



StreamNet Project

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FY 2004 Work Statement

October 1, 2003 through September 30, 2004

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Introduction

StreamNet is a cooperative, multi-agency data compilation and data management project authorized by the Northwest Power Planning Council's Fish and Wildlife Program (FWP). It is funded primarily by the Bonneville Power Administration as part of its program to protect, mitigate, and enhance fish and wildlife resources affected by the development and operation of hydroelectric facilities on the Columbia River and tributaries through the Northwest Power and Conservation Council's Fish and Wildlife Program. Other funding has been obtained in the past from agencies including the Environmental Protection Agency and the National Marine Fisheries Service. The Pacific States Marine Fisheries Commission administers the project.

Three fourths of the project consists of sub-projects within the state fish and wildlife agencies, Columbia River Intertribal Fish Commission and US Fish and Wildlife Service to develop databases within the respective agencies and facilitate data transfer regionally. In addition to administratively housing the StreamNet sub-projects, these cooperating agencies also contribute in kind support. The kind and amount of support varies between agencies. All agencies provide at least some salary support for their StreamNet Project Leader (from one or two months to full time). Several provide use of servers or other computer equipment and services that are not covered by charges for indirect costs. All contribute time by biologists and in some cases data entry staff to provide data to the project. MFWP provides \$65,000 worth of in-state travel, office space, computers and office supplies.

The StreamNet Project compiles, manages and distributes information related to fish resources in the Columbia River basin, with additional information available for the rest of the Pacific Northwest. The state, tribal and federal fish and wildlife agencies collect and utilize data related to the region's fish and wildlife resources to meet their own mandates. A subset of these data, primarily the annually collected types of information that are routinely used to monitor trends within fisheries and populations and provide management information, are compiled by StreamNet into regionally standardized formats and publicly distributed. In this manner, data common to fisheries management but collected and stored in multiple formats by the individual agencies are standardized and made uniformly available basin wide. StreamNet also ties all data to the regional 1:100,000 scale routed hydrography (GIS stream network) so that different kinds of data can be compared on a geographic basis and mapped. The project utilizes the Internet as its primary means of data distribution, but also provides custom data services to FWP participants. The StreamNet web site provides access to information in a queryable database and also provides maps, individual data sets not contained in the queryable database, and library references. All data in the StreamNet database are referenced to source documents that are housed in the StreamNet Library.

This document is the FY2004 Work Statement for the base components of the StreamNet Project. Not all tasks identified in the Work Statement apply to all participating agencies. Each participating agency contributes work to a subset of the project tasks, with their responsibilities detailed individually for each task. The intent of this format is to provide clarity concerning the total activities addressing each project task and the role of each project participant. This combined Statement of Work covers Federal Fiscal Year 2004, from October 1, 2003 through September 30, 2004.

Work priorities for FY 2004 include updating existing long term data sets, managing the data and infrastructure necessary to maintain and deliver data, maintaining the StreamNet Library, providing data services to regional entities associated with the Fish and Wildlife Program, and project administration. Updating and managing the core data sets in the StreamNet database is a primary portion of the base StreamNet project. Since some of this maintenance has become more routine through utilization of improved technology, a small amount of effort can now be applied to some development of data types not currently contained in the database and to managing data related to subbasin planning efforts. These efforts are contained in this work statement. However, since the adopted budget contained support only for the base project, it was not possible to expand the project to include data development activities for many of the data types desired by regional entities that are outside the core data sets. Such work was proposed in the FY-03-05 Project Proposal as part of a request for regional input on which new data were of the highest regional priority and therefore should be priorities for new work by the project. Largely due to the budget crisis in FY-03, no response to that request was received, and none of that new work was funded. The StreamNet Project remains ready to work with regional entities to locate, obtain, standardize, georeference and distribute new data types that are needed for regional recovery and monitoring programs. Such work will be undertaken if requested by the appropriate entities and support is provided, or if regional guidance is received on changing priorities. This Statement of Work will be revised if such changes are requested.

Objective 1 Data acquisition and development

Support the need for region wide fisheries data for research, monitoring, modeling, and management through acquisition and regional standardization of new information and updates to previous information for priority fishery data types. Data types may be addressed by all data providing agencies, or for specific data types by a single cooperating agency on behalf of the entire project. This Objective addresses both anadromous and resident fish species, although priorities may differ. The tasks under this objective are identified as high or low priority under the constraints imposed under base level funding. Work on the low priority types will largely be limited in scope or effort unless new funding is approved.

Objective 1 Data acquisition and development

Task 1 Anadromous distribution and life history (habitat use) at the 1:100,000 scale

Document the occurrence, distribution and life history characteristics of anadromous fish species. Project participants made major updates last fiscal year utilizing the new Data Exchange Format (DEF). Maintenance of this data set will continue. This is a high priority data set.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
IDFG	1	Update 100K anadromous fish distributions based on input obtained from subbasin assessment work and NOAA Fisheries critical habitat designation.	6/1/04	Generalized fish distribution data exchanged.	Brown
ODFW	1	Update, maintain, correct and exchange anadromous fish distribution and documentation information.	Ongoing	Errors corrected and newly discovered and changed distribution (based on documented sightings) exchanged	Bowers
WDFW	1	The StreamNet database currently has all WDFW anadromous distribution data collected at 100K resolution. Submit corrections if warranted.	Ongoing	Corrections as warranted	O'Connor, Sikora
WDFW	2	If the data exchange format issues are resolved to accommodate WDFW's 24K distribution data collections, convert and exchange WDFW's most current data.	Impossible to predict at this time	Data submission	O'Connor, Sikora

Objective 1 Data acquisition and development

Task 2 Resident fish distribution and life history (habitat use)

Document the occurrence, distribution and life history characteristics of resident fish species. Existing resident fish distribution will be maintained, and project participants will begin expanding data for additional species. This is high priority for Montana and Idaho, and new data will be developed by the other states as time allows.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
IDFG	1	Update 100K resident fish distributions using new IDFG data surveys and sources, including westslope cutthroat, Yellowstone cutthroat, interior Columbia-basin redband, and bull trout.	6/1/04	Generalized fish distribution data exchanged.	Brown
MFWP	1	Complete Distribution and Use Types data sets from data collected from biologists, documents and reports during 2001-2002 using LLID stream routes and Montana's lakes coverage and watercode system. Exchange with StreamNet. Complete distribution and use type data sets for 2002-2003. Update entire state, including missed data from Western Montana in FY03. Focus on target species during the year if opportunity arises. Exchange the data to the regional database in the approved DEF format.	12/01/03, 9/01/04	Exchanged distribution and use type data	Carson, Hutten
MFWP	2	Visit MFWP, other state and federal fisheries biologists in 2004 to collect 2002-2003 fish distribution and supporting survey data and references. Input all this information into the MFISH tables. To aid in visits, provide maps and other support documents to biologists.	05/01/04	Data collected entered into MFISH	Carson, Hutten
ODFW	1	As time and funding permits update, maintain, correct and exchange resident fish distribution and documentation information.	Ongoing	Exchanged distribution data in DEF format.	Bowers
WDFW	1	Via distribution proofing parties, organize the effort to update WDFW westslope cutthroat distribution data and compile that data in concert with the existing federal data that was compiled in 2002.	06/30/04	Complete and standardized WDFW internal files	O'Connor, Sikora
WDFW	2	Convert and exchange the westslope cutthroat distribution data.	09/30/04 (if Job 1 ETA is correct)	Data submission, if possible	O'Connor, Sikora
WDFW	3	As time and funding permit, scope data availability and work to compile, convert and exchange distribution data for other priority resident species (including coastal cutthroat and rainbow trout).	Ongoing, quarterly	Quarterly progress report, data submission if possible	O'Connor, Sikora

