



### Statement of Work Report

**Project Title:** Streamnet (Cis/Ned)  
**Project #:** 1988-108-04  
**Contract Title:** PI 198810804 STREAMNET (CIS/NED)  
**Contract #:** 20518  
**Province:** Systemwide                      **Subbasin:** Systemwide Projects  
**Contractor(s):** Pacific States Marine Fisheries Commission (PSMFC) (Prime - PACISTAT00)  
**BPA Internal Ref:** CCR-00005556  
**Contacts:**

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**Work Element Table of Contents:**

<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
A : Submit/Acquire Data - Conduct site visits to obtain updated data from biologist		\$44,300	(2 %)
B : Submit/Acquire Data - Develop anadromous fish distribution data (100K scale)		\$44,301	(2 %)
C : Submit/Acquire Data - Develop resident fish distribution data (top priority for MFWP, lower priority for others)		\$44,301	(2 %)
D : Submit/Acquire Data - Develop data for adult abundance in the wild		\$44,301	(2 %)
E : Submit/Acquire Data - Develop hatchery release data		\$44,301	(2 %)
F : Submit/Acquire Data - Develop hatchery return data		\$44,301	(2 %)
G : Submit/Acquire Data - Develop dam and fish passage facility data (mid-priority)		\$44,300	(2 %)



<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
H : Submit/Acquire Data - Develop hatchery facility data (key dataset, update once per year)		\$44,300	(2 %)
I : Submit/Acquire Data - Develop harvest data		\$44,300	(2 %)
J : Submit/Acquire Data - Develop hydrography data		\$44,300	(2 %)
K : Submit/Acquire Data - Develop data to track habitat restoration / improvement projects		\$44,300	(2 %)
L : Submit/Acquire Data - Develop fish barrier data		\$44,300	(2 %)
M : Submit/Acquire Data - Develop juvenile fish data		\$44,300	(2 %)
N : Submit/Acquire Data - Develop fish age data		\$44,300	(2 %)
O : Submit/Acquire Data - Develop production factor and run reconstruction data		\$44,300	(2 %)
P : Submit/Acquire Data - Develop diversion screening data		\$44,300	(2 %)
Q : Submit/Acquire Data - Develop other data sets		\$44,300	(2 %)
R : Submit/Acquire Data - Library: Collection development		\$44,300	(2 %)
S : Manage/Maintain Database - System Administration		\$167,395	(7 %)
T : Manage/Maintain Database - Application and interface development		\$167,395	(7 %)
U : Manage/Maintain Database - Data (content) management		\$167,395	(7 %)
V : Manage/Maintain Database - Data exchange standard development		\$167,395	(7 %)
W : Disseminate Raw & Summary Data - Develop and maintain Internet sites for data dissemination		\$69,335	(3 %)
X : Disseminate Raw & Summary Data - Respond to data/information requests		\$69,335	(3 %)
Y : Disseminate Raw & Summary Data - Provide data and maps to support Fish and Wildlife Program activities		\$69,335	(3 %)
Z : Disseminate Raw & Summary Data - Maintain and post Protected Areas data		\$69,334	(3 %)
AA : Disseminate Raw & Summary Data - Library: Provide access to the library collection		\$69,334	(3 %)
AB : Coordination - Support Fish and Wildlife Program development activities		\$44,472	(2 %)
AC : Coordination - Support subbasin planning efforts		\$44,471	(2 %)
AD : Coordination - Coordinate with related activities outside of the FWP		\$44,471	(2 %)
AE : Outreach and Education - Professional and public involvement		\$24,454	(1 %)
AF : Manage and Administer Projects - Manage project activities		\$209,405	(9 %)
AG : Produce Status Report - Quarterly reports		\$60,053	(3 %)



<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
AH : Produce Annual Report - Annual report		\$20,049	(1 %)
Total:		\$2,261,033	

\* Environmental Compliance (EC) needed before work begins.

**Contract Description:**

StreamNet Project  
 BPA Project No.: 198810804  
 FY 2006 Work Statement  
 October 1, 2005 through September 30, 2006

Note: Project costs have been allocated equally across all individual titles within each Work Element, since it is not possible to accurately separate them for the large number of individual titles and the fact that in some cases given work effort (cost) can address several titles at the same time.

Participants:

Bruce Schmidt, Project Manager, Pacific States Marine Fisheries Commission  
 Phil Roger, Columbia River Intertribal Fish Commission  
 Bart Butterfield, Idaho Department of Fish and Game  
 Janet Hess-Herbert, Montana Fish Wildlife and Parks  
 Cedric Cooney, Oregon Department of Fish and Wildlife  
 Steve Pastor, U.S. Fish and Wildlife Service  
 Dick O'Connor, Washington Department of Fish and Wildlife

Project Description

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

The Pacific States Marine Fisheries Commission (PSMFC) administers the project. PSMFC staff are also responsible for the regional components of the project, including maintaining the regional database, assuring regional data standardization, making data available in Geographic Information System (GIS) formats, building and operating Internet based data delivery systems, and posting the data for public access.

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

StreamNet functions to obtain, standardize, georeference and disseminate fish related data. It focuses on the kinds of data primarily collected by the state, tribal and federal fisheries management agencies for use in management and research programs. Work is organized around eight BPA defined Work Elements:



1. WE 159 Submit / Acquire Data. The agency components of the project obtain various specific data sets from within their agencies and other agencies within their respective states or among member agencies. These data are then converted into regionally consistent formats so that all data are comparable despite agency of origin. The formats are agreed to by all participating agencies so that all are comfortable that data from different sources are being combined correctly. These data are then submitted to the regional database at PSMFC. In addition, source documents for all data are submitted to the StreamNet Library so that all data in the database are tied to source documents that are available through the library.
2. WE 160 Manage / Maintain Database. All components of the StreamNet project maintain databases and computer systems to support their work at both the source agency and regional levels. This work includes maintenance of the hardware systems themselves and maintenance, updating, management and quality control of the data. Also included is development of various software tools to assist in data management and manipulation, and development of the various standard data formats referred to as Data Exchange Formats (DEF) used to assure data consistency across the region. StreamNet also maintains a number of regional base data layers that are essential for management and depiction of data, including the PNW 1:100,000 routed hydrography (stream layer), a new interim mixed scale hydrography, and various general GIS layers.
3. WE 161 Disseminate Raw and Summary Data. Dissemination of data through the StreamNet website ([www.streamnet.org](http://www.streamnet.org)) entails development, maintenance and operation of various applications, including a tabular data query system, interactive mappers, a searchable Independent Data Sets archive, and various pre-selected data sets. Data services include responding to requests for information from individuals, subbasin planners, other FWP supported projects, watershed councils, agencies and regional entities. The StreamNet Library provides access to data source documents for all data in the StreamNet database, the entire NW Power and Conservation Council document collection, and a major collection of fish and wildlife related agency reports and documents (gray literature). They also provide various services such as document scanning and Interlibrary Loans to aid patrons in obtaining information.
4. WE 118 Coordination. StreamNet coordinates with a variety of other database projects and regional initiatives. Coordination with other databases is for the purpose of avoiding unnecessary duplication of effort and to facilitate data sharing. Coordination with regional initiatives (such as Subbasin Planning, CSMEP, PNAMP, NED) is to provide data services and share experience and expertise with regional data consolidation and dissemination and assist these initiatives in reaching their goals.
5. WE 99 Outreach and Education. StreamNet produces occasional documents and brochures that explain the project and how to use it to obtain data. Project members also participate in professional organization meetings to explain project data services, advertise data availability, and encourage greater flow of data to the project.
6. WE 19 Manage and Administer Projects. All project participants contribute to management of the project. Each agency manages its own portion of the project, and PSMFC manages the overall project. Management tasks include budget development and expenditure tracking, personnel supervision, and management of project activities to accomplish tasks contained in the statement of work. Participants contribute to project guidance through active participation in the StreamNet Steering Committee and serve as liaisons with their respective agencies
7. WE 141 Produce Status Report and WE 132 Produce Annual Report. These activities involve reporting project accomplishments to BPA.

Details of the actual tasks performed by the project are detailed in the Milestones under each Work Element.



## Statement of Work Report

### Work Element Details

#### A: Submit/Acquire Data

- Title:** Conduct site visits to obtain updated data from biologist
- Description:** Conduct scheduled site visits to offices of biologists in state, tribal and federal agencies to obtain the most recently available field data. This approach is used by only one of the agencies cooperating in the StreamNet project
- Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)
- Deliverable Specification:** The MFWP StreamNet project staff obtained all relevant fisheries data from scheduled site visits to biologists.

Milestone Title	Start Date	End Date	Milestone Description
MFWP capture fish data through scheduled visits to biologist offices	10/1/2005	9/30/2006	MFWP will visit MFWP, other state agency and federal fisheries biologists in early 2006 to obtain fisheries field survey data collected during the 2005 field season. Data will include fish distribution; use type; survey, inventory and monitoring of target species; reptiles and amphibians and nongame species. They will update the data tables in MFISH with the new data collected from biologists and documents, reports and electronic files assigning data LLID for stream routes and lakes. The update will be done for the entire state. Additional fields may be collected for species undergoing a species assessment. This is the primary method of obtaining data for StreamNet in Montana, in contrast to the other state StreamNet components.
Completed site visits to obtain new field data in Montana		9/30/2006	The MFWP StreamNet project staff obtained all relevant fisheries data from scheduled site visits to biologists.

