



StreamNet Project

FY 2001 Work Statement

November 17, 2000

The purpose of the StreamNet project is to compile, manage and distribute information related to the fish, and secondarily wildlife, resources in the Columbia River basin, with additional information available for the Pacific Northwest. The project utilizes the Internet as its primary means of data distribution, but also provides custom data services. The StreamNet web site provides access to its queryable database, maps and library references.

StreamNet is a multi-agency project authorized by the Northwest Power Planning Council's Fish and Wildlife Program. The project is funded primarily by the Bonneville Power Administration as part of its program to protect, mitigate, and enhance fish and wildlife affected by the development and operation of hydroelectric facilities on the Columbia River and its tributaries. Other funding in the past has been obtained from agencies include the Environmental Protection Agency (EPA) and the National Marine Fisheries Service (NMFS). The Pacific States Marine Fisheries Commission (PSMFC) administers the StreamNet project. The project includes project participants in four state fish and wildlife agencies, two tribal agencies and the US Fish and Wildlife Service. Federal, state and tribal fish and wildlife agencies collect, manage and distribute data related to the region's fish and wildlife resources. A subset of these data are compiled into standard formats and publicly distributed by the StreamNet project.

Each year StreamNet develops a project-wide Work Statement. Not all tasks identified in the Work Statement apply to all participating agencies. Each participating agency contributes work to a sub set 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 2001, from October 1, 2000 through September 30, 2001.

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.

Objective 1 Data Development

Task 1 Anadromous Fish

Acquire data sets related to salmon, steelhead and, where data are readily available, other anadromous fish populations from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.a Distribution, Life History (use type), and Barriers

Document the occurrence, distribution and habitat use of anadromous species, related barriers to migration, and life history characteristics

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Identify and update missing data in anadromous barrier data.	Updated periodically	Database	Brown	
ODFW	1 Update, maintain, correct and exchange anadromous fish distribution information (DistUse and DistPresence tables).	As needed	Updated event data	Bowers	Particular effort will focus on NE Oregon basins but any new information will be submitted as it becomes available.
ODFW	2 Update, maintain, correct and exchange barrier information.	As needed	Updated Barrier database	Brodeur	
ODFW	3 Modify / refine the automated approach to populating the FishBarrier table (as needed) and rectify any new anadromous distribution information with the barriers database.	As needed	Updated FishBarrier table	Bowers	
ODFW	4 Design and develop a database to capture carcass placement data.	6/30/01	Database	Database Manager	This will be a lower priority item unless Basin needs dictate otherwise.
ODFW	5 Update (and modify if needed) the Fish Presence Survey database which helps populate the DistPresence table.	As data are submitted from field staff.	Updated Database	Database Manager	Modifications will be necessary as the database is used in the field
ODFW	6 Update (and modify if needed) the Incidental Fish Observation database, which captures incidental species observations not routinely reported in agency documents, which helps populate the	As data are submitted from field staff.	Updated Database	Data Assistant	Modifications will be necessary as the database is used in the field
ODFW	7 Identify appropriate documents/references for anadromous fish distribution data in order to populate the DistPresence table.	Ongoing	Updated table.	Data Assistant, Bourne	This will be done opportunistically during conduct of other tasks.
ODFW	8 Update, maintain, correct and exchange photographic information (MapCat and related tables).	Ongoing Assistant	Updated table.	Brodeur, Data	

ODFW	9	Populate the genetic origin and production origin fields in StreamNet distribution exchange format for all anadromous fish distribution data in the Columbia basin.	7/31/01	Event data	Bowers	Only when and if ODFW agrees on criteria for making designations and criteria agree w/ StreamNet DEF formats.
Region	1	Compile distribution updates (tabular events) as they arrive. Create anadromous fish distribution GIS coverages from these event tables, and post the shape files to the StreamNet website as downloadable GIS coverages.	Ongoing	GIS coverages	Graves	
Region	2	Compile barriers data from the states and maintain a GIS coverage of barriers data on the StreamNet web site.	Ongoing	GIS data coverages	Graves	
Region	3	Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	staff	
WDFW	1	Review barriers in the anadromous fish distribution layer, based on SSHIAP information and indicators in the Stream Catalog. Update and exchange the data with the regional database.	As needed	Updated regional	Hudson, Burns	

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.b Adult Abundance

Escapement, redd counts, trap counts, dam counts, hatchery returns

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
FWS	1 Compile FWS hatchery return data for FWS hatcheries	Ongoing	Compiled data	Pastor	
FWS	2 Submit data updated through 2000 to PSMFC	9/30/01	Updated database	Pastor	
IDFG	1 Compile 2000-field season redd count data and 2000 field season hatchery return data and submit to the regional database.	6/30/01	Database	Elms-Cockrum	
ODFW	1 Update existing abundance and index trends (escapement, redd counts, trap counts, peak/other spawning counts, etc.) for anadromous species through 1999 and modify as needed to adhere to the 2000.2 Data Exchange Format. Four data submissions are planned.	1/30/01, 4/30/01, 7/31/01, &9/20/01	Updated database	Hurn	
ODFW	2 Compile data on returns to ODFW hatchery facilities (updated for 1997, 1998, and part of 1999 returns).	7/31/01	Updated db	Database Manager	Will be done if SN adopts an exchange format.
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	staff	
SBT	1 Update adult abundance data gathered by SBT personnel through 2000 and provide to IDFG.	10/15/00	Updated db	Taki	
WDFW	1 Update and exchange hatchery returns through 1999 in StreamNet data exchange format.	7/1/01	Updated regional	Woodard	
WDFW	2 Update and exchange natural spawner data (returns and/or redd counts) through 1999 for available species (CR, PS)	7/1/01	Updated regional	Woodard	

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.c Juvenile Data

Sample records, abundance indices (as available)

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Finalize the incorporation of the IDFG General Parr Monitoring (juvenile) data into StreamNet.	3/30/01	Database	Murdock	
ODFW	1 Prepare and submit recommended modifications of the draft Juvenile abundance portion of the DEF.	6/30/01	DEF proposal	Cooney	
ODFW	2 Update Oregon's 10 existing juvenile abundance records to approved DEF standards.	9/20/01	Updated records	Hurn	Will be done if SN adopts an exchange format.
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	staff	
SBT	1 Update to IDFG juvenile data gathered by SBT personnel.	10/15/00	Updated db	Taki	

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.d Harvest

In-river, terminal, and other harvest, as available

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
ODFW	1 Provide remaining 1997 & statewide 1998 tributary sport harvest from angler harvest cards.	9/20/01	Updated sport harvest	Frazier	
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	staff	
WDFW	1 Update and exchange salmon harvest data through 1999, beginning with Columbia River commercial, sport and treaty harvest.	9/1/01	Updated db	Woodard	
WDFW	2 Update and exchange steelhead harvest through 1998.	5/1/01	Updated db	Sikora	

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.e Hatchery Production

Releases and disposition

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
FWS	1 Compile FWS hatchery release data, w/ added CWT information	Ongoing	Compiled data	Pastor	
FWS	2 Transform data to format 032	1/31/01	Transformed data	Pastor	
FWS	3 Submit 2000 data to PSMFC via USFWS WWFRO	1/31/01	PSCrel00.dbf	Pastor	
IDFG	1 Compile 2000-field season hatchery returns data.	6/30/01	Database	Elms-Cockrum	
ODFW	1 Develop the ability to remotely access the Portland mainframe hatchery database and download hatchery return data consistent with the StreamNet contract.	5/31/01	Remote access	Database Manager	
ODFW	2 Compile egg-take data into StreamNet format and submit to PSMFC.	7/31/01	Updated db	Database Manager	Will be done if SN adopts an exchange format.
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Updated db	staff	
Region	2 Develop a new data import procedure to upload data from the revised RMIS data structure and incorporate backlogged production data into the StreamNet database	3/30/01	Updated db	Kinney	Will try to do this sooner
Region	3 Acquire hatchery production data through 2000 from the RMIS database and incorporate into the StreamNet on-line database.	7/15/01	Updated db	Kinney	
SBT	1 Update SBT anadromous release information and provide to the IDFG.	uncertain	Updated db	Taki	
WDFW	1 Update and exchange juvenile release data to PSMFC through 2000.	6/1/01	Updated regional	Sikora	
WDFW	2 Explore providing "unrolled" release data directly to StreamNet.	uncertain	Decision on use of unrolled data	O'Connor	Unrolled data is reported by individual release Rolled data often cannot be assigned to a single location code (LLID).

