



Statement of Work Report

Project Title: StreamNet - Coordinated Information System (CIS)/ Northwest Environmental Database (NED)
Project #: 1988-108-04
Contract Title: 198810804 EXP STREAMNET
Contract #: 43664 [ISSUED]
Province: Non-Provincial **Subbasin:** Basinwide
Workorder ID: 35794 **Task ID:** 1
Perf. Period Budget: \$1,897,247 **Perf. Period:** 10/1/2009 - 9/30/2010
Contract Type: Contract (IGC) **Pricing Type:** Cost Reimbursement (CNF)
Contractor(s): Pacific States Marine Fisheries Commission (PSMFC) (Prime - PACISTAT00)
BPA Internal Ref: 43664
SOW Validation: Last validated 07/20/2009 with 0 problems, and 0 reviewable items
Contract Documents: [Property Inventory \(07/16/2009\)](#) Property Inventory for StreamNet
[Budget - Contract \(07/20/2009\)](#) StreamNet FY-2010 budget - Revised

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Work Element Table of Contents:

Work Element - Work Element Title	EC Needed*	Estimate	(%)
A : 159. Transfer/Consolidate Regionally Standardized Data - Conduct site visits to obtain updated data from biologist		\$10,300	(1 %)
B : 159. Transfer/Consolidate Regionally Standardized Data - Develop anadromous fish distribution data		\$61,500	(3 %)
C : 159. Transfer/Consolidate Regionally Standardized Data - Develop resident fish distribution data (top priority for MFWP, lower priority for others)		\$61,500	(3 %)
D : 159. Transfer/Consolidate Regionally Standardized Data - Develop data for adult abundance in the wild		\$76,900	(4 %)
E : 159. Transfer/Consolidate Regionally Standardized Data - Develop hatchery return data		\$61,500	(3 %)
F : 159. Transfer/Consolidate Regionally Standardized Data - Develop dam and fish passage facility data (mid-priority), update on 3 year cycle		\$61,500	(3 %)
G : 159. Transfer/Consolidate Regionally Standardized Data - Develop hatchery facility data (key dataset), update on 3 year cycle		\$61,500	(3 %)
H : 159. Transfer/Consolidate Regionally Standardized Data - Develop hydrography data		\$66,697	(4 %)
I : 159. Transfer/Consolidate Regionally Standardized Data - Develop fish barrier data, update on 3 year cycle		\$61,500	(3 %)



<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
J : 159. Transfer/Consolidate Regionally Standardized Data - Develop fish age data		\$63,550	(3 %)
K : 159. Transfer/Consolidate Regionally Standardized Data - Develop other data sets		\$55,350	(3 %)
L : 159. Transfer/Consolidate Regionally Standardized Data - Document data sources and help build the library collection		\$5,200	(0 %)
M : 160. Create/Manage/Maintain Database - System Administration		\$170,200	(9 %)
N : 160. Create/Manage/Maintain Database - Application and interface development		\$145,550	(8 %)
O : 160. Create/Manage/Maintain Database - Data (content) management		\$162,000	(9 %)
P : 160. Create/Manage/Maintain Database - Data exchange standard development		\$151,700	(8 %)
Q : 161. Disseminate Raw/Summary Data and Results - Develop and maintain Internet sites for data dissemination		\$61,500	(3 %)
R : 161. Disseminate Raw/Summary Data and Results - Respond to data/information requests		\$136,400	(7 %)
S : 161. Disseminate Raw/Summary Data and Results - Promote availability of StreamNet data and encourage participation in the project		\$24,600	(1 %)
T : 189. Regional Coordination - Support regional efforts under the Fish and Wildlife Program		\$41,000	(2 %)
U : 189. Regional Coordination - Coordinate with and support data source agencies		\$41,000	(2 %)
V : 189. Regional Coordination - Coordinate with related activities outside of the FWP		\$9,200	(0 %)
W : 189. Regional Coordination - Support regional scale reporting on status and trends for HLI, BiOp, etc.		\$51,300	(3 %)
X : 132. Produce (Annual) Progress Report - Annual report		\$56,400	(3 %)
Y : 119. Manage and Administer Projects - Manage project activities		\$194,800	(10 %)
Z : 185. Produce Pisces Status Report - Periodic Status Reports for BPA		\$4,600	(0 %)
	Total:	\$1,897,247	

* Environmental Compliance (EC) needed before work begins.

Contract Description:

StreamNet Project
 BPA Project No.: 1988-108-04
 FY 2010 Work Statement
 October 1, 2009 through September 30, 2010

The StreamNet Project, a cooperative data compilation and data management project under the FWP focused on fish and fish related data, is transitioning to respond to increasing requests for better data sharing in the Columbia basin. For example, the 2008 FCRPS Biological Opinion, RPA 72, calls for development of a data delivery system. Monitoring guidance from NOAA Fisheries is calling for sharing of various monitoring metrics. Multiple entities



(including the Northwest Power and Conservation Council and the Pacific Northwest Aquatic Monitoring Partnership) are developing High Level Indicators to express status and trends of environmental metrics. And, status and trend data for focal fish species covered in the Status of the Resource report by CBFWA have become a priority for the project.

As the entities involved in accomplishing the BiOp and performing fish related monitoring focus attention on identifying the data needed to feed these processes, StreamNet intends to expand its efforts to include priority data types not already included in its data delivery system. In order to be able to expand its focus, we will continue to emphasize and assist development of computerized database systems within the agencies that collect fisheries data in order to allow automation of data translation to consistent regional formats and submission to StreamNet to free project time to work on additional data types.

Key components of this transition process for fiscal year 2010 include the following:

- Emphasis on data to feed regional scale reporting at a high level. High priority will be on the raw or field level data that are needed to provide high level assessments of population trends (abundance and productivity) to regional scale reporting mechanisms, focusing initially on CBFWA's Status of the Resource Report (SOTR). We anticipate that these same data will also be needed to calculate abundance and productivity metrics under other High Level Indicator efforts. Emphasis in FY-10 will be on data for the abundance and distribution of focal species (as identified in the Subbasin Plans) in the SOTR.
- Establishing automated data flow from the StreamNet database to regional scale reporting through the SOTR. We will maintain the XML data feeds for SOTR and will work to assist CBFWA with additional data types, as possible.
- Emphasis on automating data flow to improve speed of data delivery from the source agencies to the regionally standardized database at StreamNet. Speed of updating time series of data was identified as a significant issue at the 2006 Data Workshop and the CBFWA Data Management Framework Subcommittee. Following a successful test in FY-09, we will begin direct download of data from the new Idaho Fish and Wildlife Information System databases in Idaho Fish and Game and will continue to provide programming support for further development of the system. This improves data delivery speed and also automates translation into the regional data format. Similar efforts will be pursued with other data source agencies, based on their priorities and capabilities, to assist them as they move toward implementing additional information technology. The systems development envisioned would also be required in any regional move toward development of distributed database systems approaches for regional data sharing.
- Emphasis on data systems and data delivery that support population assessments under recovery planning and the BiOp. StreamNet partners will work within their agencies and recovery planners to determine BiOp data needs and develop approaches for providing needed data.
- Refine our strategy to compensate for lost staffing. While funding in FY-10 was increased by 2.5%, this follows five years of level funding that unfortunately led to reduction of data technician staff, particularly in WDFW and ODFW. As a result, WDFW StreamNet had to limit data acquisition to only the lower Columbia Basin subbasins, and ODFW StreamNet has taken a subbasin by subbasin approach to acquiring data for focal species, but may be unable to address all subbasins each year. Several components of the project have moved some of their staff time to other funding sources, but for other work. Without funding to restore staffing levels, strategy options may include 1) encouraging data source agencies to emphasize development of agency-wide database approaches, 2) increased automation of data exchange where made possible by the first option, 3) continue or increase reliance on other funding sources to support specialized staff to free up funding to support additional data technicians until automated data exchanges become more feasible, and 4) attempt to identify funding to leverage efforts that meet goals for the project and other funding sources. Without changes, it will be necessary to update some data types only on an every other year basis or skipping parts of a state, a significant departure from our goal of increasing speed of data compilation. As currently budgeted in FY-10, data compilation in Washington will be limited to the lower Columbia subbasins, and in Oregon all subbasins may not be included in data capture.
- Attempt to acquire data from tribal programs. This goal may be dependent on additional funding, for either the project or tribal programs. However, the project intends to coordinate with tribes as much as possible with existing



staff to develop means of assisting them with their data and making them available for sharing. We intend to work closely with CRITFC, their member tribes, and other tribes working on data flow under the Accords.