#### B: Submit/Acquire Data

- Title:** Develop anadromous fish distribution data (100K scale)
- Description:** Document the occurrence, distribution and life history characteristics of anadromous fish species. Efforts will be made to utilize the current mixed scale hydrography for these data, with intent to migrate to 24K when a regionally consistent 24K routed hydrography becomes available. Maintenance of this high priority data set will continue. The state StreamNet sub-projects will maintain the existing data on anadromous fish distribution and habitat use in their respective states. New distribution information will be incorporated as they become available. Updated distribution data will be conveyed ("exchanged") to the regional StreamNet database at PSMFC, where they will be incorporated into the database.
- Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)
- Deliverable Specification:** Data on the distribution and habitat use of anadromous fish are maintained, and updated as possible, by each of the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC and made available through the online data query system.



Milestone Title	Start Date	End Date	Milestone Description
IDFG development of anadromous fish distribution data	10/1/2005	9/30/2006	IDFG, on an ongoing and opportunistic basis, will update, maintain, correct and exchange anadromous fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current hydrography scale.
ODFW development of anadromous fish distribution data	10/1/2005	9/30/2006	ODFW, on an ongoing and opportunistic basis, will update, maintain, correct and exchange anadromous fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current and/or appropriate hydrography scale.
WDFW development of anadromous fish distribution data	10/1/2005	9/30/2006	WDFW will convert the newest Washington anadromous fish distribution data to StreamNet format and exchange data when completed.
Anadromous fish distribution data updated and maintained		9/30/2006	Data on the distribution and habitat use of anadromous fish are maintained, and updated as possible, by each of the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC and made available through the online data query system.

**C: Submit/Acquire Data**

- Title:** Develop resident fish distribution data (top priority for MFWP, lower priority for others)
- Description:** Document the occurrence, distribution and life history characteristics of resident fish species, at the most current available hydrography scale. Existing resident fish distribution will be maintained, and project participants will begin expanding data for additional species. This is high priority for Montana, and new data will be developed by the other states as time allows. Updated distribution data will be exchanged to the regional StreamNet database at PSMFC, where they will be incorporated into the database.
- Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)
- Deliverable Specification:** Data on the distribution and habitat use of resident fish (species of primary interest) are maintained, and updated as possible, by each of the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.



Milestone Title	Start Date	End Date	Milestone Description
IDFG development and exchange of resident fish distribution data	10/1/2005	9/30/2006	IDFG, on an ongoing and opportunistic basis, will capture and update resident fish distributions and submit them to regional StreamNet in the DEF tied to the current hydrography scale.
MFWP development and exchange of resident fish distribution data	10/1/2005	9/1/2006	MFWP will update, maintain, correct and exchange resident fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current and/or appropriate hydrography scale, based on the information obtained through the scheduled visits to biologists offices.
MFWP participate in regional species assessments	10/1/2005	9/30/2006	MFWP will participate, organize and prepare materials for fish species of concern assessment if they occur during the fiscal year. These assessments, with Yellowstone Cutthroat Trout scheduled for FY-06, provide valuable updates to the resident fish distribution, use type and barriers tables.
ODFW development and exchange of resident fish distribution data	10/1/2005	9/30/2006	ODFW, on an ongoing and opportunistic basis, will update, maintain, correct and exchange resident fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current and/or appropriate hydrography scale.
WDFW development of resident fish (bull trout) distribution data	10/1/2005	12/31/2005	WDFW will convert the newest Washington bull trout distribution data, including updates from the statewide 5-year review completed in 2004, to StreamNet format and exchange data when completed.
WDFW development of resident fish (cutthroat) distribution data	1/1/2006	3/31/2006	WDFW will convert the newest Washington coastal and Westslope cutthroat fish distribution data to StreamNet format and exchange data when completed.
WDFW development of resident fish (rainbow) distribution data	1/1/2006	3/31/2006	WDFW, if required by federal steelhead listing petition, will conduct an updated field review of rainbow trout fish distribution data in all basins included in designated steelhead ESUs. They will convert data to StreamNet format and exchange data when completed.
Resident fish distribution data maintained, updated as possible		9/30/2006	Data on the distribution and habitat use of resident fish (species of primary interest) are maintained, and updated as possible, by each of the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

**D: Submit/Acquire Data**

**Title:** Develop data for adult abundance in the wild

**Description:** Develop and maintain (update) information on adult abundance for native fish species, resident and anadromous, including escapement, redd counts, peak spawner counts, trap counts, dam and weir counts, and resident fish populations (where calculated by other agencies). This is a high priority data type. Also included in this data category are data gathered during spawning ground surveys regarding straying of hatchery fish onto spawning areas, i.e., marked/unmarked ratio. These are lower priority under base funding. Updated data will be exchanged with the regional StreamNet database at PSMFC at least once per year.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)



**Deliverable Specification:** Data on the abundance of fish (species of primary interest) in the wild are maintained and updated, by each of the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

Milestone Title	Start Date	End Date	Milestone Description
CRITFC development of adult abundance data: CRITFC update mainstem dam counts	10/1/2005	6/30/2006	CRITFC will update available tribal spawning ground survey data and exchange them with regional StreamNet.
IDFG development of adult abundance data	10/1/2005	6/1/2006	IDFG will compile the 2005 field season spawner survey and weir count data from IDFG and submit them in the DEF to regional StreamNet.
MFWP development of adult abundance data	1/1/2006	9/30/2006	MFWP will input all 2005 stream and lake fish survey data into MFISH, including trend, count and references. The data will include all fish surveys, including one time, index streams, lake netting and all other types. Data will be provided as an independent data set since the current DEF isn't established for resident fish surveys. If a DEF is available, the data will be exchanged.
ODFW development of adult abundance data, first exchange	10/1/2005	4/14/2006	ODFW will maintain existing anadromous, resident, and non-game abundance and index trends. Two exchanges of data are planned.
ODFW development of adult abundance data, second exchange	4/17/2006	9/15/2006	ODFW will maintain existing anadromous, resident, and non-game abundance and index trends. Second of two planned exchanges.
WDFW development of adult abundance data	10/1/2005	12/30/2005	WDFW will update and enhance the existing natural spawner database (escapement estimates and/or detailed counts) for return year 2004-2005. Convert and exchange data.
Fish abundance data are maintained and updated	10/1/2004	9/30/2006	Data on the abundance of fish (species of primary interest) in the wild are maintained and updated, by each of the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

E: Submit/Acquire Data

**Title:** Develop hatchery release data

**Description:** The hatchery release data category is currently undergoing revision by the StreamNet project. Release data have in the past been obtained from the Regional Mark Information System (RMIS). However, a significant number of release records in RMIS is aggregated into Pacific Salmon Commission codes, which combine ("roll up") multiple locations and release dates so the data can not be assigned a specific release location. StreamNet is in the process of obtaining hatchery release information based on individual release locations and times. During this year, we will initiate a new system of obtaining release data directly from the management agencies and make them available regionally as soon as possible, although some individual release locations may not be available this year. Release data for resident species under base funding will be developed only where the data are readily available (primarily Montana). Efforts will be made to complete cross references between PSC release codes and LLID stream location identifiers. This is a high priority data set.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)





**Deliverable Specification:** The Oregon, Washington, Idaho and FWS StreamNet cooperators obtain available individual hatchery release data for anadromous fish before being rolled up into PSC codes. These data are exchanged with the central database at PSMFC, where they are organized for public dissemination.

Milestone Title	Start Date	End Date	Milestone Description
FWS development of hatchery release data	10/1/2005	9/30/2006	FWS will acquire and process hatchery release information from national fish hatcheries in the Columbia River Basin and exchange data with the regional StreamNet database.
IDFG development of hatchery release data	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will work with IDFG Fisheries staff to identify hatchery release locations and incorporate hatchery release data into StreamNet. Hatchery release locations and data will be exchanged to regional StreamNet.
MFWP development of hatchery release data	10/1/2005	8/15/2006	MFWP will exchange Montana's hatchery release data after development of a resident DEF and/or modifications to the existing anadromous hatchery release DEF. If that does not occur, MFWP can provide data as an independent data set.
ODFW development of hatchery release data	10/1/2005	7/31/2006	ODFW will compile and submit anadromous hatchery releases through 2004, and 2005 where available, in an unrolled format if possible.
WDFW development of hatchery release data for anadromous fish	10/1/2005	12/31/2005	WDFW will convert and exchange pilot unrolled anadromous fish hatchery release data for the 2004 release year.
Hatchery release data made available in unrolled format		9/30/2006	The Oregon, Washington, Idaho and FWS StreamNet cooperators obtain available individual hatchery release data for anadromous fish before being rolled up into PSC codes. These data are exchanged with the central database at PSMFC, where they are organized for public dissemination.

**F: Submit/Acquire Data**

**Title:** Develop hatchery return data

**Description:** Develop and maintain (update) information on the return, disposition and straying (e.g., from other hatcheries) of adult fish returning to hatcheries, including information on coded wire tags. This is an anadromous related task only. Priority will be placed on updating total return and egg take data through 2003. Development of disposition data is lower priority and would require additional resources. Updated data will be exchanged with the regional StreamNet database at PSMFC at least annually. This is a high priority data set.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Data on the return of anadromous fish to the hatcheries are maintained and updated by the state and FWS StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.