Objective 1 Data acquisition and development

Task 3 Adult abundance in the wild

Develop and maintain (update) information on adult abundance for native fish species, resident and anadromous, including escapement, redd counts, peak spawner counts, trap counts, dam and weir counts, and resident fish populations (where calculated by other agencies). This is a high priority data type. Also included in this data category are data gathered during spawning ground surveys regarding straying of hatchery fish onto spawning areas, i.e., marked/unmarked ratio. These are lower priority under base funding.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Update mainstem Columbia and Snake River dam counts through 2003 and provide updated data to the StreamNet database.	3/31/04	Updated dam count data sets exchanged	Forrest
CRITFC	2	Update available tribal spawning ground survey data.	6/30/04	Updated available spawning ground data sets	Forrest
IDFG	1	Complete the compilation of the 2003 field season redd count data from IDFG. Prepare the data for inclusion into StreamNet and submit.	4/1/04	Redd count data exchanged.	Brown
MFWP	1	Collect all 2003 stream and lake fish survey data during field office visits; data may be one time visits, index streams and/or results from gill nets in lakes and reservoirs.	05/01/04	none; data collected will be entered into MFISH	Carson, Hutten
MFWP	2	Input 2003 data into MFISH, including trend, count and references. Through the DEF Process, we will explore the creation of a DEF for Montana's stream survey data. If DEF is not developed, Montana will look into submitting these data as a supplemental dataset to the StreamNet website.	09/01/04	Data input into MFISH database structure	Carson, Hutten
ODFW	1	Update existing anadromous, resident, and non-game abundance and index trends through 2002. Opportunistically collect new trend information, including marked-to-unmarked ratio data (relative to dam, weir, spawning ground, etc. counts) and hatchery-fraction data.	4/15/04, 9/15/04	All Columbia Basin trends, where new information is available, are updated with available information	Hurn
WDFW	1	Update and enhance the existing natural spawner database (escapement estimates and/or detailed counts) for available species (including a focus on steelhead data AND any dam or weir counts that might not already be captured in our on-going Adult Abundance collection).	06/30/04	Data submission (2003 anadromous data)	Woodard (Groesbeck)

Objective 1 Data acquisition and development

Task 4 Hatchery releases

Develop and maintain (update) information on the release of hatchery reared fish. Emphasis this year will be on developing release data before release information is rolled up into PSC location codes. Release data for resident species under base funding will be developed only where the data are readily available (primarily Montana). Efforts will be made to complete cross references between PSC release codes and LLID stream location identifiers. This is a high priority data set.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
FWS	1	Data received from National Fish Hatcheries will be processed and added sent to the Regional Mark Information System via the USFWS Lacey Office.	9/30/04	hatchery release database file	Pastor
IDFG	1	Work with IDFG Fisheries staff to incorporate IDFG hatchery release data into StreamNet.	9/30/04	Hatchery release data exchanged.	Murdock
MFWP	1	Exchange Montana's hatchery release data after development of a resident DEF and/or modifications to the existing anadromous hatchery release DEF. Number of years and number of waters will need to be determined.	12/01/03	Exchanged hatchery release data.	Hutten
ODFW	1	Compile and submit anadromous hatchery releases through 2002, and 2003 where available.	7/30/04	Unrolled release data exchanged with StreamNet	Herber
Region	1	Assist contributing projects with cross referencing PSC codes with LLID codes, as needed or requested.	On request	Assistance provided, resulting in georeferenced PSC Codes	Butcher
WDFW	1	For anadromous species, finish researching, compiling, converting existing WDFW anadromous release data as detailed, "unrolled" records. Submit the data (and yearly updates) directly to the StreamNet database (instead of via RMIS).	12/15/03	Data submission (1995-Current anadromous data)	Sikora
WDFW	2	For anadromous species, WDFW and WDFW StreamNet staff work jointly to create a more efficient and predictable means to compile the unrolled releases.	Impossible to predict at this time	Accurate and efficient data	Cox, Sikora
WDFW	3	WDFW resident stocking data is fractured in several collections by year. Work at researching, compiling, standardizing and converting data for any years we have finalized at a given time, until all collections are submitted. (Progress with this data set relies heavily upon initial improvements to our Lakes spatial layer).	Ongoing, quarterly	Quarterly progress report, data submission if possible	Sikora

Objective 1 Data acquisition and development

Task 5 Hatchery returns

Develop and maintain (update) information on the return, disposition and straying (e.g., from other hatcheries) of adult fish returning to hatcheries, including information on coded wire tags. This is an anadromous related task only. Priority will be placed on updating total return and egg take data through 2002. Development of disposition data is lower priority and would require additional resources. This is a high priority data set.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
FWS	1	Data received from National Fish Hatcheries will be processed and added to the new hatchery return file in the DEF, after a new program is written and debugged.	9/30/04	Hatchery Return database files	Pastor
IDFG	1	Complete compilation of the 2003 field season hatchery return data from IDFG. Prepare the data for inclusion into StreamNet and submit	4/1/04	Hatchery return data	Brown
IDFG	2	Convert existing hatchery return data to new DEF.	12/30/03	Existing hatchery return data exchanged in new DEF.	Murdock
ODFW	1	Compile data on returns to ODFW hatchery facilities (updated through 2002 returns where possible).	6/30/04	Updated return data exchanged with StreamNet	Herber
WDFW	1	Update and enhance the existing hatchery return database for available species per the newest DEF.	11/30/03	Data submission (2002 anadromous data)	Woodard
WDFW	2	WDFW and WDFW StreamNet staff work jointly to create a more efficient means to analyze and simplify the hatchery return data flow from the internal WDFW database.	Impossible to predict at this time	Accurate and efficient data	Cox, Woodard

Objective 1 Data acquisition and development

Task 6 Dams and Fish Passage Facilities

Develop and maintain information on dam facilities. Update information as necessary. This is a high priority data set.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
IDFG	1	Update dam information as necessary.	Ongoing	Dam data exchanged.	Brown
MFWP	1	Continue to update Montana's spatial coverage and associated tabular file of dams. Exchange with StreamNet.	3/31/04	Updated dams spatial and tabular data in DEF.	Hutten
ODFW	1	Maintain and update, as needed, based on errors found in the Oregon dam and fish passage facilities information.	Ongoing	Corrected dam and fish passage facility information exchanged	Bowers, Brodeur
WDFW	1	Update the dam database, adding records and improving field entries as warranted.	07/30/04 if	Data submission if warranted warranted	Sikora

