



# **StreamNet Project**

**BPA Project No. 198810804**

## **Fiscal Year 2005**

# **Third Quarter Progress Report**

**April 1, 2005 through June 30, 2005**

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## **Introduction**

StreamNet is a cooperative, multi-agency data compilation and data management project authorized by the Northwest Power and Conservation Council’s Fish and Wildlife Program (FWP), funded primarily by the Bonneville Power Administration. The project is administered by the Pacific States Marine Fisheries Commission (PSMFC). Three fourths of the project consists of sub-projects within the state fish and wildlife agencies, Columbia River Intertribal Fish Commission and the US Fish and Wildlife Service to acquire, georeference and standardize fish related data; develop databases within the respective agencies; facilitate data transfer regionally; and maintain a library of data references and fish and wildlife related reports and publications. The remaining fourth consists of the regional staff at PSMFC to manage the regional database, disseminate regionally standardized data, provide regional data services and administer the project. Information about the project, fish related data and past reports and other project documents are available at the project website at [www.streamnet.org](http://www.streamnet.org).

This report describes the work accomplished by the StreamNet Project during the third quarter of fiscal year 2005 (FY-05). The work reported is tied to the specific jobs contained in the FY-05 Statement of Work, which is available at [http://www.streamnet.org/about-sn/project\\_management.html](http://www.streamnet.org/about-sn/project_management.html). Work priorities for FY-05 include updating existing long term data sets, conducting a thorough Quality Assessment review of data, managing infrastructure necessary to maintain and deliver data, maintaining the StreamNet Library, providing data services to regional entities associated with the Fish and Wildlife Program, and project administration. Not all project participants address every milestone every quarter, so only the milestones worked on this quarter are included in this report.

Activities in the Third Quarter of FY-05 included routine development, maintenance, updating and posting of various data sets; QA reviews of data; administration of the computer systems (hardware and software) necessary for project operations; data dissemination; coordination with related projects and regional entities; and operation of the StreamNet Library, in addition to routine administrative activities to continue project function. Key highlights of project activities are summarized below, with details provided under the individual Work Elements.

### Submit/Acquire Data

StreamNet's participating agencies continued acquisition, updating, georeferencing and standardization of routine data sets during the quarter. In addition, based on this year's objective of conducting a thorough quality review of all StreamNet data, significant time was spent reviewing and correcting data sets. Highlights of activities, by project member, include:

The Columbia River Inter Tribal Fish Commission StreamNet Project (CRITFC) updated and submitted all existing trend data sets to the regional database system at PSMFC. The StreamNet Library received and cataloged data reference documents submitted by the other project members.

The Idaho StreamNet Project (IDFG) completed and submitted a complete update of Generalized Fish Distribution data for fall, spring and summer Chinook salmon, sockeye salmon, coho salmon, steelhead, bull trout and white sturgeon. The Idaho 5-year bull trout status review dataset were posted on StreamNet as an independent data set. Daily juvenile fish trapping summaries were extracted from 1990 through 2004 from multiple spreadsheets and combined into an MS Access database. Inconsistencies created by the multiple spreadsheets were corrected and data relationships were created. The coding was changed to StreamNet-compatible codes and the database was moved into a MS SQL Server database. Final QA/QC of the data is underway and validation routines are being applied. A review of the redd count database was started. The initial effort is to break trends where multiple survey transects had been combined into a single trend. For example, a stream may have multiple established redd count transects. The current IDFG StreamNet method combines these transects into a single trend representing the entire stream. In the future, redd count data will be maintained as individual survey transects.

The Montana StreamNet Project (MFWP) conducted its regularly scheduled visits with all state and some federal biologists to obtain 2004 data updates for a variety of data types. During the visits, they administered a Fisheries Division questionnaire assessing current monitoring efforts, and survey results were entered into a database and summarized for the Division. During the third quarter, 1,676 Fish Distribution records were created or updated. 2,142 new survey records were added to the adult abundance table (resident fish surveys); exchange of these data will occur in August if the resident fish distribution DEF is completed. 89 documents were added to the library; of those, 44 have electric documents that are attached to the library record in the MFISH system.

The Oregon StreamNet Project (ODFW) made progress on most scheduled project deliverables during the quarter. Staff vacancies, coupled with necessary database changes to accommodate the latest DEF delayed some scheduled submissions, and led to one data collection task being dropped. Submission of updated and corrected trends is planned for the fourth quarter. The focus on QA/QC of existing data

continues to pay dividends. Existing data records are being corrected and/or made consistent across the years of data availability, and QA/QC protocol documents are being improved and refined as error-checking strategies are added or improved and employed. All abundance trends, including age and juvenile abundance, are seeing improvement, as well as information related to fish passage at various in-stream impediments in Oregon. Progress continued toward establishing an agreed upon approach to address 24K hydrography development and the generation of linear event data for the Basin's 24K scale fish distribution.

The Washington StreamNet Project (WDFW) added 3,299 records to the Escapement data set, 2,006 records to the Stream Survey dataset, 6,130 records to the Hatchery Returns dataset, and 426 records to the Cedar Creek Adult Trap data set in the third quarter. The Hatchery Returns data, which were converted to the new exchange format and submitted to PSMFC represent all historical data through the 2003 return year. Dataset improvements included replacement of non-standard stream codes with LLIDs, review of missing 2004 escapement data to identify gaps, and broader contacts made statewide to increase the amount of steelhead escapement data available for exchange. The GIS Manager and his staff finalized the modeling routines, map tools, and field reviews needed to add a statewide layer of "aboriginal" (pre-European settlement) steelhead distribution in support of the new state steelhead management plan. Some Documented and Presumed distribution records were updated and extended through these field reviews, and additional research helped build an aboriginal steelhead distribution layer above Grand Coulee Dam. Updated records corresponding to standard StreamNet Generalized Fish Distribution types will be exchanged when the mixed-scale hydrography product is available for Washington. There is no StreamNet standard for "aboriginal" distribution at this time. The GIS Manager also completed preparation of over 80% of the Washington WRIs (basins) for the mixed-scale hydrography product. Other WDFW StreamNet staff met with the GIS Manager to plan subsequent phases and make assignments related to eventual exchange of Washington anadromous fish distribution data linked to the new mixed-scale hydrography layer.

### Create/Manage/Maintain Database

All project members performed ongoing systems administration (hardware and software maintenance and management), maintained various data management tools and interfaces, maintained data and database systems, and contributed to ongoing review and development of Data Exchange Formats (DEF). A few key highlights by the individual project members includes:

The regional StreamNet office (PSMFC) maintained the StreamNet database and updated records submitted from other StreamNet members, including addition of over 1,900 new fish distribution records submitted by IDFG, removal of a few fish distribution records for WDFW, loading of escapement data updates for CRITFC, replacement of reference records with information provided by the StreamNet Library, updating location coding for WDFW, and beginning a comparison of samples of hatchery release data from WDFW and ODFW not grouped by coded-wire tag codes. Updates to the Generalized Fish Distribution table were received from the states late in the quarter. The Regional GIS Specialist and the Regional Data manager conducted logical consistency and accuracy checks of all data submitted prior to integration to the regional database. A DEF for age data was nearly completed, with completion expected in the fourth quarter. Development of an improved interactive map application progressed, with plans for implementation in the fourth quarter. Migration to a new regional GIS data server began, including converting the projection of all regional spatial data sets to the NAD83 datum, in keeping

with the latest standard at the BPA. Maintenance of the data query system continued, with work progressing on various improvements and upgrades, such as improved site search capability.

MFWP created a front end for the Habitat Restoration Projects database for entry of restoration projects by others where MFWP has an interest. A QA/QC database was created for error checking MFISH data as well as running data entry summary statistic reports. Consultation continued with the University of Montana on changes and upgrades to the genetics database and the user interface. MFWP did not work directly on DEFs this quarter, but provided input on the QA/QC document explaining the process used in Montana.

ODFW expended a significant amount of time this quarter ensuring the data quality of existing StreamNet Trend information, making major strides toward modernizing data management and dissemination capabilities through the use of SQL Server and ArcIMS software. All software and equipment was received and installed during the quarter, servers were configured, and sufficient backup was established. Other work related to data and database management infrastructure improvements, including tool, website, and database development. Work on the corporate information system was resumed, with significant progress on Windows-based components being made. Of particular note was the deployment of a new statewide data repository to allow for the capture of metadata for all Oregon data collection efforts. Also, Oregon's draft QA/QC Protocol for Sport Harvest data was submitted to Regional StreamNet.

The WDFW Location Data Manager regularly conferred with ODFW StreamNet to scope issues and the best way to resolve any cross-border fish distribution differences in Southeast Washington/Northeast Oregon. This critical work is related to development of the mixed-scale hydrography layer, when the two states looked at border-related data issues in this area. Work continued (using temporary staff) on linking the old WDFW standard stream catalog codes with current LLIDs to facilitate incorporation of older stream-based sampling data. Significant work involving the location-master table was also performed to support the hatchery returns data exchange.

### Disseminate Raw & Summary Data

Data dissemination via the StreamNet web page continued throughout the quarter. The Internet is the project's primary means of data dissemination, and StreamNet members continued website maintenance and management. In addition, all project partners responded to direct requests for data and information, with a total of 387 responses from all StreamNet members (Tables 2 and 3). In Washington, fish and hydrography GIS layers built and maintained by StreamNet staff were used by WDFW's Priority Habitats and Species group to respond to nearly 300 data requests, involving 1,050 maps and 51 digital datasets.

### Library Services

The StreamNet Library maintained regular operations throughout the quarter, with a wide variety of agencies and individuals using the library on a regular basis. Organization of the ODFW Library and updates to the bibliography continued, with nearly 8,000 bibliography records in the database so far.

## Coordination

StreamNet members at all levels coordinated with and provided data services to a wide variety of entities in support of data management programs. In addition, all members cooperated in exploring an RFP from Ecotrust and the Wild Salmon Center for an inventory of salmon population status. Despite StreamNet's logical position to do this kind of work, and the need to support some staff members on other funding, preparing a proposal was ultimately declined based on concerns from some member agencies.

StreamNet staff at PSMFC continued active participation in several regional-scope programs, including the Northwest Environmental Data-network (NED) and the Pacific Northwest Aquatic Monitoring Partnership. The Program Manager participated in a regional Data Sharing Workshop and in the PNAMP Steering Committee retreat. The project's Fisheries Biologist assisted in review of the BOR's "Protocol Builder", an application intended to manage monitoring protocols. Staff assisted in testing of a new web site for PTAGIS. A collaborative relationship was established with the NW Mussel Workgroup to explore the potential of posting mussel identification and occurrence data through StreamNet. And, an initial meeting was held with ODEQ to explore means of linking StreamNet fish data with water quality data from the Northwest Water Quality Data Exchange.