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.f Natural Production

Survival, production factors, spawner recruit

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Coordinate with IDFG personnel to determine the feasibility of incorporating survival/recruitment data.	12/30/00	Summarized in progress reports	Butterfield	
ODFW	1 Compile hatchery-wild fractions in OR portions of the Columbia basin for spring chinook and fall chinook.	9/20/01	Updated database	Frazier	

Objective: 1 Task: 1.f

10/01/00

ODFW	2	Compile spawner-recruit data (updated for spring chinook surveys in 1998 and 1999, and available time series for fall chinook and coho returns)	9/20/01	Updated database	Frazier
Region	1	Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.g Age

Age/sex composition for returning adults

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
FWS	1 Update age and sex data through 2000	6/29/01	Updated db	Pastor	
IDFG	1 Compile 2000-field season age and sex composition data.	6/30/01	Database	Elms-Cockrum	
ODFW	1 Compile age frequency data (updated for natural spring chinook in 1998, available time series for natural steelhead in OR portion of Columbia basin).	4/30/01	Updated age data	Frazier	
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	staff	
WDFW	1 Provide age/sex data associated with exchanged CRB natural returns data.	8/1/01	Updated db	Woodard	

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.h Genetics

Areas where genetics data exists and the sources of these data

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Develop, with SC input, standardized database format and DEF for existing regional genetic data	3/01/01	DEF for allozyme data	Forrest	
CRITFC	2 Provide allozyme and genetic data developed by CRITFC in standard format	4/01/01	Database	Forrest	
IDFG	1 Participate in decisions regarding genetic data	12/31/00	Decision	Butterfield	
ODFW	1 Participate in decisions regarding genetic data	12/31/00	Decision	Cooney	
Region	1 Request that the Steering Committee decide whether genetics data are available and needed in the StreamNet database	10/27/00	Decision	Schmidt	
Region	2 If approved, draft and submit a DEF proposal to Steering Committee.	TBD	DEF	Banach	
WDFW	1 Participate in decisions regarding genetic data	12/31/00	Decision	O'Connor	

Objective: 1 Task: 1.h 10/01/00

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.i Populations

Population delineation, as determined by others

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
ODFW	1 Produce a cross-reference table of ODFW designated Gene Conservation Groups (GCG) by subbasin.	7/31/01	Table	Cooney	This task will only be done if subbasin delineations are modified to line up with ODFW GCGs.
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Compile and exchange updated Washington SaSI stock status data for anadromous fish using newly developed 2000.1 Data Exchange Format (see Task 2.3).	3/1/01	Updated regional	Burns, O'Connor	The Salmonid Stock Inventory for WA assigns wild salmonids to stocks and rates the health of each

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.j Historic Range

As available at the watershed-level. Compilation at the reach level is an option if these data are available

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
ODFW	1 Work with the Steering Committee to define the term "historic" in the DEF.	11/30/00	Definition	Cooney	

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Acquire data sets related to resident fish species, and where specifically identified other aquatic species, from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.a Distribution and Life History

Document species occurrence and distribution and life history characteristics

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Add additional distribution information from references, collecting permits and stream and lake surveys for resident fish.	Updated periodically	Database	Brown	
MFWP	1 Complete conversion of distribution data for all fish species to measures using the routed hydrography in western Montana and eastern Montana when it becomes available. These data were collected from biologists in FY2000.	04/01/01	Updated db	Carson	Conversion of routed hydrography for eastern Montana will occur when the NHD is available.
MFWP	2 Provide distribution data in DEF to StreamNet when completed.	06/01/01	Updated db	Carson	
MFWP	3 Determine a schedule for updating data in the future and at what frequency data needs to be collected from field biologists, also addressing species of special concern.	6/30/01	Schedule	Carson	
MFWP	4 Collect and catalog supporting references to document distribution and connect distribution to reference.	8/01/01	Cataloged references	Carson	
MFWP	5 Explore the development of a standard field survey form to be used by state and federal biologists to record occurrence information.	4/01/01	Decision on form	Carson, Hess-Herbert	
MFWP	6 Continue to work with regional StreamNet staff and SC to develop/modify/add to a resident fish data exchange format if not completed in FY2000.	ongoing	Improved DEF	Carson, Hess-Herbert	
ODFW	1 Update, maintain, correct and exchange resident fish distribution information (DistUse and DistPresence tables).	As needed	Updated event data	Bowers	Only if ODFW staff provide the information during anadromous distribution update work.
Region	1 Compile distribution updates (tabular events) as they arrive. Create and maintain distribution GIS coverages from these event tables and distribute these via the StreamNet web site.	Ongoing	GIS Data	Graves	
Region	2 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Update and exchange statewide updated bull char distribution data at 100K resolution (see Task 2.3).	11/1/00	Updated db	Burns	New presence/use categories and criteria applied: summer, 2000

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.b Adult Abundance

Escapement, redd counts, trap counts, dam counts

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Coordinate with IDFG personnel to determine the feasibility of incorporating resident adult abundance.	12/30/00	Summarized in progress reports	Butterfield	
MFWP	1 Enter 2000-2001 stream fisheries survey data collected for population trends; genetics and escapement, redd counts, trap count and other counts during visits to biologists.	6/30/01	Updated db	Carson	
MFWP	2 Collect reference for each survey.	8/01/01	References	Carson	
MFWP	3 Provide data in data exchange format to regional StreamNet staff.	6/30/01	Updated db	Carson	
ODFW	1 Update existing abundance and indices trends (escapement, redd counts, trap counts, peak/other spawning counts, etc.) for resident species through 1999 and modify as needed to adhere to the 2000.2 data exchange standards. Four data submissions planned.	1/30/01, 4/30/01, 7/31/01, &9/20/01	Updated database	Hurn	
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Explore opportunities to compile, convert, and exchange portions of the Yakima Basin juvenile and adult abundance data from Ken Ham.	9/1/01	Updated db	Sikora	

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.c Angler Use

Fishing pressure, creel census

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Add FWP 1999 angler survey data collected by MFWP mail survey to MRIS.	12/01/00	Updated db	Carson	
MFWP	2 Review available creel census data on Montana's waters and determine value and availability.	9/30/01	Data/or recommendation	Carson	
ODFW	1 Evaluate available creel data for appropriateness and fit into the StreamNet format.	3/30/01	Report of data availability	Cooney	Some test data may be submitted depending on availability.
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Explore conversion of Angler Fish Database harvest information from the Columbia Basin into either "harvest" or a new "census" format for exchange.	7/1/01	Updated db	Burns	Depends on recruitment of a game fish data systems manager for WDFW.

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.d Hatchery Production

Hatchery production (releases and outplants) for salmonids

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
FWS	1 Explore availability of resident fish data relative to FWS facilities. Provide resident fish production and release data to PSMFC	Ongoing	Data submitted	Pastor	Provide data when DEF is complete.
IDFG	1 Complete cross reference of IDFG Catalog Number to LLID	3/30/01	Database	Butterfield	
IDFG	2 Migrate the IDFG stocking data into StreamNet.	6/30/01	Database	Murdock	
MFWP	1 Update StreamNet hatchery outplant data in the data exchange format with 1999 data from the FWP Information Services Unit Hatchery Database, if changes are made.	6/1/01	Updated db	Hess-Herbert	
ODFW	1 Acquire trout release data from 1997 through 2000 (by species, location, and facility) and compile into SN exchange format.	8/31/01	Updated db	Database Manager	
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Complete conversion and exchange resident fish stocking data from 1930-1981, once location coding has been standardized and verified.	3/1/01	Partial regional db	Sikora	
WDFW	2 Add stocking data from 1981-2000.	9/1/01	Updated db	Sikora	

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.e Genetics

Areas where genetics data exists and the sources of these data

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Update genetic spatial and tabular databases that contain the results of genetic analysis of populations of Montana's species of special concern	Ongoing	Update db	Carson	
MFWP	2 Update fish distribution table when new samples affect fields.	Ongoing	Update db	Carson	
MFWP	3 Exchange data.	8/30/01	Decision	Carson	
MFWP	4 Work with University of Montana Genetics Lab staff to develop a more efficient method of data entry/delivery.	4/01/01	Edit/entry program	Corbin	
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.f Population

Population delineation, as determined by others

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Maintain spatial delineation of bull trout populations, core and nodal habitat. Enhance layer with population risk field.	7/1/01	Coverage	Hutten	
MFWP	2 Finalize westslope cutthroat trout priority areas as part Westslope Cutthroat Conservation Agreement and provide to StreamNet.	11/01/00	Coverage	Carson	
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Compile and exchange Washington SaSI stock status data for resident fish using newly developed exchange format (see Task 2.3).	3/1/01	Updated regional	Burns, O'Connor	The Salmonid Stock Inventory for WA assigns wild salmonids to stocks and rates the health

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.g Historic Range

As available at the watershed-level

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Complete the review of the historic distribution of Montana's native species developed by The Nature Conservancy.	11/01/00	Available	Carson	
MFWP	2 Coordinate the development of a Data Exchange Format for StreamNet by working with a Steering Committee subcommittee.	11/01/00	Coverage	Hess-Herbert	
Region	1 Compile distribution updates (tabular events) as they arrive. Create and maintain distribution GIS coverages from these event tables and distribute these via the StreamNet web site.	Ongoing	GIS Data	Graves	
Region	2 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task 2.h Status

Population stability index

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Assist regional and state data managers in developing data exchange format.	TBA	Advice	Hess-Herbert	
MFWP	2 If DEF adopted, submit bull trout, arctic grayling and westslope and Yellowstone cutthroat trout data.	When DEF avail.	Data	Carson	
Region	1 Work with partners to determine data formats for this category	As needed	Formats	Banach	

Objective 1 Data Development

Task 3 Habitat

Acquire data sets related to fish habitat from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 3 Habitat

Task 3.a Stream / Watershed Habitat

Incorporate applicable stream and watershed level habitat and stream survey data, as these become available

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Incorporate the IDFG General Parr Monitoring habitat data into StreamNet.	9/30/01	Database	Murdock	
IDFG	2 Compile additional habitat data from stream surveys.	Updated periodically	Database	Brown	
MFWP	1 Develop a statewide stream survey form based on information provided by Montana state and federal fisheries biologists in FY2000.	6/30/01	Survey	Carson	
MFWP	2 Work with regional StreamNet staff on data exchange format, if sufficient interest and/or data.	8/31/01	DEF if developed	Carson	
Region	1 Work with Steering Committee to decide whether a format for Aquatic Inventory Project data should be developed and incorporated into the StreamNet database.	12/31/00	Decision	Schmidt, staff	The Oregon Aquatic Inventory Project data are currently linked to the StreamNet web site. Should be adopt the AIP format as a regional standard, or wait until other states develop their own formats?
Region	2 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
SBT	1 Update data collected by the SBT to IDFG GPM data coordinator.	Ongoing	Updated db	Taki	
WDFW	1 Transfer and exchange spatial layers of SSHIAP habitat characteristics and segmentation (based on gradient, confinement, and substrate).	2/1/01 first test ready	Database	Burns, Hudson	Depends on progress of parallel SSHIAP