Objective 1 Data acquisition and development

Task 7 Hatchery facilities

Develop and maintain information on anadromous and resident hatchery facilities, including information on location, design, management and authorization. Update information as necessary. This is a high priority data set.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
FWS	1	The hatchery facility database file will be updated as needed.	9/30/04	hatchery facility database file	Pastor
IDFG	1	Update hatchery facility data as necessary.	Ongoing	Hatchery facilities data exchanged.	Brown
MFWP	1	Update the StreamNet hatchery database with Montana's public and private facilities. Exchange with StreamNet upon completion.	05/01/04	Updated database in exchange format	Hutten
ODFW	1	Maintain and update, as needed, based on errors found in the Oregon hatchery facilities information.	Ongoing	Corrected hatchery facilities information exchanged	Bowers, Brodeur
WDFW	1	Update the hatchery database, adding records and improving field entries as warranted, including record updates for related tables (i.e. HatcheryXProduction data).	02/28/04	Data submission	Sikora

Objective 1 Data acquisition and development

Task 8 Harvest

Develop and maintain (update) information on sport and commercial harvest. Higher priority is assigned to anadromous species.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Complete and update ocean and Columbia River catch data through 2003	9/30/04	Updated harvest data Exchanged	Roger
IDFG	1	Work with IDFG Fisheries staff to incorporate IDFG harvest data into StreamNet.	9/30/04	Harvest data exchanged.	Murdock
MFWP	1	Explore the possibility of exchanging Montana's limited creel survey data using the current Harvest DEF. Exchange if data is compatible and/or desired by Steering Committee	06/01/04	Exchanged data.	Carson
ODFW	1	Compile and exchange Oregon sport harvest data through 2001.	4/15/04, 9/15/04	All Columbia Basin sport harvest trends where new information is available are updated with available information	Hurn

WDFW	1 Although we should only be in maintenance mode for this data set, WDFW re-organized their data collection process several times since our last StreamNet update (and it's still in flux) so it poses a large workload. As such, we need a large allotment of time before renewing this effort and this year we're devoting any discretionary time to barriers. As funding and time permits, compile freshwater harvest for key Columbia Basin salmonid stocks for both anadromous and resident data, using existing WDFW data sets (i.e. Angler Fish Database) and other sources. Standardize the data (to stock if possible), convert and submit it to the StreamNet database.	Ongoing, quarterly	Quarterly progress report, data submission if possible	Sikora
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Objective 1 Data acquisition and development

Task 9 Hydrography

Maintain a regionally consistent routed hydrography layer at the 1:100,000 scale. This LLID based hydrography is the basis for georeferencing and displaying locations for all other data in the StreamNet database, and as such is an essential data set. Data will be updated as necessary. Exploratory work will be initiated in preparation for the eventual, inevitable move to the 1:24,000 scale hydrography being developed by other entities.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
IDFG	1	Maintain and update, as necessary, the 1:100,000 scale hydrography files for Idaho. Submit all changes to the StreamNet database at the Regional office.	Ongoing	Hydrography data exchanged.	Butterfield
IDFG	2	Complete lakes GIS layer for Idaho and incorporate into StreamNet.	4/1/04	Lake GIS data exchanged.	Butterfield
MFWP	1	Using the NHD, complete updating the routes using the updated NHD layer; quality check the cross-reference between the LLID system and MFWP's watercode system (a system still used to index fishing pressure, hatchery plans and numerous other databases).	10/01/03	Updated hydrography data exchanged	Carson
MFWP	2	Error check and edit Montana's lakes layer which was created using 1:24 000 and 1:100 000 base hydrography. Provide to StreamNet for use with Hatchery Release Data.	12/01/03	Updated lakes layer for Montana exchanged	Carson
MFWP	3	Using ArcGIS, create new stream annotation layers at 3 scales; generalized, HUC level and Stream Level.	05/01/04	Updated annotation layer	Lindstrom
ODFW	1	Maintain and update, as necessary, the 1:100,000 scale hydrography files for Oregon. Submit all changes to the StreamNet database at the Regional office.	Ongoing	Functional and current Oregon 100K hydrography, data Exchanged	Bowers

WDFW	1	Update, as necessary, the Washington 1:100,000 scale Stream, Lake, and Marine Area hydrography files. Submit all spatial and tabular changes to the StreamNet database at the Regional office for inclusion in the PNW regional hydrolayer.	Ongoing	Functional and current Washington 100K Stream hydrography	Hudson, Sikora
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Objective 1 Data acquisition and development

Task 10 Habitat restoration / improvement projects

Acquire data sets related to habitat restoration / improvement projects from the multiple agencies, tribes and organizations within the Columbia Basin, and compile and maintain them in standardized, consistent formats. Preliminary work has been completed on this data type, but regional priority has not been assigned to developing these data. Work continues on improving the data structure and DEF, primarily through work being done by a related project in California. This currently remains a low priority data type under current base funding, but is ready should a higher priority be assigned by regional entities.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
MFWP	1	Continue to collect, centralize and maintain all stream restoration projects data for Montana using the "Future Fisheries Interface" which StreamNet staff maintains and the Fisheries Division inputs data. Exchange data to the Region twice during the year.	3/31/04, 9/30/04	Updated data exchange	Hutten
MFWP	2	Update location of all restoration projects through a review with regional MFWP fisheries biologists. Provide hard copy maps of locations in data base and store updated coordinates in database.	12/01/03	Updates in database of locations	Lindstrom
MFWP	3	If the opportunity arises, participate in any regional activities related to restoration projects including the Pacific Coast Salmon Recovery Fund.	Ongoing	Participation	Hess- Herbert
ODFW	1	Maintain and update, as needed, based on errors found in existing Oregon tabular restoration data. Maintenance only.	Ongoing	Exchange corrected tabular restoration data	Brodeur
ODFW	2	Input a small set of historic restoration project records as a test to scope the level of effort needed to input available historic information.	12/31/03	Small number of historic restoration project records exchanged in current DEF.	Wegner
WDFW	1	If funding and time permits, convert habitat restoration project data stored in Washington's IAC's (Interactive Committee for Outdoor Recreation) PRISM database and submit to StreamNet. NOTE - We anticipate a pilot effort (under other funding) to compile other source habitat restoration data in StreamNet's newest format.	Ongoing, quarterly	Quarterly progress report, data submission if possible	Sikora (Blatz)

