catalog, index, and, where applicable, prepare abstracts for materials acquired in Task 3.1a; catalog and index materials acquired in Task 3.1b; catalog materials acquired in Task 3.1c and d.

Products: Progress described in quarterly and final reports.

Task 3.4 **Library Services.** Manage the StreamNet Library and provide library services to the StreamNet user community. Services will include reference and referral, document delivery, inter-library lending and borrowing, and on-line search services. A specific service will be to display for public use draft and final copies of important decision documents related to the Fish and Wildlife Program and ESA.

- Products:
- 1) Summary of activities in quarterly and final status reports.
 - 2) Revised versions of the library access guide which includes an articulation of policies and a description of services.

Task 3.5 **Inter-library Coordination.** Engage in networking activities with other agency and regional library service providers including:

- a) Collect information about other regional fish and wildlife library collections and access policies.
- b) Provide consultations for agencies and groups on ways to coordinate catalogs and services.

- c) Coordinate with users, agencies, and regional libraries to improve services and avoid unnecessary duplication.
- d) Facilitate communications between agency library service providers.

Products: 1) Updated file of information on agency fish and wildlife library collections and services).
 2) Summary of activities in quarterly and final reports

Objective 4 - Services to Fish and Wildlife Program Activities: *Provide technical data services to Fish and Wildlife Program decision-makers and appropriate Fish and Wildlife Program projects.*

Task 4.1 **Project Tracking.** Assist BPA, the Council, and CBFWA in providing Internet access to the Annual Implementation Work Plan (AIWP) database and other essential information from AIWP-related reports.

Product: Web product updated for each phase of the AIWP.

Task 4.2 **Monitoring and Evaluation.** Assist in the development of products that contribute to the monitoring and evaluating (M&E) of Program effectiveness. Specific area of involvement will include: a) participating in Program-related monitoring and evaluation work groups, periodically re-evaluating the StreamNet data plan to ensure consistency with M&E needs, and c) preparing reports and data products that illustrate key M&E topics.

Products: Activities summarized in quarterly and final reports.

Task 4.3. **Watershed Projects.** Provide data and data services to Program-sponsored watershed planning and assessment projects. Among the data and data services that may be provided are a) baseline watershed orientation data, b) project tracking assistance, c) technical support to projects, d) watershed data exchange standards and compilation of regionally-consistent watershed data, e) Internet delivery of watershed data and information, f) long-term data storage and access, and g) assistance to watershed-level M&E activities. StreamNet will focus FY 1999 efforts on actively assisting select prototype projects to be defined in consultation with the Council and CBFWA. A separate work statement has been prepared that identifies the range of data services that might be provided. The actual services will be defined in consultation with the Council, CBFWA, and watershed project managers.

Products: Activities summarized in quarterly and final reports.

Task 4.4 **Stock Assessment Projects.** StreamNet will provide technical assistance to the Upper Columbia Basin and Upper Snake River Basin resident fish stock assessment projects. Assistance will focus on a) identification of potential regionally consistent data exchange standards, b) technical assistance with hardware and software

development, and c) Internet access to project data and other information. Specifics will be defined in consultation with stock assessment project managers.

Products: Activities summarized in quarterly and final reports.

Task 4.5 **Service to Other Fish and Wildlife Program Projects and Activities.** In consultation with CBFWA, the Council, and BPA, StreamNet will provide technical assistance and data services to select Program projects. Among the types of projects where StreamNet data services may be provided are a) analysis projects (custom data reports and GIS products, data archive and access), b) research projects (library services, custom data reports and GIS products, data archive and access), c) policy reports and plans (custom products for FWP reports and plans), and d) other activities that may be identified in the final AIWP.

Products: Activities summarized in quarterly and final reports.

Task 4.6 **Internet Access.** StreamNet will provide Internet access for information about, and data from, select FWP projects and activities.

Products: Activities summarized in quarterly and final reports.

Task 4.7 **Protected Areas.** StreamNet will a) maintain and provide access to the Council's Protected Areas dataset, b) archive the official version as a historic record, and c) in consultation with the Council, respond to requests for information concerning Protected Areas.

Products: Activities summarized in quarterly and final reports.

Objective 5 - Project Management / Coordination: *Provide effective leadership that ensures the production of high quality products targeted at critical applications and the development of these products in a timely, cost-effective manner.*

Task 5.1 **Manage Project Activities.** Administer all aspects of the project at the regional and sub-contractor levels, including oversight of budget, personnel, work statement preparation and implementation, coordination among participating agencies, and project reporting.

Product:

- 1) Activities recorded in quarterly and annual reports.
- 2) Four steering committee meetings.
- 3) At least one on-site coordination meeting with each participating organization.
- 4) Annual project proposal and work statement
- 5) Quarterly reports within 1 month after the end of each quarter.
- 6) Final report within 2 months of the end of the contract period.

Task 5.2 **Participate in Fish and Wildlife Program Development Activities.** Organize, facilitate, and/or participate in appropriate coordination meetings with BPA, CBFWA, the Council, ESA officials, ISAB/ISRP, and/or staff and management of participating organizations aimed at identifying ways that StreamNet might more effectively contribute to the Fish and Wildlife Program. Participate in advisory groups, task forces, and other groups whose purpose is enhancing the effectiveness of the Fish and Wildlife Program and its data development activities.

Products: Activities summarized in quarterly and final reports.

Task 5.3 **Prepare Public Information Materials.** As needed, produce public information materials including updated versions of the project brochure, computer demonstration materials, and/or other appropriate materials.

Products: 1) Revised brochure.
2) Computer demonstration.

Task 5.4 **Coordinate With Related Activities.** Maintain communications between StreamNet and other applicable regional and state-level fish and wildlife activities in order to identify means for collaborative data collection, storage, and dissemination. Collaborative data activities will specifically target tribal fishery programs within the Columbia Basin, federal land managers' fishery programs, state fish and wildlife agencies, and, with respect to water use and stream development, state water resource management agencies. Collaboration with coast-wide and private data collection/compilation efforts will be pursued when this supports overall project goals. Areas of particular emphasis are 1) participation in Fish and Wildlife Program monitoring and evaluation activities, and 2) exploring opportunities for integration of StreamNet data exchange formats into Fish and Wildlife Program contract terms and conditions.

Participate in appropriate state, regional, and national educational and professional conferences, including, where applicable, giving presentations, preparing poster session materials, and contributing to conference proceedings.

Products: Summary of activities in quarterly and final reports and, if applicable, narratives summarizing interagency agreements.