Objective 1 Data Development

Task 3 Habitat

Task 3.b Water Quality

Incorporate existing Clean Water Act 303(d) data and other water quality data as applicable

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Integrate 303(d) (TMDL) data into the sub-basin planning effort if opportunity arises during the fiscal year.	12/01/00	Sub-basin	Hess-Herbert	
MFWP	2 Link the Army Corps of Engineer stream permitting database to MRIS	01/01/01	Link to StreamNet	Hess-Herbert	
Region	1 Complete development of the 303d event table as soon as data is available from WA Dept. of Ecology	12/31/00	303d Coverage	Graves	The data is expected from DOE in October, 2000
Region	2 Maintain GIS water quality data event tables from the 303(d) data on the StreamNet web site.	Ongoing	GIS Data	Graves	

Region	3	Incorporate the stream nutrient and temperature data into the StreamNet query system and make available via the web site.	3/31/01	Queryable data	programmer
Region	4	Assist SN partners with data acquisition, development, formatting submission.	Ongoing	Assistance	Staff

Objective 1 Data Development Task 3 Habitat

Task 3.c Miscellaneous Habitat Data

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Meet with Montana GIS community concerning the Montana GAP data to determine layer usability particularly in riparian and wetland areas.	11/01/00	Discussion	Hess-Herbert	
MFWP	2 Work with NRCS staff to determine usability of derived slope, aspect, gradient, sinuosity data in MRIS.	12/01/00	Progress report	Hess-Herbert	
ODFW	1 Update key stream management area designations for OR including FEMAT key watersheds, AFS aquatic diversity areas, ODFW coho source river reaches, ODSL essential salmon habitat and Priority Areas.	7/31/01	Updated coverages	Bowers	This task will be done only if changes have been made.
ODFW	2 Track the progress of ODFW aquatic habitat prioritization model and provide a URL for StreamNet to link to model results when they are available.	7/31/01	URL link and status report quarterly.	Cooney	
Region	1 Assist partners with acquisition, development, formatting and submitting data	Ongoing	Assistance	Graves	
WDFW	1 Explore Cosentino's model to assess habitat suitability for anadromous and resident fish by comparing predictions to actual. Write paper on techniques and findings.	8/1/01	Paper	O'Connor	

Objective 1 Data Development

Task 4 Facilities

Acquire data sets related to fishery-related facilities and structures from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 4 Facilities

Task 4.a Dams and Fish Passage Facilities

Enhance the existing StreamNet dams data set by updating relevant data from the Pacific Northwest Hydropower Database and Analysis System (NWHS) and the National Inventory of Dams

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Incorporate enhanced dams data into StreamNet.	12/30/00	Database	Murdock	
MFWP	1 Combine the StreamNet dams dataset with dams named in the GNIS and the National Inventory of Dams, and exchange Montana's data.	01/01/01	Update db	Hess-Herbert	
ODFW	1 Update, maintain, correct and exchange dam information (as part of the Barrier database).	As needed	Updated Barrier database	Brodeur	Data could be submitted up to 4 times during the year if significant updates are made.
Region	1 Maintain spatial aspect of dams table including location of dams and GIS data. Assist states in tying dams to LLID-based stream locations when requested.	Ongoing	GIS Data Coverage	Graves	
Region	2 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Review, update, and exchange any new Washington state dams information.	9/30/01	Updated db	Burns	

Objective 1 Data Development

Task 4 Facilities

Task 4.b Hatchery Facilities

Update and maintain a dataset on anadromous and resident hatchery facilities containing information on location, design, management and authorization

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
FWS	1 Update hatchery facility records as needed	As needed	Updated Hatchery.dbf	Pastor	
FWS	2 Update hatchery water records as needed	As needed	Updated HatchWat.dbf	Pastor	
IDFG	1 Incorporate supporting hatchery structures, such as weirs and traps, into StreamNet.	3/30/01	Database	Elms-Cockrum	
MFWP	1 Provide update of these data if changes have occurred in Montana's facilities.	9/30/01	Updated db	Hutten	
ODFW	1 Locate at least one public domain photo of each hatchery in Oregon and provide to PSMFC.	8/31/01	Photographs in the MapCat table	Brodeur	
ODFW	2 Review and update Oregon hatchery facilities data and submit to PSMFC.	8/31/01	Updated hatchery facilities table	Brodeur, Bourne	

Region	1	Maintain spatial aspect of hatcheries table including location of hatcheries and GIS data. Assist states in tying hatcheries to LLID-based stream locations when requested.	Ongoing	GIS Data Coverage	Graves
Region	2	Finalize the structure of the Hatchery Facilities table with input from the Steering Committee	10/30/00	Table structure	Kinney
Region	3	Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff
WDFW	1	Provide standard geo-spatial coordinates (Longitude-Latitude) for each facility.	As available	Updated db	Burns
WDFW	2	Compile similar coordinates for fish releases that occur away from these facilities, in order to develop a spatial layer of fish release sites (including streams, lakes, and marine areas).	As available	Updated db	Burns
WDFW	3	Complete, convert, and exchange tabular and spatial data tables of Washington state hatchery facilities, including federal and tribal stations.	12/1/00	Updated regional	Sikora

Objective 1 Data Development Task 4 Facilities

Task 4.c Diversion/screening

Develop a data set for water diversions and screening

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Review regional data exchange format.	TBA	Review	Hess-Herbert	
MFWP	2 Provide input and data to watershed planning projects.	TBA	Input	Hess-Herbert	
ODFW	1 Develop a database structure and compile Oregon's fish screening data and submit a draft data exchange format to SC for review and adoption.	TBD	DEF proposal	Brodeur, Database Manager	
ODFW	2 Identify fish screening data that is appropriate for the StreamNet site and submit test records once an exchange format has been adopted.	TBD	Test records	Brodeur, Database Manager	Will do if an exchange format is adopted.
Region	1 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	

Objective 1 Data Development

Task 5 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 for the following categories:

Objective 1 Data Development

Task 5 Habitat Restoration/Improvement Projects

Task 5.a Fish and Wildlife Program Projects

Prepare and maintain standardized data relating to tracking aquatic management and restoration projects related to the Fish and Wildlife Program

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Data will be updated for FWP Projects during FY-01; the spatial data layer of project location will be updated.	8/1/01	Update db	Hutten	
Region	1 Update Habitat Restoration/Improvement project GIS data (including a polygon coverage to illustrate true extent of projects) and make this available via the StreamNet website as downloadable GIS coverages as new data are received.	Ongoing	GIS data	Graves	
Region	2 Develop Habitat Restoration/Improvement project GIS data (including a polygon coverage to illustrate true extent of projects) based on state submissions and make this available via the StreamNet website as downloadable GIS coverages.	As data are received	GIS Data	Graves	
Region	3 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Ongoing	Assistance	Staff	
WDFW	1 Follow-up from FY2000 habitat restoration project compilation				Work is dependent on outside funds

Objective 1 Data Development

Task 5 Habitat Restoration/Improvement Projects

Task 5.b Other Projects

Prepare and maintain standardized data relating to tracking aquatic management and restoration projects other than related to the Fish and Wildlife Program

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Compile additional information from non-FWP restoration projects into StreamNet.	Updated periodically	Database	Brown	
MFWP	1 Update Montana's Fish and Wildlife habitat restoration projects into StreamNet's Restoration and Mitigation database and submit in data exchange format.	8/1/01	Updated db	Hutten	
MFWP	2 Exchange Montana data in data exchange format.	8/1/01	Update db	Hutten	
ODFW	1 Assist PSMFC with the creation and development of the map presentation of Oregon GWEB restoration data.	as needed	TBD	Bowers, Cooney	
ODFW	2 Design and develop a database to capture carcass placement data for Columbia Basin activities.	6/30/01	Database	Hurn, Database Manager	
ODFW	3 Provide technical assistance to GWEB and StreamNet staff as needed to make compilation of ODFW habitat restoration/improvement projects in the Columbia basin more efficient.	as needed	Assistance	Database Manager	
Region	1 Assist StreamNet partners with submission of data.	Ongoing	Assistance	staff	

Objective 1 Data Development

Task 6 Sub-basin Planning

Develop consistent data sets and information that are particularly suitable and useful for regional sub-basin planning and make them readily available for planners

Objective 1 Data Development

Task 6 Sub-basin Planning

Task 6.a Provide data for Sub-basin Planning

Organize and distribute the available fish, wildlife and habitat data in a standardized format for use in Sub-basin Planning or other regional planning efforts