Objective 1 Data acquisition and development

Task 11 Barriers

Develop and maintain data sets for barriers to fish migration. This category is still being organized. Existing data on adult barriers will be maintained and updated as practical. Other sources of data will be explored. Work on juvenile barriers and culverts may require revisions to the DEF. The primary emphasis is on anadromous species except in non-anadromous areas. This is a low priority data set under current base funding, and will be addressed as time and other priorities allow.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
IDFG	1	Continue to compile barrier records.	Ongoing	Barrier data exchanged.	Brown
MFWP	1	Complete update to barrier location, species affected and other fields on stream barriers in Montana once the data collected during the Westslope Cutthroat Assessment Process conducted in 2002 is reviewed by MFWP biologists. Information will be collected on all species regardless of life history. Exchange Barriers data with the StreamNet database.	05/01/04	Exchanged barrier data.	Hutten
ODFW	1	Update and maintain Oregon's Barrier data and minimal Fish Barrier data development based on new barrier information.	Ongoing	Exchange new barrier location information (with minimal fish barrier information)	Bowers, Brodeur
WDFW	1	Scope any existing Washington state barriers data for a pilot data submission this FY. Data sources will at least include the SSHIAP and TAPPS databases.	9/30/04	Data submission	Sikora

Objective 1 Data acquisition and development

Task 12 Juvenile data (abundance and outmigration)

Develop and maintain information on smolt production (as determined from smolt traps), juvenile abundance (as determined through snorkel, electrofishing, and other surveys), and smolt density model estimates. Primary emphasis will be on maintaining the existing smolt density model data and development of a DEF for these data. The rest of the work for this data category is still under development and will require additional resources to accomplish. This is a low priority data set under current base funding, and will be addressed as time and other priorities allow.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
ODFW	1	Compile juvenile abundance data as it is identified and becomes	9/15/04	Exchange available age data.	Hurn
WDFW	1	As funding and time permits, keep informed about other WDFW agency staff efforts to organize the juvenile data and scope existing juvenile data to plan future conversion and submission efforts.	Ongoing, quarterly	Quarterly progress report, data submission if possible	Sikora, O'Connor

Objective 1 Data acquisition and development

Task 13 Age

Develop and maintain information on age/sex composition of returning adults, primarily for anadromous species. Emphasis on this data type will increase once the draft DEF is tested and finalized. This is a low priority under current base funding.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Update CRITFC age data on sockeye and Bonneville Dam sampling	9/30/04	Updated age data	Roger
FWS	1	The Age table will be updated using the Snage program after processing is completed within the CRiS database.	9/30/04	Age table updated and exchanged	Pastor
IDFG	1	Complete the compilation of the 2003 field season age data using hatchery returns data from IDFG.	4/1/04	Age composition data exchanged.	Brown
ODFW	1	Compile age composition data as it is identified and becomes available.	6/30/04	Available age data exchanged	Hurn
WDFW	1	As warranted, update Age data links with other "count" data records (i.e. hatchery returns and adult abundance).	11/30/03 and 06/30/04	Data submission with hatchery returns and adult abundance tables	Woodard (Groesbeck)

Objective 1 Data acquisition and development

Task 14 Production factors and run reconstruction

Develop and maintain information on survival, production factors, spawner / recruit estimates, and run reconstruction. This is a low priority data type under current base funding, but the existing spawner / recruit estimate data will be maintained. Current effort will focus on what aspects of this kind of data are most needed.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Coordinate with ESA recovery planning and NWPPC subbasin planning efforts to capture available anadromous fish and bull trout productivity data for eventual DEF testing and inclusion in StreamNet.	9/30/04	Available productivity data	Roger
ODFW	1	Participate and/or contribute to the maintenance of existing data related to production factors and run reconstruction.	As needed	Contribute to the maintenance of existing data	Hurn
WDFW	1	Scope the availability of stock based catches used in the PSC treaty process which are crucial for run reconstruction.	Impossible to predict at this time	Quarterly progress report, data submission if possible	O'Connor

Objective 1 Data acquisition and development

Task 15 Diversion Screening

Explore the availability of data on diversion screening. Capture data on screens as time and other priorities allow. The DEF will need to be finalized before much can be done with this data type. This is a low priority data set under current base level funding.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
MFWP	2	Work with MFWP Habitat Bureau to review diversion screening data collected as a result of FRIMA activities in Montana during 2003. Exchange if there are any data and if it is an appropriate format	06/01/04	Exchanged data to StreamNet, if available	Pearson
ODFW	1	Compile Oregon fish screening and diversion data. Data will be posted on the NRIMP site and linked to StreamNet as an 'as is' submission until a DEF is adopted.	4/15/04	Make screening/diversion information available.	Brodeur
ODFW	2	Capture GPS coordinates for water diversions and fish screens in the Willamette subbasin.	12/31/03	Accurate coordinates for fish screens and diversions	Wegner
WDFW	1	As funding and time permits, review existing Washington diversion screening data, identify additions and corrections needed and plan for future exchanges. Possible data sources include Yakima Screen Shop, SSHIAP, TAPPS, HPA databases.	Ongoing, quarterly	Quarterly progress report, data submission if possible	Sikora

Objective 1 Data acquisition and development

Task 16 Other data sets

On an opportunistic basis, develop other types of data as available or as requested by FWP participants. This relates to data relevant to StreamNet objectives which would be developed by StreamNet cooperators. Actual acquisition, standardization, georeferencing and distribution of these data will be dependent on available time and funding. These data may be included in the DEF in the future, or may be obtained and distributed as independent data sets in 'as is' condition. This is a low priority under current base funding.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
IDFG	1	On an opportunistic basis, develop other types of data.	As Requested	New data sets exchanged or posted as independent data sets.	Butterfield
MFWP	1	Provide updated genetic results information on Montana's species of concern. Explore providing data on Whirling Disease results for Montana's streams and rivers; creel data if format is not appropriate for harvest DEF; and fishing pressure data on Montana's lakes and streams.	06/01/04	Data exchanged, as possible	Carson
ODFW	1	We will work with ODFW and other agency staff to facilitate either the incorporation of their data into StreamNet or independently posting their data on the StreamNet web site.	Ongoing	Potentially various independent data sets made available as opportunities arise	Cooney

Region	1 Advise and assist data developers with other data sets (those being compiled by StreamNet cooperators but not currently in the StreamNet DEF or the queryable database). Low priority, and within current resources only.	On request	Assistance or advice to data developers	Butcher, Banach
Region	2 Acquire data sets from other (non-StreamNet) entities where the data would be useful in relation to data available in the StreamNet database and for regional planning and management needs. Initial efforts may be only exploratory in nature, and will only be pursued within existing resources and as data become available.	Ongoing, opportunistic	Knowledge of available data sets, and acquired data sets posted on the StreamNet web site in original format	Banach
WDFW	1 On an opportunistic basis, develop other types of data, as time allows	Opportunistic, as requested	Other data sets developed, as limited time allows	O'Connor

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 meet their policy, planning, monitoring, and management needs.