The CRITFC Project Leader and GIS staff remained closely involved in a number of NPCC, federal and tribal planning and management processes, including recovery planning and harvest management. Attempts continued to develop a GIS-based framework to integrate habitat and fish population data to support analyses and summaries for this diverse set of regional processes and forums. Prototype applications are expected to be available for review by the end of the fourth quarter or during the first quarter of FY-06.

IDFG continued coordination with IDFG Fisheries Bureau on developing a Standard Stream Survey (SSS) application. The SSS was implemented and is being used this summer. Work started on the next version to develop import/export routines to link with Montana's Fish Analysis Plus program. Work started on developing an ArcGIS application that can be added to the SSS via the IDFG Intranet and return a geographic coordinate in decimal degrees and an LLID and measure for new survey locations. Coordination with CSMEP continued, with assistance in completing Table C-1 data catalogs for the upper Salmon River and Middle Fork Salmon River and help to the IDFG CSMEP representatives in finding needed data and conducting analysis.

MFWP staff met with other state agencies and USGS representatives to discuss the future of the NHD in Montana, including completion of the 1:24 K hydrography and stewardship of the Montana layers. The meeting was productive and concluded with NRIS agreeing to become the stewards of the NHD for Montana. An MOU between NRIS and the USGS will be signed next quarter. In addition, work continued by the USGS on Montana's 1:24 K NHD layer, with only 10 HUICS not scheduled for completion.

Montana's Project Manager continued to be engaged with NED and will provide input as necessary. Montana did not participate in the Data Sharing Workshop that occurred in May; the director's office did not see the value of sending someone. A meeting with Montana's new NW Power and Conservation Council members was scheduled for the 4th Quarter.

ODFW continued support for the CSMEP effort, including participation in regularly scheduled meetings/calls, and routine maintenance and updating of the CSMEP web application. Currently there are 1,275 records in the CSMEP web application, 139 of which were added this quarter. Oregon StreamNet staff participated in the NED/PNAMP Data Management Meetings on May 4th and June 8th, and the Data Sharing and Discovery workshop on May 25-26. Coordination with the ODFW Marine Resources Program (MRP) continued by maintaining and updating the online harvest status tracking system for the 2005 marine sport season. Support of the Oregon Plan Assessment continued via data compilation of Oregon Watershed Council datasets, data management, and database and web site development. Staff continued to support the Comprehensive Wildlife Conservation Strategy throughout the quarter, contributing GIS and analytical support to the successful completion of the draft Strategy.

Washington: Did you have any coordination activities to summarize, Dick?

### Manage and Administer Projects

All project members performed routine administrative duties, including supervision, budget management, development of the FY-06 SOW and budget, completion of the Second Quarter Report, and program guidance through participation in the StreamNet Steering Committee.

During CRITFC's development of the FY-06 SOW, increased emphasis was placed on developing electronic access to library material, especially key historical and planning documents.

Development of the FY-06 SOW in Montana resulted in a significant change in project structure. Due to consolidation of Information Management Unit programs within the agency, project management will be funded solely by MFWP; there will be only 3 positions funded by the StreamNet project.

ODFW conducted efforts to fill two vacant positions. Interviews were conducted for the Data Technician position and were scheduled for the Software Developer / Assistant Database Manager position. As part of developing the draft FY-06 Statement of Work, input was sought from ODFW staff on potential StreamNet priorities to reflect Oregon's perspective, but little input was received.

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## Work Element 159 Submit/Acquire Data

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### Work Element 159 Title 1 Develop anadromous fish distribution data

Document the occurrence, distribution and life history characteristics of anadromous fish species. Efforts will be made to utilize the current mixed scale hydrography for these data, with intent to migrate to 24K when a regionally consistent 24K routed hydrography becomes available.

Maintenance of this high priority data set will continue. The state StreamNet sub-projects will maintain the existing data on anadromous fish distribution and habitat use in their respective states. New distribution information will be incorporated as they become available. Updated distribution data will be conveyed ("exchanged") to the regional StreamNet database at PSMFC, where they will be incorporated into the database.

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 IDFG development of anadromous fish distribution data, progress reported quarterly	IDFG, on an Ongoing and opportunistic basis, will update, maintain, correct and exchange anadromous fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current hydrography scale.	IDFG/StreamNet completed and submitted a complete update of generalized fish distribution data for fall, spring and summer Chinook salmon, sockeye salmon, coho salmon and steelhead.
2 ODFW development of anadromous fish distribution data, progress reported quarterly	ODFW, on an Ongoing and opportunistic basis, will update, maintain, correct and exchange anadromous fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current hydrography scale.	Routine maintenance was performed on Oregon's anadromous fish distribution and documentation information during the quarter. The GIS Analyst reviewed a sample of WDFW's distribution / documentation data (and met with Leslie Sikora via phone) to determine which categories offered equal, greater or lesser levels of proof when compared to ODFW's distribution / documentation categories. One or two issues still must be cleared up to enable straight up comparisons between the two datasets. These cross-state distribution reconciliation efforts were summarized in order to update other StreamNet staff with a forum posting.
3 WDFW development of anadromous fish distribution data, progress reported quarterly	WDFW, on an Ongoing and opportunistic basis, will update, maintain, correct and exchange anadromous fish distribution and documentation information with the regional StreamNet database in the DEF tied to the current hydrography scale.	The GIS Manager and his staff finalized the modeling routines, map tools, and field reviews needed to add a statewide layer of "aboriginal" (Pre-European settlement) steelhead distribution in support of the new state steelhead management plan. Some Documented and Presumed distribution records were updated and extended through these field reviews, and additional research helped build an aboriginal steelhead distribution layer above Grand Coulee Dam. Updated records corresponding to standard StreamNet Generalized Fish Distribution types will be exchanged when the mixed-scale hydrography product is available for Washington. Aboriginal (modeled) records could be exchanged next fiscal year, given Steering Committee interest and agreement.



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**Work Element 159 Title 2 Develop resident fish distribution data** (top priority for MFWP, lower priority for others)

**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.**

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 IDFG development of resident fish distribution data, progress reported quarterly	IDFG, on an ongoing and opportunistic basis, will capture and update resident fish distributions and submit them to regional StreamNet in the DEF tied to the current hydrography scale.	IDFG/StreamNet completed and submitted a complete update of generalized fish distribution data for bull trout and also updated white sturgeon distribution data.
3 MFWP second exchange of resident fish distribution data, fourth quarter	MFWP will complete Distribution and Use Types data sets from data collected from biologists, documents and reports during 2002-2003 using LLID stream routes and Montana's lakes coverage and water code system and exchange them in the DEF with regional StreamNet. They will complete distribution and use type data sets for 2003-2004 and update the entire state. The focus will be on target species during the year if opportunity arises. Exchange the data to the regional database in the approved DEF format. Second exchange is due 9/01/05.	1,676 Fish Distribution records were created or updated during the quarter.
4 MFWP collect 2003-4 resident fish distribution data from biologists, progress reported quarterly	MFWP will visit MFWP and other state and federal fisheries biologists to collect 2003-2004 resident fish distribution data and supporting survey data and references and enter them into MFISH	Data visits to collect 2004 data were completed in the third quarter for all MFWP biologists; some federal contacts still need to be completed.
5 MFWP develop fish distribution field collection survey standards, progress reported quarterly	MFWP, in an ongoing effort, will work with FWP Fisheries Division to assist in the development of fisheries field collection survey standards.	During the visits, StreamNet staff provided the Fisheries Division questionnaire assessing current monitoring efforts to field biologists. Survey results were entered into a database and a summary of the fish management questionnaire was completed in the third quarter and provided to the Division.
6 MFWP review habitat fields to identify core data sets, progress reported quarterly	MFWP, on an exploratory, ongoing basis, will review commonly used habitat fields collected on streams by agency biologists to see if there is a core set related to fish distribution data.	Although some habitat data were provided this quarter, the development of core fields have not been completed by MFWP.

7	ODFW development of resident fish distribution and documentation information, report quarterly	ODFW, on an ongoing basis as time and funding permits, will update, maintain, correct and exchange resident fish distribution and documentation information in the DEF tied to the current hydrography scale..	Routine maintenance was performed on Oregon's resident fish distribution and documentation information during the quarter.
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### **Work Element 159 Title 3 Develop data for adult abundance in the wild**

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC update mainstem dam counts	CRITFC will update mainstem Columbia and Snake River dam counts through 2003 and provide the updated data to the StreamNet database in the DEF.	Existing trends were successfully updated and uploaded to the regional system.
2 CRITFC update adult abundance (spawning survey) data, progress reported quarterly	CRITFC will update available tribal spawning ground survey data and exchange them with regional StreamNet.	Existing trends were successfully updated and uploaded to the regional system.
3 IDFG develop adult abundance (redd count) data, progress reported quarterly	IDFG will compile the 2004 field season spawner survey data from IDFG and submit them in the DEF to regional StreamNet.	The 2004 spawning ground data (redd counts) were compiled. Submission is waiting for completion of a data review of Idaho redd count trends.
5 MFWP obtain adult abundance (fish survey) data, progress reported quarterly	MFWP will obtain all 2004 stream and lake fish survey data during scheduled field office visits; data may be one time visits, index streams and/or results from gill nets in lakes and reservoirs. Data will be provided to regional StreamNet in the DEF if it is developed or as ancillary data sets if not.	Data visits to collect 2004 data were completed in the third quarter for all MFWP biologists; some federal contacts still need to be completed.
6 MFWP exchange adult abundance in the wild data, progress reported quarterly if not.	MFWP will input 2003 adult abundance data into MFISH, including trend, count and references, and exchange them with regional StreamNet in the DEF, if it is developed or as an independent data set	2,142 new survey records were added to the adult abundance table (resident fish surveys). Exchange of these data will occur in August if a DEF is developed.