The StreamNet statement of work is organized around seven Work Elements, with multiple individual WE Titles:

1. WE 159 Transfer/Consolidate Regionally Standardized Data. This work element encompasses the acquisition, standardization, georeferencing and consolidation of fish related data by the agencies that participate in the StreamNet project. This also includes acquisition of source documents for all acquired data and submission of the references to the StreamNet Library at CRITFC. Specific data types involved are detailed in the milestones in the work statement.
2. WE 160 Create/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 (PSMFC) levels. This work includes maintenance and needed upgrade of the hardware and software systems, development of applications to assist in data management and manipulation, development of standard data formats to assure data consistency across the region, and maintenance of regional base data layers 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/Summary Data and Results. Data from StreamNet and independent data sets from the Data Store, maps, data references, and various other materials are disseminated primarily through the StreamNet website www.streamnet.org. Other data services include responding to requests for information from individuals, subbasin planners, other FWP supported projects, watershed councils, recovery teams, agencies and regional entities.
4. WE 189 Regional Coordination. StreamNet coordinates with a variety of other database projects and regional initiatives, including CBFWA (SOTR, Data Management Framework Subcommittee), PNAMP, HSRG, NPCC, ISEMP, subbasin planners, recovery planners, data source agencies, etc. The purpose of coordination is to facilitate flow of data, provide data management expertise, and avoid duplication of efforts.
5. WE 119 Manage and Administer Projects. All project participants contribute to management of the StreamNet project, including managing their own respective components and through participation in the StreamNet Steering Committee.
6. WE 132 Produce (Annual) Progress Report. All project participants contribute to a detailed annual report of activities and accomplishments throughout the fiscal year.
7. WE 185 Produce Pisces Status Report. This work element entails completing and submitting abbreviated quarterly and final status reports in the Pisces system.

The bulk of the project consists of sub-projects within four state fish and wildlife agencies (WA, OR, ID and MT) 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. Most 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.

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

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: 159. Transfer/Consolidate Regionally Standardized 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.

Deliverable Specification: New data are obtained by the MFWP StreamNet project to update the data categories listed in the other Data Development work element titles.

Primary Focal Species: Cutthroat Trout, Westslope | Cutthroat Trout, Yellowstone | Trout, Bull | Trout, Rainbow | Trout, Interior Redband | Kokanee | Burbot | Trout, Brown | Trout, Brook

Milestone Title	Start Date	End Date	Status	Milestone Description
A. MFWP visit agencies to capture fish data through scheduled visits to biologist offices	10/1/2009	5/31/2010	Active	MFWP will visit MFWP, other state agency and federal fisheries biologists in early 2010 to obtain fisheries field survey data collected during the 2009 field season. Data will include fish distribution; use type; survey, inventory and monitoring of target species; reptiles and amphibians and nongame species. Data tables in MFISH will be updated with the new data collected from biologists and documents, reports and electronic files assigning data LLID for stream routes and lakes. Additional fields may be collected for species undergoing a species assessment. This is still the primary method of obtaining data for StreamNet in Montana, in contrast to the other state StreamNet components.
Deliverable: B. Conduct site visits to obtain updated data from biologists		5/31/2010	Active	<i>See the Deliverable Specification above</i>

B: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop anadromous fish distribution data

Description: Document the occurrence, distribution and life history characteristics of anadromous fish species. These data will be georeferenced to the StreamNet mixed scale hydrography, 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 converted to the regional Generalized Fish Distribution format and conveyed ("exchanged") to the regional StreamNet database at PSMFC, where they will be incorporated into the database.

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 and interactive maps.

Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Cutthroat Trout, Coastal - All Anadromous Populations | Sockeye - All Populations | Steelhead - All Populations



Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG development of anadromous fish distribution data	10/1/2009	9/30/2010	Active	IDFG, on an ongoing and opportunistic basis, will update, maintain, correct and submit distribution information for anadromous focal species to the regional StreamNet database .
B. ODFW development of anadromous fish distribution data	10/1/2009	9/30/2010	Active	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 mixed scale hydrography. Effort will be made to reconcile existing distribution information with information maintained by the OASIS Project, the Western Or. Rearing Project, and other project distribution data where available.
C. ODFW integration of observation data with fish distribution data	10/1/2009	9/30/2010	Active	ODFW will begin efforts to integrate observation data with the fish distribution data for the purpose of improving the attribution of the 'basis' field.
D. WDFW development of anadromous fish distribution data	10/1/2009	9/30/2010	Active	WDFW will perform any needed updates to Washington anadromous fish distribution data, as they become available. Data will be converted to StreamNet format and exchanged when complete.
Deliverable: E. Anadromous fish distribution data updated and maintained		9/30/2010	Active	<i>See the Deliverable Specification above</i>

C: 159. Transfer/Consolidate Regionally Standardized 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.

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 and made available through the online data query system and interactive maps.

Primary Focal Species: Cutthroat Trout, Coastal - Resident Populations | Cutthroat Trout, Westslope | Cutthroat Trout, Yellowstone | Trout, Bull | Trout, Rainbow | Trout, Interior Redband | Kokanee

Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG development and exchange of resident fish distribution data	10/1/2009	9/30/2010	Active	IDFG, on an ongoing and opportunistic basis, will update, maintain, correct and submit distribution information for resident focal species to the regional StreamNet database.
B. MFWP development and exchange of resident fish distribution data	10/1/2009	8/30/2010	Active	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. In addition, information from the University of Montana Genetics Lab for cutthroat trout and redband trout and information will be combined with habitat restoration projects data/barriers to determine distribution.
C. MFWP participate in regional species assessments to develop distribution data	10/1/2009	9/1/2010	Active	MFWP will organize, prepare and distribute materials and conduct assessments of resident fish species of concern if they occur during the fiscal year. In addition MFWP will explore the feasibility of completing a Bull Trout assessment for Montana.
D. ODFW development and exchange of resident fish distribution data	10/1/2009	9/30/2010	Active	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 mixed scale hydrography. Focus will be given to enhancing Oregon's cutthroat dataset for the Willamette and lower Columbia based on ODF and other observation data with the goal of contributing to a native migratory fish distribution dataset.
E. WDFW development of priority resident fish distribution data	10/1/2009	9/30/2010	Active	WDFW will continue compiling Washington priority resident fish species (bull trout, cutthroat trout, rainbow trout) distribution data. Available data will be converted to StreamNet format and submitted when complete.
Deliverable: F. Resident fish distribution data maintained, updated as possible		9/30/2010	Active	<i>See the Deliverable Specification above</i>

D: 159. Transfer/Consolidate Regionally Standardized Data



Title: Develop data for adult abundance in the wild

Description: Develop and maintain (update all annual trends) 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) for 2009 data. 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 and age and sex composition. These are lower priority under level funding. Updated data will be exchanged with the regional StreamNet database at PSMFC at least once per year in the Data Exchange Format (DEF).

Deliverable Specification: Data on the abundance of fish (primary emphasis on focal species) 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.

Primary Focal Species: Chinook - All Populations | Coho - Unspecified Population | Steelhead - All Populations | Trout, Bull

Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG direct exchange of adult abundance data from IFWIS	10/1/2009	3/31/2010	Active	IDFG will extract natural spawner data for 2009 for focal species from the Idaho Fish and Wildlife Information System's (IFWIS) Spawning Ground Survey database and submit it to the StreamNet database.
B. IDFG development of adult abundance data from sources outside the IFWIS	10/1/2009	9/30/2010	Active	IDFG will pursue and compile natural spawner data for 2009 for focal species not entered into IFWIS. Acquisition of these data will depend on agency responses outside of IDFG StreamNet's control.
C. MFWP development of adult abundance data	1/1/2010	9/1/2010	Active	MFWP will input all 2009 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 to the Data Store since the current DEF isn't established for resident fish surveys. If a DEF for resident fish abundance is adopted and becomes available, the data will be exchanged in that format.
D. ODFW development of adult abundance data, first exchange	10/1/2009	4/10/2010	Active	ODFW will update and maintain all time series that are used in the Status of the Resource Report (as it currently exists, not including proposed future changes). After these, ODFW will focus on updating SOTR focal species trends that are not directly referenced in the SOTR, but where data are currently being collected. Other existing anadromous, resident, and non-game abundance and index trends, and any new trend information will be updated/added opportunistically as time and resources allow. Submitted data, for 2009, will be spatially referenced to an LLID. This is the first of two planned exchanges of data.
E. ODFW development of adult abundance data, second exchange	4/13/2010	9/12/2010	Active	ODFW will update and maintain all time series that are used in the Status of the Resource Report (as it currently exists, not including proposed future changes). After these, ODFW will focus on updating SOTR focal species trends that are not directly referenced in the SOTR, but where data are currently being collected. Other existing anadromous, resident, and non-game abundance and index trends, and any new trend information will be updated/added opportunistically as time and resources allow. Submitted data, for 2009, will be spatially referenced to an LLID. This is the second of two planned exchanges of data.
F. WDFW development of adult abundance data, lower Columbia. Upper contingent on funding.	10/1/2009	6/30/2010	Active	WDFW will provide 2009 natural spawner counts or estimates for 27 focal populations in 10 Washington lower Columbia subbasins. Data will be converted to StreamNet format and submitted when complete. IF additional funding becomes available, these data would also be developed for focal species populations in the 8 Washington mid and upper Columbia subbasins. In addition, will participate in discussions on how best to represent hatchery fraction data.
Deliverable: G. Fish abundance data are maintained and updated		9/30/2010	Active	<i>See the Deliverable Specification above</i>

E: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop hatchery return data

Description: Develop (update) and maintain hatchery trend 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 2009. 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 CBFWA Priority 2 data type.