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Develop tools and applications to make regional watershed assessment and other planning information available to subbasin planners	quarterly	various Internet applications	Forrest, Roger	
IDFG	1 Coordinate with sub-basin planning efforts to supply data.	As requested	Data exports, maps and other services	Butterfield	
MFWP	1 Provide data to planners on request	On request	Provided information	Hess-Herbert	
ODFW	1 Participate in discussions concerning data needs to support sub-basin planning or other processes adopted by the amended Fish & Wildlife Program. Modify data plan and priorities as needed to be responsive.	As needed	Updated project workplan	Cooney	
ODFW	2 Provide consultation services and assistance to ODFW data managers to assist them in meeting Subbasin Planning needs.	Ongoing	Assistance	All staff	
Region	1 Meet with sub-basin planners to discuss data types that may be needed, data sources, and to plan integration methods of the various data sets. Assist planners acquire needed fisheries data.	As requested	Assistance	staff	
Region	2 Provide available tabular data described under tasks 1.1 through 1.5 to entities conducting sub-basin planning.	On request	Data to planners	Banach	
Region	3 Provide StreamNet GIS coverages or other data (on request) to the entities conducting sub-basin planning. Assist subbasin planners with use of this data as needed.	On request	GIS data to	Graves	
SBT	1 Assist StreamNet cooperators with data needs as they are developed by Fish and Wildlife Program managers from sub-basin planning	Ongoing	Id. of data needs	Taki	
WDFW	1 Continue to participate in discussions concerning data needs to support sub-basin assessment coordinated by the Regional Assessment Advisory Committee or other processes adopted by the amended Fish & Wildlife Program. Modify data plan and priorities as needed to be responsive.	Ongoing	Technical Advice	O'Connor	
WDFW	2 Coordinate data compilation from other WDFW Units as needed to respond to the above needs, using StreamNet data exchange experience.	Ongoing	Assistance	O'Connor,	
WDFW	3 Provide consultation services for WDFW wildlife and habitat data managers to assist them in meeting the above needs.	Ongoing	Assistance	Sikora, Hudson	

Task 6.b Capture information from Sub-basin Planning

Acquire information developed during subbasin planning to update anadromous fish, resident fish, and wildlife data sets

Project	Planned work elements	Date Due	Deliverable	Lead	Comments
CRITFC	1 Develop applications and procedures to update watershed assessment data during subbasin planning	9/30/01	updated databases	Forrest, Roger	Regional schedule has been delayed. Activities will continue into FY01
IDFG	1 Coordinate with sub-basin planning efforts to capture outputs.	As requested	Databases	Butterfield	
MFWP	1 Collaborate with regional staff and Montana CBFWA representative when data become available	As needed	Determine when available	Hess-Herbert	
ODFW	1 Evaluate Subbasin Summaries and other Subbasin Planning related documents related to Oregon, identify data which are not contained in StreamNet and adjust staff work plans to capture new data if appropriate and applicable.	As needed	Work plan adjustments	Cooney	
Region	1 In collaboration with CRITFC staff, provide subbasin planners with computer applications to enter and edit information developed during subbasin planning as described in Tasks 1.1 through 1.5, above.	As possible	Application	Regional staff	
SBT	1 See 1.6.a				
WDFW	1 Provide data compilation, conversion, and analytical services in support of the subbasin assessment process, the NMFS Viable Salmon Populations model, and related NWPPC needs.	Ongoing	TBD	O'Connor	HIGH PRIORITY WORK; specifics will be determined during the first few months of FY2001.

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

Objective 2 Data Management and Delivery

Task 1 Database Management

Maintain functional database programs at the state and regional levels to make consistent data sets for anadromous fish, resident fish and to a lesser extent wildlife available through the StreamNet online database system. 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 the 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.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
FWS	1 Update FWS data sets with 2000 data and submit to PSMFC	9/31/01	Updated database	Pastor	
IDFG	1 After beta testing, implement Fish Information System in IDFG StreamNet and IDFG Fishery Bureau	12/30/00	Functional Information System	Butterfield, Murdock	This system will allow us to more efficiently capture and manage data for StreamNet
IDFG	2 Continue development and improvements to Fish Information System.	Ongoing	Improved system	Murdock	
MFWP	1 Provide state-level data management services, emphasizing coordination with StreamNet regional staff, MFWP and other state and federal natural resource agencies and encourage the use of consistent data attributes and data sets among all agencies.	Ongoing	Coordination, Summary in Q and A reports.	Hess-Herbert	
MFWP	2 Provide high quality data management services with specific emphasis on creation of regionally consistent data sets and the timely delivery of data to users in formats that meet their policy, planning, and management needs.	Ongoing	Consistent data	Hess-Herbert, staff	
MFWP	3 Update existing data sets as described in Task 1 and provide data to the regional StreamNet office in DEF. Provide data as sub-sets are updated rather than waiting for entire data to be complete.	Ongoing	Updated regional	Carson	
ODFW	1 Provide state-level StreamNet database management / administration / development. Enhance StreamNet and ODFW database structures, interfaces, tools, and capabilities as needed.	Ongoing	Functional databases	All staff	
ODFW	2 Develop custom GIS products and database structures that help improve data management and transfer with ODFW staff.	as needed	Improved database function	Bowers, Brodeur, DatabaseManager	
Region	1 Maintain and manage the StreamNet database so information / data are available internally to project participants and externally via Internet.	Ongoing	Updated databases	Kinney	
Region	2 Add data submitted to the StreamNet regional office into the SN database within ~30 days of receipt from the project partners.	Ongoing	Updated databases	Kinney	

Region	3	Assist data-providing agencies with error checking of data sets.	Ongoing	Updated databases	Kinney, Banach
Region	4	Coordinate database compilation between agencies, helping to ensure that data submitted are usable, scientifically sound, and consistent.	Ongoing	Consistent data	Banach, Schmidt
Region	5	Update the database structure as new data categories are added or categories are changed.	Ongoing	Updated db	Banach
Region	6	Publish a procedure manual to define procedures and protocols for data submission.	6/30/01	Manual	Kinney
Region	7	Document all additions/changes to data structure, exchange formats, interface tools, etc.	Ongoing	documentation	Staff
Region	8	Develop metadata for all spatial data sets posted to the SN GIS web page.	Ongoing	Metadata	Graves
Region	9	Begin developing metadata for StreamNet's tabular data holdings.	Ongoing	Metadata	Staff
Region	10	Provide programming services to project participants to assist with efficient data entry and data transfer	Ongoing	Assistance	Staff
Region	11	Based on direction from the Steering Committee, develop recommendations on the means to move the StreamNet database into an SDE-compatible format to provide enhanced interactive mapping and to develop necessary structures to serve data through SDE.	7/31/01	SDE-format database structure recommendation	Graves, Kinney
Region	12	Write documentation detailing use and maintenance of new SDE table structures and functions for regional staff, if approved by Steering Committee.	9/30/01	Documentation	Graves, Kinney
Region	13	Ensure georeferencing of data is accurate and complete.	Ongoing	Updated databases	Kinney, Graves, Banach
WDFW	1	Washington state data maintenance and exchange support services, including updated exchange format system, support for MS Access 97, and support for new data categories and fields.	Ongoing	Support services	Brown, Hudson
WDFW	2	Update existing data sets as described in Task 1 and provide data to the regional StreamNet office in Data Exchange Format (DEF). Provide data as subsets are updated, rather than waiting for entire data to be complete.	Ongoing	Updated regional	Sikora

Objective 2 Data Management and Delivery

Task 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

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Provide input to the data plan to keep it responsive to subbasin planning and Framework needs and schedules.	Ongoing	comments	Roger	
IDFG	1 Work jointly with other participants to modify elements of data plan or priorities based on needs arising out of sub-basin planning or other processes that drive Basin data needs through the amended Fish & Wildlife Program.	Ongoing	Updated data plan	Butterfield	

MFWP	1	Provide input into plan when requested.	Ongoing	Updated data plan	Hess-Herbert
ODFW	1	Work jointly with other participants to modify elements of data plan or priorities based on needs arising out of sub-basin planning or other processes that drive Basin data needs through the amended Fish & Wildlife Program.	Ongoing, as needed		Cooney
Region	1	Explore creating a consolidated data plan format that outlines current data holdings. Beginning in FY 2000, the Statement of Work now provides more information on planned data incorporation.	5/1/01	Decision on future plan format	Schmidt
Region	2	Based on input from the BPA COTR and project participants, modify and update the Data Plan as needed.	Ongoing, as needed	Updated data plan	Schmidt
WDFW	1	Work jointly with other participants to modify elements of data plan or priorities based on needs arising out of subbasin assessments or other processes stemming from the amended Fish & Wildlife Program.	Ongoing	Updated data plan	O'Connor

Objective 2 Data Management and Delivery

Task 3 Data Exchange Standards

Establish and maintain data exchange standards that ensure consistent format and content of data that originated from the multiple agencies and data sources in the basin. Included will be proposed and adopted data exchange formats, metadata and location look-up tables for specific data items as described under Objective 1. At the regional level, this task will 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, this task will provide similar technical assistance for state agency data activities applicable to StreamNet.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Participate in the design, development and maintenance of standard codes and data exchange formats. This will occur through involvement on the Steering Committee and technical work groups.	Ongoing	Updated DEF	Forrest	
IDFG	1 Participate in the design, development and maintenance of standard codes and data exchange formats. This will occur through involvement on the Steering Committee and technical work groups. There is no set schedule for this task, because it is highly dependent on issues facing the Steering Committee. Potential new data exchange standards may include juvenile abundance, genetics, stream habitat, stream temperature and resident fish releases.	Ongoing	Updated data exchange formats (DEF)	Butterfield, Murdock	
MFWP	1 MFWP StreamNet will participate in the design, development and maintenance of standard codes and data exchange formats through involvement on the Steering Committee and technical work groups.	Ongoing	Updated DEF	Hess-Herbert, Carson	
ODFW	1 Participate in the design, development and maintenance of standard codes and data exchange formats. This will occur through involvement on the Steering Committee and technical work groups. There is no set schedule for this task, because it is highly dependent on issues facing the Steering Committee. Potential new data exchange standards may include juvenile abundance, genetics, stream habitat, stream temperature and resident fish releases.	Ongoing	Updated DEF	All staff	