7 ODFW development of adult abundance in the wild data, progress reported quarterly	ODFW will maintain existing anadromous, resident, and non-game abundance and index trends. Any updates will be the result of QA/QC efforts and easily incorporated trend data, and will be provided in two exchanges, the first by April 4, 2005.	Routine maintenance was performed on Oregon's abundance and index trend information during the quarter, including requesting information from data providers in order to perform trend corrections, and to update StreamNet trends. Exchange of updated and corrected trends has been delayed by staff vacancies and database changes to accommodate the latest Trend DEF. We anticipate submitting updated and corrected trends during the fourth quarter.
8 ODFW development of adult abundance in the wild data, second exchange, reported quarterly	ODFW will maintain existing anadromous, resident, and non-game abundance and index trends. Any updates will be the result of QA/QC efforts and easily incorporated trend data, and will be provided in two exchanges, the second by 9/15/05.	Exchange of updated and corrected trends has been delayed by staff vacancies and database changes to accommodate the latest Trend DEF. We anticipate submitting updated and corrected trends during the fourth quarter.
9 WDFW development of adult abundance in the wild data, progress reported quarterly	WDFW will update and enhance the existing natural spawner database (escapement estimates and/or detailed counts) for available species, and will exchange the data in the DEF.	<p>There were 3,299 records added to the Escapement data set in the third quarter. Data collection continued and multiple contacts were made with various agencies and Utility Districts in order to complete the update of 2004 escapement data in the Escapement data set.</p> <p>The Stream Survey data set is continually being populated with historical and current data to meet the needs of both StreamNet and Washington Department of Fish and Wildlife. There were 2,006 records added in the third quarter to the Stream Survey data set. A meeting was held with Olympia staff members to discuss statewide consistency in collecting and storing stream survey information. Changes are being made to improve different survey card data sets within Washington state to bring consistency and compatibility. LLIDs have been added to the Columbia River Stream Survey data set.</p> <p>Contacts were made in order to better acquire Steelhead escapement data statewide. New trends were created in the third quarter in order to store newly acquired Steelhead escapement data.</p> <p>Missing 2004 escapement data were reviewed and we made the appropriate contacts in order to complete this task.</p>
10 WDFW maintain/update adult abundance (adult traps) data, progress	WDFW will continue maintaining and updating adult trap databases on all traps in Region 5 (lower Columbia River). Internal adult trap files will be reported quarterly completed and standardized.	There were 426 records added in the third quarter to the Cedar Creek Adult Trap data set. The supporting Excel spreadsheets used by managers were updated and sent to the appropriate people.

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## Work Element 159 Title 4 Develop hatchery release data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 FWS development of hatchery release data, progress reported quarterly	FWS, on an ongoing basis, will acquire and process hatchery release information from national fish hatcheries in the region, update the CRiS SR80s file, and exchange the data in DEF with regional StreamNet	This is the most active quarter for fish releases. The Project Leader requested and received release data from most National Fish Hatcheries in the Columbia Basin. He standardized release location names and added coded-wire tag information using retention samples performed by this and other offices.
3 MFWP development of hatchery release data, progress reported quarterly	MFWP will exchange Montana's hatchery release data after development of a resident DEF and/or modifications to the existing anadromous hatchery release DEF. The number of years and number of waters included will need to be determined.	No data development for this data type occurred this quarter because the DEF has not yet been created;
4 ODFW development of hatchery release data, progress reported quarterly	ODFW will compile and submit anadromous hatchery releases through 2003, and 2004 where available, in an unrolled format if possible.	Efforts this quarter centered on re-establishing connectivity with the ODFW mainframe computer system. We anticipate submitting updated hatchery releases during the fourth quarter, although staff vacancies may lead to the submission being delayed until the latter portion of the quarter.
5 WDFW development of hatchery release (anadromous) data, progress reported quarterly	WDFW will convert and exchange unrolled 1995 to current anadromous fish hatchery release data 60 days after the 24K hydrography is made available for use (WE 159, Title 9, Milestone 5).	WDFW sent a sample dataset of select "unrolled" anadromous hatchery fish release data from 1995 and 1998 to the StreamNet Database Manager for review and initial development of a data exchange format.  We expected to start the resident hatchery release DEF discussion with MFWP this quarter. The Regional member isn't ready to engage yet due to Steering Committee established higher priority for the Age DEF, and the Hatcheries DEF isn't finalized until all of StreamNet adopts it. Both are pre-requisites before launching into resident release DEF discussions.

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## Work Element 159 Title 5 Develop hatchery return data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
3 ODFW development of hatchery return data, progress reported quarterly	ODFW will compile data on returns to ODFW hatchery facilities (updated through 2003 returns where possible) and exchange in DEF to regional StreamNet.	Exchange of updated and corrected trends has been delayed by staff vacancies. We anticipate submitting updated hatchery returns during the fourth quarter.
4 WDFW development of hatchery return (old) data, first quarter	WDFW will complete the conversion of old DEF hatchery returns data to the new DEF for all species and sites, and exchange to regional StreamNet when complete.	The Hatchery Returns data set was delivered to PSMFC in the third quarter. A total of 6,130 records were delivered in the new data exchange format. This exchange included all historical data through the 2003 return year. Some trends were withheld due to accounting problems. Withheld trends and new data will be delivered in the fourth quarter. Washington Department of Fish and Wildlife hatchery return data requires ongoing review and correction due to a past lack of adequate internal QA/QC practices.
5 WDFW improve internal hatchery return data system, first quarter	WDFW will work jointly with other WDFW hatchery data unit staff to create a more efficient means to improve the internal WDFW hatchery returns data system and simplify data flow from this database into the conversion and exchange process.	With the Hatchery Returns data set being delivered in the third quarter, it was not practical to meet with Washington Department of Fish and Wildlife hatchery staff to discuss revisions or agency practices regarding hatchery returns.

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## Work Element 159 Title 6 Develop dam and fish passage facility data (mid-priority)

Data on dam and fish passage facilities will be maintained and updated as necessary and possible by each of the state StreamNet sub-projects. Updated data will be exchanged with the regional StreamNet database at PSMFC. This is a key data set, but mid priority for update under base level funding.

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
2 MFWP development of dam and fish passage facility data, progress reported quarterly	MFWP will update dam facilities data, in the DEF, as necessary or possible.	Data responsibility has been reassigned to Dawn Anderson from Jeff Hutten. Dawn familiarized herself with the data structure, but no new records were entered yet.
3 ODFW development of dam and fish passage facility data, progress reported quarterly	ODFW, on an ongoing basis, will maintain existing dam and fish passage facilities information. Any updates will be the result of QA/QC efforts and easily incorporated dam and fish passage data.	Routine maintenance was performed on Oregon's existing dam and fish passage facilities information during the quarter. Effort this year is focused on improving the quality of existing information rather than updating or adding to the existing data. For details on this quarter's QA/QC efforts, see Work Element 160, Title 3; Milestones 5 and 6.

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## Work Element 159 Title 7 Develop hatchery facility data (key dataset, update once per year)

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
3 MFWP development of hatchery facility data, progress reported quarterly	MFWP will update the StreamNet hatchery database with Montana's public and private facilities.	Data responsibility has been reassigned to Dawn Anderson from Jeff Hutten. Dawn familiarized herself with the data structure but no new records were entered yet.
4 ODFW development of hatchery facility data, progress reported quarterly	ODFW, on an ongoing basis, will maintain and update hatchery facility information, as needed, based on errors found in the Oregon hatchery facilities information, including facility location information.	The ODFW GIS Analyst improved Oregon's hatchery facilities GIS dataset by adding an "Ownership" field, as the "management" field is not analogous to ownership. Several hatcheries are managed by ODFW, but owned by other entities, so now we have the ability to maintain both types of information. The GIS Analyst also built in leasing information, as well as more detail regarding facility type.
5 WDFW development of hatchery facility data, progress reported quarterly	WDFW will update the hatchery database, adding records and improving field entries as warranted, including record updates for related tables (i.e. HatcheryXProduction data), and will exchange data.	<p>Hatchery locations used by the HatReturns data set were improved and points were moved as warranted per orthophotos.</p> <p>Upon the Hatchery Return data submission, the StreamNet Data Manager noticed issues where catch areas were assigned new codes. The Location DataManager corrected the issue but it's still unclear if ArcGIS is periodically swapping the codes or there was some pilot error.</p> <p>The Location Data Manager notified Regional staff members that our draft Hatchery DEF worked well with the Hatchery Return data. When the Regional staff are ready we can go public to remaining StreamNet staff, as is, or address one extra improvement that would link the LocMaster and Hatchery tables better.</p>

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## Work Element 159 Title 8 Develop harvest data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development of harvest data, progress reported quarterly	CRITFC will update available ocean and mainstem Columbia River harvest numbers through 2004, as possible (dependent on other agencies), and exchange with regional StreamNet.	This is an unfunded task. Time was not available to work on this task in the third quarter.

3 ODFW development of harvest data, first phase, reported quarterly	ODFW will maintain existing harvest trends. Any updates will be the result of QA/QC efforts, and easily incorporated trend data. Any updated sport harvest trends will be exchanged in two phases, the first by 04/15/05.	Routine maintenance was performed on Oregon's existing harvest information. Effort this year is focused on improving the quality of existing information rather than updating or adding to the existing data. For details on this quarter's QA/QC efforts, see Work Element 160, Title 3; Milestones 5 and 6. Exchange of updated and corrected trends has been delayed by staff vacancies and database changes to accommodate the latest Trend DEF. We anticipate submitting updated and corrected harvest trends during the fourth quarter.
4 ODFW status review of harvest data, second phase, reported quarterly	ODFW will maintain existing harvest trends. Any updates will be the result of QA/QC efforts, and easily incorporated trend data. Any updated sport harvest trends will be exchanged in two phases, the second by 09/15/05.	Routine maintenance was performed on Oregon's existing harvest information during the quarter. Effort this year is focused on improving quality of existing information rather than updating or adding to the existing data. For details on this quarter's QA/QC efforts, see WE 160, Title 3; Milestones 5 & 6.

### Work Element 159 Title 9 Develop hydrography data

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

Milestone Title	Milestone	Accomplishments in the Third Quarter
1 IDFG maintenance of hydrography for Idaho, progress reported Quarterly	IDFG, on an ongoing basis, will maintain and update, as necessary, the 1:100,000 scale hydrography files for Idaho.	IDFG/StreamNet coordinated with and supplied information to IDFG Fisheries Bureau and Sawtooth National Forest to update the lake layer for the Sawtooth National Recreation Area.
2 MFWP maintenance of hydrography for Montana, progress reported quarterly	MFWP, on an as needed basis, will continue to update the routes using the updated NHD layer, including lakes; quality check the cross-reference between the LLID system and MFWP's water code system, and will pursue any needs developed by the Steering Committee for a 1:24 K product.	Work by the USGS continued on Montana's 1:24 K NHD layer and currently there are only 10 HUCS not slated for completion. The in-house database has been completed. Data entry is ongoing. Data will be exchanged in the fourth quarter.
3 ODFW maintenance of hydrography development for Oregon, progress reported quarterly	ODFW, on an ongoing basis, will maintain and update, as necessary, the 1:100,000 scale hydrography files for Oregon.	Routine maintenance was performed on Oregon's 1:100,000 scale hydrography information during the quarter.
4 ODFW development of hydrography for Oregon, progress reported quarterly	ODFW, on an ongoing basis, will assist regional staff with the development of a hybrid 100k and 24k hydrography layer that will enable display of all distribution data in a linear format.	Routine coordination regarding hydrography development occurred during the quarter, including communications to stay up-to-date on efforts being made by others.