Milestone Title	Start Date	End Date	Milestone Description
FWS development of hatchery return data	10/1/2005	5/30/2006	FWS will receive Fish Removal and Egg files from individual hatcheries, and add summarized data to the Hatchery Returns file. Data will be exchanged with the regional StreamNet database.
IDFG development of hatchery return data	10/1/2005	6/1/2006	IDFG will compile the 2005 field season hatchery return data from IDFG and submit in DEF to regional StreamNet.
ODFW development of hatchery return data	5/1/2006	7/31/2006	ODFW will compile data on returns to ODFW hatchery facilities (updated through 2004 returns where possible) and exchange in the DEF to regional StreamNet.
WDFW development of hatchery return data	1/1/2006	3/31/2006	WDFW will update the existing hatchery return database for return year 2004-2005, convert and exchange data.
Anadromous fish return to the hatchery data maintained and updated		7/31/2006	Data on the return of anadromous fish to the hatcheries are maintained and updated by the state and FWS StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

**G: Submit/Acquire Data**

- Title:** Develop dam and fish passage facility data (mid-priority)
- Description:** Data on dam and fish passage facilities will be maintained and updated as necessary and possible by each of the state StreamNet sub-projects. Updated data will be exchanged with the regional StreamNet database at PSMFC. This is a key data set, but mid priority for update under base level funding.
- Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)
- Deliverable Specification:** Data on dam and fish passage facilities are maintained and updated by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

Milestone Title	Start Date	End Date	Milestone Description
IDFG development of dam and fish passage facility data	10/1/2005	9/30/2006	IDFG, on an ongoing, opportunistic basis, will capture and update dam and fish passage facility data as necessary or possible.
MFWP development of dam and fish passage facility data	1/1/2006	6/1/2006	MFWP will update the dams facilities database one time during the year and exchange the data if there are any changes.
ODFW development of dam and fish passage facility data	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will maintain existing dam and fish passage facilities information. Any updates will be the result of QA/QC efforts and easily incorporated dam and fish passage data.
WDFW development of dam and fish passage facility data	4/1/2006	6/30/2006	WDFW will update the dam data records, adding new records and improving field entries for existing records as warranted, convert and exchange data when complete.
Data on dam and fish passage facilities maintained and updated		9/30/2006	Data on dam and fish passage facilities are maintained and updated by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

**H: Submit/Acquire Data**

- Title:** Develop hatchery facility data (key dataset, update once per year)



**Description:** Develop and maintain information on anadromous and resident hatchery facilities, including information on location, design, management and authorization. Information will be updated as necessary and exchanged to the regional database at PSMFC. This is a high priority data set.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Data on hatchery facilities are maintained and updated by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

Milestone Title	Start Date	End Date	Milestone Description
IDFG development of hatchery facility data	10/1/2005	9/30/2006	IDFG, on an ongoing, opportunistic basis, will capture and update hatchery facility data and exchange them to regional StreamNet.
MFWP development of hatchery facility data	10/1/2005	9/1/2006	MFWP will update the public and private facilities hatchery facilities database once a year and exchange with StreamNet.
FWS update the Hatchery Facility table	10/1/2005	9/30/2005	FWS will collect any revised information on National Fish Hatcheries and submit updates to the regional StreamNet database.
ODFW development of hatchery facility data	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will maintain and update hatchery facility information, at least once per year as needed, based on errors found in the Oregon hatchery facilities information, including facility location information.
WDFW development of hatchery facility data	1/1/2006	3/31/2006	WDFW will update the hatchery database, adding new records and improving field entries for existing records as warranted, convert and exchange data when complete.
WDFW development of Washington HatcheryxProduction data	4/1/2006	6/30/2006	WDFW will update records in the HatcheryxProduction dataset as warranted, based on hatchery facility data updates, convert and exchange data when complete.
Hatchery facilities data maintained and updated		9/30/2006	Data on hatchery facilities are maintained and updated by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC.

**I: Submit/Acquire Data**

**Title:** Develop harvest data

**Description:** StreamNet has traditionally posted harvest data from in-river sport fisheries. This will continue in FY-06, but we will also explore the availability of ocean / commercial harvest data as estimated by others and determine whether these data can be realistically obtained and standardized for regional distribution. Higher priority is assigned to anadromous species. Updated data will be exchanged to the regional StreamNet database at PSMFC.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Data on in river sport harvest of anadromous species are maintained and updated as possible by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC. Availability and format of ocean / commercial harvest data are evaluated for future development.



Milestone Title	Start Date	End Date	Milestone Description
IDFG development of harvest data	10/1/2005	9/30/2006	IDFG will compile the most currently available harvest survey data from IDFG and submit them in the DEF to regional StreamNet.
ODFW development of harvest data, first data submission	10/1/2005	4/14/2006	ODFW will maintain existing harvest trends. First of two planned exchanges of data.
ODFW development of harvest data, second data submission	4/17/2006	9/15/2006	ODFW will maintain existing harvest trends. Second of two planned exchanges of data.
WDFW development of commercial salmon harvest data	7/1/2006	9/30/2006	WDFW will scope out the availability of commercial salmon harvest data from the Washington coastal and Columbia River basin fisheries. They will generate a report describing available attributes, suitability of current StreamNet DEF to handle these data, and a timeline for the first pilot submission from Washington.
In river anadromous sport harvest data maintained and updated		9/30/2006	Data on in river sport harvest of anadromous species are maintained and updated as possible by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC. Availability and format of ocean / commercial harvest data are evaluated for future development.

**J: Submit/Acquire Data**

**Title:** Develop hydrography data

**Description:** Maintain the regionally consistent routed hydrography layer at the 1:100,000 (100K) scale for which StreamNet is the official keeper. This LLID based hydrography has been the basis for georeferencing and displaying locations for all other data in the StreamNet database, and as such is an essential data set. In FY-06 we will continue to maintain these data, but emphasis will shift to development and use of a mixed scale hydrography (100K plus 24K streams that have attached fish data) as an intermediate step toward the eventual conversion to 24K when a regionally consistent routed 24K hydrography becomes available from other entities (potentially several years away).

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The 1:100,000 PNW hydrography layer is maintained and updated as needed for internal use and posted on the StreamNet website for use by others. An interim "mixed scale" (100K X 24K) hydrography for use in posting StreamNet data is developed for StreamNet use until the PNW 1:24,000 scale NHD is completed by USGS.



Milestone Title	Start Date	End Date	Milestone Description
IDFG maintenance of hydrography for Idaho	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will maintain and update, as necessary, the 1:100,000 scale hydrography files for Idaho. Prototype LLID routing at 24K will be done on other funding.
MFWP maintenance of hydrography for Montana	10/1/2005	9/1/2006	MFWP, using the NHD, will continue to update the routes using the updated NHD layer, including lakes; quality check the cross-reference between the LLID system and MFWP's water code system; and participate in Steering Committee assignments for either the 1:24 K product or the mixed scaled hydrography. NRIS will become the steward of the NHD layers in FY06 and take over maintenance of the layer excluding the stream routes.
MFWP participation in 1:24 K hydrography development	10/1/2005	9/30/2006	NRIS will become the steward of the NHD for Montana in FY06. MFWP will rely on them for the development of the NHD 1:24 K layer through contracted services.
ODFW maintenance of hydrography for Oregon	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will maintain and update as necessary the 1:100,000 scale hydrography files for Oregon. They will also contribute to the development of a hybrid (100k -24K) hydro layer that will enable display of all distribution data in a linear format
PSMFC transition to interim "mixed scale" hydrography and monitor development of routed 24k hydro.	10/1/2005	9/30/2006	The Region will maintain the 100K hydrography and transition to using the interim "mixed scale" hydrography as it becomes available. In particular, this transition will enable StreamNet to display the best available fish distribution data region wide. Progress on the development of a regionally consistent 24k routed hydrography by the USGS and partners will be closely monitored.
WDFW development of the Washington streams portion of the StreamNet mixed-scale hydrography layer	10/1/2005	9/30/2006	WDFW will perform minimal maintenance of the 1:100,000 scale hydrography and will update and maintain a mixed-scale hydrography (streams and lakes) layer for Washington state, including the 1:24,000 scale representation of all 1:100,000 scale Washington streams plus 1:24,000 scale named streams plus 1:24,000 scale streams containing StreamNet data. They will include a current copy of the layer with each StreamNet data exchange, with a minimum of at least one hydro layer exchange each fiscal year.
WDFW development of the Washington lakes portion of the StreamNet mixed-scale hydrography layer	4/1/2006	6/30/2006	WDFW will complete attribute development (including verified location coding) and finalize the lakes portion of the Washington state mixed-scale hydrography layer. They will include a current copy of the layer with each StreamNet data exchange that references water body locations, with a minimum of at least one exchange per fiscal year.
100K regional hydrography maintained and mixed scale hydrography developed		9/30/2006	The 1:100,000 PNW hydrography layer is maintained and updated as needed for internal use and posted on the StreamNet website for use by others. An interim "mixed scale" (100K X 24K) hydrography for use in posting StreamNet data is developed for StreamNet use until the PNW 1:24,000 scale NHD is completed by USGS.



**K: Submit/Acquire Data**

**Title:** Develop data to track habitat restoration / improvement projects

**Description:** Preliminary work has been completed on developing data related to habitat restoration and improvement projects, but regional priority has not been assigned to StreamNet for developing these data. Even though we have developed an improved DEF for these data, this now is a low priority data type under current base funding. We are ready should a higher priority be assigned by regional entities. We believe that there is not yet a comprehensive compilation of all of this kind of data in the region, and we suggest that a project be tasked with obtaining this information from the many sources of such data, including OWEB, WSRFB, US Forest Service, BLM, tribes, and the PCSRF database, updating it annually, and providing it in a regionally standardized format.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Existing data on habitat restoration / improvement projects are maintained; remain ready to expand collection of these data if requested by regional entities.