Region	1	Work with the project database managers to identify needed modifications to the Data Exchange Format (DEF) to accommodate changing data needs	Ongoing	Proposed DEF	Banach
Region	2	Formally adopt changes to the DEF through the SN Steering	quarterly	Meeting report	Banach
Region	3	Document all adopted changes to the DEF	Ongoing	Report	Banach
Region	4	Lead or work with partners to develop data exchange formats for new data categories, including: population delineation (anadromous and resident); carcass placement; resident fish hatchery releases; juvenile abundance; stream habitat. As time permits and need dictates, data exchange formats may also be created for macroinvertebrate samples, and water quality parameters.	various dates during fiscal year	DEFs	Banach
WDFW	1	Compile and review the specific criteria used by participating agencies in describing fish distribution, use, or extent information, in order to find and adopt common standards among data providers.	1/1/01	DEF proposal	Hudson, O'Connor
WDFW	2	Analyze Hatchery Returns exchange format and explore whether a second table (covering Spawning and Disposition data fields) is needed to more accurately meet the needs of the Artificial Production Committee.	11/1/00	DEF proposal	O'Connor
WDFW	3	Finalize and distribute for adoption an exchange format for State Risk status (stock status) to provide information on sensitive salmonid stocks.	11/1/00	DEF proposal	O'Connor
WDFW	4	Move toward complete adoption of LLIDs as the standard stream referencing code by reviewing and completing the RRN-to-LLID conversion, addressing supercode issues, and assuring that LLIDs are assigned to all locations where StreamNet data exist.	Ongoing	LLID cross reference table	Sikora, Woodard
WDFW	5	Provide metadata for tabular and spatial datasets according to guidelines adopted by the Steering Committee.	with data	Metadata in DEF.	Hudson, Sikora
WDFW	6	Construct a new data compilation and conversion system to provide data in MS Access according to the most recently adopted exchange format. Begin exchanging data in MS Access form by winter, 2001	1/1/01	New compiler system.	Brown, Woodard, Sikora

Objective 2 Data Management and Delivery

Task 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. Provide for distribution of spatial data in GIS and tabular format and as GIS products.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Maintain and enhance a geographic information system (GIS) related to regional and state-level StreamNet goals and objectives.	Ongoing	Functional system	Butterfield	
IDFG	2 Prepare data and map products from StreamNet data on request	Ongoing	Data and map products.	Butterfield, Graham	

MFWP	1	Maintain a state- level GIS program (state and StreamNet funded)	Ongoing	Summary in Q. and An. reports	staff
MFWP	2	Prepare map products in hardcopy and/or electronic format for use in Program-related aquatic resource policy, planning, and management.	Ongoing	GIS products	staff
ODFW	1	Participate in planning and coordination meetings for state-level 24k hydrography layer to ensure compatibility with the StreamNet's adopted hydrography.	as needed	update SC	Bowers
ODFW	2	Maintain and enhance a geographic information system (GIS) related to regional StreamNet goals and objectives (general maintenance, metadata development and maintenance, planning and coordination activities, etc.).	Ongoing	Functional System	Bowers
ODFW	3	Prepare spatial data and map products in hardcopy and/or electronic format for use in Program-related aquatic resource policy, planning, and management.	as needed	Products	Bowers
Region	1	Maintain and enhance a geographic information system (GIS) related to regional StreamNet goals and objectives.	Ongoing	Functional GIS	Graves
Region	2	Prepare GIS data and map products from StreamNet data.	On request	Maps	Graves
Region	3	Integrate the functioning of the GIS system with the StreamNet fisheries and habitat database, in support of the query system. Create cross tables and queryable maps used via the StreamNet web interface.	As needed	Shape files, X-ref. tables	Graves
Region	4	Direct users to other GIS resources when requests exceed SN	As needed	Assistance	Graves
WDFW	1	Create approved reference documents for all exchanged spatial data sets. (See also Task 2.3, work component 5)	Ongoing	Reference documents	Burns

Objective 2 Data Management and Delivery
Task 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.

Objective 2 Data Management and Delivery Task 5 StreamNet Internet Site
Task 5.a Maintain the StreamNet Client Server system

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
Region	1 Maintain, upgrade as needed, and administer the StreamNet web site and data system	Ongoing	Functional website	Kinney	

Task 5.b Enhance and improve the StreamNet website

Maintain and enhance components of the StreamNet home page and incorporate new features that complement existing

Project	Planned work elements	Date Due	Deliverable	Lead	Comments
CRITFC	1 Work with subbasin planners to identify modifications and new uses which will make the website more useful to them	Ongoing	Recommendations	Oftedahl	
CRITFC	2 Identify changes and new features which will improve delivery of Library services	Ongoing	Recommendations	Oftedahl, Nock, Liberty	
CRITFC	3 Work with regional staff to implement changes identified above.	Ongoing	Improved services	Oftedahl, Nock, Liberty	
IDFG	1 Recommend and/or take part in review of new products and features. Provide feedback on content, suitability, navigability and data currency issues.	Ongoing	Recommendations	All staff	
MFWP	1 Montana will review and comment when necessary.	Ongoing	Advice	Hess-Herbert	
ODFW	1 Recommend and/or take part in review of new products and features. Provide feedback on content, suitability, navigability and data currency issues.	Ongoing	Recommendations	All staff	
ODFW	2 Provide a link from the StreamNet website to available Columbia River fisheries information (including Columbia River Compact Action Notices, In-Season Updates, and Joint Columbia River Management Staff Reports and possibly in-season catch estimates) along with informational text to describe each link.	4/30/01	URL's & text to PSMFC	Frazier	
Region	1 Summarize results from the StreamNet online user survey. Compile a list of recommended changes and improvements to the online data system	12/29/00	Report	Schmidt	
Region	2 Continue to review the StreamNet website for clarity, organization and ease of use. Recommend and implement changes to maximize utility for people accessing the site to obtain information. Changes will include updating, replacing, and retirement of existing web pages, and archiving of all existing pages.	Ongoing	Improved web site	Schmidt, McGill, staff	
Region	3 Plan to enhance the website content by adding additional kinds of information that will support the Fish and Wildlife Program. Develop concept for increasing information by coordinating with regional data users	Ongoing	Expanded content	Schmidt, staff	
Region	4 Investigate the latest internet technology in order to improve/add interactive features to our site.	Ongoing	Updated web plan	Staff	
Region	5 Identify and provide links to other web sites that provide data complimentary to but not contained in StreamNet.	Ongoing	Improved website	Staff	

Region	6	As the DEF is revised and new data sets are added to the database, modify the query system to function with the revisions. Test and debug these changes. Continue to check to the existing functioning of the query system and address any shortcomings as they are identified.	Ongoing	Revised queries	Schmidt, programmer
Region	7	Develop an on-line mapping application which may be used over the internet by the public to view StreamNet data "layers" through interactive maps. This application will allow users to view and query StreamNet data spatially, generate reports and tabular or GIS data based on spatial queries, and create their own custom maps.	2/28/01	Internet mapping application	Graves
Region	8	Once the internet mapping application is created and implemented, it will be enhanced on an ongoing basis to improve speed, add new features and capabilities, and to incorporate additional data layers.	Ongoing	Enhancements to internet mapping application	Graves
Region	9	Write documentation on access, use, editing, and maintenance of the internet mapping application.	4/30/01	Documentation	Graves
Region	10	Integrate new SDE database structure and Internet Mapping Application for high-level speed and performance.	8/31/01	Enhanced internet mapping capability	Graves
WDFW	1	Take part in review of new products and features. Provide feedback on content, suitability, navigability and data currency issues, especially issues related to providing static or dynamic map capabilities.	Ongoing	Improved website	All staff

Objective 2 Data Management and Delivery

Task 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). Develop a standardized method for incorporating lake hydrography and attribute information.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Maintain the Idaho portion of the 1:100,000-scale PNW hydrography for purposes of attaching StreamNet data.	Ongoing	Any modifications to hydro.	Butterfield	
IDFG	2 Participate in coordination of the National Hydrographic Dataset	Ongoing	Coordination with other agencies	Butterfield	
MFWP	1 Support the efforts of the NHD and convert Montana hydrography to NHD upon receipt.	Depends on NHD data delivery	Converted hydrography	Hutten	
MFWP	2 Enhance layer with LLID and stream level routing.		LLID routing	Hutten	
MFWP	3 Coordinate with NRIS in the QA/QC of the NHD for Montana including the development of a lakes layer (funding provided by the BOR for lakes).	Ongoing	Assistance	Hutten	
ODFW	1 Continue to maintain the Oregon portion of the 1:100,000-scale PNW hydrography for purposes of attaching StreamNet data and for use in ODFW information management systems. Submit all modified PNW hydrography to PSMFC for inclusion in the regional PNW hydrography data.	as needed	Updated hydrography	Bowers	