Objective 2 Data management and delivery

Task 1 System Administration

Manage and maintain the computer systems (hardware and software) necessary for supporting the tabular and GIS data systems at the regional and cooperating agency levels, including system backup.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	Manage, maintain and enhance the computer systems (hardware and software) necessary for supporting the tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.	Ongoing	Functional hardware and software infrastructure	Forrest, Pastor, Murdock, Hess-Herbert, Herber / Bowers, Sikora / Woodard / Hudson
Region	1	Manage, maintain and enhance the existing tabular database systems, including hardware, software, tools, database structure, QA/QC activities, and system administration, backup and security.	Ongoing	Functional, updated tabular database system	Kinney
Region	2	Maintain and update, as necessary, the hardware and software, including ArcView and other tools, extensions and projects, that constitute the regional Geographic Information System. Provide system administration, backup and recovery, and security.	Ongoing	Functional, updated GIS	Butcher

Region	3	Maintain and upgrade the StreamNet web server and software, including programming, tool development, system security, etc.	Ongoing	Web server up and operational 99.5+% of the time	Wilke
Region	4	Assist with development of XML schema based options for both incoming and outgoing data. Continue exploration of how XML can enhance data exchange and develop data use agreement to control subsequent use of StreamNet data by other websites.	Ongoing, as time allows	Increased use of XML in data acquisition and delivery.	Wilke, Kinney

Objective 2 Data management and delivery

Task 2 Application and Interface Development

Develop computer applications and interfaces that facilitate the entry, management and dissemination of tabular and GIS data at the regional and cooperating agency levels. This will include development of new applications and tools as well as maintenance or modification of existing applications.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Develop data handling applications to ease transfer of tribal data to StreamNet	9/30/04	Prototype data transfer application	Forrest
IDFG	1	Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	Ongoing	Computer databases, applications, and interfaces used to compile and manage StreamNet compatible data at IDFG/StreamNet.	Murdock
MFWP	1	Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	Ongoing	User interfaces modified and/or created as necessary.	Hess- Herbert
ODFW	1	Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	Ongoing	Functioning applications and interfaces for ODFW-NRIMP/StreamNet	Herber, Bowers
Region	1	Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.. Assist cooperating agencies with tool development, as requested. Tools may include input interfaces, error checking, geographic locators, etc.	Ongoing, as needed	Functional tools	Wilke
Region	2	Maintain and improve the LLID/NHD hydrography conversion tool. Immediate need is to complete error trapping routines and polish the final application.	Ongoing	Improved NHD/LLID Conversion Application	Butcher

Region	3	Create an Online Event Mapper to allow users to create event tables based on 1:100K Hydrography over the Internet	4/01/04	Online Event Mapper	Butcher
WDFW	1	Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	Ongoing	Efficient processes to compile and convert data	Hudson, Brown, Sikora

Objective 2 Data management and delivery

Task 3 Data (content) Management

Manage data at the regional and cooperating agency levels to assure timely and accurate data flow from source to final distribution. Activities include exchange of data to PSMFC, data loading, updating data, quality assurance procedures, metadata development, etc.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	Manage data at the agency level (including data loading, data updating and quality assurance), develop and maintain FGDC compliant metadata for GIS data, work toward developing metadata for tabular data, and exchange data to PSMFC according to deadlines specified in this work statement.	Ongoing	Accurate, up to date, documented data, maintained in StreamNet Compatible format, exchanged as appropriate.	Forrest, Pastor, Brown, Hess-Herbert, Cooney, Sikora
ODFW	2	Continue development of a corporate information system.	Ongoing	Functional interfaces as part of a corporate system.	Herber
ODFW	3	Coordinate and work with internal ODFW staff to improve the agency data collection efforts to allow more efficient compiling into internal intermediate ODFW-NRIMP/ StreamNet databases and/or StreamNet databases.	Ongoing	Consultation and assistance to ODFW staff	All staff
Region	1	Assist data contributing agencies in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database.	Ongoing, as needed	Assistance to data providers	Butcher, Banach, Kinney
Region	2	Examine the StreamNet database for errors and report any found to the appropriate entity for correction. Continue to improve error-checking capabilities.	Ongoing	List of database errors reported to originating agency for correction. Users encounter fewer errors.	Kinney, Banach
Region	3	Update and append data as submitted by StreamNet participants. Isolate erroneous or duplicative data and work with source agencies to correct problems. Maintain logs of data submissions and major database changes. Produce downloadable versions of the StreamNet databases to keep in synch with the updated regional databases.	Ongoing	Maintained StreamNet database with data submission logs up to date	Kinney

Region	4 Work with RMIS and the StreamNet partners to develop a means of georeferencing hatchery release data. Since it is not currently possible to georeference the RMIS hatchery release data to the 100K hydrography and the data can't be updated without such georeferencing, work with StreamNet data compilers to provide release data in StreamNet data exchange formats to be developed. Until that time, send data users to the RMIS site for current release information.	9/30/04	Progress toward geographically accurate release records	Kinney, Banach
Region	5 Help the StreamNet Librarian to optimally format an export of the library reference database of StreamNet documents for routine inclusion in the StreamNet database for use by the web query system.	On-going, monthly	Exchanges between the Library and the StreamNet tabular databases should occur monthly.	Kinney
Region	6 Whenever new tabular data with a spatial component are submitted to the Region (e.g., fish distribution, hatchery facilities, etc.), create regional GIS layer(s) from this information where possible. Verify correct format, accuracy and logical consistency of spatial data sets and attributes through coordination with state GIS contacts and then load data to the regional database in coordination with the database manager. Post mappable layer(s) to the online query system, the ArcIMS interactive mapping system, and as downloadable layer(s) for StreamNet GIS users.	Ongoing	Spatial Data available to the public	Butcher
Region	7 Maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata).	Ongoing	GIS data available through the StreamNet web site are current	Butcher
Region	8 Obtain and refine layers such as ESUs, ecoregions, or elevations, and create cross tables for use by the query system.	Opportunistic	Improved GIS	Butcher
Region	9 Assist the database manager with the spatial component of data and its implementation online	As needed	Improved spatial location of features	Butcher
Region	10 Maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region. Submit all changes to the StreamNet database at the Regional office.	Ongoing	Up to date 1:100K hydrography	Butcher
Region	11 Integrate the functioning of the GIS system with the StreamNet fisheries and habitat database in support of the query system. Maintain up-to-date cross tables used via the StreamNet web interface to select information by geographic area.	Ongoing	Improved Query System	Butcher
Region	12 Maintain the Protected Areas database. Provide access to the Protected Areas data through the online queryable database and through the interactive map application. Work to resolve the remaining location issues where protected areas did not translate well to the 1:100,000 hydrography.	Ongoing	Protected Areas data remain publicly available. The remaining location issues are resolved.	Kinney, Butcher Note: THIS IS A DUPLICATE of 4.5.R.1

Objective 2 Data management and delivery

Task 4 Data exchange standards

Establish and maintain data exchange standards to ensure consistent content and format of data that originate from multiple data sources. Monitor adopted and proposed data exchange formats for data categories described under Objective 1. This task will provide coordination and technical assistance regarding interpretation of database structures and codes. The formal process for creating new and revising old DEFs may require significant amounts of time, potentially more than a year, for complex data categories