Milestone Title	Start Date	End Date	Milestone Description
CRITFC development and exchange of habitat projects tracking data	10/1/2005	3/31/2006	CRITFC will provide tribal PCSRF project information.
MFWP development of user interface for Fisheries Division Restoration Program	10/1/2005	9/1/2006	MFWP will provide technical and user interface development to the Fisheries Division Future Fisheries (FF) Program, the Fisheries Restoration Program for the division. Coordinate with FF Field staff and modify the user interface as requested. Although considered a low priority for the region, this is a high priority for MFWP; a legislated mandated program is in place with grant awards provided annually for fisheries restoration projects that MFWP administers.
MFWP development and exchange of habitat projects tracking data	10/1/2005	9/1/2006	MFWP staff will provide data entry for fisheries restoration projects from federal and state agencies that are not fully funded by the Future Fisheries Program. Data will be exchanged on an annual basis unless increased activity in the database use warrants a mid-year exchange.
MFWP participate in coordination efforts to centralize all Montana restoration projects	10/1/2005	9/30/2006	MFWP staff will participate in an ad hoc committee made up of numerous state, federal, private and local entities interested in creating a statewide database for all stream and lake restoration projects.
ODFW maintenance of habitat projects tracking data in Oregon	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will capture restoration activities related to the Statewide Wildlife Conservation Strategy, or will ensure that these activities are captured within the OWEB Restoration Database.
WDFW development of habitat projects tracking data	10/1/2005	3/31/2006	WDFW will complete conversion and exchange of Washington habitat restoration project information extracted from IAC's PRISM system and WDFW's LIP initiative. They will scope out additional content from pertinent 2000-2004 PCSRF data and other sources as time permits.
Existing habitat restoration/improvement project data maintained		9/30/2006	Existing data on habitat restoration / improvement projects are maintained; remain ready to expand collection of these data if requested by regional entities.





L: Submit/Acquire Data

**Title:** Develop fish barrier data

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Data on fish barriers are maintained and updated by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC. New sources of barrier data are located and new, expanded data are obtained.

Milestone Title	Start Date	End Date	Milestone Description
IDFG development of fish barrier data, progress reported quarterly	10/1/2005	9/30/2006	IDFG, on an ongoing, opportunistic basis, will capture and update barrier data.
MFWP development of fish barrier data	10/1/2005	8/1/2006	MFWP will maintain barrier location, species affected and other fields on stream barriers in Montana. Information will be collected on all species regardless of life history. Barriers data will be exchanged in the StreamNet DEF.
ODFW development of fish barrier data	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will update and maintain Oregon's Barrier data based on new and/or previously un-incorporated barrier information, including information from non-ODFW sources. Species-specific upstream and downstream passage information for adults and juveniles will be included in the ODFW Barrier Database, and will be submitted to Regional StreamNet when a DEF is adopted.
WDFW development of fish barrier data	10/1/2005	9/30/2006	WDFW will update the fish migration barrier data records, adding new records and improving field entries for existing records as warranted. Convert and exchange data when complete.
Fish barrier data maintained and updated		9/30/2006	Data on fish barriers are maintained and updated by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC. New sources of barrier data are located and new, expanded data are obtained.

M: Submit/Acquire Data

**Title:** Develop juvenile fish data

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)



**Deliverable Specification:** Functional on-line data for juvenile abundance or outmigration of anadromous fish species are maintained and publicly available on the StreamNet website through the tabular data query system. Means of obtaining and disseminating more of this type of data are explored.

Milestone Title	Start Date	End Date	Milestone Description
CRITFC development of juvenile fish data	10/1/2005	9/30/2006	CRITFC will provide tribal juvenile abundance and/or outmigration data as time and availability allow.
WDFW development of juvenile fish data	4/1/2006	6/30/2006	WDFW will continue maintaining and updating Washington smolt trap databases on all traps in Region 5 (lower Columbia River). They will complete scoping a pilot data conversion and exchange effort for 2005 Cedar Creek trap out-migrant data and write a report detailing data flow, conversion routines needed, time of year to best compile the data, and a timeline for conversion and exchange of all available past years' data.
Existing juvenile abundance/outmigration data maintained, additional availability explored		9/30/2006	Functional on-line data for juvenile abundance or outmigration of anadromous fish species are maintained and publicly available on the StreamNet website through the tabular data query system. Means of obtaining and disseminating more of this type of data are explored.

N: Submit/Acquire Data

**Title:** Develop fish age data

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Development of fish age data is initiated in the new DEF and exchanged where possible.

Milestone Title	Start Date	End Date	Milestone Description
CRITFC development of fish age data	10/1/2005	9/30/2006	CRITFC will exchange CRITFC age data on sockeye populations and Bonneville Dam sampling.
FWS development of fish age data	10/1/2005	9/30/2006	FWS will process Fish Return and Age data into the new StreamNet Age table format, once a final format has been settled on, and exchange the data with the regional StreamNet database.
IDFG development of fish age data	10/1/2005	6/1/2006	IDFG will compile and submit the 2005 field season age data from IDFG.
ODFW development of fish age data (maintenance only)	4/15/2006	9/15/2006	ODFW will initiate work on age data once the Age DEF is approved.
WDFW development of fish age data	10/1/2005	12/30/2005	WDFW will compile, convert and exchange age data from 2004-2005 natural spawner data and from pre-2004 hatchery returns data.
Development of fish age data in new format is initiated		9/30/2006	Development of fish age data is initiated in the new DEF and exchanged where possible.

O: Submit/Acquire Data





**Title:** Develop production factor and run reconstruction data

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** A means of obtaining and consistently displaying production factor and run reconstruction data on a regional basis is explored, as time permits.

Milestone Title	Start Date	End Date	Milestone Description
ODFW develop production factor and run reconstruction data	10/1/2005	9/30/2006	ODFW, will on a limited basis, assist Columbia River Management section with identifying and compiling productivity data associated with Columbia Basin populations.
An exploratory review of how to organize this data type is conducted		9/30/2006	A means of obtaining and consistently displaying production factor and run reconstruction data on a regional basis is explored, as time permits.

P: Submit/Acquire Data

**Title:** Develop diversion screening data

**Description:** Explore the availability of data on diversion screening. Capture data on screens as time and other priorities allow. The DEF will need to be finalized before much can be done with this data type. This has been a low priority data set under current base level funding, although NPCC has recently expressed interest in these data..

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The availability and location of diversion and screening data are explored, and means of obtaining, and displaying them on a regional basis are explored, with available data posted on the StreamNet website or cooperating agency websites.



Milestone Title	Start Date	End Date	Milestone Description
IDFG investigate location and availability of water diversions and screen data	10/1/2005	9/30/2006	IDFG will investigate the amount and location of data related to water diversions and any associated fish screens and determine the availability of those data. This will be done in preparation for developing a program to obtain and regionally standardize these data.
MFWP development of diversion screening data	10/1/2005	9/1/2006	MFWP will collect diversion screening data from the MFWP Habitat Bureau resulting from FRIMA and other screening activities in Montana. Exchange data if DEF becomes available.
ODFW investigate location and availability of water diversions and screen data	10/1/2005	9/15/2006	ODFW will investigate the amount and location of data related to water diversions and any associated fish screens and determine the availability of those data. This will be done in preparation for developing a program to obtain and regionally standardize these data.
WDFW investigate location and availability of water diversions and screen data	10/1/2005	9/30/2006	WDFW will investigate the amount and location of data related to water diversions and any associated fish screens and determine the availability of those data. This will be done in preparation for developing a program to obtain and regionally standardize these data.
Availability of diversion and screening data are explored and determined		9/30/2006	The availability and location of diversion and screening data are explored, and means of obtaining, and displaying them on a regional basis are explored, with available data posted on the StreamNet website or cooperating agency websites.

**Q: Submit/Acquire Data**

**Title:** Develop other data sets

**Description:** On an opportunistic basis, develop other types of data as available or as requested by FWP participants. This relates primarily to data relevant to StreamNet objectives which would be developed by StreamNet cooperators, but can also include data developed by other agencies or projects. Actual acquisition, standardization, georeferencing and distribution of these data will be dependent on available time and funding. These data may be included in the DEF in the future, or may be obtained and distributed as Independent Data Sets in native format. Development of other data by StreamNet is a low priority under current base funding. Receiving and posting Independent Data Sets from other entities is a high priority.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Other fish related data (other than the standard StreamNet data categories) are obtained and made available through the StreamNet website as they become available on an opportunistic basis. Data sets that do not fit into the StreamNet data exchange formats are posted on the Independent Data Sets page in their native format as submitted.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC development of other data sets	10/1/2005	9/30/2006	CRITFC will provide appropriate non-standard data sets developed through other activities as opportunities arise.
IDFG development of other data sets	10/1/2005	9/30/2006	IDFG, on an opportunistic basis, will work with FWP supported projects in the state to assist them with submission of their data sets to StreamNet for archiving and dissemination as part of the formal DEF or as Independent Data Sets.
MFWP development of other data sets	10/1/2005	9/30/2006	MFWP will provide updated genetic results information on Montana's species of concern and updates to other datasets provided as independent datasets. They will also explore providing other data sets if time allows and as desired by regional staff.
ODFW development of other data sets	10/1/2005	9/30/2006	ODFW, as requested and within budget/time constraints, will work with FWP supported projects in the state, as well as ODFW and other agency staff to facilitate either the incorporation of their data into StreamNet or independently posting their data on the StreamNet web site (opportunistically, and as time allows).
PSMFC support for development and acquisition of other data sets	10/1/2005	9/30/2006	The Region, on request, will develop or advise and assist data developers with other data sets (those being compiled by StreamNet cooperators but not currently in the StreamNet DEF). Low priority, and within current resources only.
PSMFC development of Independent Data Sets	10/1/2005	9/30/2006	The Region, on an ongoing and opportunistic basis, will work with FWP funded projects and other projects and agencies in the region to identify data sets appropriate for inclusion in the Independent Data Sets archive, encourage submission of those data sets to the IDS archive, and assist them with the submission process.
PSMFC development of independent data set links archiving	10/1/2005	9/30/2006	The Region will review the StreamNet Links web pages to identify Internet sites that provide on-line data and add those sites to the Independent Data Sets page.
WDFW development of other data sets	10/1/2005	9/30/2006	WDFW, on an opportunistic basis, will work with FWP supported projects in the state to assist them with submission of their data sets to StreamNet for archiving and dissemination as part of the formal DEF or as Independent Data Sets.
Other data are developed on ad hoc basis as possible		9/30/2006	Other fish related data (other than the standard StreamNet data categories) are obtained and made available through the StreamNet website as they become available on an opportunistic basis. Data sets that do not fit into the StreamNet data exchange formats are posted on the Independent Data Sets page in their native format as submitted.