ODFW	2	Participate in technical and policy discussions concerning efforts and activities that relate to or impact the PNW hydrography (NHD, OR/WA state framework physical data model, clearinghouse issues, data dictionary development, etc.)	Ongoing	Input to discussions and decisions	Cooney, Bowers
ODFW	3	Provide technical advice on hydrology routing and other issues including those related to working with higher resolution hydrography.	As needed	Advice provided (and summarized in quart. Reports)	Bowers
Region	1	Continue to maintain the regional 1:100,000-scale PNW	Ongoing	Updated hydrography	Graves
Region	2	Implement updates to the 1:100,000-scale PNW hydrography from state cooperators.	Ongoing	Updated hydrography	Graves
Region	3	Update and serve a regional web version of the 1:100,000-scale PNW hydrographic set from the StreamNet website.	Ongoing	Hydrography available	Graves
Region	4	Assess future uses of the National Hydrography Dataset (NHD) and if adopted, coordinate the replacement of the PNW Reach files with the NHD as the StreamNet hydrography layer.	TBD	TBD	Graves
Region	5	Update Montana hydrography with LLID routing as updates are received from MFWP.	Ongoing	LLID assignments and stream routes	Graves
Region	6	Work with developers of 1:24,000 hydrography at BLM and USFS to ensure that the 1:100,000 stream-based routing system remains consistent with the new 1:24,000 system.	Ongoing	Updated hydrography	Graves
Region	7	Develop a complete cross-reference application between all streams in the PNW Reach Files and the NHD (National Hydrography Dataset) for Washington, Oregon, and Idaho to allow collection and distribution of stream-based data in both LLID and NHD formats.	11/30/00	Cross-reference table	Graves
WDFW	1	Complete Steering Committee discussion about lake attributes useful to share in a regional database; determine support for a new data format.	12/1/00	DEF proposal	O'Connor
WDFW	2	Compile, standardize, and exchange point, line, and polygon information for lakes stocked with fish that appear at 100K (or higher) resolution.	6/1/01	Updated hydrography	Hudson
WDFW	3	Participate in technical and policy discussions concerning adoption of the NHD 100K framework for the Northwest. Review Washington state NHD datasets if funding is available.	Ongoing	Decisions re. NHD	O'Connor, Hudson
WDFW	4	Maintain Washington 100K HUCs by performing error fixes, addressing cross-border and cross-HUC incompatibilities, and related duties.	Ongoing	Updated hydrography	Hudson
WDFW	5	Provide technical advice on hydrology routing and other issues related to working with higher resolution hydrography as needed.	Ongoing	Improved hydrography	Hudson

Objective 2 Data Management and Delivery

Task 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.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 See Tasks 1.1h, 1.6, and Objective 3	Ongoing	Improved services	Oftedahl, Roger, staff	
IDFG	1 Continue to respond to requests for information from StreamNet database, including requests for fishery information that comes into the Idaho Conservation Data Center (Natural Heritage Program), other IDFG programs and personnel, and outside agencies and consultants.	Ongoing	Filled requests, summary in qu. Report	Elms-Cockrum, Graham, Brown	
MFWP	1 Receive and respond to requests for data, source materials, and custom products. Respond to requests within the limits of available resources, with priority given to information requests having direct relevance to the FWP.	Ongoing	Summary in Q. & A. reports	staff	Other priorities = ESA, federal, state, and tribal natural resource management
ODFW	1 As requested, consistent with other deliverables in this contract, receive and respond to requests for data, source materials, technical training, and custom products.	Ongoing	Summaries in quarterly reports	All staff	
Region	1 Respond within one day whenever possible to all user requests received via email, phone, or other medium. Typical requests received include help using the query system, complex data requests not easily done with the query system, and requests for GIS coverages and maps.	Ongoing	Rapid assistance	Banach	
Region	2 Fill requests for data not available via the web in an expeditious manner, with highest priority for people working for the NPPC's Fish and Wildlife Program. Requests from outside the Fish and Wildlife Program or participating agencies will be addressed on an 'as possible' basis.	Ongoing	Filled requests	Banach, Graves	
Region	3 Modify the web site to inform of all ways data can be obtained, including custom requests made directly to the project	12/31/00	Updated web site	McGill	
WDFW	1 Generate maps, data reports, and electronic copies of datasets as requested.	Ongoing	Requests	All staff	
WDFW	2 Provide PRIORITY data support for subbasin assessments and other new elements of the NWPPC Fish & Wildlife Program.	Ongoing	Requests	All staff	

Objective 3 Library / Reference Services

Provide a full service regional library for fish (and to some degree wildlife) literature (published and gray), including documentation of all data in the StreamNet database.

Objective 3 Library / 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 source materials, Fish and Wildlife Program activities and reports, and other gray literature for access by regional scientists, agencies, interested parties, and other libraries.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Coordinate source material submissions for data compiled under Objective 1. Develop standards for document submissions	Ongoing	Updated, expanded, fully cataloged collection	Oftedahl, staff	
CRITFC	2 Collect and catalog documents prepared by contractors (including final products published by BPA and draft documents suitable for public release) under the Fish and Wildlife Program. Work with Publications distribution for better publication notification and deposit system.	6/30/01	Updated, expanded, fully cataloged collection	Oftedahl, staff	
CRITFC	3 Collect and catalog documents from the Council's Fish and Wildlife Program-related collection.	4/30/01	Updated, expanded, fully cataloged collection	Oftedahl, staff	
CRITFC	4 Collect and catalog additional books, journals, agency reports, gray literature, research reports, and documents that are applicable to management of the region's aquatic resources.	Ongoing	Updated, expanded, fully cataloged collection	Oftedahl, staff	
IDFG	1 Continue to collect documents used as source materials for data in Objectives 1 and 2. Documents will be assigned reference numbers and forwarded to the StreamNet library as per established guidelines.	Ongoing	Submission to library	Elms-Cockrum, Brown	
MFWP	1 Provide an update to the electronic version of documents used as source materials for data compiled in Objective 1.	9/1/01	Submission to library	Hess-Herbert	
ODFW	1 Provide originals/copies of all documents and reports referenced in the compilation of new StreamNet data holdings, but not already housed in the StreamNet Library.	Ongoing	Documents	All staff	
ODFW	2 Update the set of historic (pre-1975) Oregon Fish Commission and Game Commission reports and provide to the SN library as available.	Ongoing	Documents	Bourne	
ODFW	3 Update library bibliography of ODFW, Fish Commission, and Game Commission reports with historic and current publications and make the bibliography available for reference via SN and ODFW websites.	Ongoing	Updated bibliography	Bourne	
Region	1 Coordinate with the StreamNet librarian to maintain, update and improve the StreamNet reference database and query system.	Ongoing	Current collection	staff	
WDFW	1 Continue to collect documents used as source materials for data in Objectives 1 and 2. Documents will be assigned reference numbers and forwarded to the StreamNet library as per established SN guidelines	Ongoing	Submission to library	Sikora	

Objective 3 Library / 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 collections, and staff to answer location questions and respond to requests.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Maintain an appropriate facility for the storage and public use of the physical collection.	Ongoing	Library open to public	Oftedahl, staff	
CRITFC	2 Catalog, organize and maintain the collection for appropriate on-site	Ongoing	Current catalog	Oftedahl, staff	
CRITFC	3 Provide access to the StreamNet Library Catalog.	Ongoing	Website	PSMFC	
CRITFC	4 Develop a schedule for regular updates of the reference table.	9/30/01	Schedule	Oftedahl	
ODFW	1 Enhance, maintain, and update ODFW Library software and procedures to ensure adequate tracking of information requests, key word searches, and easy comparison to the StreamNet Library holdings.	8/31/01	Updated Library information system	Database Manager, Bourne	
Region	1 Work with CRITFC librarian to make electronic library resources available on the StreamNet website.	Ongoing	Reference information	Staff	

Objective 3 Library / Reference Services

Task 3 Improve Electronic Access

Enhance the online capabilities of the StreamNet Library, including catalog access via the internet and an electronic archive of key Columbia Basin documents.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Manage and maintain the Library catalog server	4/1/00	Library server linked to StreamNet	Oftedahl, Forrest	
CRITFC	2 Integrate the library catalogs into a single web application using TextWorks Web Publisher	7/1/01	All holding available through a single catalog	Oftedahl, Forrest	
CRITFC	3 Develop an electronic archive of key Columbia Basin documents.	7/1/01	Document archive	Oftedahl, Nock	
CRITFC	4 Make electronic documents available through the Library web page.	9/30/01	Electronic documents available online	Oftedahl, Nock	

Objective 3 Library / Reference Services

Task 4 Library Services

Manage the StreamNet Library and provide library services to the StreamNet user community and the general public.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Provide access guide to outline services for patrons.	3/31/01	Pamphlet	Oftedahl, staff	
CRITFC	2 Assist users to locate information by providing reference, referral, and computer based search services.	Ongoing	Service	Oftedahl, staff	
CRITFC	3 Provide document delivery services, including inter-library lending and borrowing.	On request	Service	Oftedahl, staff	
CRITFC	4 Maintain hardcopy files of draft and final documents related to the NPPC amendment process, subbasin planning, and Columbia River/Portland harbor dredging	Ongoing	Current collection	Oftedahl, staff	
ODFW	1 Respond to requests for ODFW documents and other source materials.	@request	Filled requests	Bourne	

Objective 3 Library / Reference Services

Task 5 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>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Collect information about other regional fish and wildlife library collections and access policies.	Ongoing	Database	Oftedahl, staff	
CRITFC	2 Provide consultations for agencies and groups on ways to coordinate catalogs and services.	Ongoing	Services as requested	Oftedahl, staff	
CRITFC	3 Coordinate with users, agencies, and regional libraries to improve services and avoid unnecessary duplication. Perform a needs assessment for the Library.	9/30/01	Needs assessment	Oftedahl, staff	
CRITFC	4 Facilitate communications between subject related library service providers. Coordinate concurrent Library Needs workshop with Data Needs workshop (Task 4.7).	9/30/01	Host meeting	Oftedahl, staff	
CRITFC	5 Maintain presence in related Library groups (i.e. IAMSLIC, NRIC) to provide access to knowledge on Best Management Practices for libraries and current awareness of subject-related materials.	Ongoing	Presentations, reports	Oftedahl, staff	
ODFW	1 Coordinate with the Oregon State Library system to enhance access to published periodicals, journals, and other documents for StreamNet users.	Ongoing	Regular communication & coordination	Bourne	

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

Objective 4 Services to Fish and Wildlife Program Activities

Task 1 Monitoring and Evaluation

Assist in the development of products that contribute to the monitoring and evaluating (M&E) of Fish and Wildlife Program effectiveness. Specific area of involvement will include:

Objective 4 Services to Fish and Wildlife Program Activities Task 1 Monitoring and Evaluation