5 WDFW development of hydrography for Washington, first quarter	WDFW will build and submit a "hybrid" layer containing 24K representation of all 100K Washington streams plus only 24K streams containing StreamNet data.	By the end of June, the GIS Manager had prepared 52 of 62 WRIAs (basins), along with six "virtual" WRIAs that extend across the Idaho and Oregon borders, for the mixed-scale hydrography product. Preparation involves reformatting our basic 1:24,000 scale hydrography layer, making corrections to line and polygon layers, adding HUC codes, and rebuilding a statewide routed layer. The estimated date of exchange for the full mixed-scale hydrography product is August 1, 2005. Other WDFW StreamNet staff met with the GIS Manager to plan subsequent phases and make assignments related to eventual exchange of anadromous fish distribution data linked to the new mixed-scale layer; estimated date of exchange for this dataset is 9/15/05.
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### Work Element 159 Title 10 Develop data to track habitat restoration / improvement projects

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

Milestone Title	Milestone	Accomplishments in the Third Quarter
1 CRITFC development of habitat projects tracking data, progress quarterly	CRITFC will provide tribal PCSRF project information.	Tribal PCSRF project data will be updated in the fourth quarter as part of the annual project review and selection process.
3 MFWP development and exchange of habitat projects tracking data, first data exchange fourth quarter	MFWP will continue to collect, centralize and maintain all stream restoration projects data for Montana using the "Future Fisheries Interface" and exchange the data to regional StreamNet in two exchanges, the second by 09/30/05.	No data development was done on this data type this quarter. A data entry interface was developed for this data type under Work Element 160, Title 2, Milestone 4.

### Work Element 159 Title 11 Develop fish barrier data

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

Milestone Title	Milestone	Accomplishments in the Third Quarter
1 IDFG development of fish barrier data, progress reported quarterly	IDFG, on an ongoing, opportunistic basis, will capture and update barrier data.	Bull trout barriers were compiled from the recent 5-year status update and posted on the StreamNet Independent Data Sets site.



2	MFWP development of fish barrier data, progress reported quarterly	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. Data will be exchanged to regional StreamNet.	Data responsibility has been reassigned to Dawn Anderson from Jeff Hutten. Dawn familiarized herself with the data structure but no new records were entered yet.
5	WDFW development of fish barrier data, progress reported quarterly	WDFW will scope existing Washington state barriers datasets for a pilot data submission this FY. Data sources will at least include the Salmon and Steelhead Habitat Inventory and Assessment Project (SHIAP) and TAPPS (now renamed as the Fish Passage and Diversion Screening Inventory - FPDSI) databases. Barriers data will be exchanged.	The Location Data Manager started scoping the best strategies to tie barrier data with LLIDs. Due to the limitations of both the barrier data and the hydrography, any automated snapping effort will overlook viable barrier point and LLID links or make incorrect links. We need to define the best snapping tolerance and proofing combination. The research is on-going but together with the barrier data compiler (Lippert) we have started cross-referencing culvert and fishway data.

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## Work Element 159 Title 12 Develop juvenile fish data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development of juvenile fish data, progress reported quarterly	CRITFC will provide tribal juvenile abundance and/or outmigration data as time and availability allow.	Existing trends were successfully updated and uploaded to the regional system.
2 ODFW maintenance of juvenile fish data, progress reported quarterly	ODFW, on an ongoing basis, will maintain existing juvenile data records. Any updates will be the result of QA/QC efforts and easily incorporated trend data.	Routine maintenance was performed on Oregon's existing juvenile abundance information during the quarter. Effort this year is focused on improving the quality of existing information rather than updating or adding to the existing data. For details on this quarter's QA/QC efforts, see Work Element 160, Title 3, Milestones 5 and 6.
3 WDFW maintenance of juvenile fish data, progress reported quarterly	WDFW will continue maintaining and updating smolt trap databases on all traps in Region 5 (lower Columbia River).	Reports were generated from data previously entered into the Smolt Trap data set. These reports were given to local and Olympia based biological staff members. These reports are used in order to gain funding to continually operate these traps.

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## Work Element 159 Title 13 Develop fish age data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development of fish age data, progress reported quarterly	CRITFC will exchange CRITFC age data on sockeye populations and Bonneville Dam sampling.	Existing trends through 2004 were successfully updated and uploaded to the regional system.
2 FWS development of fish age data, progress reported quarterly	FWS will finish work on the new program to transform age information from the CRiS format to the new StreamNet format.	Since the new DEF for Age data is still unsettled, no work was done on this item.
4 ODFW maintenance of fish age data, progress reported quarterly	ODFW, on an ongoing basis, will maintain existing age data trends. Any updates will be the result of QA/QC efforts and easily incorporated trend data.	Routine maintenance was performed on Oregon's existing age information during the quarter. Effort this year is focused on improving the quality of existing information rather than updating or adding to the existing data. For details on this quarter's QA/QC efforts, see Work Element 160, Title 3; Milestones 5 and 6. Much of the effort this quarter was spent coordinating with other StreamNet participants to redesign the age data exchange format.
5 WDFW development of fish age data, first phase in first quarter	WDFW will update and exchange age data records gleaned from hatchery returns and adult abundance exchanged data. Data will be exchanged twice, with the first exchange by 11/30/04.	The age Data Exchange Format was almost completed late in the third quarter. No data entry could be performed before the end of the quarter, however, because of the lack of the DEF.

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## Work Element 159 Title 14 Develop production factor and run reconstruction data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development of production factor and run reconstruction data, progress reported quarterly	CRITFC, on an ongoing basis, will provide productivity data from subbasin planning and other technical analyses as available.	This is an unfunded task. No work was performed during the third quarter.

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## Work Element 159 Title 15 Develop diversion screening data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
2 ODFW status review of diversion screening data development, progress reported quarterly	ODFW will compile Oregon fish screening and diversion data. Data will be posted on the NRIMP site and linked to StreamNet as an 'as is' submission until a DEF is adopted.	Because the staff member assigned to compile the fish screen information left the project in January, and the complexity of the redesigned Fish Screen and Passage Program database, efforts have shifted to making data compilation more efficient in the future through diligence to the database redesign. Therefore no new data will be made available this fiscal year. Additional focus will be placed on these data next fiscal year, as requested by the NPCC.
3 ODFW georeference diversion screening data, progress reported quarterly	ODFW will capture GPS coordinates for water diversions and fish screens in the Willamette subbasin.	The staff member assigned to capture fish screen GPS coordinates resigned from the project in March and her replacement has not yet been hired. Given that this work must be done during the months when pumps and screens are in place, and replacement staff won't be hired before mid-July, it is not possible to complete this task before the end of the fiscal year. A revised budget will be submitted during the fourth quarter to address how the funding created by this decision will be used.

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## Work Element 159 Title 16 Develop other data sets

On an opportunistic basis, develop other types of data as available or as requested by FWP participants. This relates to data relevant to StreamNet objectives which would be developed by StreamNet cooperators. Development of other data by StreamNet is a low priority under current base funding.

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development of other data sets, progress reported quarterly	CRITFC will provide appropriate non-standard data sets developed through other activities as opportunities arise.	Working through the Northwest Environmental Data Network (NED), we developed and coordinated a strategy for archiving subbasin planning data from Washington, Idaho, and Montana (Oregon has already been archived). The work was submitted to the NPCC and BPA for funding as an amendment to the Northwest Habitat Institute project.
3 IDFG development of other data sets, progress reported quarterly	IDFG, on an opportunistic basis, will work with FWP supported projects in the state to assist them with submission of their data sets to StreamNet for archiving and dissemination as part of the formal DEF or as Independent Data Sets.	The 5-year bull trout status review dataset was posted on StreamNet as an independent data set.

5 MFWP development of other data sets, progress reported quarterly	MFWP will provide updated genetic results information on Montana's species of concern by 08/01/05. They will also explore providing data on Whirling Disease results, fishing pressure data on Montana's lakes and streams, and other data sets if appropriate.	Data entry for genetic results continued during the quarter.
9 PSMFC support for development of other data sets, progress reported quarterly	The Region, on request, will advise and assist data developers with other data sets (those being compiled by StreamNet cooperators but not currently in the StreamNet DEF or the database) as a low priority, and within current resources only.	The Regional Fisheries Biologist discussed with ODFW data development staff the types of data that have been variously called "juvenile data," "sightings data," "abundance data," and other names. The interaction and overlap between these various concepts was discussed, as were timelines for when data exchange formats for such data types will be developed.

## Work Element 159 Title 17 Archive and deliver Independent Data Sets

**On an opportunistic basis, encourage other entities to submit their data, in native format, to StreamNet for posting on the Independent Data Sets page . This relates primarily to data relevant to StreamNet objectives which would be developed by other agencies or projects, but could also include data developed StreamNet cooperators outside of the DEF. Actual acquisition, standardization, georeferencing and distribution of these data would be dependent on available time and funding, so these data will be posted in native format. The Region will be responsible for receiving and posting Independent Data Sets.**

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 PSMFC development of independent data sets archiving and delivery, progress reported quarterly	The Region, on an ongoing and opportunistic basis, will coordinate with BPA and BPA contractors, StreamNet cooperators, and others to capture data sets, reports, and other electronic materials for inclusion on the StreamNet Independent Data Sets (IDS) Internet page and post these items as IDS.	No independent data sets were acquired during the third quarter, and no inquiries about submitting data were received.