R: Submit/Acquire Data

Title: Library: Collection development



**Description:** The StreamNet Library, with input from the other project participants, will develop a collection of materials applicable to the mission of StreamNet. We will collect, catalog and organize materials to document data sources, Fish and Wildlife Program activities and reports, and other gray literature for access by regional scientists, agencies, interested parties, and other libraries. The project participants will submit reference documents for all data contained in the StreamNet database to the StreamNet Library.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The collection in the StreamNet Library is maintained and increased by addition of pertinent publications and reports and by reference documents supporting the data added to the StreamNet database.

Milestone Title	Start Date	End Date	Milestone Description
CRITFC StreamNet Library collection development	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will: 1. Develop a collection of materials related to the Columbia Basin, including reports from other Fish & Wildlife Program projects, other agency documents as they relate to the Basin, and other published and unpublished materials as requested by clients. 2. Coordinate, receive, and incorporate source document submissions for data compiled by project participants and entered into the StreamNet database. This includes references for data included in the data query system and also data in the Independent Data Sets. 3. Develop and maintain a collection of journals related to fisheries and aquatic sciences as well as other related scientific topics. 4. Digitize collections of historic documents, especially as they relate to the Columbia Basin. 5. Work with ODFW StreamNet Library to integrate collections to restore access to materials. CRITFC, on an ongoing and opportunistic basis, will provide access to documents as references for Independent Data sets.
StreamNet participants provide data reference documents	10/1/2005	9/30/2006	CRITFC, IDFG, MFWP, ODFW and WDFW, on an ongoing basis, will obtain reference documents for all data developed under WE 159 by their part of the project and submit them to the StreamNet Library for inclusion in the collection and catalog.
Library collection maintained and increased		9/30/2006	The collection in the StreamNet Library is maintained and increased by addition of pertinent publications and reports and by reference documents supporting the data added to the StreamNet database.

S: Manage/Maintain Database

**Title:** System Administration

**Description:** All StreamNet cooperators will manage and maintain the computer systems (hardware and software) necessary for supporting the tabular and GIS data systems at the regional and cooperating agency levels, including system backup. This is a high priority work element that is essential to proper functioning of the project.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)



**Deliverable Specification:** The computer systems used to obtain, store, manage, back up, and distribute data (hardware and software) are maintained in functioning condition and updated as needed at PSMFC and the cooperating agencies.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC computer system administration	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting the StreamNet Library, including system administration, backup and recovery, hardware and software upgrades, and security.
FWS computer system administration	10/1/2005	9/30/2006	FWS, on an ongoing basis, will manage and maintain the computer systems (hardware and software) necessary for supporting the tabular data systems.
IDFG computer system administration	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.
MFWP computer system administration	10/1/2005	9/30/2006	MFWP, on an ongoing basis, will manage and maintain the computer systems necessary for supporting the tabular and GIS data management systems and provide needs to MFWP system administrators.
ODFW computer system administration	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.
PSMFC computer system administration	10/1/2005	9/30/2006	The Region, on an ongoing basis, will maintain and update, as necessary, the hardware and software necessary to accomplish StreamNet's mission, including system administration, system backup and recovery, and security. Specific functions include: 1. Management and maintenance of the GIS system, including GIS software (ArcGIS, ArcSDE, ArcIMS), extensions, and projects, and all associated hardware, that constitute the regional Geographic Information System; 2. Maintenance and upgrade of the StreamNet web server and software, including programming, system security, etc., with a target of the web server being on line and operational over 99.5% of the time; and, 3. Maintain database servers and SQL Server software and databases; installing updates, patches and service packs as they become available. Manage logins, user permissions and client access tools. Routinely backup all databases and assist with purchasing. 4. Assist with development of XML schema based options for both incoming and outgoing data. Continue exploration of how XML can enhance data exchange.
WDFW computer system administration	10/1/2005	9/30/2006	WDFW, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting Washington StreamNet tabular and GIS data, including system administration, backup and recovery, hardware and software upgrades, and security.



Computer systems maintained		9/30/2006	The computer systems used to obtain, store, manage, back up, and distribute data (hardware and software) are maintained in functioning condition and updated as needed at PSMFC and the cooperating agencies.
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T: Manage/Maintain Database

**Title:** Application and interface development

**Description:** All StreamNet cooperators will develop and maintain computer applications and interfaces that facilitate the entry, management and dissemination of tabular and GIS data at the regional and subcontracting agency levels. This will include development of new applications and tools as well as maintenance or modification of existing applications.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The databases, computer applications and interfaces necessary for obtaining, storing, managing and disseminating data are developed and maintained in such a way that they support accomplishment of project goals.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC development of applications and interfaces	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular data.
FWS development and/or maintenance of applications and interfaces	10/1/2005	9/30/2006	FWS will manage and maintain computer applications and interfaces necessary for supporting the tabular data systems on an ongoing basis.
IDFG development and/or maintenance of applications and interfaces	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.
MFWP development and/or maintenance of applications and interfaces	10/1/2005	9/30/2006	MFWP will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.
ODFW development and/or maintenance of applications and interfaces	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.
ODFW development of production data application	10/1/2005	9/30/2006	ODFW will develop or acquire a database for Columbia River production-type data that is currently maintained in spreadsheets.
ODFW development of fish presence data application	10/1/2005	9/30/2006	ODFW will develop a SQL database for fish presence survey data, which will contribute to Oregon's distribution and barrier databases.
ODFW development of online data tools	10/1/2005	9/30/2006	ODFW will develop online data development tools, possibly for such datasets as barriers, distribution, etc.
PSMFC development and/or maintenance of applications and interfaces	10/1/2005	9/30/2006	The Region, on an ongoing basis, will: Maintain the LLID/NHD hydrography conversion tool. We will track the efforts of others, including the USGS, to build crosswalks between the LLID and NHD route systems and seek opportunities to collaborate; Research the creation of an Online Event Mapper that allows users to create event tables based on 1:100,000 scale hydrography over the Internet; Modify the web data query system to add the capability of displaying data conforming to changes in the DEF, particularly age data, since the new Age DEF should be approved and ready for implementation by FY-06; and, Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data. They will assist cooperating agencies with tool development, as requested. Tools may include input interfaces, error checking, geographic locators, etc.
WDFW development and/or maintenance of applications and interfaces	10/1/2005	12/31/2006	WDFW, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of Washington StreamNet tabular and GIS data.





Applications are developed and maintained		9/30/2006	The databases, computer applications and interfaces necessary for obtaining, storing, managing and disseminating data are developed and maintained in such a way that they support accomplishment of project goals.
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U: Manage/Maintain Database

**Title:** Data (content) management

**Description:** The StreamNet project will manage data at the regional and subcontracting agency levels to assure timely and accurate data flow from source to final distribution. Activities include exchange of data to PSMFC, data loading, updating data, quality assurance procedures, metadata development, etc.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Data are maintained and managed at PSMFC and the cooperating projects so that they are available through the StreamNet website and cooperating agency websites.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC data content management, QA/QC	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will perform comprehensive QA/QC on all datasets maintained by CRITFC.
FWS data content management, QA/QC	10/1/2005	9/30/2006	FWS on an ongoing basis, will manage data at the agency level, conduct quality checks, and exchange data to PSMFC as specified in this Statement of Work.
IDFG data content management, QA/QC	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will manage data at the agency level, conduct quality checks, develop and maintain FGDC compliant metadata, and exchange data to PSMFC as specified in this Statement of Work.
MFWP data content management, QA/QC	10/1/2005	9/30/2006	MFWP will manage all data related to deliverables in the SOW at the agency level, develop and maintain FGDC compliant metadata for GIS data, and exchange data to PSMFC according to deadlines specified in this work statement.
ODFW data content management	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will manage ODFW-NRIMP and StreamNet data, including metadata development/maintenance, QA/QC activities, and work with regional staff as necessary to assure seamless loading of data into the regional database.
ODFW data content management, QA/QC	10/1/2005	3/31/2006	ODFW will perform comprehensive QA/QC on all remaining Oregon Trends, Age, Harvest, Dams, and Barrier datasets not completed in FY-05.
PSMFC support for data content management	10/1/2005	9/30/2006	The Region, on an ongoing, as needed basis, will assist data contributing agencies in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database.