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	Work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	Ongoing	Updated and new DEFs submitted to the Steering Committee	Project leaders
IDFG	2	IDFG/StreamNet will take the lead on developing DEFs for two new data categories: Juvenile Fish Abundance and Run Reconstruction.	12/31/03	Development of new DEFs is initiated, then quarterly reports of progress	Butterfield
MFWP	2	Co-develop a draft resident release DEF, in cooperation with Leslie Sikora, WA StreamNet	12/31/03	Development of new DEF is initiated, then quarterly reports of progress	Hess- Herbert
ODFW	2	Review the Barrier DEF for juvenile fish passage and recommend an approach to the Steering Committee.	4/30/04	Recommendation to Steering Committee on how to handle juvenile fish barriers	Bowers
ODFW	3	Initiate the process to develop a new DEF for fish screen data	3/31/04	Development of new DEF is initiated, then quarterly reports of progress	Brodeur
ODFW	4	Investigate the potential for developing a Life-stage Timing DEF	6/30/04	Preliminary recommendation to Steering Committee on approach to a Life-stage Timing DEF	Cooney
Region	1	Work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types. The regional Biologist will serve as the primary coordinator of the DEF process and is responsible for updating and publishing the official DEF document.	Ongoing, as needed	Data Exchange Format is maintained and updated as new data types are added	Banach

Region	2 Investigate the use of the "TypeID" field in StreamNet time series data in relation to other fields. Propose fixes if appropriate, and adopt through the DEF modification process.	3/31/04	Improved description of time series data in the StreamNet database.	Banach, Schmidt
Region	3 Initiate work on a new DEF for Fish Sightings data. Review the approach being taken in California and in coordination with the cooperating projects, adapt for use in the Columbia Basin.	2/28/04	Development of new DEF is initiated, then quarterly reports of progress	Banach
WDFW	2 Co-develop a draft resident release DEF, in cooperation with Janet Hess-Herbert, MT StreamNet	12/31/03	Development of new DEF is initiated, then quarterly reports of progress	Sikora

Objective 2 Data management and delivery

Task 5 StreamNet Internet sites

Continue to maintain and enhance the StreamNet Internet sites. Provide access to StreamNet data products through the Internet at both the regional and cooperating project levels. The StreamNet home page (www.streamnet.org) will continue to be utilized 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. The site will also be used to archive data sets developed by FWP participants for data that do not fit within the StreamNet DEF, including the means to index and search the archive.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	Provide ongoing review of the StreamNet website through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements	Ongoing	StreamNet web site is monitored, feedback is provided to PSMFC, and improvements implemented	Roger, Butterfield, Hess-Herbert, Pastor, Cooney, O'Connor
CRITFC	2	Maintain, and enhance as needed, the web pages used to provide public access to the StreamNet Library collections and services, including hardware and software maintenance, web page development, and system security.	Ongoing	Functional Library website	Oftedahl
CRITFC	3	Work with PSMFC staff to upgrade formats for displaying library catalog search results to facilitate development of bibliographies and to assist patrons locating needed literature	12/31/03	Improved output from literature searches, from the perspective of users	Oftedahl
ODFW	2	Manage and maintain Oregon's web-based data integration, communication, and data transfer systems and their links to StreamNet.	Ongoing	Oregon's web-based systems are maintained, updated, & improved, Oregon data and reports are posted, and links to SN are maintained	Bowers, Brodeur, Herber

Region	1 Guide development and enhancement of the StreamNet web query system from the perspective of data users. Review changes to the web query system to ensure they are implemented appropriately and do not create unforeseen problems.	Ongoing	Improved web query system	Banach, Schmidt
Region	2 Maintain and enhance the functionality, look and usability of the StreamNet web-based query system.	Ongoing	Functional and enhanced query capability	Wilke
Region	3 Conduct a thorough review of the web query system. Identify and address errors and omissions in data delivery. Improve help files.	6/30/04	Web query system with improved usability and improved data delivery.	Staff
Region	4 Review and rearrange the links pages on the StreamNet web site.	3/31/04.	Improved links pages.	Banach
Region	5 Maintain the GIS Data, Map, and PNW Reach File Internet pages.	Ongoing	GIS Data available to users over the Internet	Butcher
Region	6 Maintain, update as necessary, and improve the Internet mapping component to the StreamNet web site to allow users to access StreamNet data through interactive map interfaces. Improvements might include such items as adding DRGs or aerial photos to the IMS applications, and showing trend locations in the web query system.	Ongoing	Internet Mapper maintained and available	Butcher
Region	7 Incorporate 5th and 6th field HUC GIS coverages into the web-based data query system and Internet mapping applications so data can be provided by HUC 5 and/or 6, as data become available at those scales.		Improved Query system	Butcher
Region	8 Deploy new query system components and data categories that are approved by the Steering Committee	Ongoing, as needed	Enhanced functionality and new data categories available	Wilke
Region	9 Maintain logs of web query history and error events. Track and report Internet site usage by month and investigate web query system errors encountered.	Ongoing	Logs and reports of StreamNet website and query system usage; decreased error rate	Wilke
Region	10 Work with the StreamNet Librarian to improve user access to data references through the web data query system.	Ongoing	Improved function of the StreamNet website in providing reference documentation to users	Kinney

Objective 2 Data management and delivery

Task 6 Respond to data / information requests

Receive and respond to requests for data and information, source materials, and custom products at the regional and cooperating agency levels. 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.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All States	1	Respond to requests for data, maps, technical assistance, source materials, or custom data products at the agency level, within the capabilities provided by base funding. Requests will be logged and reported.	Ongoing	Requests satisfied, details reported quarterly	Project Leaders
Region	1	Respond within one business day to requests for data, information or help. Log and report responses to all requests received.	Ongoing	Requests satisfied, responses logged and reported quarterly	Staff appropriate to request
Region	2	Finalize a standard user request tracking database structure so that all StreamNet partner agencies can use the same format for reporting responses to requests for data and other information or help.	2/28/04	More consistent user request reporting for the StreamNet project's quarterly and annual reports.	Banach

Objective 3 Library and reference services

Provide professional library services to the Columbia Basin's fish and wildlife decision-makers, planners, managers, and researchers by acquiring and cataloging StreamNet source documents and other related material; and by providing open and efficient access to these materials. Provide a repository for the source documents for the data contained in the StreamNet database.