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## Work Element 160 Create/Manage/Maintain Database

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### Work Element 160 Title 1 System administration

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC computer system administration, progress reported quarterly	CRITFC, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting the StreamNet Library, including system administration, backup and recovery, hardware and software upgrades, and security.	The StreamNet Library network and cataloging system was successfully maintained. Work was begun on evaluating open-source cataloging software to reduce the cost of annual maintenance of the commercial cataloging software (InMagic). This evaluation will probably extend into FY-06 before a final decision is made.
2 IDFG computer system administration, progress reported quarterly	IDFG, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.	Using non-StreamNet funds, IDFG StreamNet obtained a new server to replace an older one. They also obtained a large direct attached storage disk array for holding the increasing amount of imagery that supports the GIS system. These items are currently being installed and configured. They will also be upgrading a couple of servers that are still using Windows Server 2000 to match all of our servers at Windows Server 2003.
3 MFWP computer system administration, progress reported quarterly	MFWP, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.	Ongoing work to administer computer systems continued during the quarter. Discussion continued with NRIS concerning use of SQL Server and SDE which are owned by NRIS.
4 ODFW computer system administration, progress reported quarterly	ODFW, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.	Routine system administration and management continued. After considerable investigation and testing, we developed a justification package for purchasing SQL Server, ArcIMS and Arc SDE. The purchase was made after working out an agreement with the OR Dept. of Administrative Services, and all software and equipment was received and installed, including configuration of the servers and establishment of sufficient backup applications.  We acquired an Intel 10/100 managed switch and a Cisco 2501 router from ODFW's Information Systems Division. This networking equipment replaces the open-source and personal equipment that was being used on our development network.

5 PSMFC computer system administration	<p>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:</p> <ol style="list-style-type: none"> <li>1. Management and maintenance of the GIS system, including ArcView, ArcGIS and other tools, extensions and projects, that constitute the regional Geographic Information System;</li> <li>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;</li> <li>3. On an ongoing and as time allows basis, assist with development of XML schema based options for both incoming and outgoing data and continued exploration of how XML can enhance data exchange; and,</li> <li>4. Management and maintenance of the database servers and SQL Server software and databases; installing updates, patches and service packs as they become available, managing logins and permissions, and routine backup of all StreamNet databases.</li> </ol>	<p>All regional StreamNet computer systems were maintained throughout the quarter. The Regional Data Manager installed Service Pack 4 on the two SQL Servers. The regional GIS data server was replaced via a cost-share with other fisheries data projects at PSMFC. The regional GIS software was upgraded to the latest version (ArcGIS, ArcSDE, and ArcIMS are now all at v9.0). The main StreamNet web server Apache software was updated with the latest security patches.</p>
6 WDFW computer system administration, progress reported quarterly	<p>WDFW, on an ongoing basis, will manage, maintain and enhance the computer systems (hardware and software) necessary for supporting tabular and GIS data systems, including system administration, backup and recovery, hardware and software upgrades, and security.</p>	<p>The Location Data Manager upgraded her software to ArcGIS 9 and still experiences issues with the software. She researched the new tools establishing routines to populate/maintain TribIDs, create merged layers of the separate hydrography sections, etc.</p> <p>The Vancouver Region 5 staff members updated all software patches and installed updates for all pertinent software and hardware.</p>

## **Work Element 160 Title 2 Application and interface development**

**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.**

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development of applications and interfaces	<p>CRITFC, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular data.</p>	<p>All existing applications for data entry, data management, and Library support were maintained. Budgets and time did not allow development of new applications.</p>

2	IDFG development of applications and interfaces	IDFG, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	IDFG/StreamNet continued migrating existing Spawning Ground Survey data to the .NET framework. Work focused on developing the new .NET interface and forms.  Progress was made migrating IDFG age and hatchery return data to the new IFWIS framework and StreamNet data exchange format.
3	IDFG develop automated data export for Idaho Supplementation Studies	IDFG, on an ongoing basis, will work with the Idaho Supplementation Studies project to increase the use of the IDFG/StreamNet Spawning Ground Survey and Juvenile Trapping programs by IDFG biologists to create automated export of these data to StreamNet DEF for inclusion in the StreamNet database.	IDFG StreamNet extracted daily juvenile fish trapping summaries from 1990 through 2004 from multiple spreadsheets and combined them all into an MS Access database. Inconsistencies created by the multiple spreadsheets were corrected and data relationships were created. The coding was changed to StreamNet compatible codes and the database was moved into a MS SQL Server database. Final clean up of the data is underway and validation routines are being applied.
4	MFWP development of applications and interfaces	MFWP, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	A front end for the Restoration database was created for entry of restoration projects by other entities where MFWP is interested in receiving and compiling data. A QA/QC database was created for error checking MFISH data as well as running data entry summary statistic reports. Consultation continued with University of Montana on changes and upgrades to the genetics database and the user interface.
5	ODFW development of applications and interfaces	ODFW, on an ongoing basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data.	Staff members worked on updating the trend database and new user interface to the current StreamNet Data Exchange Format. This included formatting database fields, adding tables, lookup tables, changing validation rules, etc. Not only will these updates ensure our data submissions are within StreamNet guidelines, but it will also aid in overall data quality assurance. The most recent version of the DEF, which became effective 2/18/05, had quite a few minor changes. The NewUI database should now be up-to-date enough to make trend submissions to the regional StreamNet database, once we ensure that all remaining DEF updates are reviewed for the remaining tables.
6	ODFW development of corporate information system	ODFW, on an ongoing basis, will continue development of a corporate information system, developing functional interfaces as part of a corporate system.	The Database Manager/Developer resumed work on the corporate information system focusing on the Application Framework for Windows. This framework is similar to the one created for web applications in that it allows us to program only the application-specific pieces without re-creating the generic structure for every program. This framework provides a platform for applications and takes care of all the security, user configurations, etc. of every normal Windows-based application.

		Development of a library that can dynamically perform data access functions on business objects by utilizing attribute reflection from the object's metadata was also completed this quarter. This library increases efficiency because we no longer have to recreate the same database access code (insert, update, delete) for every object of every application that is created, and it also dynamically adapts to any changes within the object. Table and column attributes can now be defined as the business object is created, and the library will take care of all the necessary grunt work to save that object. Lastly, a tool that can create the SQL scripts used to create tables based on an assembly's objects was also created.
7	PSMFC maintain and improve LLID/NHD conversion tool	The Region, on an ongoing basis, will maintain and improve the LLID/NHD hydrography conversion tool. The immediate need is to complete error trapping routines and polish the final application.
8	PSMFC development of online location identifier tool (event mapper)	The regional GIS specialist is researching the creation of an Online Event Mapper that allows users to create event tables based on 1:100,000 scale hydrography over the Internet.
9	PSMFC development of applications and interfaces	The Region, on an ongoing, as needed basis, will develop and/or maintain computerized databases, applications and interfaces that facilitate the entry, compilation, management and dissemination of tabular and GIS data. They will assist cooperating agencies with tool development, as requested. Tools may include input interfaces, error checking, geographic locators, etc.
10	WDFW development of applications and interfaces	The GIS Manager spent some time reviewing a pilot ArcHydro-based model of 24K hydro, fish and habitat data designed by the Northwest Indian Fisheries Commission for possible application to WDFW as we move our spatial data more fully from ArcInfo into ArcGIS. He also reviewed a pilot application developed by WDFW's Habitat GIS section to collect field updates of fish and habitat spatial data using field staff, projected images of existing data, and on-the-fly editing of the spatial layers. This approach promises to greatly reduce the number of maps we plot for field-based fish and habitat data reviews. WDFW plans to field-test this new approach early in FY-06.



11	WDFW development of spatial data extraction routine	WDFW will develop and implement a comprehensive routine to extract information from WDFW spatial data layers and transform that information into data structures more compatible with existing StreamNet exchange format	<p>For one to two months the Location Data Manager conferred weekly with ODFW StreamNet to scope issues and the best way to resolve any cross-border distribution differences. This work continues as time is available.</p> <p>For two months the Location Data Manager conferred with GIS co-workers weekly or twice weekly on the best strategies to use a temporary worker to cross-reference the Washington Stream Catalog codes and linework with the hydrography.</p> <p>The Location Data Manager also prepared the location field info for Hatchery Returns data and the relevant location tables.</p> <p>The Location Data Manager also researched the best point for the Columbia River mouth, researched a few natural spawner locations, made small progress on the effort to gather more GPS locations and assisted WDFW staff members with small location projects.</p>
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### **Work Element 160 Title 3 Data (content) management**

**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.**

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC data content management, QA/QC	CRITFC, on an ongoing basis, will perform comprehensive QA/QC on all datasets maintained by CRITFC.	CRITFC discovered a QC function in the InMagic software that allows us to spider through all the links entered in catalog records. Unfortunately, this application does not work inside our firewall as web addresses are slightly different inside the firewall. We may run into this problem with any spider software running inside the CRITFC firewall.
2 FWS data content management, QA/QC	FWS will add data, check quality, transform data to DEF, and exchange data with StreamNet.	Hatchery release data received from hatcheries was checked for quality and updated where required.
3 IDFG data content management, QA/QC	IDFG will conduct a data quality review of all exiting IDFG redd count, dam/weir counts, freshwater harvest, hatchery returns and age composition data. Where necessary, they will edit these data sets to improve their accuracy and quality.	<p>IDFG StreamNet started a review of the redd count database. The initial effort is to break trends where multiple survey transects had been combined into a single trend. For example, a stream may have multiple established redd count transects. The current IDFG StreamNet method combines these transects into a single trend representing the entire stream. In the future, IDFG StreamNet redd count data will be maintained as individual survey transects.</p> <p>The entire Spawning Ground Survey database was also reviewed and edited to make sure there were no duplicate records where fish had multiple marks.</p>

4 MFWP data content management, QA/QC	MFWP, on an ongoing basis, will manage data at the agency level, develop and maintain FGDC compliant metadata for GIS data, and exchange data to PSMFC according to deadlines specified in this work statement.	Montana provided input on the QA/QC document explaining the process for Montana. Several fields were added to the tables so that when updates occurred could be more easily tracked.
5 ODFW data content management	ODFW, on an ongoing basis, will manage ODFW-NRIMP and StreamNet data, including metadata development/maintenance, QA/QC activities, and work with regional staff as necessary to assure seamless loading of data into the regional	Oregon's draft QA/QC Protocol for Sport Harvest data was submitted to Regional StreamNet as an example document from Oregon. Staff members continued to document data compilation approaches/decisions related to maintenance of the trend and reference databases. This will assist in the QA/QC process and development of protocols by documenting existing guidelines that are followed, as well as identify and spell out new guidelines that are needed.  The GIS Analyst processed California border DRG's to reconcile their color maps with those North of the 42nd parallel for consistent rendering. We now have the ability to render statewide seamless DRG's on a quad-by-quad basis in ArcMap as well as with the ArcMap Image Server of ArcIMS.  Oregon StreamNet staff members responded to a forum posting regarding the 60k series (original data loaded into StreamNet) Hatchery Return trends, as well as other forum postings throughout the quarter.  The GIS Analyst addressed RunID and LifeHistoryID coding issues with the Regional Database Manager in order to make Oregon's resident fish distribution codes more consistent with other states' and also to facilitate a smoother functioning query system.
6 ODFW data content management, QA/QC	ODFW, on an ongoing basis, will perform comprehensive QA/QC on all Oregon Trends, Age, Harvest, Dams, and Barrier datasets.	Significant effort continued to be spent ensuring the data quality of Oregon's existing StreamNet Trend information, executing quality control queries on the trend database and fixing the resulting trend errors (such as non-consecutive Escape Data Begin/End Dates, erroneous survey distance, etc.). This effort resulted in trend corrections, corrections to stream data being sent to Regional StreamNet, adding new trends for old data not yet in the system, and adding new information to old trends in the system.
8 PSMFC assistance to cooperators with data content management	The Region, on an ongoing, as needed basis, will assist data contributing agencies in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database.	The Regional Data Manager provided several queries to agency compilers for use in finding data problems prior to submitting data to StreamNet. This was intended to assist with QA procedures.