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

Primary Focal Species: Chinook - All Populations | Coho - Unspecified Population | Steelhead - All Populations



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS development of hatchery return data	10/1/2009	5/30/2010	Active	FWS will receive Fish Removal and Egg files from individual hatcheries for anadromous salmonids, and add summarized data to the Hatchery Returns file up through return year 2009. Data will be exchanged with the regional StreamNet database.
B. IDFG direct exchange of hatchery return data from IFWIS	10/1/2009	12/31/2009	Active	IDFG will extract 2009 hatchery return and disposition data for focal species from the IFWIS Hatchery Data Management System (HDMS) and submit it to the StreamNet database.
C. IDFG development of hatchery return data from sources outside the IFWIS	10/1/2009	9/30/2010	Active	IDFG will pursue and compile 2009 hatchery return and disposition data for focal species not entered into IFWIS. Acquisition of these data will depend on agency responses outside of IDFG StreamNet's control.
D. ODFW development of hatchery return data, contingent on priority	10/1/2009	9/30/2010	Active	If this data type is identified as a common data element and a priority under W. WE 189; Title "Coordinate with regional entities to support regional scale reporting of population status & trends"; Milestone D, ODFW will seek to compile, update and exchange this data type for 2009, as time and resources allow.
E. WDFW development of hatchery return data, lower Columbia subbasins. Upper contingent on funding.	3/1/2010	8/1/2010	Active	WDFW will provide 2008 hatchery returns data for anadromous focal populations returning to WDFW facilities in 10 Washington lower Columbia subbasins. Data will be converted to StreamNet format and submitted when complete. IF additional funding becomes available, these data would also be developed for focal species populations in the 8 Washington mid and upper Columbia subbasins.
Deliverable: F. Data on return of anadromous fish to the hatcheries are maintained and updated		9/30/2010	Active	<i>See the Deliverable Specification above</i>

F: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop dam and fish passage facility data (mid-priority), update on 3 year cycle
Description: Data on dam and fish passage facilities will be maintained and updated only on a periodic basis. Previously compiled data of this type will be maintained. Information will be updated on a rotating schedule every three years, beginning in FY-08, with no new data scheduled for FY-10. This is a CBFWA Priority 3 data type.
Deliverable Specification: Existing data on dam and fish passage facilities are maintained. This lower priority data set will be updated and exchanged with the main StreamNet database at PSMFC on a three year rotating basis, beginning in 2008.
Primary Focal Species: Coho - Unspecified Population | Steelhead - All Populations | Chinook - All Populations

Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG development of dam and fish passage facility data	10/1/2009	9/30/2010	Active	IDFG will maintain existing dam and fish passage data. New data will not be actively pursued, but data that otherwise become available will be exchanged.
B. MFWP development of dam and fish passage facility data	1/1/2010	8/31/2010	Active	MFWP will maintain existing data on dams, but no update is scheduled this year due to the three-year update schedule for these data. One update might be submitted if there are any significant changes that come to light during the year.
C. ODFW development of dam and fish passage facility data	10/1/2009	9/30/2010	Active	ODFW will maintain existing data on dams, but no update is scheduled this year due to the three-year update schedule for these data.
D. WDFW development of dam and fish passage facility data	10/1/2009	9/30/2010	Active	WDFW will maintain existing data on dams, but no update is scheduled this year due to the three-year update schedule for these data.
Deliverable: E. Data on dam and fish passage facilities are maintained.		9/30/2010	Active	<i>See the Deliverable Specification above</i>

G: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop hatchery facility data (key dataset), update on 3 year cycle
Description: Develop and maintain information on anadromous and resident hatchery facilities, including information on location, design, management and authorization. Information will be updated on a rotating schedule every three years, beginning in FY-07.
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 on three year rotating basis, with a full updated scheduled in FY-2010..
Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Sockeye - All Populations | Steelhead - All Populations | Cutthroat Trout, Yellowstone | Trout, Rainbow



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS maintain and update hatchery facility data	10/1/2009	9/30/2010	Active	FWS will collect, update and maintain data on hatchery facilities.
B. IDFG maintain and update hatchery facility data	10/1/2009	9/30/2010	Active	IDFG will maintain and update data on hatchery facilities.
C. MFWP maintain and update hatchery facility data	10/1/2009	8/31/2010	Active	MFWP will maintain and update data on hatchery facilities. Updates of public and private hatchery facilities database will be exchanged as necessary.
D. ODFW maintain and update hatchery facility data	10/1/2009	9/30/2010	Active	ODFW will maintain and update data on hatchery facilities.
E. WDFW maintain and update hatchery facility data	10/1/2009	9/30/2010	Active	WDFW will maintain and update data on hatchery facilities.
Deliverable: F. Hatchery facilities data maintained and updated		9/30/2010	Active	<i>See the Deliverable Specification above</i>

H: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop hydrography data

Description: Archive the regionally consistent routed hydrography layer at the 1:100,000 (100K) scale for which StreamNet is the official keeper, and adopt use of the Mixed Scale Hydrography for depicting StreamNet data. In FY-10 the 100K hydrography will be archived but not updated, although it will still be available for use. Emphasis this year has shifted to the StreamNet Mixed Scale (100K plus 24K streams that have attached fish data) Hydrography as a step toward the eventual conversion to 24K when a regionally consistent routed 24K hydrography becomes available from other entities. Effort will also be expended toward developing 24K LLID based hydrography from NHD linework. The lakes and reservoirs layer will also be maintained. These are essential data for georeferencing all other data.

Deliverable Specification: The 1:100,000 PNW hydrography layer and lakes layer are maintained and archived for use a by others. The new StreamNet "mixed scale" (100K X 24K) hydrography is used for georeferencing StreamNet data until a fully routed PNW 1:24,000 scale NHD is completed by USGS.

Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Cutthroat Trout, Coastal - All Anadromous Populations | Sockeye - All Populations | Steelhead - All Populations | Cutthroat Trout, Coastal - Resident Populations | Cutthroat Trout, Westslope | Cutthroat Trout, Yellowstone | Trout, Bull | Trout, Rainbow | Trout, Interior Redband



Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG maintenance of hydrography for Idaho	10/1/2009	9/30/2010	Active	IDFG, on an ongoing basis, will maintain and update, as necessary, the 1:100,000 scale hydrography (streams and lakes) for Idaho, and maintain involved in discussions about the mixed scale hydrography and development of the NHD.
B. MFWP maintenance of hydrography for Montana	10/1/2009	8/31/2010	Active	MFWP, using the NHD, will continue to update the routes using the updated NHD layer, including lakes; will participate in Steering Committee assignments for either the 1:24 K hydrography or the mixed scaled hydrography. NRIS became the steward of the NHD layers in FY-06 and will perform maintenance of the layer excluding the stream routes, which remain MFWP responsibility. MFWP will rely on NRIS for the development of the NHD 1:24 K layer through contracted services. MFWP will coordinate with other StreamNet states and discuss with the USGS and NRIS, StreamNet's business needs and the development a whole-stream identifier in the 24k hydrography.
C. ODFW maintenance of hydrography for Oregon	10/1/2009	9/30/2010	Active	ODFW, on an ongoing basis, will maintain and update as necessary the mixed scale hydrography (Framework subset) dataset for Oregon. Necessary changes will be exchanged. As needed and within available resources, ODFW may also contribute to the development of a second generation mixed scale hydrography dataset, depending on the approach chosen.
D. WDFW development of the Washington portion of the StreamNet mixed-scale hydrography layer	10/1/2009	9/30/2010	Active	WDFW will maintain a mixed-scale (1:24,000) stream hydrography layer for Washington state, and respond to the outcomes of technical review by GIS staff from PSMFC and other project participants. WDFW will continue to update base stream and lake hydrography and high-priority attributes as needed to support spatial data exchange with StreamNet. Updates will be submitted to StreamNet when complete.
Deliverable: E. The 100K hydrography is archived, emphasis is shifted to the mixed scale hydrography.		9/30/2010	Active	<i>See the Deliverable Specification above</i>