PSMFC GIS data content management	10/1/2005	9/30/2006	<p>The Region, on an ongoing basis, will manage GIS data content for the StreamNet project through the following actions:</p> <ol style="list-style-type: none"><li>1. Whenever new tabular data with a spatial component are submitted to the Region (e.g., fish distribution, hatchery facilities, etc.), the GIS Specialist will create regional GIS layers from this information where possible. He will verify correct format, accuracy and logical consistency of spatial data sets and attributes through coordination with state GIS contacts and then load data to the regional database in coordination with the database manager. He will post mappable layers to the online query system, the ArcIMS interactive mapping system, and as downloadable layers for StreamNet GIS users;</li><li>2. The GIS Specialist will maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata);</li><li>3. He will obtain and refine layers such as ESUs, ecoregions, or elevations, and create cross tables for use by the query system;</li><li>4. He will assist the database manager with the spatial component of data and its implementation online;</li><li>5. He will coordinate efforts by the StreamNet partners to maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region;</li><li>6. He will coordinate efforts by the StreamNet partners to create a hybrid 1:100,000 / 1:24,000 scale hydrography for the states and the PNW region, and will implement these changes at the Regional office; and,</li><li>7. He will integrate the functioning of the GIS system with the StreamNet fisheries and habitat database in support of the query system, and will maintain up-to-date cross tables used via the StreamNet web interface to select information by geographic area.</li></ol>
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PSMFC tabular data content management, QA/QC	10/1/2005	9/30/2006	<p>The Region, on an ongoing basis through the Regional Database Manager will:</p> <ol style="list-style-type: none"> <li>1. Update and append data to the regional StreamNet database as they are submitted by StreamNet participants, maintain logs of data submissions, and provide feedback to agency compilers to promote data exchanges that are consistent with others throughout the Columbia region;</li> <li>2. Update StreamNet database schema to accommodate changes in the official data exchange format. Indexes and triggers will be created and maintained for efficient processing, storage and retrieval of data. He will ensure that routine data file and database backups are performed, and that the database software is updated with the manufacturer's service packs. He will maintain database logins, user permissions, and client access tools. He will create views and stored procedures for use by the web based query system and in data loading and validation processes, develop and run QA/QC processes on new and existing data tables to isolate missing, erroneous or duplicative data, and work with source agencies to correct problems and continue to improve error-checking capabilities;</li> <li>3. Produce a downloadable version of StreamNet's primary fish enumeration data in Access database format, downloadable ASCII formatted files of primary StreamNet data tables and maintain an online data dictionary;</li> <li>4. Routinely assist the StreamNet Librarian in exporting the library reference database of StreamNet documents and import StreamNet citations into the regional StreamNet database for use by the web query system to cite references for all StreamNet data records; and,</li> <li>5. Provide the regional staff and steering committee with guidance and supporting analysis of data issues, shortcomings and recommended improvements.</li> </ol>
WDFW data content management, QA/QC	10/1/2005	9/30/2006	WDFW will develop and manage all Washington StreamNet data, including development of FGDC compliant metadata for GIS data, and exchange data with the StreamNet Regional Office at PSMFC using StreamNet standard Data Exchange Format codes and conventions.
WDFW location data content management, QA/QC	10/1/2005	9/30/2006	Develop and manage all Washington locations-related data, including development of FGDC compliant metadata as warranted, and embed such data in all data exchanges with the StreamNet Regional Office at PSMFC using StreamNet standard Data Exchange Format codes and conventions.
Data are maintained and updated		9/30/2006	Data are maintained and managed at PSMFC and the cooperating projects so that they are available through the StreamNet website and cooperating agency websites.

V: Manage/Maintain Database

**Title:** Data exchange standard development

**Description:** The project will establish and maintain data exchange standards to ensure consistent content and format of data that originate from multiple data sources. We will maintain adopted and develop proposed data exchange formats for data categories described under Work Element 159. This task will provide coordination and technical assistance regarding interpretation of database structures and codes. The formal process for creating new and revising old DEFs may require significant amounts of time, potentially more than a year, for complex data categories.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The formal Data Exchange Formats that are used to standardize data regionally are maintained and updated as needed. Additions and changes to the DEF are made in accordance with the DEF guidance document. At least one new DEF version is adopted during the year.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC development and maintenance of data exchange standards	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types.
FWS development and maintenance of data exchange standards	10/1/2005	9/30/2006	FWS, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types.
IDFG development and maintenance of data exchange standards	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types.
MFWP development and maintenance of data exchange standards	10/1/2005	9/30/2006	MFWP, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types.
ODFW development and maintenance of data exchange standards	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types.
PSMFC development and maintenance of data exchange standards	10/1/2005	9/30/2006	The Region, on an ongoing, as needed basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types. The Regional Biologist will serve as the primary coordinator of the DEF process and is responsible for updating and publishing the official DEF document.
PSMFC development and maintenance of data exchange standards, Fish Sightings	10/1/2005	12/31/2005	The Region and Montana will initiate work on a new DEF for fish sightings data. They will review the approach being taken in California and, in coordination with the cooperating projects, adapt it for use in the Columbia Basin.
PSMFC development and maintenance of data exchange standards, EMAP-based data sets.	10/1/2005	1/31/2006	The Region will investigate the special needs for the capture, storage, and dissemination of data collected following an EMAP (randomized sampling) approach. They will make progress toward delivering these data sets to users in a more useful format.
WDFW development and maintenance of data exchange standards	10/1/2005	9/30/2006	WDFW, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and/or develop new DEFs to assure regional data consistency and allow for inclusion of new data types.



Data Exchange Formats developed and maintained		9/30/2006	The formal Data Exchange Formats that are used to standardize data regionally are maintained and updated as needed. Additions and changes to the DEF are made in accordance with the DEF guidance document. At least one new DEF version is adopted during the year.
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W: Disseminate Raw & Summary Data

**Title:** Develop and maintain Internet sites for data dissemination

**Description:** StreamNet will continue to maintain and enhance the StreamNet Internet sites. We will provide access to StreamNet data products through the Internet at both the regional and cooperating project levels. The StreamNet home page ([www.streamnet.org](http://www.streamnet.org)) will continue to be utilized as the project's primary data delivery vehicle. Priority will be given to incorporating data developed through Work Element 159 and providing access to reference materials secured through Work Element 98. The site will also be used to archive data sets developed by FWP participants for data that do not fit within the StreamNet DEF (Independent Data Sets), including the means to index and search the archive.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Internet sites for the dissemination of data at PSMFC and the cooperating agencies are maintained and functional. New web pages and features are developed as necessary to maximize the availability and utility of data.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC StreamNet Internet site maintenance and development	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will provide review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements.
IDFG StreamNet Internet site maintenance and development	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will provide review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements.
MFWP StreamNet Internet site maintenance and development	10/1/2005	9/30/2006	MFWP, on an ongoing basis, will provide review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements.
ODFW StreamNet Internet site maintenance and development	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will provide review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements.
ODFW internal Internet site maintenance and development	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will manage and maintain Oregon's web-based data integration, communication, and data transfer systems and their links to StreamNet.





PSMFC Internet site maintenance and development	10/1/2005	9/30/2006	The Region, on an ongoing basis, will maintain and improve the StreamNet Internet site (the primary means of disseminating StreamNet data), through the following actions: 1. Correcting errors, adding or fixing links, improving performance, improving looks and usability, etc.; 2. Guide development and enhancement of the StreamNet web query system from the perspective of data users, and review changes to the web query system to ensure they are implemented appropriately and do not create unforeseen problems; 3. Maintain the GIS Data, Map, and PNW Reach File Internet pages; 4. Maintain, update as necessary, and improve the Internet mapping component to the StreamNet web site to allow users to access StreamNet data through interactive map interfaces. Improvements might include modifications to the mapping interface, improving data content (background imagery and vector data), and mapping trend locations selected via the web query system; 5. Research integration of 4th, 5th and 6th field HUC boundary layers into a single region-wide dataset and plan improvements to the web-query system and Internet map application as this improved base data becomes available; 6. Deploy, as needed, new query system components and data categories that are approved by the Steering Committee; 7. Maintain logs of web query history and error events, track and report Internet site usage by month, and investigate web query system errors encountered; and, 8. Maintain and enhance the functionality, look and usability of the StreamNet web-based query system.
WDFW StreamNet Internet site maintenance and development	10/1/2005	9/30/2006	WDFW, on an ongoing basis, will provide review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements.
StreamNet Internet sites maintained and functional		9/30/2006	Internet sites for the dissemination of data at PSMFC and the cooperating agencies are maintained and functional. New web pages and features are developed as necessary to maximize the availability and utility of data.

X: Disseminate Raw & Summary Data

**Title:** Respond to data/information requests

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)



**Deliverable Specification:** Requests for information or assistance are responded to in a timely manner (within one business day at PSMFC). If within StreamNet capabilities, requested help or information is provided as rapidly as reasonably possible within existing resources.

Milestone Title	Start Date	End Date	Milestone Description
FWS respond to and track data/information requests	10/1/2005	9/30/2006	FWS, on an ongoing basis, will respond to requests for data, maps, technical assistance, source materials, or custom data products at the agency level, within the capabilities provided by base funding. Requests will be logged and reported.
IDFG respond to and track data/information requests	10/1/2005	9/30/2006	IDFG, on an ongoing basis, will respond to requests for data, maps, technical assistance, source materials, or custom data products at the agency level, within the capabilities provided by base funding. Requests will be logged and reported.
MFWP respond to and track data/information requests	10/1/2005	9/30/2006	MFWP, on an ongoing basis, will respond to requests for data, maps, technical assistance, source materials, or custom data products at the agency level, within the capabilities provided by base funding. Requests will be logged and reported.
ODFW respond to and track data/information requests	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will respond to requests for data, maps, technical assistance, source materials, or custom data products at the agency level, within the capabilities provided by base funding. Requests will be logged and reported.
PSMFC respond to and track data/information requests	10/1/2005	9/30/2006	The Region, on an ongoing basis, will respond within one business day to requests for data, information or help, and will log and report responses to all requests received.
WDFW respond to and track data/information requests	10/1/2005	9/30/2006	WDFW, on an ongoing basis, will respond to requests for data, maps, technical assistance, source materials, or custom data products at the agency level, within the capabilities provided by base funding. Requests will be logged and reported.
Responses to requests are provided rapidly and tracked		9/30/2006	Requests for information or assistance are responded to in a timely manner (within one business day at PSMFC). If within StreamNet capabilities, requested help or information is provided as rapidly as reasonably possible within existing resources.