9 PSMFC tabular data content management, QA/QC	<p>The Region, on an ongoing basis, will manage the content and quality of the data stored at PSMFC through the following actions:</p> <ol style="list-style-type: none"> <li>1. They will examine the StreamNet database for errors and report any found to the appropriate entity for correction. They will continue to improve error-checking capabilities;</li> <li>2. The Regional Database Manager will update and append data as submitted by StreamNet participants. He will maintain logs of data submissions and major database changes, manage logins and permissions, produce downloadable versions of the StreamNet databases to keep in synch with the updated regional databases, create views and stored procedures for use by the web query system and in the data loading process, routinely backup all databases, create and revise database structures and indexes, 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;</li> <li>3. The Regional Database Manager will assist the StreamNet Librarian to export the library reference database of StreamNet documents for routine inclusion in the StreamNet database for use by the web query system; and,</li> <li>4. The Region will work with the Steering Committee to complete a document describing the QA/QC processes followed by project cooperators.</li> </ol>	<p>The Regional Data Manager loaded over 1,900 new records to StreamNet's fish distribution table that were submitted by IDFG, removed a few records from the same table for WDFW, loaded escapement data updates for CRITFC, replaced StreamNet Reference records with the information provided by the StreamNet Library database export, updated location coding for WDFW, and began a comparison of samples of hatchery release data provided by WDFW and ODFW for potential provision of data on the StreamNet site that is not grouped by coded-wire tag code. The Regional Data Manager also utilized the StreamNet Forum to encourage resolution of several data quality/consistency issues that persist as a result of changes to the data exchange format that were not reflected in data that preceded the DEF changes.</p>
10 PSMFC GIS data content management	<p>The Region, on an ongoing basis, will manage GIS data content for the StreamNet project through the following actions:</p> <ol style="list-style-type: none"> <li>1. Whenever new tabular data with a spatial component are submitted to the Region (e.g., fish distribution, hatchery facilities, etc.), the GIS Specialist will create regional GIS layers from this information where possible. He will verify correct format, accuracy and logical consistency of spatial data sets and attributes through coordination with state GIS contacts and then load data to the regional database in coordination with the database manager. He will post mappable layers to the online query system, the ArcIMS interactive mapping system, and as downloadable layers for StreamNet GIS users;</li> </ol>	<p>Updates to the general fish distribution table were received from the states late in the third quarter. The Regional GIS Specialist and the Regional Data manager conducted logical consistency and accuracy checks of all data submitted prior to their integration to the regional database. Updating the regional fish distribution datasets posted for download and employed by the interactive mapping system will be completed early in the fourth quarter.</p> <p>The regional GIS library was maintained and migration to a new GIS data server began this quarter. This process includes converting the projection of all regional spatial data sets to the NAD83 datum, in keeping with the current standard at the Bonneville Power Administration. Coordination efforts related to the creation of a regional mixed-scale hydrography continued this quarter with most of the data development effort occurring within WDFW.</p>

2. The GIS Specialist will maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata);
3. He will obtain and refine layers such as ESUs, ecoregions, or elevations, and create cross tables for use by the query system;
4. He will assist the database manager with the spatial component of data and its implementation online;
5. He will coordinate efforts by the StreamNet partners to maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region;
6. He will coordinate efforts by the StreamNet partners to create a hybrid 1:100,000 / 1:24,000 scale hydrography for the states and the PNW region, and will implement these changes at the Regional office; and,
7. He will integrate the functioning of the GIS system with the StreamNet fisheries and habitat database in support of the query system, and will maintain up-to-date cross tables used via the StreamNet web interface to select information by geographic area.

11 WDFW data content management, QA/QC

WDFW, on an ongoing basis, will :

1. Manage data at the agency level, conduct quality checks, develop and maintain FGDC compliant metadata for GIS data, and exchange data to PSMFC according to deadlines specified in this work statement;
2. Provide and update/geo-reference field data as needed for all StreamNet data submissions. The improved geo-references generally contribute to multiple data categories; and,
3. Create standardized storage formats and protocols for area biologists to use with data collected at various fish collection facilities.

The Data Manager performed QA/QC on returns data to be delivered to the PSMFC Data Manager. The QC for hatchery returns was not completed 100% in the third quarter. More work needs to be done to manage the large quantity of hatchery return data. No further work was performed on creating standardized formats and protocols for fish collection activities in the third quarter.

The Data Manager submitted the first draft WDFW contribution for the Project's QA/QC White Paper to PSMFC-StreamNet staff for review and incorporation.

The GIS Manager performed minor maintenance on some of the 100K and 24K hydrography records.

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## Work Element 160 Title 4 Data exchange standard development

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC development and maintenance of data exchange standards	CRITFC, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	CRITFC staff participated in revision of the fish age DEF.
2 IDFG development and maintenance of data exchange standards	IDFG, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	IDFG StreamNet worked with other StreamNet members to finalize the age data exchange format.
4 ODFW development and maintenance of data exchange standards	ODFW, on an ongoing basis, will monitor adopted and proposed data exchange formats and provide comments, feedback, and/or recommended changes as necessary. They will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types. New or modifications to existing DEFs will be submitted as warranted.	<p>The Data Analyst participated in several activities related to adopted and proposed data exchange formats, including comparing Washington's wild stock website data against Oregon's available juvenile data, putting together a comparative list of Juvenile data fields between Washington's data and Oregon's data in an effort to have a functional Juvenile Abundance Data Exchange Format (DEF). There are many different formats of juvenile data that ODFW produces, so the next step may be to focus on a juvenile data type that can be exchanged with StreamNet, and also by other states. As part of this effort, she inquired about the juvenile data available in Idaho, in preparation for future juvenile data DEF developments.</p> <p>The Data Analyst also attended a meeting at PSMFC to discuss Age Data with the other StreamNet participants. There are still some pending issues to resolve, so the Age Data committee of StreamNet representatives plan to meet again sometime during the 4th quarter.</p>

5 PSMFC development and maintenance of data exchange standards	The Region, on an ongoing, as needed basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types. The Regional Biologist will serve as the primary coordinator of the DEF process and is responsible for updating and publishing the official DEF document.	The Regional Fisheries Biologist met with WDFW staff, evaluated collected information, and held a meeting to develop an exchange format for fish age data. Significant progress was made this quarter. Though age data may seem simple, a number of subtle inconsistencies and loose use of the language makes age data prone to undetected miscommunication. Significant amounts of time were required to understand and disentangle the various issues. We believe the major stumbling blocks have been overcome, and it is expected that this DEF will be completed during the 4th quarter of FY-05 so that data development and submittal to the StreamNet database can occur during FY-06.  The usefulness of two appendices of the StreamNet DEF were evaluated. One was updated, and the other deleted.
7 PSMFC development and maintenance of data exchange standards, Fish Sightings	The Region will initiate work on a new DEF for Fish Sightings data. They will review the approach being taken in California and, in coordination with the cooperating projects, adapt it for use in the Columbia Basin.	Work on developing a Fish Sightings DEF was delayed. The Steering Committee decided that we should focus intently on one DEF at a time, and the Fish Sightings DEF is the second priority behind completing the Age DEF.
8 WDFW development and maintenance of data exchange standards	WDFW, on an ongoing basis, will work cooperatively through the Steering Committee, following the DEF Process document, to revise existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	The Data Manager met with agency leads at PSMFC to discuss the new DEF for age data. Results from this meeting were posted on the forum and will be brought before the Steering Committee at the next meeting.

## **Work Element 161 Disseminate Raw & Summary Data**

### **Work Element 161 Title 1 Develop and maintain Internet sites for data dissemination**

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

Milestone Title	Milestone	Accomplishments in the Third Quarter
1 CRITFC assist Internet site maintenance and development	CRITFC, on an ongoing basis, will provide review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements.	No problems or ideas for improved features, management, or processes were identified this quarter.

4 ODFW assist Internet site maintenance and development

ODFW, on an ongoing basis, will: Provide ongoing review of the StreamNet website (StreamNet's primary data dissemination tool) through routine use of the site, providing feedback to StreamNet staff at PSMFC on any problems, errors or needed improvements, and Manage and maintain Oregon's web-based data integration, communication, and data transfer systems and their links to StreamNet.

5 PSMFC Internet site maintenance and development

The Region, on an ongoing basis, will maintain and improve the StreamNet Internet site (the primary means of disseminating StreamNet data), through the following actions:

1. Correcting errors, adding or fixing links, improving performance, improving looks and usability, etc.;
2. Guide development and enhancement of the StreamNet web query system from the perspective of data users, and review changes to the web query system to ensure they are implemented appropriately and do not create unforeseen problems;
3. Maintain the GIS Data, Map, and PNW Reach File Internet pages;
4. Maintain, update as necessary, and improve the Internet mapping component to the StreamNet web

site to allow users to access StreamNet data through interactive map interfaces. Improvements might include such items as adding DRGs or aerial photos to the IMS applications, and showing trend locations in the web query system;

5. Research integration of 4th, 5th and 6th field HUC boundary layers into a single region-wide system and Internet map application as this dataset and plan improvements to the web-query improved base data becomes available;
6. Deploy, as needed, new query system components and data categories that are approved by the Steering Committee;

Ongoing review of the StreamNet website took place throughout the quarter.