I: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop fish barrier data, update on 3 year cycle
Description: Develop and maintain data sets for barriers to fish migration. Delivery of this new data type will be on a rotating basis every three years beginning in FY-09. Efforts in FY-10 will focus on maintaining existing data.
Deliverable Specification: Data on fish barriers are developed and maintained by the state StreamNet sub-projects. Updated data are exchanged with the main StreamNet database at PSMFC on 3 yr rotation beginning FY-09. New sources of barrier data are located. For FY-10 existing data are maintained.
Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Cutthroat Trout, Coastal - All Anadromous Populations | Sockeye - All Populations | Steelhead - All Populations | Trout, Bull | Kokanee

Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG development of fish barrier data	10/1/2009	9/30/2010	Active	IDFG will maintain existing barrier data. New data will not be actively pursued, but data that otherwise become available will be exchanged.
B. MFWP development of fish barrier data	10/1/2009	8/31/2010	Active	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.
C. ODFW development of fish barrier data	10/1/2009	9/30/2010	Active	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.
D. WDFW development of barrier data, contingent on funding	4/15/2010	9/30/2010	Active	WDFW will maintain barrier data records, and IF funding becomes available will update barrier data. This data type has been deemphasized due to reduced staff levels.
Deliverable: E. Fish barrier data developed and maintained		9/30/2010	Active	<i>See the Deliverable Specification above</i>

J: 159. Transfer/Consolidate Regionally Standardized Data

Title: Develop fish age data
Description: Develop and maintain information on age/sex composition of returning adults in 2009, primarily for anadromous species. This is a CBFWA Priority 2 data type.
Deliverable Specification: Data on age composition of returning adult fish are available through the StreamNet website.
Primary Focal Species: Chinook - All Populations | Coho - Unspecified Population | Steelhead - All Populations



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS development of fish age data	10/1/2009	9/30/2010	Active	FWS will process Fish Return and Age data through return year 2009 into the new StreamNet Age table format and exchange the data with the regional StreamNet database.
B. IDFG extraction of fish age data from IFWIS	10/1/2009	6/30/2010	Active	IDFG will pursue and exchange post-run mixture analysis of age composition data for 2009.
C. ODFW development of fish age data, contingent on priority	10/1/2009	9/30/2010	Active	If this data type is identified as a common data element and a priority under W. WE 189; Title "Coordinate with regional entities to support regional scale reporting of population status & trends"; Milestone D, ODFW will seek to compile, update and exchange this data type for 2009, as time and resources allow.
D. WDFW development of fish age data, lower Columbia subbasins. Upper contingent on funding.	3/1/2010	9/30/2010	Active	WDFW will develop age data for 2009 natural spawner and hatchery returns data from focal populations in the 10 Washington lower Columbia subbasins. Data will be converted to StreamNet format and submitted in company with the related datasets. IF additional funding becomes available, these data will be compiled for focal species populations in the 8 Washington mid and upper Columbia subbasins.
Deliverable: E. Age data are available on the StreamNet query system		9/30/2010	Active	<i>See the Deliverable Specification above</i>

K: 159. Transfer/Consolidate Regionally Standardized 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 to data relevant to StreamNet objectives which would be developed by StreamNet cooperators and also includes 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 in the Data Store. Priority for development of other data by StreamNet varies depending on the data type for each participating agency. Receiving and posting independent data sets from other entities in the Data Store is a high priority.
Deliverable Specification:	Other fish related data (in addition to the standard StreamNet data categories) are obtained, preserved 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 as independent data sets in their native format in the StreamNet Data Store.
Primary Focal Species:	Chinook - All Populations Chum - Columbia River ESU Coho - Unspecified Population Cutthroat Trout, Coastal - All Anadromous Populations Sockeye - All Populations Steelhead - All Populations Cutthroat Trout, Coastal - Resident Populations Cutthroat Trout, Westslope Cutthroat Trout, Yellowstone Trout, Bull Trout, Rainbow Trout, Interior Redband



Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG development of other data sets	10/1/2009	9/30/2010	Active	IDFG, on an opportunistic basis and within existing resources, will work with other projects in Idaho 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 in the Data Store.
B. MFWP development of other data sets	10/1/2009	8/31/2010	Active	MFWP will compile updated genetic results information on Montana's species of concern and update other datasets which will be provided as independent data sets to the Data Store. Aquatic Nuisance Species data will be evaluated for inclusion into the MFWP database. Data acquired for the Crucial Areas and Connectivity assessment, spawning and rearing areas, thermal refugia and unique recreational opportunities will be added to the MFWP database. If appropriate, data will be exchanged with StreamNet as an independent data set. Staff will also explore providing other data sets if time allows and as desired by regional staff.
C. MFWP development of diversion screening data	10/1/2009	9/30/2010	Active	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; otherwise the data will be made available through the Data Store.
D. MFWP develop habitat restoration projects data	10/1/2009	9/30/2010	Active	MFWP restoration project data base will be maintained and updated as needed, and the user interface will be enhanced. FWP will pursue updating the database with all restoration projects in Montana, not just those involved in the Future Fisheries Program. FWP will coordinate with the DNRC data coordinator to ensure that FWP data are incorporated in the multi-agency system that is being developed.
E. ODFW development of other data sets	10/1/2009	9/30/2010	Active	ODFW, as requested and within budget/time constraints, will work with other projects in Oregon 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 in the Data Store.
F. PSMFC development of other data sets and data for the Data Store	10/1/2009	9/30/2010	Active	The Region, on an ongoing and opportunistic basis, will work with StreamNet cooperators, FWP funded projects and other projects and agencies in the region to identify data sets appropriate for inclusion in the Data Store archive, encourage submission of those data sets to the Data Store, and if requested, assist them with data development and the submission process. After designing the new on-line system for Data Store submissions, convert the current Data Store items' metadata to fully meet the FGDC metadata standard for biological data.
G. PSMFC exploration into data capture of additional NPCC F&W Program priority data sets	10/1/2009	9/30/2010	Active	The Region will cooperate with NPCC, PNAMP, CBFWA and other entities to identify priority regional data sets generated by Fish and Wildlife Program and other projects that are not currently captured in a regional data system, and, will locate and acquire useful base layers that are relevant to StreamNet data and include them along with StreamNet data.
H. WDFW development of other data sets	10/1/2009	9/30/2010	Active	WDFW, as resources and other priorities permit, 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 in the Data Store.
Deliverable: I. Other data are developed on an ad hoc basis as possible		9/30/2010	Active	<i>See the Deliverable Specification above</i>

L: 159. Transfer/Consolidate Regionally Standardized Data

Title: Document data sources and help build the library collection

Description: StreamNet project participants will acquire documents, reports, publications and agency reports (gray literature) that document data sources for the data included in the StreamNet database or that relate to Fish and Wildlife Program activities and fish and wildlife resources in the Columbia Basin and the Pacific Northwest and submit them to the StreamNet Library at CRITFC for access by regional scientists, agencies, interested parties and other libraries.

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

Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Cutthroat Trout, Coastal - All Anadromous Populations | Sockeye - All Populations | Steelhead - All Populations | Cutthroat Trout, Coastal - Resident Populations | Cutthroat Trout, Westslope | Cutthroat Trout, Yellowstone | Trout, Bull | Trout, Rainbow | Trout, Interior Redband



Milestone Title	Start Date	End Date	Status	Milestone Description
A. StreamNet participants provide data reference documents	10/1/2009	9/30/2010	Active	FWS, IDFG, MFWP, ODFW, WDFW, and PSMFC, 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 at CRITFC for inclusion in the collection and catalog.
B. StreamNet participants support agency submission of documents to the library	10/1/2009	9/30/2010	Active	The StreamNet participating projects work to assure that agency documents and reports relative to fish and wildlife in the Columbia Basin are submitted to the StreamNet Library at CRITFC for inclusion in the collection.
Deliverable: C. Library collection maintained and increased		9/30/2010	Active	<i>See the Deliverable Specification above</i>

M: 160. Create/Manage/Maintain Database

Title: System Administration

Description: All StreamNet cooperators will manage and maintain the computer systems (hardware and software) necessary for acquiring, quality checking, formatting in regionally consistent format, georeferencing, backing up, and transmitting tabular and GIS data to the StreamNet database at PSMFC, and for storing, managing, documenting, backing up, quality checking and disseminating the data at PSMFC. This is a high priority work element that is essential to proper functioning of the project, even though it operates largely in the background.