Objective 3 Library and reference services

Task 1 Collection development

Develop a collection of materials applicable to the mission of StreamNet. Collect, catalog and organize materials to document data sources, Fish and Wildlife Program activities and reports, and other gray literature for access by regional scientists, agencies, interested parties, and other libraries. Project participants will submit reference documents for all data contained in the StreamNet database.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	Ongoing	Documents delivered to StreamNet library.	Project Leaders

CRITFC	2	Coordinate source material submissions for data compiled by StreamNet participants under Objective 1	Ongoing	Updated, expanded collection of materials	Oftedahl
CRITFC	3	Develop a collection of materials related to the Columbia Basin, including reports from other Fish & Wildlife Program projects, other agency documents as they relate to the Basin, and other published and unpublished materials as requested by clients.	Ongoing	Updated, expanded collection of materials	Oftedahl
CRITFC	4	Maintain and develop a collection of journals related to fisheries and aquatic sciences as well as other related scientific topics.	Ongoing	Updated, expanded collection of material	Oftedahl
ODFW	2	Initiate organization of ODFW Library documents and update the library bibliography with new titles as they are identified.	Ongoing	ODFW Library contents shelved and the bibliography updated.	ODFW Library Tech

Objective 3 Library and reference services

Task 2 Provide access to collection

Provide user access to the materials described in Task 3.1 by providing facilities for storage of paper and electronic copies of documents, an online catalog of all documents in the collection, and staff to answer location questions and respond to requests.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Provide and maintain an appropriate facility for the storage and public use of the StreamNet Library collections.	Ongoing	Library open to public 8 to 5 on workdays	Oftedahl
CRITFC	2	Catalog and organize the materials for ease of use by clients and staff	Ongoing	Current catalog of materials	Oftedahl
CRITFC	3	Provide access to the catalog of materials via the Internet and update the online catalog on at least a monthly basis.	Monthly	Updated website and catalog	Oftedahl
CRITFC	4	Develop and execute a plan to place electronic documents in the catalog and on the library website.	9/30/04	Access to electronic	Hannon
CRITFC	5	Develop and keep a schedule of open times and reference desk staff	Ongoing	Staff available to patrons at all times during the work day	Hannon

Objective 3 Library and reference services

Task 3 Library services

Manage the StreamNet Library and provide library services to the StreamNet user community, the Council's Fish and Wildlife Program, and the general public.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Provide information and reference services to library clients	Ongoing	Information provided as Requested	Hannon
CRITFC	2	Publish information about services and hours to library clients via print and Internet	Ongoing	Updated website and brochure	Oftedahl
CRITFC	3	Provide interlibrary borrowing services for library patrons to access materials not yet owned by the StreamNet Library.	Ongoing	Interlibrary loan functions available to patrons	Hannon
CRITFC	4	Provide access to hardcopy and electronic files of draft and final documents related to subbasin planning and the NWPC amendment process.	Ongoing	Collection is current	Oftedahl, Hannon
CRITFC	5	Identify changes and new features that will improve delivery of library services	Ongoing	Recommendations to improve delivery of services	Oftedahl, Hannon, Liberty

Objective 3 Library and reference services

Task 4 Inter-library coordination

Engage in networking activities with other agency and regional library service providers to provide better access to other collections that will enhance the StreamNet Library and to avoid unnecessary duplication of effort and materials

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Provide interlibrary lending services for other libraries to access the StreamNet Library's unique collection.	Ongoing	Material circulation	Hannon
CRITFC	2	Maintain memberships in appropriate library and subject-related associations. Ex. IAMSLIC, NRIC, OFWIM, etc.	Ongoing	Presentations, reports, professional development	Oftedahl
CRITFC	3	Provide consultations for groups and other agencies on library organization and services	On request	Services as requested, detailed in reports	Oftedahl, Hannon
CRITFC	4	Coordinate with other StreamNet libraries, library clients and other libraries to improve service to clients and limit duplication of effort	Ongoing	Improved services	Oftedahl
CRITFC	5	Work with subbasin planning groups and TRTs to identify modifications to Library services and new uses of the Library to make information related to these processes easier to retrieve.	Ongoing	Services to Subbasin Planning efforts	Oftedahl, Hannon

Objective 4 Services to the Fish and Wildlife Program

Provide technical data services to Fish and Wildlife Program decision-makers and appropriate Fish and Wildlife Program projects.

Objective 4 Services to the Fish and Wildlife Program

Task 1 Data and Data Services to Support the Fish and Wildlife Program

Provide data management assistance to the Fish and Wildlife Program, as requested. Services may include custom development of data, provision of data from the StreamNet database to support FWP activities (such as planning, monitoring and evaluation, etc.), and general advice and technical assistance with database management, data delivery, and GIS. Work under this task will have to be based on time available, particularly for larger requests.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All States	1	At the agency level, support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information management advice or assistance as requested, within available time and budget under base level funding.	Ongoing	Technical assistance and data services provided on request	Project Leaders
CRITFC	1	Participate in various NWPC planning and management work groups to improve and coordinate regional information management programs, such as serving as leader of the technical work group for Oregon's Subbasin Planning effort.	Ongoing	Participation in groups	Roger
Region	1	At the regional level, support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information management advice or assistance as requested, within available time and budget under base level funding.	As requested	Data provided to Subbasin Planners	Banach
Region	2	Participate in and assist regional Monitoring and Evaluation efforts to provide relevant StreamNet data, and to initiate work to obtain new data types necessary for R,M&E. Since no specific requests or funding have been received for this, work may be limited to scoping and advising. Development of new data types to serve R,M&E will be initiated only as current time and funding permit, or as current work priorities are reprioritized by regional processes.	On request	Participation in R,M&E activities to scope data needs, provide existing data, and advise on data management and developing new data types	Schmidt

Objective 4 Services to the Fish and Wildlife Program

Task 2 Participate in Fish and Wildlife Program Development Activities

Participate in planning, development and/or coordination meetings with regional entities to provide assistance in the area of data management, as requested, to support development of Fish and Wildlife Program projects and programs. Provide input on ways StreamNet can effectively contribute to the programs and general advice about data management. Participate in advisory groups, task forces, and other groups whose purpose is to enhance the effectiveness of the Fish and Wildlife Program relative to its data development activities.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Participate in groups to develop strategies for ESA recovery planning efforts to ensure data and technical literature are captured and made regionally accessible. This will be done "as possible" under base level funding.	Ongoing	Strategies to store data & literature in a permanent form that is regionally accessible over time.	Roger
All States	1	At the agency level, work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP.	Opportunistic	Participation in development of FWP programs, as requested	Project Leaders
Region	1	At regional level, work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP.	Opportunistic	Participation in development of FWP programs, as requested	Schmidt
Region	2	Continue participation on the Program Team for the Council's project to develop a Columbia Basin Cooperative Information System to convey recommendations based on experience in the development of a regional approach to data dissemination.	Ongoing	Provide input to development of a CBCIS	Schmidt
Region	3	Continue participation in the Federal/State/Tribal Partnership for watershed data coordination (the group being led by Steve Lanigan). Participate in other R, M & E groups, including the Action Agencies and CBFWA, to provide support and data management expertise.	Ongoing	Provide input to developing a regional approach to obtaining and managing watershed data	Schmidt
Region	4	Participate with CBFWA, the Council and others to assist development of a regional scope data management oversight group or function.	Ongoing	Contribution toward creating a regional scope data management group	Schmidt