**Y: Disseminate Raw & Summary Data**

**Title:** Provide data and maps to support Fish and Wildlife Program activities

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Requested data and maps are provided to subbasin planners, recovery planners, and other projects funded through the FWP.



Milestone Title	Start Date	End Date	Milestone Description
IDFG support F&W Program Activities with data and maps	10/1/2005	9/30/2006	IDFG, on an ongoing, opportunistic basis, will support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information, management advice or assistance as requested, to the extent possible within available time and budget under base level funding.
MFWP support F&W Program Activities with data and maps	10/1/2005	9/30/2006	MFWP, on an ongoing, opportunistic basis, will support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information, management advice or assistance as requested, to the extent possible within available time and budget under base level funding.
ODFW support F&W Program Activities with data and maps	10/1/2005	9/30/2006	ODFW, on an ongoing, opportunistic basis, will support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information, management advice or assistance as requested, to the extent possible within available time and budget under base level funding.
PSMFC support F&W Program Activities with data and maps	10/1/2005	9/30/2006	The Region, on an ongoing, opportunistic basis, will support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information, management advice or assistance as requested, to the extent possible within available time and budget under base level funding.
WDFW support F&W Program Activities with data and maps	10/1/2005	9/30/2006	WDFW, on an ongoing, opportunistic basis, will support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information, management advice or assistance as requested, to the extent possible within available time and budget under base level funding.
Requested data and maps provided to planners		9/30/2006	Requested data and maps are provided to subbasin planners, recovery planners, and other projects funded through the FWP.

**Z: Disseminate Raw & Summary Data**

**Title:** Maintain and post Protected Areas data

**Description:** StreamNet will a) maintain and provide access to the Council's Protected Areas dataset, b) archive the official version as a historic record, c) in consultation with the Council, respond to requests for information concerning Protected Areas, and d) modernize georeferencing and make these data available through online mapping. If the Council so directs, work with subbasin planners to record any desired changes to the protected status of individual streams.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The NPCC Protected Areas data are maintained and made available through the StreamNet online data query system and the online interactive map application.



Milestone Title	Start Date	End Date	Milestone Description
PSMFC maintain and post Protected Areas data	10/1/2005	9/30/2006	The Region, on an ongoing basis, will maintain the Protected Areas database and provide access to the Protected Areas data through the online query system and the interactive map application. As time allows, work to resolve the remaining unresolved location issues that resulted from conversion of the data from the 1:250,000 scale to the 1:100,000 regional hydrography.
Protected Areas data are available online		9/30/2006	The NPCC Protected Areas data are maintained and made available through the StreamNet online data query system and the online interactive map application.

AA: Disseminate Raw & Summary Data

**Title:** Library: Provide access to the library collection

**Description:** The StreamNet Library will provide user access to the materials described in the collection development work element by providing facilities for storage of paper and electronic copies of documents, an online catalog of all documents in the collection, and staff to answer location questions and respond to requests. They will provide library services to the StreamNet user community, the Council's Fish and Wildlife Program, and the general public. They will network 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.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The StreamNet Library is opened to patrons on all business days, and patrons have full access to the collection in person and through phone or Internet requests and to services such as Interlibrary Loan, document searches, etc.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC provide access to the StreamNet Library collection	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will: 1. Provide and maintain appropriate facilities for the storage and public use of the StreamNet Library Collections. 2. Catalog and organize materials for ease of use by patrons. 3. Update web catalog and archive data by providing copies of the database to the Regional Data Manager on at least a monthly basis. 4. Maintain a plan to place electronic documents in the catalog and on the library website. 5. Provide access to reference documents supporting data in the StreamNet data query system and Independent Data Sets.
CRITFC provide library services to patrons to support dissemination of information	10/1/2005	9/30/2006	CRITFC, on an ongoing basis, will: 1. Provide information and reference services to patrons. 2. Evaluate changes in technology and new feature requests for improved services to library patrons. 3. Provide interlibrary lending and borrowing services for access to unique materials in the library collections and materials not yet owned by the library. 4. Provide consultations for groups and other agencies on library organization and services. 5. Coordinate with other StreamNet libraries, library clients, and other libraries (through professional memberships) to improve service to clients and limit duplication of effort.
Library access is available all business days		9/30/2006	The StreamNet Library is opened to patrons on all business days, and patrons have full access to the collection in person and through phone or Internet requests and to services such as Interlibrary Loan, document searches, etc.

AB: Coordination

**Title:** Support Fish and Wildlife Program development activities

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

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



Milestone Title	Start Date	End Date	Milestone Description
CRITFC provide support to F&W Program development activities	10/1/2005	9/30/2006	CRITFC, on an as needed or requested basis as base level resources will allow, will work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program and serve as a data management resource to the FWP. This will include assisting with development of strategies for ESA recovery planning
IDFG provide support to F&W Program development activities	10/1/2005	9/30/2006	IDFG, on an as needed or requested basis as base level resources will allow, will work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program and serve as a data management resource to the FWP.
MFWP provide support to F&W Program development activities	10/1/2005	9/30/2006	MFWP, on an as needed or requested basis as base level resources will allow, will work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program and serve as a data management resource to the FWP.
ODFW provide support to F&W Program development activities	10/1/2005	9/30/2006	ODFW, on an as needed or requested basis as base level resources will allow, will work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program and serve as a data management resource to the FWP.
PSMFC provide support to F&W Program development activities	10/1/2005	9/30/2006	The Region, on an opportunistic basis and within budgeted resources, will work with regional entities to contribute data management expertise toward development of projects and activities within the scope of the Fish and Wildlife Program and serve as a data management resource to the FWP. Specific activities may include: 1. Continued participation on the Program Team for the Council's project to develop a Northwest Environmental Data-network (NED) to convey recommendations based on experience in the development of a regional approach to data dissemination; 2. Continued participation in the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) for watershed and fishery data coordination, and other R, M & E groups, including the Action Agencies, Federal Caucus and CBFWA, to provide support and data management expertise; 3. Continued participate with CBFWA in support of data management efforts, including work with the Collaborative Systemwide Monitoring and Evaluation Project (CSMEP); and, 4. Provide support (expertise and guidance) to other FWP related programs and projects as requested and as possible under existing resources.



WDFW provide support to F&W Program development activities	10/1/2005	9/30/2006	WDFW, on an as needed or requested basis as base level resources will allow, will work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program and serve as a data management resource to the FWP.
Input into regional FWP development activities is provided		9/30/2006	Participate in planning, development and/or coordination meetings with regional entities to provide advice in the area of data management, as requested, to support development of Fish and Wildlife Program projects and programs. Provide input on ways StreamNet can effectively contribute to the programs and general advice about data management. Participate in advisory groups, task forces, and other groups whose purpose is to enhance the effectiveness of the Fish and Wildlife Program relative to its data development activities.

AC: Coordination

**Title:** Support subbasin planning efforts

**Description:** At the regional and cooperating agency levels, work with subbasin planners to provide needed information from the StreamNet database and to capture data developed as part of the subbasin planning process. We will work with the TOAST group to capture subbasin planning data from Oregon, and in FY-06 will work with others in an attempt to capture similar data in the other Columbia Basin states.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Data used in subbasin planning in Oregon are maintained and available through the StreamNet website, and progress is made toward identifying subbasin planning data from Washington, Idaho and Montana and decisions are made through NPCC on long term acquisition and storage.





Milestone Title	Start Date	End Date	Milestone Description
CRITFC support subbasin planning efforts	10/1/2005	9/30/2006	CRITFC, as requested and within existing resources, will provide technical expertise and other support services (such as capture and archiving of planning data) to subbasin planners and will continue to encourage the use of sub basin plans in other planning efforts at the regional, state and local level.
MFWP support subbasin planning efforts	10/1/2005	9/30/2006	MFWP, as requested and within existing resources, will provide technical expertise and other support services (such as capture and archiving of planning data) to subbasin planners and will continue to encourage the use of sub basin plans in other planning efforts at the regional, state and local level.
ODFW support subbasin planning efforts	10/1/2005	9/30/2006	ODFW, as requested and within existing resources, will provide technical expertise and other support services (such as capture and archiving of planning data) to subbasin planners and will continue to encourage the use of sub basin plans in other planning efforts at the regional, state and local level.
PSMFC support subbasin planning efforts	10/1/2005	9/30/2006	The Region, on an ongoing basis and as possible within budgeted resources, now that the initial subbasin planning process has concluded, will work with subbasin planning groups to provide any requested follow up information from the StreamNet database, work with regional entities and subbasin planning groups as requested to provide data management expertise and services related to capturing and archiving data developed during the subbasin planning process and making them readily available. This effort will have to be scaled to fit within existing resources and available time.
WDFW support subbasin planning efforts	10/1/2005	9/30/2006	WDFW, as requested and within existing resources, will provide technical expertise and other support services (such as capture and archiving of planning data) to subbasin planners and will continue to encourage the use of sub basin plans in other planning efforts at the regional, state and local level.
Services to subbasin planning are provided as requested		9/30/2006	Data used in subbasin planning in Oregon are maintained and available through the StreamNet website, and progress is made toward identifying subbasin planning data from Washington, Idaho and Montana and decisions are made through NPCC on long term acquisition and storage.