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	Status	Milestone Description
A. FWS computer system administration	10/1/2009	9/30/2010	Active	FWS, on an ongoing basis, will manage and maintain the computer systems (hardware and operating software) necessary for supporting the FWS StreamNet tabular data, including system administration, backup and recovery, hardware and software upgrades, and security.
B. IDFG computer system administration	10/1/2009	9/30/2010	Active	IDFG, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and operating software) necessary for supporting Idaho StreamNet tabular and GIS data, including system administration, backup and recovery, hardware and software upgrades, and security.
C. MFWP information system administration	10/1/2009	9/30/2010	Active	MFWP, on an ongoing basis, will ensure that the computer systems used to manage Montana StreamNet data are fully maintained by their agency. They will provide necessary support to ArcServer.
D. ODFW computer system administration	10/1/2009	9/30/2010	Active	ODFW, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and operating software) necessary for supporting Oregon StreamNet tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.
E. PSMFC computer system administration	10/1/2009	9/30/2010	Active	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 Desktop and Server, 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; 3. Maintenance and management of database servers, SQL Server software & databases, including installation of updates, patches & service packs as they become available, management of logins, user permissions & client access tools, routine backup of all databases, assistance with purchasing, attendance at Commission IT meetings, preparation of disaster recovery plans; and, 4. Assistance with development of XML schema based options for both incoming and outgoing data and continuing exploration of how XML can enhance data exchange.
F. WDFW computer system administration	10/1/2009	9/30/2010	Active	WDFW, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and operating software) necessary for supporting Washington StreamNet tabular and GIS data, including system administration, backup and recovery, hardware and software upgrades, and security.
Deliverable: G. Computer systems maintained		9/30/2010	Active	<i>See the Deliverable Specification above</i>

**N: 160. Create/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. To the degree possible, cooperators will share code and applications between agencies and with other data source agencies to maximize project efficiency.
- 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	Status	Milestone Description
A. FWS development and/or maintenance of applications and interfaces	10/1/2009	9/30/2010	Active	FWS, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of FWS StreamNet tabular data.
B. IDFG development and/or maintenance of applications and interfaces	10/1/2009	9/30/2010	Active	IDFG, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of Idaho StreamNet tabular and GIS data, including direct data acquisition from the Idaho Fish and Wildlife Information System (IFWIS).
C. MFWP development and/or maintenance of applications and interfaces	10/1/2009	9/30/2010	Active	MFWP, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of Montana StreamNet tabular and GIS data. MFWP will be assisting in the scoping and development (when scoping is complete) of a complete Fisheries Information System to enhance the flow of data from the field to a centralized database. Included in this work will be assistance to the Fisheries Division and their field staff in the area of standardizing field survey protocol.
D. ODFW development and/or maintenance of applications and interfaces	10/1/2009	9/30/2010	Active	ODFW, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of Oregon StreamNet tabular and GIS data, including work on the Recovery Planning application.
E. ODFW assist agency develop data systems to automate data flow	10/1/2009	9/30/2010	Active	Oregon StreamNet will continue efforts to improve overall data flow from the field by continuing the development of a data management and delivery system that also provides benefits to field projects, focusing on one of the common data elements identified in W. WE 189; Title "Coordinate with regional entities to support regional scale reporting of population status & trends"; Milestone D. In addition, we will continue development of a distribution update application to capture sighting information. We will coordinate with StreamNet partners as much as possible with the goal of sharing resources and products.
F. PSMFC development and/or maintenance of applications and interfaces	10/1/2009	9/30/2010	Active	The Region, on an ongoing basis, will: 1. Track the efforts of regional partners, including the USGS, to build crosswalks between the LLID and NHD route systems and seek opportunities to collaborate; 2. Research the creation of an Online Event Mapper that allows users to create event tables based on StreamNet's mixed-scale hydrography over the Internet; 3. Modify the web data query system to add the capability of displaying data conforming to changes in the DEF, such as use of SuperTrends, SuperReferences and SuperCodes for identifying groups of trends and locations respectively; 4. Develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data; and, 5. Assist cooperating agencies with tool development, as requested. Tools may include data input interfaces, error checking routines, geographic locators, etc.
G. PSMFC design interface for online Data Store submissions	10/1/2009	9/30/2010	Active	Implement an Internet-based program for submitting data sets to the StreamNet Data Store through use of a web browser. This program will replace the currently available executable program that requires installation on host computers. Work in FY-08 included conceptual development and monitoring the progress of the up-coming North American Profile of the international ISO metadata standard. Because that standard was once again delayed significantly, we will instead meet the current FGDC metadata standard for biological data. FY-09 included designing the program and modifying the information we will collect in order to meet FGDC standards. FY-10 will include development of the program.
H. WDFW development and/or maintenance of applications and interfaces	10/1/2009	9/30/2010	Active	WDFW, on an ongoing basis, will develop and/or maintain computerized applications and interfaces that facilitate the entry, compilation, management and dissemination of Washington StreamNet tabular and spatial data.
Deliverable: I. Applications are developed and maintained.		9/30/2010	Active	<i>See the Deliverable Specification above</i>

O: 160. Create/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. Emphasis will increase on improving timeliness of data development and dissemination, and we will initiate work to develop metadata templates, by data type and over time, in pilot subbasins.
- 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. A data delivery timeline application will be maintained on the StreamNet website. Work will have started on developing metadata templates. Metadata are published as Web Services.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS data content management, QA/QC	10/1/2009	9/30/2010	Active	FWS will manage FWS StreamNet data, conduct quality checks, and exchange data to PSMFC as specified in this Statement of Work.
B. IDFG data content management, QA/QC	10/1/2009	9/30/2010	Active	IDFG will manage IDFG StreamNet data, conduct quality checks, develop and maintain FGDC compliant metadata for spatial data, and exchange data to PSMFC as specified in this Statement of Work.
C. MFWP data content management, QA/QC	10/1/2009	9/30/2010	Active	MFWP will manage IDFG StreamNet data, conduct quality checks, develop and maintain FGDC compliant metadata for spatial data, and exchange data to PSMFC as specified in this Statement of Work.
D. ODFW data content management, QA/QC	10/1/2009	9/30/2010	Active	ODFW will manage ODFW StreamNet data (including data in the ODFW NRIMP database that feed StreamNet), conduct quality checks, develop and maintain FGDC compliant metadata for spatial data, and exchange data to PSMFC as specified in this Statement of Work.
E. PSMFC support for data content management	10/1/2009	9/30/2010	Active	The Region, on an ongoing, as needed basis, will assist data contributing agencies (state, tribal or federal) in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database.
F. PSMFC GIS data content management	10/1/2009	9/30/2010	Active	<p>The Region, on an ongoing basis, will manage GIS data content for the StreamNet project through the following actions by the GIS Specialist:</p> <ol style="list-style-type: none"> Whenever new tabular data with a spatial component are submitted to the Region (e.g., fish distribution, hatchery facilities, etc.), 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/ArcGIS Server interactive mapping system, and as downloadable layers for StreamNet GIS users; Maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata); Obtain and refine layers such as ESUs, ecoregions, or elevations, and create cross tables for use by the query system; Obtain base GIS layers to place StreamNet data in an appropriate context. Provide links to key base layers on SN website; Assist the database manager with the spatial component of data and its implementation online; Coordinate efforts by the StreamNet partners to maintain and update, as necessary, the Regional Mixed scale hydrography (MSH) dataset. Continue to publish the archived PNW 1:100k River Reach files for those with a need to map legacy event data; Maintain and improve the regional Mixed Sale Hydrography, incorporating data submissions and corrections from partners. Continue to monitor progress on the development of a regionally consistent 24k routed hydrography by the USGS (NHD) and its adoption by partner agencies; Integrate the functioning of the GIS system with the StreamNet fisheries database in support of the query system, and maintain up-to-date cross tables used via the StreamNet web interface to select information by geographic area; and, Ensure that all published spatial data is documented to meet FGDC metadata requirements; manage and maintain a metadata web service that makes StreamNet and Data Store metadata available for inclusion in regional and national data portals (e.g., Geospatial One-Stop, NBII and others).



Milestone Title	Start Date	End Date	Status	Milestone Description
G. PSMFC tabular data content management, QA/QC	10/1/2009	9/30/2010	Active	The Region, on an ongoing basis through the Regional Database Manager will: 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; 2. Update StreamNet database schemas 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 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; 3. Periodically produce a downloadable version of StreamNet's primary fish enumeration data in Access database format, as well as downloadable ASCII formatted files of primary StreamNet data tables; 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; 5. Provide the regional staff and steering committee with guidance and supporting analysis of data issues, shortcomings and recommended improvements; and, 6. Maintain long term data sets, such as the Protected Areas data, Subbasin Planning data, Hatchery Review data from the HSRG, etc.
H. WDFW data content management, QA/QC	10/1/2009	9/30/2010	Active	WDFW will manage WDFW StreamNet data, conduct quality checks, develop and maintain FGDC compliant metadata for spatial data, and exchange data to PSMFC as specified in the Statement of Work.
Deliverable: I. Data are maintained and updated, metadata are developed, and data timeline is posted.		9/30/2010	Active	<i>See the Deliverable Specification above</i>

P: 160. Create/Manage/Maintain Database

Title: Data exchange standard development

Description: The project will establish and maintain data exchange standards to ensure regionally 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.