Staff prepared to take over management of the Corvallis Research Lab's website, where the results and reports of several major ODFW data collection projects are posted. Updates were made to the website employee roster, which was very outdated as part of testing our permissions on the site.

ODFW StreamNet web server statistics for the period of April - June 2005 are not yet available, partly because of the work being done to establish properly functioning production and development networks that work with local desktop computers. These statistics will be reported in the 4th quarter report.

The Programmer and the Regional Fisheries Biologist discussed the desired web query system output for the new hatchery returns data structure. Programming began this quarter and significant progress was made.

Due to personnel changes at PSMFC this quarter, StreamNet staff assumed full responsibility for maintenance of all StreamNet web pages, with the Programmer acting as lead. The other PSMFC personnel sent the Programmer a list of web pages that they manage, so that the effort could be coordinated without complications.

Total use of the StreamNet website decreased this quarter, although data query system use on average increased over last quarter (Table 1). The number of data reports also remained steady compared to last quarter. This suggests that the number of casual users decreased, but actual data delivery did not. Despite an apparent increase in volatility of use, the number of data reports viewed remained stable throughout the quarter.

Table 1. Summary of use for the StreamNet website, third quarter FY-05.

	<b>Apr-05</b>	<b>May-05</b>	<b>June-05</b>
<u>Main Web server</u>			
Total Page Requests, tabular	20,325	25,440	27,424
Number of Visits	3,708	3,739	2,624
Unique Visitors	2,328	2,527	1,737
Data Query Page Requests	12,897	15,748	42,286
Unique Query Sessions	3,656	4,947	33,366
Unique Query Sessions / hr.	4.9	7.4	44.8
Data Reports Viewed	2,038	2,128	1,906
FTP Files Downloaded	1,094	729	853

Links to the state water resources agencies and to FEMA were added to the StreamNet links pages this quarter.

	<p>7. Maintain logs of web query history and error events, track and report Internet site usage by month, and investigate web query system errors encountered; and,</p> <p>8. Maintain and enhance the functionality, look and usability of the StreamNet web-based query system.</p>	<p>All GIS data sites and interactive map applications were maintained. Progress continued towards implementation of an improved interactive map viewer which should be released in the fourth quarter. StreamNet continues to maintain the Critical Habitat Interactive Mappers for NOAA Fisheries Northwest and Southwest regions and plans exist to update these applications when the final rule is published this August.</p>
6 PSMFC Internet site maintenance and development, review query system	The Region will conduct a thorough review of the web query system by 03/31/05 to identify and address errors and omissions in data delivery and to improve help files.	The Database Manager and the Programmer have been working on an ongoing basis this quarter to track and fix bugs resulting from database or web query system programming changes.

## Work Element 161 Title 2 Respond to data/information requests

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 All StreamNet members respond to data / information requests	All members, 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.	<p>All project members responded to a total of 387 information requests (Table 2) from a variety of sources (Table 3) in addition to data provided online.</p> <p>CRITFC responded to Umatilla tribal staff who expressed interest in training to use the archived subbasin planning data from Oregon. They will arrange a local workshop with their fisheries and GIS staff later this year.</p> <p>The ODFW GIS Analyst responded to a request from ODFW's Realty Section to create 3 draft maps; one each of agency hatcheries, agency facilities, and agency wildlife management areas. The maps are part of a larger packet and presentation for the legislatively related public lands advisory committee.</p> <p>WDFW provided fish and hydrography GIS layers built and maintained by StreamNet staff to WDFW's Priority Habitats and Species group who respond to nearly 300 data requests, involving 1,050 maps and 51 digital datasets.</p>
7 PSMFC track responses to data/information requests	The Region will finalize a standard user request tracking database structure so that all StreamNet partner agencies can use the same format for reporting responses to requests for data and other information or help.	The standard user tracking database was completed early this quarter and was used this quarter to record requests and responses from all project members.



Table 2. Summary of responses to data/information request by StreamNet members during the third quarter, by type of request.

Type of Request	CRITFC	IDFG	MFWP	ODFW	PSMFC	WDFW	Total
Data request		31	11	12		8	62
General fish information					2		2
GIS data / map		5	7	5	6	9	32
Hardware / software technical support		2		8			10
Help finding information					6		6
Help with data interpretation / analysis					2	1	3
Library / Documents	257	1		3			261
Other				5	1		6
Report error or problem					5		5
Total	257	39	18	33	22	18	387

Table 3. Summary of responses to data/information requests by StreamNet members during the third quarter, by source of the request.

	CRITFC	IDFG	MFWP	ODFW	PSMFC	WDFW	Total
College / university	40			1	3		44
General public / other				2	3		5
Government, county / local				1	1	2	4
Government, federal	31	3		2	6	3	45
Government, state	9	16	14	19	1	8	67
Government, tribal / tribal organization	9						9
Nonprofit organization		3		2	1	1	7
Private consultant	14	17	4	5	3	4	47
Regional entity					2		2
Unknown	154			1			155
Watershed council / group					2		2
Total	257	39	18	33	22	18	387

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**Work Element 161 Title 3 Provide data and maps to support Fish and Wildlife Program activities**

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC support F&W Program Activities [with data and maps]	CRITFC, on an ongoing basis, will support Fish and Wildlife Program activities such as R, M & E, subbasin assessment, etc., by providing data and maps and technical information management advice or assistance as requested, within available time and budget under base level funding.	Through separate funding, CRITFC GIS staff are developing a trial data framework to integrate NPCC, NOAA recovery planning, U.S. v Oregon in-river harvest management, and PSC and PFMC ocean harvest management programs. See also reports for other tasks concerning archiving subbasin planning data
3 MFWP support F&W Program Activities [with data and maps]	MFWP, on an ongoing basis, will support Fish and Wildlife Program activities such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information management advice or assistance as requested, within available time and budget under base level funding.	No requests for support were received.
4 ODFW support F&W Program Activities [with data and maps]	ODFW, on an ongoing basis, will support Fish and Wildlife Program activities such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information management advice or assistance as requested, within available time and budget under base level funding.	No requests were received or fulfilled during this quarter.
5 PSMFC support F&W Program Activities [with data and maps]	The Region, on an ongoing, opportunistic basis, will support Fish and Wildlife Program activities, such as R, M & E, subbasin assessment, etc., by providing data and maps of existing StreamNet data and technical information management advice or assistance as requested, within available time and budget under base level funding.	No requests for data or information for ongoing planning or RM&E activities were received this quarter.

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## Work Element 161 Title 4 Maintain and post Protected Areas data

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 PSMFC maintain and post Protected Areas data	The Region, on an ongoing basis, will maintain the Protected Areas database and provide access to the Protected Areas data through the online query system and through the interactive map application. As time allows, work to resolve the remaining unresolved location issues that resulted from conversion of the data from the 1:250,000 scale to the 1:100,000 regional hydrography.	The Protected Areas data were maintained, with access provided on line through the tabular data query system and through the interactive map interface.

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## Work Element 98 Other

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### Work Element 98 Title 1 Library collection development

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC StreamNet Library collection development	CRITFC, on an ongoing basis, will: 1. Develop a collection of materials related to the Columbia Basin, including reports from other Fish & Wildlife Program projects, other agency documents as they relate to the Basin, and other published and unpublished materials as requested by clients. 2. Coordinate, receive and incorporate source material submissions for data compiled by participants. 3. Maintain and develop a collection of journals related to fisheries and aquatic sciences as well as other related scientific topics. 4. Maintain memberships in appropriate library and subject-related associations. Ex. IAMSLIC, NRIC, OFWIM, etc.	The StreamNet Library continued to work on developing a comprehensive collection to support the Fish & Wildlife Program. We have been renewing journals as funds allow, however, the journals collection is constantly under review for possible cuts and we cannot add new titles due to consistent price increases of an average of 10%.  Researchers are constantly suggesting new book titles for purchase. The average cost of a book in the biological sciences is \$80.00. We buy what we can, and prioritize what we can't afford under the current budget.  Materials continue to be received from participants in support of data developed for the StreamNet database. Materials received this quarter have not been cataloged due to quality control projects in progress.

		The librarian maintained memberships in various organizations, including IAMSLIC (International Association of Aquatic & Marine Science Libraries & Information Centers): Cyamus Chapter, NRIC (Natural Resources Information Council), and PNLA (Pacific Northwest Library Association).
4	IDFG provide references to data	IDFG, on an ongoing basis, will obtain reference documents for all data developed under WE 159 and submit them to the StreamNet Library for inclusion in the collection and catalog.  Reference documents for data compiled under WE 159 were submitted to the StreamNet Library
5	MFWP provide references to data	MFWP, on an ongoing basis, will obtain reference documents for all data developed under WE 159 and submit them to the StreamNet Library for inclusion in the collection and catalog.  89 documents were submitted to the library in the quarter. Of those 89 documents, 44 were electric documents that are attached to the library record in the MFISH system.
7	ODFW organize ODFW Library documents	ODFW, on an ongoing basis, will continue organization of ODFW Library documents and update the library bibliography with new titles as they are identified.  Organization of the ODFW Library continued this quarter. Shelving of the historic daily dam count records was completed this quarter. Several bookcases had to be moved to properly organize and accommodate the variety of materials located in the Library. There are now 285 separate topical categories sorted out on the inventory list, with more anticipated as entry into the system continues. The ODFW Library Bibliography had 5,992 records at the start of this effort. Over 2,000 new records have been added since the start of this effort. Of the documents reviewed for entry so far, very few have been found that were already entered.

## Work Element 98 Title 2 Provide access to the library collection

The StreamNet Library will provide user access to the materials described in the collection development work element by providing facilities for storage of paper and electronic copies of documents, an online catalog of all documents in the collection, and staff to answer location questions and respond to requests. They will network with other agency and regional library service providers to provide better access to other collections that will enhance the StreamNet Library and to avoid unnecessary duplication of effort and materials. Participate in planning, development and/or coordination meetings with regional entities to provide advice in the area of data management, as requested, to support development of Fish and Wildlife Program projects and programs. Provide input on ways StreamNet can effectively contribute to the programs and general advice about data management. Participate in advisory groups, task forces, and other groups whose purpose is to enhance the effectiveness of the Fish and Wildlife Program relative to its

Milestone Title	Milestone	Accomplishments in the Third Quarter
1 CRITFC provide access to the StreamNet Library collection	CRITFC, on an ongoing basis, will: 1. Provide and maintain appropriate facilities for the storage and public use of the SN Library collections.	As the library collections continue to grow through purchases and gifts from donors, we have added shelving where we can. We are currently pursuing the idea of adding compact shelving for the journals collection.