Task 1.a M&E Participation

Participate in Program-related monitoring and evaluation work groups

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Assist basin wide efforts to develop an R/M/E plan consistent with the regional Framework	7/1/01	R/M/E guidelines for subbasin planners	Roger, Forrest	
IDFG	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	As needed		Butterfield	
MFWP	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	As needed	Participation	Hess-Herbert	
ODFW	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	As needed	M&R related activities to address data needs (TBD)	Cooney	
Region	1 Participate in Monitoring and Evaluation work groups to provide assistance in locating, acquiring and providing data needed for R/M/E activities.	On request	Participation	Schmidt	
WDFW	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	As needed		O'Connor	

Objective 4 Services to Fish and Wildlife Program Activities Task 1 Monitoring and Evaluation

Task 1.b Evaluation

Periodically re-evaluate the StreamNet data plan to ensure consistency with M&E needs

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Keep Steering Committee apprised of regional R/M/E plans and needs	Ongoing	Reports to SC	Roger	
MFWP	1 Assist as needed.	As needed			
ODFW	1 Participate in discussions concerning the StreamNet data plan to ensure it supports processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	As needed	M&E support activities (TBD)	Cooney	
Region	1 Keep abreast of regional data needs related to Fish and Wildlife Program Monitoring and Evaluation and plan for StreamNet database's ability to fulfill these needs.	Ongoing	Improved relevance to M&E	Schmidt, Banach	

Objective 4 Services to Fish and Wildlife Program Activities Task 1 Monitoring and Evaluation

Task 1.c M & E Reporting

Prepare reports and data products that illustrate key M&E topics

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Assist Steering Committee to identify useful M&E products which StreamNet can produce at regular intervals	4/01/01	Reports to SC	Roger, Forrest	
MFWP	1 Respond to requests from the Fish and Wildlife Program.	On request	Completed request	Staff	
ODFW	1 No work planned but we are willing to adjust work plans to address amended Fish and Wildlife Program needs.		TBD	Cooney	
Region	1 Participate in and/or monitor FWP monitoring and evaluation work groups.	Ongoing	Participation	Schmidt	
Region	2 Respond to M&E needs for information and provide data reports and other products in support of M&E activities.	On request	Data, reports	Banach	
WDFW	1 Respond to requests from the Fish and Wildlife Program	On request	Completed request	Staff	

Objective 4 Services to Fish and Wildlife Program Activities

Task 2 Watershed Projects

Provide data and data services to Fish and Wildlife Program-sponsored watershed planning and assessment projects

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Assist subbasin planners to develop monitoring and evaluation activities for watershed projects that will integrate smoothly with StreamNet databases (cost sharing)	6/01/01	R/M/E guidelines	Roger, Forrest	
MFWP	1 Participate in watershed and, sub-basin planning to the extent requested by the Council and other regional participants. Coordinate with Montana CBFWA representatives in the process and assure a valuable product. Volunteer to complete a pilot sub-basin in the process within Montana.	As scheduled	Products as requested	Hess-Herbert	
ODFW	1 Participate in watershed planning and assessment activities to the extent requested by the Council and other regional participants. Coordinate with Oregon CBFWA representatives to ensure applicability to F&W Program needs.	As needed	TBD	Cooney	
Region	1 Receive information on watershed restoration and improvement projects and make available via the StreamNet website	Ongoing	Updated db	Kinney	
WDFW	1 No work planned. (Related F&WP work under Tasks 1.6, 2.2, 2.7, and 4.2a)				

Objective 4 Services to Fish and Wildlife Program Activities

Task 3 Stock Assessment Projects

Provide technical assistance to the Upper Columbia Basin and Upper Snake River Basin resident fish stock assessment projects, including a) identification of regionally consistent data exchange standards and b) Internet access to project data and other information. Specific actions will be defined in consultation with stock assessment project managers

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
IDFG	1 Coordinate with the Upper Snake River Basin Resident Fish Stock Assessment project in order to incorporate that data into StreamNet and to provide technical assistance.	Ongoing	Summarized in progress reports	Brown	
MFWP	1 Provide input as needed	As needed	Input	Hess-Herbert	
ODFW	1 Provide assistance as needed.	As needed	TBD	Cooney	
Region	1 Assist state partners as needed.	As needed	Assistance	Banach	
WDFW	1 Provide spatial, tabular data standardization and exchange consultation and assistance to participants in the BPA-funded Joint Stock Assessment Project (JSAP).	9/30/01	JSAP data forms, structures.	O'Connor, Burns	

Objective 4 Services to Fish and Wildlife Program Activities

Task 4 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

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Collaborate with CBFWA, NPPC, and other fish and wildlife programs in the Columbia Basin to identify and provide technical and other services to the Fish and Wildlife Program	ongoing	Recommendations for SN products	Roger, Forrest	
IDFG	1 Provide technical and other services to other FWP projects occurring in IDFG.	Ongoing	Summarized in progress reports	Brown	
MFWP	1 Provide technical assistance and data services to Program projects upon request.	As needed	Summary in Q reports	staff	
ODFW	1 Provide technical assistance and data services to F&W Program projects as needed and adjust work plan priorities accordingly.	As needed	TBD	Cooney	
ODFW	2 Produce pre- and post-season harvest and stock status reports for Columbia River fish runs and fisheries and make reports available via either via the StreamNet site directly or via the ODFW Columbia River Management site with a link from StreamNet.	On going	Reports completed and on the web.	Frazier	
ODFW	3 Draft a summary of real-time data services that can be provided as well as a description of how these services differ from current data services provided in the Basin.	4/30/01	Summary submitted to PSMFC	Frazier	
Region	1 Work with Fish and Wildlife Program projects throughout the basin to assist with providing information needed by the projects and acquiring and distributing information generated by the projects.	As needed	Assistance	Staff	
WDFW	1 No work planned; available as needed and as prioritized.				

Objective 4 Services to Fish and Wildlife Program Activities

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, and c) in consultation with the Council, respond to requests for information concerning Protected Areas

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
MFWP	1 Participate at whatever level is requested by StreamNet regional staff and/or the Council.	As needed	Participation	staff	
Region	1 Maintain the existing Protected Areas database.	Ongoing	Static db	Kinney	

Objective 4 Services to Fish and Wildlife Program Activities

Task 6 Basin Data Needs

StreamNet will provide information and assistance to regional reviews of data management projects and data management needs conducted by the PPC, ISRP, ISAB and other regional entities

Objective 4 Services to Fish and Wildlife Program Activities Task 6 Basin Data Needs

Task 6.a Data Management Needs

Work with regional entities to develop an analysis of regional data management needs, challenges and capabilities

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Participate on Council advisory committees to identify data needs and data gaps	4/1/01	Report	Roger, Oftedahl	
IDFG	1 Participate in discussions and coordination of basin data management needs.	Ongoing	Summarized in progress reports	Butterfield	
MFWP	1 Provide review of any and all regional data management issues	ongoing	Report	Hess-Herbert	
ODFW	1 Assist as needed with identifying data needs of the amended Fish and Wildlife Program	As needed		Cooney	
Region	1 Encourage and work with regional entities to respond to the recommendations made by the ISRP database project review. Assist with efforts to standardize data collection methods and develop regional data priorities.	Ongoing	Participation and assistance	Schmidt	
Region	2 Meet with regional data using agencies (state and tribal managers, NMFS, USFWS, EPA, FS, BLM, etc.) to determine data and information needs	11/30/00	Report	Schmidt	
SBT	1 Participate with steering committee in regional analysis of data needs	as requested	participation	Taki	
WDFW	1 Participate in regional discussions of data needs and data management strategies in support of the amended Fish and Wildlife Program.	Ongoing		O'Connor	

Objective 4 Services to Fish and Wildlife Program Activities Task 6 Basin Data Needs

Task 6.b Data Needs Workshop

Promote organization of a regional 'data needs workshop' to establish regional data / information needs and priorities and to develop recommendations for roles and responsibilities for acquiring and providing the needed data / information

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Assist in planning and conducting the workshop.	TBD	Workshop	Roger	
MFWP	1 Participate if requested.	TBD	Workshop	Hess-Herbert	
ODFW	1 Participate if requested.	TBD	Workshop	Cooney	
Region	1 Organize and hold a meeting of the regional data management projects to discuss current activities and capabilities, investigate potential duplication of effort, and develop a plan for coordinated activities to meet regional data and information needs.	2/28/01	Meeting report	Schmidt	

Region	2	Call for, and if successful, participate in, a regional workshop designed to bring together regional, state and tribal agencies to establish data and information needs, determine data and information priorities, and determine a coordinated regional approach to developing and providing the priority data and information.	TBD	Workshop, followed by report	Schmidt
SBT	1	Participate if requested.	TBD	Workshop	Taki
WDFW	1	Assist Regional staff as needed.	TBD	Workshop	O'Connor

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.