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 updated DEF version is adopted during the year.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS development and maintenance of data exchange standards	10/1/2009	9/30/2010	Active	FWS, on an ongoing basis and as scheduled by the Steering Committee, 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.
B. IDFG development and maintenance of data exchange standards	10/1/2009	9/30/2010	Active	IDFG, on an ongoing basis and as scheduled by the Steering Committee, 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.
C. MFWP development and maintenance of data exchange standards	10/1/2009	9/30/2010	Active	MFWP, on an ongoing basis and as scheduled by the Steering Committee, 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.
D. ODFW development and maintenance of data exchange standards	10/1/2009	9/30/2010	Active	ODFW, on an ongoing basis and as scheduled by the Steering Committee, 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.
E. PSMFC development and maintenance of data exchange standards	10/1/2009	9/30/2010	Active	The Region, on an ongoing, as needed basis, will work cooperatively through the Steering Committee, following the DEF change process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types. A focus for FY-10 will be observations/sightings, and exploring shifting the paradigm of the StreamNet database from "trends" to observations. New DEFs for "Other" data sets related to the FWP will be considered if necessary and if time allows. The Regional Biologist will serve as the primary coordinator of the DEF process and is responsible for updating and publishing the official DEF document.
F. PSMFC development and maintenance of data exchange standards, EMAP-based data sets.	10/1/2009	9/15/2010	Active	The Region will evaluate the special needs for the capture, storage, and dissemination of data collected following an EMAP GRTS (Generalized Random Tessellation Stratified) sampling approach. They will work toward a strategy for obtaining, managing and appropriately disseminating data collected under an EMAP GRTS (Master Sample) sampling approach.
G. PSMFC reevaluate DEF based on trends to consider an approach based on observations	10/1/2009	9/30/2010	Active	The Region will lead an effort to evaluate possibly changing our paradigm for data collection, storage, and delivery from the "trend" concept currently used to one based on individual observations. DEF changes as well as programming and presentation changes will be evaluated. A first draft DEF was created during FY-08. During FY-09 on separate funding the concept was tested with coastal cutthroat trout data, and a draft web-based mapping application was created to browse the data. This effort will likely require more than one year to fully evaluate, design, and implement.
H. WDFW development and maintenance of data exchange standards	10/1/2009	9/30/2010	Active	WDFW, on an ongoing basis and as scheduled by the Steering Committee, 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.
Deliverable: I. The Data Exchange Format is maintained and used for data transfer		9/30/2010	Active	<i>See the Deliverable Specification above</i>

Q: 161. Disseminate Raw/Summary Data and Results

Title: Develop and maintain Internet sites for data dissemination

Description: StreamNet will continue to maintain and enhance the StreamNet Internet sites to provide access to tabular and GIS data from the StreamNet database. PSMFC will maintain and enhance the primary project website (www.streamnet.org) and associated applications, including the data query system, the interactive map applications and the Data Store. Partner agencies will assist with routine periodic review and comment on the primary website and may disseminate data through websites associated with their agency's StreamNet project and references housed in the StreamNet Library. Priority will be given to incorporating data and references developed through Work Element 159. The website will also be used to archive data sets developed by FWP participants for data that do not fit within the StreamNet DEF (Data Store archive function), including the means to index and search the archive. Metadata will be published as a web service, making all data findable through external portals.

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. Metadata are published as web services.



Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Cutthroat Trout, Coastal - All Anadromous Populations | Sockeye - All Populations | Steelhead - All Populations | Cutthroat Trout, Coastal - Resident Populations | Cutthroat Trout, Westslope | Cutthroat Trout, Yellowstone | Trout, Bull | Trout, Rainbow | Trout, Interior Redband

Milestone Title	Start Date	End Date	Status	Milestone Description
A. PSMFC Internet site maintenance and development	10/1/2009	9/30/2010	Active	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 Maps & Data pages and archive legacy GIS 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. Support spatial filtering by a hierarchy of Hydrologic Unit Code (HUC) levels in the web-query system and Internet map application using an enhanced version of the recently released Watershed Boundary Dataset (WBD); Provide filtering by regionally identified salmonid populations based on their relationship to 6th field HUCs; 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; 8. Maintain and enhance the functionality, look and usability of the StreamNet web-based query system; 9. Evaluate and complete the redesign of the online data query system, as initiated in FY-08; 10. Maintain the PNAMP monitoring inventory web page and the CSMEP data inventory web page; and, 11. Maintain the interfaces to provide tabular and map based access to the Protected Areas data set
B. StreamNet partners assist Internet site maintenance and development	10/1/2009	9/30/2010	Active	The StreamNet partners on an ongoing basis will assist in maintenance and improvement of the StreamNet website, the project's primary data dissemination tool, through routine use and review of the site and providing feedback to StreamNet staff at PSMFC on any problems, errors or suggestions for needed improvements. They will continue to provide feedback on the functionality of the new website design implemented in FY-09 and the query system improvements initiated in FY-08.
C. ODFW internal Internet site maintenance and development	10/1/2009	9/30/2010	Active	ODFW, on an ongoing basis, will manage and maintain Oregon's web-based data integration, communication, data sharing, and data transfer systems and their links to StreamNet.
Deliverable: D. StreamNet Internet sites are maintained and functional		9/30/2010	Active	<i>See the Deliverable Specification above</i>

R: 161. Disseminate Raw/Summary Data and Results

Title: Respond to data/information requests

Description: Receive and respond to requests for data, maps and other information; source materials; and custom data products at the regional and cooperating agency levels, as appropriate. 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 and data source agencies/departments. Other priorities will include implementation of the Endangered Species Act and federal, state, and tribal natural resource management activities. Custom data development will be dependent on available resources.

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.

Primary Focal Species: Chinook - All Populations | Chum - Columbia River ESU | Coho - Unspecified Population | Cutthroat Trout, Coastal - All Anadromous Populations | Sockeye - All Populations | Steelhead - All Populations | Cutthroat Trout, Coastal - Resident Populations | Cutthroat Trout, Westslope | Cutthroat Trout, Yellowstone | Trout, Bull | Trout, Rainbow | Trout, Interior Redband



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS respond to and track data/information requests	10/1/2009	9/30/2010	Active	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.
B. IDFG respond to and track data/information requests	10/1/2009	9/30/2010	Active	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.
C. MFWP respond to and track data/information requests	10/1/2009	9/30/2010	Active	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.
D. ODFW respond to and track data/information requests	10/1/2009	9/30/2010	Active	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.
E. PSMFC respond to and track data/information requests	10/1/2009	9/30/2010	Active	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. Data requests will be satisfied on an "as possible" basis (based on data availability and time required) and for large requests within the limitations of available staffing and funding.
F. PSMFC maintain and post Protected Areas, other long term data sets	10/1/2009	9/30/2010	Active	The Region, on an ongoing basis, will maintain and provide access to various long term data sets that are valuable to the FWP, including the Protected Areas data set, the Subbasin Planning data, and hatchery review data from the HSRG. Specific tasks in FY-10 will include attempting to find funding to modernize the Protected Areas location coding to the mixed scale hydrography, and loading hatchery related data from the HSRG.
G. WDFW respond to and track data/information requests	10/1/2009	9/30/2010	Active	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.
Deliverable: H. Responses to requests are provided rapidly and tracked		9/30/2010	Active	<i>See the Deliverable Specification above</i>

S: 161. Disseminate Raw/Summary Data and Results

Title:	Promote availability of StreamNet data and encourage participation in the project
Description:	Participate in scientific, professional, and other relevant groups to increase awareness of the StreamNet project, inform others of the data and data related services available from the project, and to encourage participation by others in providing relevant data to the project.
Deliverable Specification:	The project and its data and services are made better known among potential data sources and data users, leading ultimately to increased participation in providing and using data.
Primary Focal Species:	Chinook - All Populations Chum - Columbia River ESU Coho - Unspecified Population Cutthroat Trout, Coastal - All Anadromous Populations Sockeye - All Populations Steelhead - All Populations Cutthroat Trout, Coastal - Resident Populations Cutthroat Trout, Westslope Cutthroat Trout, Yellowstone Trout, Bull Trout, Rainbow Trout, Interior Redband



Milestone Title	Start Date	End Date	Status	Milestone Description
A. Participants promote the project through professional and public involvement	10/1/2009	9/30/2010	Active	The project participants, on an opportunistic basis and within budgeted resources, 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, non-profits, and other local, regional or national groups or organizations.
B. PSMFC publication of the StreamNet Newsletter	10/1/2009	9/30/2010	Active	The regional StreamNet office will publish at least two editions of the StreamNet Newsletter during the fiscal year, providing readers with information about StreamNet activities, available data, data updates, new data services, etc. Target publication dates are 3/31/2010 and 9/30/2010.
C. PSMFC develop materials to support and promote participation in the project	10/1/2009	9/30/2010	Active	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 other documents explaining data categories and data structures and/or prepare new materials, as necessary.
Deliverable: D. StreamNet data and services are made more widely known		9/30/2010	Active	<i>See the Deliverable Specification above</i>