AD: Coordination

**Title:** Coordinate with related activities outside of the FWP

**Description:** Maintain communications between StreamNet and other applicable regional and state-level fish and wildlife activities and agencies beyond the Council's Fish and Wildlife Program to identify means for collaborative data collection, storage, and dissemination. On request or as possible, collaborative data activities will include tribal fishery programs within the Columbia Basin, federal land managers' fishery programs, state fish and wildlife agencies, and, with respect to water use and stream development, state water resource management and environmental quality agencies. Collaboration with coast-wide and private data collection/compilation efforts will be pursued when this supports overall project goals.





**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Coordination with fish and wildlife programs outside of the FWP is conducted as possible or needed



Milestone Title	Start Date	End Date	Milestone Description
CRITFC coordination with related activities outside of the FWP	10/1/2005	9/30/2006	CRITFC, on an opportunistic basis and within budgeted resources, will coordinate with other state, federal, or tribal agencies and various regional interagency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.
IDFG coordination with related activities outside of the FWP	10/1/2005	9/30/2006	IDFG, on an opportunistic basis and within budgeted resources, will coordinate with other state, federal, or tribal agencies and various regional interagency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.
MFWP coordination with related activities outside of the FWP	10/1/2005	9/30/2006	MFWP, on an opportunistic basis and within budgeted resources, will coordinate with other state, federal, or tribal agencies and various regional interagency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.
MFWP assist Fisheries Division in preparation of a Statewide Fisheries Management Plan	10/1/2005	9/30/2006	MFWP will provide support, technical expertise and guidance, and products for the development of the Fisheries Division Statewide Fisheries Management Plan.
MFWP assist the Fisheries Division in standardized field survey techniques and forms	10/1/2005	9/30/2006	MFWP will provide guidance, support and review to the activities of the Fisheries Division in their effort to standardize process and procedure from the field to the data delivery.
ODFW coordination with related activities outside of the FWP	10/1/2005	9/30/2006	ODFW, on an opportunistic basis and within budgeted resources, will coordinate with other state, federal, or tribal agencies and various regional interagency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.
ODFW coordination with internal ODFW staff to improve internal data compiling	10/1/2005	9/30/2006	ODFW, on an ongoing basis, will coordinate and work with internal ODFW staff to improve the agency data collection efforts to allow more efficient compiling into internal intermediate NRIMP-Oregon StreamNet databases and/or StreamNet databases at the regional scale.
PSMFC coordinate with related activities outside of the FWP	10/1/2005	9/30/2006	The Region, on an opportunistic basis and within budgeted resources, will coordinate with other state, federal, or tribal agencies and various regional interagency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.
WDFW coordination with related activities outside of the FWP	10/1/2005	9/30/2006	WDFW, on an opportunistic basis and within budgeted resources, will coordinate with other state, federal, or tribal agencies and various regional interagency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.



Coordination outside the FWP is accomplished as needed		9/30/2006	Coordination with fish and wildlife programs outside of the FWP is conducted as possible or needed
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AE: Outreach and Education

**Title:** Professional and public involvement

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

**Metrics:** # of people reached in each of 3 classes (T/S/G):  
Teachers  
Students  
General public

**Deliverable Specification:** Materials describing the project are made available, and professional groups are informed about the project and its services.



Milestone Title	Start Date	End Date	Milestone Description
CRITFC support for professional and public involvement	10/1/2005	9/30/2006	CRITFC, on an ongoing basis and as requested, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the StreamNet project.
IDFG support for professional and public involvement	10/1/2005	9/30/2006	IDFG, on an ongoing basis and as requested, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the StreamNet project.
MFWP support for professional and public involvement	10/1/2005	9/30/2006	MFWP, on an ongoing basis and as requested, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the StreamNet project.
ODFW support for professional and public involvement	10/1/2005	9/30/2006	ODFW, as needed or requested within budget and time constraints, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.
PSMFC support for professional and public involvement	10/1/2005	9/30/2006	The Region, on an opportunistic basis, will participate in and prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities and accomplishments, advertise StreamNet services, and to solicit additional data and coordination. Such professional groups may include various units of the American Fisheries Society, the Organization of Fish and Wildlife Information Managers, and other local, regional or national groups.
PSMFC support for professional and public involvement and publication of newsletter	10/1/2005	9/30/2006	The Region will publish at least two (preferably four, depending on availability of 'news') editions of the StreamNet Newsletter during the fiscal year, providing readers with information about StreamNet activities, available data, data updates, new data services, etc., with minimal target dates of 12/31/05 and 07/1/06.
PSMFC support professional and public involvement, produce public materials	10/1/2005	9/30/2006	The Region, as needed, will develop and distribute materials to support the project and improve public materials such as the StreamNet brochure, data inventories, etc. as needed. They will maintain and update explanatory materials such as the Query System User Guide and documents explaining data categories and data structures and/or prepare new materials, as necessary.
WDFW support for professional and public involvement	10/1/2005	9/30/2006	WDFW, on an ongoing basis and as requested, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the StreamNet project.



Materials prepared and presentations given as needed		9/30/2006	Materials describing the project are made available, and professional groups are informed about the project and its services.
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AF: Manage and Administer Projects

**Title:** Manage project activities

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

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Project staff and budgets are effectively managed, work detailed in the SOW is accomplished, and required SOW/budget documents are prepared and submitted on schedule.

Milestone Title	Start Date	End Date	Milestone Description
Project oversight and guidance: Project management and Steering Committee	10/1/2005	9/15/2006	All StreamNet cooperators will perform project oversight and guidance (at both cooperator and Regional levels) and will participate cooperatively in the StreamNet Steering Committee to guide the direction of the project, coordinate among agencies and resolve policy and technical issues for the project.
Project oversight and guidance: Supervision	10/1/2005	9/30/2006	All StreamNet cooperators, except for FWS, will supervise project staff and provide guidance and staff development.
Project oversight and guidance: Budget control	10/1/2005	9/30/2006	All StreamNet cooperators will manage expenditures to accomplish the jobs in the Statement of Work within the approved budget.
FY-06 accrual reports, first	10/1/2005	6/30/2006	PSMFC, with input from the cooperating projects, will produce interim accrual reports (June and August) and provide them to BPA.
FY-06 accrual reports, second	7/1/2006	8/31/2006	PSMFC, with input from the cooperating projects, will produce interim accrual reports (June and August) and provide them to BPA.
StreamNet cooperators provide input for the FY-07 draft SOW/budget package	5/1/2006	6/16/2006	Project cooperators will provide their respective input to the FY-07 Statement of Work and budget to PSMFC 105 days prior to the end of the FY-06 contract period.
PSMFC develop FY-07 draft SOW/budget package	4/3/2006	6/30/2006	PSMFC, with input from all project cooperators, will prepare and submit a Statement of Work and budget for FY-07 to BPA 90 days prior to the end of the FY-06 contract period.
Project management accomplished		9/30/2006	Project staff and budgets are effectively managed, work detailed in the SOW is accomplished, and required SOW/budget documents are prepared and submitted on schedule.

AG: Produce Status Report

**Title:** Quarterly reports



**Description:** Produce quarterly performance reports on project activities and submit them to BPA within 15 days of the end of each quarter. Once PISCES is fully functional, submit quarterly status reports through PISCES.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** Quarterly and status reports are submitted on schedule

Milestone Title	Start Date	End Date	Milestone Description
July - Sept. 2005 (FY-05) Quarterly Report submitted to BPA	10/1/2005	10/15/2005	1. The StreamNet contractors will report accomplishment of the work outlined in the FY-05 Statement of Work, fourth quarter, to PSMFC by Oct. 10, 2005. 2. The Region will report accomplishment of the work outlined in the FY-05 Statement of Work, fourth quarter, through a quarterly progress report submitted to BPA by Oct. 15, 2004. Project status will be reported via PISCES.
Oct. - Dec. 2005 Quarterly Report submitted to BPA	1/1/2006	1/15/2006	1. The StreamNet contractors will report accomplishment of the work outlined in the FY-06 Statement of Work, first quarter, to PSMFC by Jan. 10, 2006. 2. The Region will report accomplishment of the work outlined in the FY-06 Statement of Work, first quarter, through a quarterly progress report submitted to BPA by Jan. 15, 2006. Project status will be reported via PISCES.
Jan. - Mar. 2005 Quarterly Report submitted to BPA	4/1/2006	4/15/2006	1. The StreamNet contractors will report accomplishment of the work outlined in the FY-06 Statement of Work, second quarter, to PSMFC by April 10, 2006. 2. The Region will report accomplishment of the work outlined in the FY-06 Statement of Work, second quarter, through a quarterly progress report submitted to BPA by April 15, 2006. Project status will be reported via PISCES.
April -June 2005 Status Report submitted to BPA	7/1/2006	7/15/2006	1. The StreamNet contractors will report accomplishment of the work outlined in the FY-06 Statement of Work, third quarter, to PSMFC by July 10, 2006. 2. The Region will report accomplishment of the work outlined in the FY-06 Statement of Work, third quarter, through a status report submitted to BPA by July 15, 2006. Project status will be reported via PISCES.
Four quarterly reports submitted to BPA		7/15/2006	Quarterly and status reports are submitted on schedule

**AH: Produce Annual Report**

**Title:** Annual report

**Description:** Produce an annual report for FY-05 project activities within 30 days of the end of the fiscal year.

**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

**Deliverable Specification:** The FY-05 annual report is submitted to BPA on time



Milestone Title	Start Date	End Date	Milestone Description
PSMFC submit FY-2005 annual report to BPA	10/1/2005	10/30/2005	1. All StreamNet contractors will submit their input to the draft FY-05 annual progress report for the sub project to PSMFC by 10/20/04. 2. The Region will submit the FY-05 annual progress report to BPA by 10/31/04.
Annual report submitted to BPA		10/31/2005	The FY-05 annual report is submitted to BPA on time