Objective 5 Project Management / Coordination

Task 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, active participation in steering committee work, and project reporting

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Provide normal supervision of StreamNet Library staff and the CRITFC database Programmer.	Ongoing	Supervision	Roger	
CRITFC	2 Produce quarterly reports within 1 month after the end of each quarter	Quarterly	Reports	Roger	
CRITFC	3 Produce final report within 2 months of the end of the contract period	11/31/00	Report	Roger	
CRITFC	4 Participate in Steering Committee meetings	Ongoing	Participation	Roger	
CRITFC	5 Collaborate on developing a final detailed Statement of Work for the current contract and for the coming year	6/30/01	Statements of Work and budgets	Roger	
FWS	1 Represent FWS in Steering Committee meetings	Quarterly	Participation	Pastor	
FWS	2 Produce quarterly reports w/in 30 days of quarter end	Oct., Jan., Apr., July	Quarterly report	Pastor	
FWS	3 Produce FWS component of FY2000 final report	10/31/00	Final report	Pastor	
FWS	4 Create FWS StreamNet budget & statement of work for FY2002	8/31/01	Annual Budget	Pastor	
FWS	5 Contribute FWS portion of Project Renewal documents	5/30/01	Project renewal documents	Pastor	

IDFG	1	Participate in Steering Committee activities. Manage all aspects of StreamNet in IDFG, including budget, personnel, and work management. Products will include: Annual IDFG StreamNet work statement; Quarterly and annual reports of progress; and, Participation in Steering Committee activities.	Ongoing	SOW, Q and A reports, Budgets	Butterfield
MFWP	1	Administer all aspects of the project for Montana, including oversight of budget, personnel, work statement preparation and implementation, coordination, and project reporting. Participate in Steering Committee.	Ongoing	Meetings, Q. reports, participation	Hess-Herbert, staff
ODFW	1	Administer all aspects of the project for Oregon, including budget oversight, personnel, staff work plans, project implementation and coordination, Steering Committee and technical issues meeting attendance.	Ongoing	Meetings, & project oversight	Cooney
ODFW	2	Participate/attend appropriate training and conferences in order to enhance technical skills which are relevant to StreamNet's mission.	As needed	Attendance & in quarterly report	All staff
ODFW	3	Produce and provide a Statement of Work, budget proposal, quarterly reports, and annual report for Oregon.	Upon request	Documents and Reports	Cooney, Frazier
Region	1	Provide oversight for the StreamNet Program	Ongoing	Oversight	Schmidt
Region	2	Supervise StreamNet regional staff. Provide training opportunities for project staff to further their technical development and capabilities.	Ongoing	Training	Schmidt
Region	3	Develop program budgets and manage / monitor expenditures	Ongoing	Budget	Schmidt
Region	4	Coordinate with other regional data management projects to coordinate and cooperate to maximize data and information flow, maximize complementary aspects, and to avoid duplication of effort.	Ongoing	Coordination	Schmidt
Region	5	Coordinate with data collecting agencies and organizations to determine data availability and encourage data and information being made public.	Ongoing	Coordination	Schmidt
Region	6	Coordinate with regional management agencies / entities and data using entities to determine information and data service needs and to assure rapid response to reasonable data and information needs.	Ongoing	Coordination	Schmidt
Region	7	Produce quarterly reports within 1 month after the end of each quarter	Quarterly	Q. reports	Schmidt
Region	8	Produce final report within 2 months of the end of the contract period	11/31/00	A. report	Schmidt
Region	9	Manage and serve the StreamNet Steering Committee through: Organizing and conducting committee meetings at least quarterly; Calling additional meetings as needed to address timely issues; and, Actively consulting with Steering Committee on program activities	Quarterly, and ongoing	Meetings, meeting notes, consultation	Schmidt
Region	10	Prepare a project proposal and Statement of Work for FY2002.	5/31/01	Proposal	Schmidt
SBT	1	Produce quarterly reports within 1 month after the end of each quarter	Quarterly	Report	Taki
SBT	2	Produce final report within 2 months of the end of the contract period	11/31/01	Report	Taki
SBT	3	Participate in Steering Committee meetings	quarterly	meeting	Taki

WDFW	1	The WDFW StreamNet state coordinator will participate in all Steering Committee and StreamNet Project management activities. The state coordinator and the state data manager will jointly manage all aspects of StreamNet in WDFW, including budget, personnel, work scheduling, and product delivery.	9/30/01	Q & Ann reports, meeting notes, budgets, SOW, data	O'Connor,
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Objective 5 Project Management / Coordination

Task 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 (FWP). 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.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 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.	As needed	Identify SN	Roger, Forrest	
CRITFC	2 Where appropriate, 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, with particular emphasis on subbasin planning and R/M/E issues.	As needed	Improved SN services	Roger, Forrest	
IDFG	1 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.	Ongoing	Summarized in progress reports	Butterfield	
IDFG	2 Where appropriate, 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.	Ongoing	Summarized in progress reports	Butterfield	
MFWP	1 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.	As needed	Participation, assistance	Hess-Herbert	
ODFW	1 Participate in activities aimed at identifying ways that StreamNet might more effectively contribute to the Fish and Wildlife Program, including participation in Fish and Wildlife Program advisory groups and applicable regional policy, planning, and management forums.	As needed	Details in quarterly report	Cooney	
Region	1 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 most effectively contribute data / information and support to the FWP.	As needed	Participation	Schmidt	

Region	2	Where appropriate, 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. Areas of particular emphasis are a) participation in FWP monitoring and evaluation activities, and b) exploring opportunities for integration of StreamNet data exchange formats into Fish and Wildlife Program contract terms and conditions.	As needed	Participation	Schmidt
SBT	1	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.	As needed	Participation	Taki
SBT	2	Where appropriate, 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.	As needed	Participation	Taki
WDFW	1	No specific work planned; available as needed for coordination (see related work under Tasks 1.6, 2.2, 2.7, 4.2a, 4.7a).	As needed		O'Connor

Objective 5 Project Management / Coordination

Task 3 Coordinate with Other Related Activities

As needed, produce public information materials including updated versions of the project brochure, computer demonstration materials, and/or other appropriate materials

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Seek closer cooperation, coordination, and consistency of information management practices and standards between salmon restoration programs in the Columbia Basin (e.g. Mid-Columbia PUD's, LSRCP) by participating on appropriate work groups.	Ongoing	Coordination	Roger, Forrest	
CRITFC	2 Promote greater regional and national coordination of information management applications at appropriate professional meetings.	Ongoing	Coordination	Roger, Forrest	
IDFG	1 Coordinate with regional and state-level fish and wildlife activities that have relevance to the goals and objectives of StreamNet.	Ongoing	Summarized in progress reports	Butterfield	
MFWP	1 Maintain communication, help coordinate activities with Montana Department of Natural Resources, Department of Environmental Quality and the Natural Resource Information System as they relate to StreamNet activities. Participate in appropriate conferences by preparing papers and giving presentations.	Ongoing	Activities summarized in quarterly reports.	Hess-Herbert	
ODFW	1 Establish / maintain working relationships with data collection projects within and outside ODFW to promote efficient and beneficial data sharing.	As needed	Enhanced data flow into StreamNet	Cooney	
Region	1 Coordinate the efforts of the StreamNet project with other data compilation projects occurring in the region. Address issues of data gaps, duplication of effort, data set integration, georeferencing standardization, scientific rigor, management needs, etc.	Ongoing	Complimentary programs	Schmidt	
Region	2 Organize an annual meeting of regional data compilation projects to facilitate coordination and communication. See Task 4.7.b.	7/1/01	Meeting	Schmidt	

WDFW 1 Maintain working contact with Washington Hydro Framework partners and USGS Regional Ecosystem Office staff to promote effective sharing of hydrology base layers and attached fish and habitat data. Ongoing Updated hydrology and db Hudson, O'Connor

Objective 5 Project Management / Coordination

Task 4 Prepare Public Information Materials.

Maintain communications between StreamNet and other applicable regional and state-level fish and wildlife activities to identify means for collaborative data collection, storage, and dissemination. Collaborative data activities will 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.

Objective 5 Project Management / Coordination Task 4 Prepare Public Information Materials.

Task 4.a 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

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 Produce and update a Library brochure and Access guide listing services, hours and cost recovery fees.	9/30/01	Library brochure, Access guide	Oftedahl	
MFWP	1 Montana will participate in review and recommendations.	As needed	Participation	Hess-Herbert	
ODFW	1 Write informational articles on StreamNet data activities for natural resource oriented publications and give oral presentations to relevant user groups.	As needed	Published articles, and presentations	All staff	
ODFW	2 Develop an informational PowerPoint presentation about the SN	7/31/01	PowerPoint	Cooney	
Region	1 Update the existing StreamNet brochure	7/31/01	Brochure	Schmidt	
Region	2 Create improved web page help files to assist users in understanding and making better use of StreamNet information.	9/30/01	Updated help files	Staff	
Region	3 Create a demonstration of the data and services available by StreamNet. Update this presentation as necessary. Materials developed will be for presentations covering the data and services provided by StreamNet, and how to use the StreamNet web site to obtain data.	12/1/00	Demonstration materials	Banach, Graves, Schmidt	

Objective 5 Project Management / Coordination

Task 4 Prepare Public Information Materials.

Task 4.b Participate in informational meetings/conferences

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.

<u>Project</u>	<u>Planned work elements</u>	<u>Date Due</u>	<u>Deliverable</u>	<u>Lead</u>	<u>Comments</u>
CRITFC	1 See task 3.5				
IDFG	1 Participate in state, regional, or national educational or professional conferences.	Ongoing	Summarized in progress reports	ID Staff	
IDFG	2 Serve as chairman and organizer for the 2001 ArcInfo User's Group Conference scheduled for October 2001.	Ongoing	Summarized in progress reports	Butterfield	
MFWP	1 Participate as opportunities arise to highlight StreamNet programs &	As needed	Participation	Hess-Herbert	
ODFW	1 Participate in appropriate meetings & conferences as opportunities arise to highlight StreamNet programs & data	As needed	Participation	Cooney	
Region	1 Participate in appropriate meetings to explain the StreamNet project, solicit new data and information, or to present relevant data from the SN database.	As opportunities arise	Participation	Schmidt	
Region	2 Represent StreamNet in relevant state, regional and national meetings and conferences.	Ongoing	Participation	Schmidt	
WDFW	1 Participate as opportunities arise to highlight StreamNet programs &	As needed	Participation	O'Connor	