T: 189. Regional Coordination

- Title:** Support regional efforts under the Fish and Wildlife Program
- Description:** Participate in planning, development and/or coordination meetings with regional projects and programs under the Fish and Wildlife Program to help develop a regional data management framework, to establish data type and data service priorities, and to provide advice in the area of data management, as requested. Provide input on ways StreamNet can effectively contribute to the programs and general advice about data management. Participate in coordination groups (e.g., CBFWA, PNAMP, NWEIS), advisory groups, task forces, etc. whose purpose is to enhance the effectiveness of the Fish and Wildlife Program relative to its data development activities. This also includes planning for the next round of subbasin planning and related activities.
- Deliverable Specification:** StreamNet staff have participated actively in and supported projects funded through the FWP, including CBFWA and PNAMP. StreamNet functions as a recognized component of the regional data management framework.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG provide support to Fish and Wildlife Program development activities	10/1/2009	9/30/2010	Active	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.
B. MFWP provide support to Fish and Wildlife Program development activities	10/1/2009	9/30/2010	Active	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.
C. ODFW provide support to Fish and Wildlife Program development activities	10/1/2009	9/30/2010	Active	ODFW, on an as needed or requested basis and 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.
D. PSMFC provide support to Fish and Wildlife Program development activities	10/1/2009	9/30/2010	Active	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 in the Steering Committee of 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; 2. Continued participation with the PNAMP Data Management Leadership Team to convey recommendations based on experience in the development of a regional approach to data dissemination; 3. Continued participate with CBFWA in support of data management efforts, including work to support the Status of the Resource Report; and, 4. Provide data related support (expertise and guidance) to other FWP related programs and projects as requested and as possible under existing resources.
E. WDFW provide support to Fish and Wildlife Program development activities	10/1/2009	9/30/2010	Active	WDFW on an as needed or requested basis and 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.
Deliverable: F. Data related support is provided to FWP related activities		9/30/2010	Active	<i>See the Deliverable Specification above</i>

U: 189. Regional Coordination

Title: Coordinate with and support data source agencies

Description: Coordinate with state, tribal and federal fish and wildlife agencies/departments that develop data of interest to StreamNet's mission to streamline data capture, determine agency data management needs and work to improve their internal data management and data transfer to StreamNet. Demonstrate data management tools and applications developed by StreamNet staff and others to increase interest in and adoption of similar tools to improve data flow and automation. Support development of internal data management capabilities and data automation to the degree possible under existing funding, and attempt to link data tools to reporting and decision making. Encourage data sharing in exchange for help with data management.

Deliverable Specification: Data capture and management tools demonstrated to agencies and regional groups. Increased involvement with tribes and development of plans to increase capture of tribal data. Increased commitment of agencies to increased data flow automation.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG coordination with data source agencies	10/1/2009	9/30/2010	Active	IDFG, on an opportunistic basis and within budgeted resources, will coordinate with IDFG, other agencies, tribes, regional groups, non-profits, etc. that are part of the Fish and Wildlife Program for the purpose of enhancing the collection and management of data related to the StreamNet project mission.
B. MFWP coordination with data source agencies	10/1/2009	9/30/2010	Active	MFWP StreamNet will coordinate with MFWP to support enhanced data flow to StreamNet. This will include assistance in the scoping of a Fisheries Information System edit/entry user interface.
C. MFWP assist Fisheries Division in preparation of a Statewide Fisheries Management Plan	10/1/2009	9/30/2010	Active	MFWP will provide support, technical expertise and guidance, and products for the development of the Fisheries portion of the Crucial Areas and Connectivity Assessment and assist the Natural Heritage Program in the creation of an Aquatic Ecosystem classification system for Montana. Any data generated from these products/projects, including critical and important spawning and rearing areas, thermal refugia, and unique recreational opportunities, will be added to MFISH and made available to StreamNet as an independent data set.
D. MFWP assist the Fisheries Division in standardized field survey techniques and forms	10/1/2009	9/30/2010	Active	MFWP will provide guidance, support and review to the activities of the Fisheries Division in their effort to standardize data processes and procedures from the field to data delivery. StreamNet staff will participate in the Fisheries Division Monitoring and Evaluation Committee as appropriate, and when data collection, storage and analysis issues and changes are being discussed and implemented.
E. ODFW coordination with data source agencies	10/1/2009	9/30/2010	Active	ODFW, on an opportunistic basis and within budgeted resources, will coordinate with data sources to provide guidance and assistance with data processes to support efficient data flow and to determine future data management needs.
F. ODFW coordination with ODFW GIS Coordination Group	10/1/2009	9/30/2010	Active	ODFW will continue to spearhead the ODFW GIS Coordination Group's efforts to assist in the protection and enhancement of Oregon's fish, wildlife, and habitats through the development, acquisition, analysis, and dissemination of geographic information.
G. PSMFC coordination with data source agencies	10/1/2009	9/30/2010	Active	The Region, on an opportunistic basis and within budgeted resources, will work with the StreamNet partners to coordinate with agencies and organizations that collect data to determine their data availability, data management capabilities and needs, and interest in providing data to StreamNet. We will work toward supporting the data source agencies in developing the capabilities and tools (including database systems) to facilitate increased data flow, with particular emphasis placed on supporting tribal efforts.
H. WDFW coordination with data source agencies	10/1/2009	9/30/2010	Active	WDFW, on an opportunistic basis and within budgeted resources, will coordinate with WDFW, other agencies, tribes, regional groups, non-profits, etc. that are part of the Fish and Wildlife Program for the purpose of enhancing the collection and management of data related to the StreamNet project mission.
Deliverable: I. Support provided to data source agencies		9/30/2010	Active	<i>See the Deliverable Specification above</i>

V: 189. Regional Coordination

- Title:** Coordinate with related activities outside of the FWP
- Description:** Maintain communications between StreamNet and other applicable regional, federal, tribal, private and state-level agencies and activities beyond the Council's Fish and Wildlife Program to identify means for collaboration on data capture and management. On request or as possible, work toward capture of data not currently being entered in StreamNet.
- Deliverable Specification:** Coordination with fish and wildlife programs outside of the FWP on data issues and availability is conducted as possible or needed



Milestone Title	Start Date	End Date	Status	Milestone Description
A. IDFG coordination with related activities outside of the FWP	10/1/2009	9/30/2010	Active	IDFG, on an opportunistic basis and within budgeted resources, will coordinate with other agencies, tribes, regional groups, non-profits, etc. that are not part of the Fish and Wildlife Program for the purpose of enhancing the collection and management of data related to the StreamNet project mission.
B. MFWP coordination with related activities outside of the FWP	10/1/2009	9/30/2010	Active	MFWP, on an opportunistic basis and within budgeted resources, will coordinate with other agencies, tribes, regional groups, non-profits, etc. that are not part of the Fish and Wildlife Program for the purpose of enhancing the collection and management of data related to the StreamNet project mission.
C. ODFW coordination with related activities outside of the FWP	10/1/2009	9/30/2010	Active	ODFW, on an opportunistic basis and within budgeted resources, will coordinate with other agencies, tribes, regional groups, tribes, non-profits, etc. that are not part of the Fish and Wildlife Program for the purpose of enhancing the collection and management of data related to the StreamNet project mission.
D. PSMFC coordinate with related activities outside of the FWP	10/1/2009	9/30/2010	Active	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 outside the FWP to enhance the collection and management of data related to management of fish and wildlife resources and the StreamNet mission.
E. WDFW coordination with related activities outside of the FWP	10/1/2009	9/30/2010	Active	WDFW, on an opportunistic basis and within budgeted resources, will coordinate with other agencies, tribes, regional groups, tribes, non-profits, etc. that are not part of the Fish and Wildlife Program for the purpose of enhancing the collection and management of data related to the StreamNet project mission.
Deliverable: F. Coordination outside the FWP is accomplished as needed		9/30/2010	Active	<i>See the Deliverable Specification above</i>

W: 189. Regional Coordination

Title: Support regional scale reporting on status and trends for HLI, BiOp, etc.

Description: Support the capture and organization of data needed to produce assessments of population status and trends, such as for the Status Of The Resource report (SOTR), other High Level Indicators (HLI) or BiOp related assessments. Participate with developers of these reports to understand needed raw data to create the indicators, and work with data source agencies to facilitate improved data flow to the reporting mechanisms. Develop data to support these efforts under WE 159.