Objective 4 Services to the Fish and Wildlife Program

Task 3 Support to Subbasin Planning

At the regional and cooperating agency levels, work with subbasin planners to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
CRITFC	1	Participate in subbasin planning efforts, such as serving as leader of the technical work group for Oregon's Subbasin Planning effort.	Ongoing	Organization and capture of subbasin technical planning information	Roger
IDFG	1	At the state or local level, and within existing resources, work with subbasin planners to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process. In particular, IDFG/StreamNet is providing lead technical, logistical, and administrative support to subbasin assessments for the Salmon, Weiser/Boise/Payette, Middle Snake, and Upper Snake subbasins.	Ongoing	Quarterly reports on support provided.	Butterfield
MFWP	1	At the state or local level, and within existing resources, work with subbasin planners to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process.	As requested	Assistance to subbasin planners, as requested	Hess- Herbert
ODFW	1	At the state or local level, and within existing resources, work with subbasin planners to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process. Work with the Oregon technical work group.	As needed	Requested data provided and newly developed data captured, as resources allow.	Hurn
Region	1	At the regional level, and within existing resources, work with subbasin planning groups to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process and make it publicly available.	Ongoing, as possible	Begin capturing data being developed under Subbasin Planning	Schmidt
WDFW	1	At the state or local level, and within existing resources, work with subbasin planners to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process.	As requested and possible	Data and assistance provided to the Subbasin Planning effort	O'Connor, Woodard, Sikora

Objective 4 Services to the Fish and Wildlife Program

Task 4 Archive and deliver independent data sets, as requested

Work with participants to aid in the capture and distribution of data generated through Fish and Wildlife Program activities and to help determine the most appropriate means of storing and disseminating them. Where data do not fit in existing StreamNet data sets, post data in the archive as independent data sets in their native formats.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	Work with FWP supported projects in the states and tribes to assist them with making their data widely available, and if requested, assist them with submission of their data sets to StreamNet for archiving and dissemination as part of the formal DEF or as Independent Data Sets.	Opportunistic	FWP project data made available through StreamNet	Project Leaders
Region	1	Provide a location within the StreamNet web site to disseminate Independent Data Sets obtained from FWP funded projects and others engaged in fish and wildlife research and management in the Columbia Basin. Work with BPA, the Council, and individual projects to inform them of the availability of this site to post data sets. Improve the current Independent Data Sets page to a dynamic, searchable system.	12/31/03	Searchable data sets page based on Cold Fusion.	Schmidt, Wilke
Region	2	Coordinate with BPA and BPA contractors and the StreamNet cooperators to capture data sets, reports, and other electronic materials for inclusion in the StreamNet Independent Data Sets page. Finalize metadata needs. Create a tool to help data submitters to easily provide needed information	12/31/03	Mechanisms for easy submission of data sets to StreamNet, and easy incorporation of these data sets on the StreamNet web site.	Wilke, Banach

Objective 4 Services to the Fish and Wildlife Program

Task 5 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, c) in consultation with the Council, respond to requests for information concerning Protected Areas, and d) modernize georeferencing and make these data available through online mapping. If the Council so directs, work with subbasin planners to record any desired changes to the protected status of individual streams.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
Region	1	Maintain the Protected Areas database, and as time allows, work to resolve the remaining unresolved location issues that resulted from conversion of the data from the 1:250,000 scale to the 1:100,000 regional hydrography.	Ongoing	Protected Areas data remain available publicly	Kinney, Butcher

Objective 5 Project management and coordination

Provide effective leadership that ensures the production of high quality information products targeted at critical applications and the development of these products in a timely, cost-effective manner.

Objective 5 Project management and coordination

Task 1 Manage Project Activities

Administer all aspects of the StreamNet project at the regional and cooperating agency levels, including oversight of budget, personnel (including training and staff development), work statement preparation and implementation, coordination among participating agencies, active participation in steering committee work, and project reporting.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All	1	Project oversight and guidance. Participate cooperatively in the StreamNet Steering Committee to guide the direction of the project, coordinate within respective agencies, and resolve policy and technical issues for the project	Ongoing	Project guidance provided	Project Leaders
All, except FWS	2	Supervision. Supervise project staff at the cooperator level to provide guidance and staff development.	Ongoing	Staff supervision provided	Project Leaders
All	3	Budget. Manage expenditures to accomplish the jobs in the Statement of Work within the approved budget.	Ongoing	Project accomplished within budget	Project Leaders
All	4	Develop the annual project proposal and budget within submission deadlines.	7/15/04	Draft project proposal and budget submitted to PSMFC	Project Leaders
All Cooperators	5	Report accomplishment of the work outlined in the annual Statement of Work through quarterly progress reports submitted to PSMFC within 20 days of the end of each quarter and to BPA within 30 days of the end of the quarter.	20 days after end of quarter	Draft quarterly report submitted to PSMFC	Project Leaders
All Cooperators	6	Submit the draft FY-03 annual progress report for the sub project to PSMFC within 50 days of the end of the fiscal year.	11/20/03	Draft annual report submitted to PSMFC	Project Leaders
Region	5	Report accomplishment of the work outlined in the annual Statement of Work through quarterly progress reports submitted to BPA within 30 days of the end of each quarter.	10/31/03, 1/31/04, 4/30/04, 7/31/04	Quarterly report submitted on time	Schmidt
Region	6	Submit the Annual Progress Report to BPA within 60 days of the end of the fiscal year.	11/30/03	Annual Report submitted to BPA on time	Schmidt

Region	7	Move the Regional StreamNet office and all computing equipment from Gladstone, Oregon to a new PSMFC office. Attempt to minimize down time for the StreamNet website and other data services	11/30/03	Services maintained to the extent possible and down time of web query system minimized.	Schmidt, staff
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Objective 5 Project management and coordination

Task 2 Coordinate with Related Activities Beyond the FWP

Maintain communications between StreamNet and other applicable regional and state-level fish and wildlife activities and agencies beyond the Council's Fish and Wildlife Program to identify means for collaborative data collection, storage, and dissemination. Collaborative data activities will include 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 and environmental quality agencies. Collaboration with coast-wide and private data collection/compilation efforts will be pursued when this supports overall project goals.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various local inter agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.	Opportunistic	Coordination, activities reported in quarterly and annual progress reports.	Project Leaders
Region	1	On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.	Opportunistic	Participation and advice to organizations not involved with the Council's FWP	Schmidt

Objective 5 Project management and coordination

Task 3 Professional and Public Involvement

As needed, produce public information materials and participate in various meetings and forums (public or professional) to explain the project's capabilities and purpose and to generate support and additional data sources. Activities may include brochures, issue papers, demonstrations, posters and talks to public, policy or professional groups and organizations.

<u>Project</u>	<u>Job</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>
All Cooperators	1	As requested, prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	Ongoing	StreamNet related informational pieces and presentations delivered, activities reported in quarterly reports	Project Leaders
Region	1	Publish at least two editions of the StreamNet Newsletter during the fiscal year, providing readers with information about StreamNet activities, available data, data updates, new data services, etc.	12/31/03 and 7/1/04	Two StreamNet Newsletters. Informed StreamNet user community.	Banach

Region	2 Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities and accomplishments, and to solicit additional data and coordination with the project.	Opportunistic	Presentations given	Schmidt
Region	3 Develop / distribute materials to support the project. Improve public materials (e.g., the StreamNet brochure, data inventories, etc.). Maintain and update explanatory materials such as the Query System User Guide and documents explaining data categories and structures, as necessary.	As needed	Explanatory materials produced	Schmidt