Deliverable Specification: StreamNet functions as an integral component of data flow to regional reporting of population status and trends.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. FWS works with CBFWA, NPCC, etc. to systematically support regional indicators	10/1/2009	9/30/2010	Active	FWS StreamNet will coordinate with USFWS and reporting entities (e.g., CBFWA for the SOTR, NPCC and PNAMP for HLI, NOAA-Fisheries/Recovery Planning Teams for measurable criteria) to facilitate flow of raw or field level data into the development of higher scale reporting metrics. Specifically, Idaho will seek to identify and prioritize common raw or field level data between the various HLI lists, measurable criteria contained in Recovery Plans, and other analyses collected in Idaho for the purpose of focusing data compilation and data management/delivery system development efforts on the common priority data types.
B. IDFG works with CBFWA, NPCC, etc. to systematically support regional indicators	10/1/2009	9/30/2010	Active	Idaho StreamNet will coordinate with IDFG and reporting entities (e.g., CBFWA for the SOTR, NPCC and PNAMP for HLI, NOAA-Fisheries/Recovery Planning Teams for measurable criteria) to facilitate flow of raw or field level data into the development of higher scale reporting metrics. Specifically, Idaho will seek to identify and prioritize common raw or field level data between the various HLI lists, measurable criteria contained in Recovery Plans, and other analyses collected in Idaho for the purpose of focusing data compilation and data management/delivery system development efforts on the common priority data types.
C. MFWP works with CBFWA, NPCC, etc. to systematically support regional indicators	10/1/2009	9/30/2010	Active	Montana StreamNet will coordinate with MFWP and reporting entities (e.g., CBFWA for the SOTR, NPCC and PNAMP for HLI, NOAA-Fisheries/Recovery Planning Teams for measurable criteria) to facilitate flow of raw or field level data into the development of higher scale reporting metrics. Specifically, Montana will seek to identify and prioritize common raw or field level data between the various HLI lists, measurable criteria contained in Recovery Plans, and other analyses collected in Montana for the purpose of focusing data compilation and data management/delivery system development efforts on the common priority data types.
D. ODFW works with CBFWA, NPCC, etc. to systematically support regional indicators	10/1/2009	9/30/2010	Active	Oregon StreamNet will coordinate with ODFW and reporting entities (e.g., CBFWA for the SOTR, NPCC and PNAMP for HLI, NOAA-Fisheries/Recovery Planning Teams for measurable criteria) to facilitate flow of raw or field level data into the development of higher scale reporting metrics. Specifically, Oregon will seek to identify and prioritize common raw or field level data between the various HLI lists, measurable criteria contained in Recovery Plans, and other analyses collected in Oregon for the purpose of focusing data compilation and data management/delivery system development efforts on the common priority data types.
E. PSMFC works with CBFWA, NPCC, etc. to systematically support regional indicators	10/1/2009	9/30/2010	Active	The Region will coordinate with reporting entities (e.g., CBFWA for the SOTR, NPCC and PNAMP for HLI and NOAA Fisheries for BiOp metrics) to facilitate flow of raw or field level data into the development of higher scale reporting metrics. Specifically, the Region will seek to identify and prioritize common raw or field level data between the various HLI lists, measurable criteria contained in Recovery Plans, and other analyses for the purpose of focusing data compilation and data management/delivery system development efforts on the common priority data types. Automated data delivery to CBFWA will be maintained and expanded for updating the SOTR.
F. WDFW works with CBFWA, NPCC, etc. to systematically support regional indicators	10/1/2009	9/30/2010	Active	Washington StreamNet will coordinate with WDFW and reporting entities (e.g., CBFWA for the SOTR, NPCC and PNAMP for HLI, NOAA-Fisheries/Recovery Planning Teams for measurable criteria) to facilitate flow of raw or field level data into the development of higher scale reporting metrics. Specifically, Washington will seek to identify and prioritize common raw or field level data between the various HLI lists, measurable criteria contained in Recovery Plans, and other analyses collected in Washington for the purpose of focusing data compilation and data management/delivery system development efforts on the common priority data types.
Deliverable: G. Regional scale status and trend data are supported		9/30/2010	Active	<i>See the Deliverable Specification above</i>

X: 132. Produce (Annual) Progress Report

- Title:** Annual report
- Description:** Produce a detailed annual report for FY-09 project activities within 60 days of the beginning of the fiscal year.
- Deliverable Specification:** The FY-09 annual report is submitted to BPA and uploaded to Pisces.



Milestone Title	Start Date	End Date	Status	Milestone Description
A. Review progress report format requirements	10/1/2009	10/7/2009	Active	Contractor must review formatting requirements before starting the first draft of their report. Please follow the BPA-required format. http://www.efw.bpa.gov/IntegratedFWP/technicalreports.aspx
B. Submit progress report for internal contractor review	10/19/2009	10/30/2009	Active	Use this milestone if the annual report requires an internal review before being reviewed externally. Make sure to allow for both technical and policy reviews if necessary. [Draft has been prepared. This applies to StreamNet project internal review. No external review required. -JP]
C. Revisions in response to review of draft	10/26/2009	11/23/2009	Active	Changes in response to comments from the StreamNet project partners and BPA COTR. This included final editing before upload.
D. PSMFC uploads FY-2009 annual report to BPA	11/27/2009	11/30/2009	Active	PSMFC, with input from all cooperators, will submit the FY-09 annual progress report to BPA. The report will provide detailed information about project accomplishments throughout the fiscal year by Work Element Title.
E. Confirm BPA has posted the progress report	12/28/2009	12/31/2009	Active	It usually takes BPA 30-45 days to post the final version of a report. This milestone's end date should therefore be 45 days after the Deliverable milestone. You will receive an email from BPA confirming that your report has been finalized and posted to the web.
Deliverable: F. Annual report submitted to BPA		11/30/2009	Active	<i>See the Deliverable Specification above</i>

Y: 119. 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.

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

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Project oversight and guidance: Project management and Steering Committee	10/1/2009	9/30/2010	Active	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.
B. Project oversight and guidance: Supervision	10/1/2009	9/30/2010	Active	All StreamNet cooperators, except for FWS, will supervise project staff and provide guidance and staff development.
C. Project oversight and guidance: Budget control	10/1/2009	9/30/2010	Active	All StreamNet cooperators will manage expenditures to accomplish the jobs in the Statement of Work within the approved budget.
D. StreamNet cooperators provide input for the FY-11 draft SOW/budget package	5/1/2010	6/18/2010	Active	Project cooperators will provide their respective input to the FY-2011 Project Proposal, Statement of Work and budget to PSMFC 105 days prior to the end of the FY-10 contract period.
E. PSMFC develop FY-10 draft SOW/budget package	4/24/2010	7/1/2010	Active	PSMFC will oversee development and submission of the FY-2011 Project Proposal, SOW and budget. Guidance will be provided to project cooperators more than 120 days before the end of the Fiscal year. PSMFC will utilize input from the cooperators to develop the final proposed FY-2011 proposal, Statement of Work and budget and submit them to BPA 90 days prior to the end of the FY-10 contract period.
F. Accrual - Submit September estimate to BPA	7/1/2010	9/10/2010	Active	Provide BPA with an estimate of contract work that will occur prior to September 30 but will not be billed until October 1 or later. Generally, this should be done by September 10.
Deliverable: G. Project management accomplished		9/30/2010	Active	<i>See the Deliverable Specification above</i>

Z: 185. Produce Pisces Status Report

Title: Periodic Status Reports for BPA

Description: The Contractor shall report on the status of milestones and deliverables in Pisces. Reports shall be completed either monthly or quarterly as determined by the BPA COTR. Additionally, when indicating a deliverable milestone as COMPLETE, the contractor shall provide metrics and the final location (latitude and longitude) prior to submitting the report to the BPA COTR.

**Deliverable Specification:**

Milestone Title	Start Date	End Date	Status	Milestone Description
A. Oct-Dec 2009 (10/1/2009 - 12/31/2009)	1/1/2010	1/15/2010	Active	
B. Jan-Mar 2010 (1/1/2010 - 3/31/2010)	4/1/2010	4/15/2010	Active	
C. Apr-Jun 2010 (4/1/2010 - 6/30/2010)	7/1/2010	7/15/2010	Active	
D. Final Jul-Sep 2010 (7/1/2010 - 9/30/2010)	9/16/2010	9/30/2010	Active	

Inadvertent Discovery Instructions

BPA is required by section 106 of the National Historic Preservation Act (NHPA) to consider the effects of its undertakings on historic properties (16 USC 470). Prior to approving the expenditure of funds or conducting a federal undertaking, BPA must follow the section 106 process as described at 36 CFR 800. Even though BPA has completed this process by the time an undertaking is implemented, if cultural materials are discovered during the implementation of a project, work within the immediate area must stop and the significance of the materials must be evaluated and adverse effects resolved before the project can continue (36 CFR 800.13(b)(3)). The Inadvertent Discovery of Cultural Resources Procedure form outlines the steps to be taken and notifications to be made. If the undertaking takes place on tribal lands (16 USC 470w), BPA must also "comply with applicable tribal regulations and procedures and obtain the concurrence of the Indian tribe on the proposed action" (36 CFR 800.13(d)).

Inadvertent Discovery of Cultural Resources Procedure form:

<http://www.efw.bpa.gov/IntegratedFWP/InadvertentDiscoveryProcedure.pdf>