2. Catalog and organize the materials for ease of use by clients and staff.
3. Provide access to the catalog of materials via the Internet and update the online catalog on at least a monthly basis.
4. Maintain and implement a plan to place electronic documents in the catalog and on the library website.
5. Develop and keep a schedule of open times and reference desk staff hours.
6. Provide data regarding library materials to the regional Data Manager on a monthly basis.

We cataloged approximately 186 items and updated nearly 4,000 items for quality control purposes as well as adding information to records for searching purposes.

We are currently working on a formal plan for adding documents to our electronic collections. This plan will include a metadata style guide.

The library maintained a regular schedule of open hours with exceptions for holidays. The reference desk is staffed during those hours.

## **Work Element 98 Title 3 Provide library services for patrons**

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC provide library services to patrons	<p>CRITFC, on an ongoing basis, will:</p> <ol style="list-style-type: none"> <li>1. Provide information and reference services to library patrons.</li> <li>2. Identify changes and new features that will improve delivery of library services.</li> <li>3. Provide interlibrary borrowing services for library patrons to access materials not yet owned by the StreamNet Library.</li> <li>4. Provide interlibrary lending services for other libraries to access the library's unique collection.</li> <li>5. Provide consultations for groups and other agencies on library organization and services.</li> <li>6. Coordinate with other StreamNet libraries, library clients and other libraries to improve service to clients and limit duplication of effort.</li> </ol>	<p>Regular and new patrons are using the library including three fifth graders from the Montessori School.</p> <p>The library provided 50 titles to other libraries.</p> <p>The Librarian continued to work with the Vancouver Lake Watershed Partnership to develop an electronic collection of documents related to the watershed. In addition, the annotated bibliography and website were accepted as a capstone project for the Librarian's Master's Degree in Environmental Policy and Management. Other bibliographies are planned for the Partnership in order to help their decision making process.</p> <p>The Johnson Creek Watershed Council asked for the library to help organize their resource room and develop an online bibliography/catalog of materials. During the month of June, the Librarian spent a couple of hours a week onsite and cataloged most of their collection using records from the StreamNet Library. These were organized in Library of Congress Classification.</p> <p>103 interlibrary loans were made in the second quarter: 8 for CRITFC staff, 2 for NOAA, 14 for consultants, 9 for the states, 13 for USFWS, 1 tribal loan, 12 for EPA, 4 for BPA and 40 loans to others (mostly college students).</p>

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## Work Element 118 Coordination

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### Work Element 118 Title 1 Support Fish and Wildlife Program development activities

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC support F&W Program development activities	CRITFC, on an ongoing basis, will participate in various NPCC planning and management work groups to improve and coordinate regional information management programs.	<p>Library staff have been participating in the development of NED (Northwest Environmental Data-exchange). We hope to provide input in the areas of metadata development as well as records management. In addition, the Librarian is working with other volunteers to write a document on education, outreach and communication for the NED project.</p> <p>The Project Leader, under separate funding, serves on the steering committees for the regional data management (NED) and monitoring (PNAMP) groups, and is an ex-officio member of the NPCC Independent Science Advisory Board (ISAB).</p>
2 CRITFC support F&W Program development activities, recovery planning	CRITFC, on an ongoing basis, will develop strategies for ESA recovery planning and NPCC subbasin planning efforts to ensure data and technical literature are captured and made regionally accessible. This will be done "as possible" under base level funding.	<p>Under separate funding, CRITFC GIS staff developed a proposal to archive subbasin planning data and are working to integrate it with ESA recovery plans and various harvest management programs.</p> <p>While the Library would like to participate in the subbasin process, and are the designated regional archive for these documents, the library staff have not received documents or bibliographies from any of the subbasin planning groups. We will begin a more structured plan of extracting this information from submitted documentation in order to provide access to documents.</p>
3 CRITFC (StreamNet Library) support NPCC amendment process	CRITFC (StreamNet Library) will support the NPCC amendment process and subbasin planning by providing access to hardcopy and electronic files of draft and final documents related to the amendment and planning processes.	<p>These documents are available through the NPCC website and we have not captured them as part of the StreamNet Library.</p>

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| 4 | MFWP support F&W Program development activities  | MFWP, on an as needed or requested basis, MFWP 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.   | <p>The project manager continues to be engaged with the activities of NED and will provide input as necessary. Montana did not participate in the Data Workshop that occurred in May; our director's office did not see the value of sending someone.</p> <p>A meeting with Montana's new Council members is being scheduled for the 4th Quarter.</p>  |
| 5 | ODFW support F&W Program development activities  | ODFW, on an ongoing basis, 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.  | <p>Ongoing maintenance of the CSMEP web application continued this quarter. The only requested change to the CSMEP web application was to add the name and contact information for the data source or data steward to the query option as requested by Washington CSMEP staff. This change will be completed during the 4th quarter. Currently there are 1,275 records in the CSMEP web application, 139 of which were added this quarter.</p> <p>One Oregon StreamNet staff member participated in one regularly scheduled CSMEP meeting conference call during the quarter, but meeting notes were regularly reviewed for pertinent comments and/or assignments.</p> <p>Oregon StreamNet staff participated in the NED/PNAMP Data Management Meetings on May 4th and June 8th, and the Data Sharing and Discovery workshop on May 25-26.</p>   |
| 6 | PSMFC support F&W Program development activities | <p>The Region, on an opportunistic basis, 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.</p> <p>Specific activities will include:</p> <ol style="list-style-type: none"> <li>1. Continued participation on the Program Team for the Council's project to develop a Northwest Environmental Data-network to convey recommendations based on experience in the development of a regional approach to data dissemination;</li> <li>2. Continued participation in the Pacific Northwest Aquatic Monitoring Partnership for watershed and fishery data coordination, and other R, M &amp; E groups, including the Action Agencies, Federal Caucus and CBFWA, to provide support and data management expertise;</li> </ol> | <p>The Program Manager continued participation in several regional scope programs, including NED and PNAMP and provided input regarding data management. In addition to regular meetings, he participated in a regional Data Sharing Workshop organized by NED and the PNAMP Steering Committee retreat. Input stressed the need to incorporate the needs of data providers into plans to develop regional scope data sharing. The Regional Fisheries Biologist and the Program Manager attended one NED meeting together so that StreamNet could provide input in two separate subcommittees.</p> <p>The Regional Fisheries Biologist attended a two day meeting in Boise to review and provide input on a "Protocol Builder", which is intended to be a database of methods used for aquatic monitoring. The meeting was hosted by Mike Beatty of the US Bureau of Reclamation. This meeting was to discuss how to proceed with development of their "protocol builder" concept, which is one method by which BOR hopes to respond to Reasonable and Prudent Alternatives laid out in NMFS's Biological Opinion on operation of mainstem dams.</p> |

	<p>3. Continued participate with CBFWA in support of data management efforts, including work with the Collaborative Systemwide Monitoring and Evaluation Project; and,</p> <p>4. Provide support (expertise and guidance) to other FWP related programs and projects as requested and as possible under existing resources.</p>	<p>The Regional Fisheries Biologist, as part of the age data exchange development work, had a need to query the PTAGIS database. As part of this, PTAGIS staff asked that he try their new, uncompleted system. Several small but potentially significant problems were found, and thus corrected by PTAGIS staff.</p>
7	<p>WDFW support F&amp;W Program development activities</p> <p>WDFW, on an opportunistic basis, 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.</p>	<p>The Project Manager attended the May 25-26 PNAMP Workshop in Portland to keep abreast of regional data management initiatives and the current thinking of those involved. The group needs closer ties to fish and wildlife agencies and their needs/limitations.</p>

## Work Element 118 Title 2 Support subbasin planning efforts

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 CRITFC support subbasin planning efforts	CRITFC, on an ongoing basis, will continue to provide data and analytic support to Oregon subbasin planners as needed, and as base funding resources allow.	This work was completed in the second quarter.
2 MFWP support subbasin planning efforts	MFWP will work with subbasin planners to determine the type of data within the Montana subbasin plans and opportunities for incorporating those data into StreamNet and providing data on the FWP website.	A conference call was held between the StreamNet Project Manager and the CRITFC and Montana StreamNet managers concerning data generated during the sub basin planning process. The data were located and will be sent to CRITFC in the 4th quarter.
4 PSMFC support subbasin planning efforts	The Region, on an ongoing basis and as possible within existing resources, will work with subbasin planning groups to provide needed information from the StreamNet database, work with regional entities and subbasin planning groups to provide data management expertise and services related to capturing data developed during the subbasin planning process and making them readily available, and assist with archiving subbasin planning data, and means of publicly distributing them, as requested. This effort will have to be scaled to fit within existing resources and available time.	The Regional Fisheries Biologist reviewed six subbasin plans (Asotin, Kootenai, Malhuer, White Salmon, Deschutes, Columbia Upper Middle) in an effort to characterize the types of data and other information that may be commonly found in them and that could be developed into a regional information product. The plans were found to be quite variable in format, quality, and completeness. However, habitat restoration projects seems to be a topic covered by all plans, which is a type of information that could be developed further.



5	WDFW support subbasin planning efforts	WDFW, as requested and possible, will work with subbasin planners to capture data developed as part of the subbasin planning process.	Staff members continued work on collecting information for subbasin descriptions when time permitted.
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### **Work Element 118 Title 3 Coordinate with related activities outside of the FWP**

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
2 IDFG coordinate with related activities outside of the FWP	IDFG, on an opportunistic basis, will coordinate with other state, federal, or tribal agencies and various local inter-agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.	IDFG StreamNet coordinated with IDFG Fisheries Bureau to discuss the development of a new hatchery data management system for IDFG. Basic requirements and design concepts using StreamNet compatible formats were established.  Coordination with IDFG Fisheries Bureau continued on development of a Standard Stream Survey (SSS) application. The SSS was implemented and is being used this summer. Work has started on the next version to develop import/export routines to link with Montana's Fish Analysis Plus program. We have also started work to develop an ArcGIS application that can be added to the SSS via the IDFG Intranet and return a geographic coordinate in decimal degrees and an LLID and measure for new survey locations.
3 MFWP coordinate with related activities outside of the FWP	MFWP, on an opportunistic basis, will coordinate with other state, federal, or tribal agencies and various local inter-agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.	Montana staff met with other state agencies and representatives from the USGS to discuss the future of the NHD in Montana, including completion of the 1:24 K and stewardship of the Montana layers. The meeting was productive and concluded with NRIS agreeing to become the stewards of the NHD for Montana. An MOU between NRIS and the USGS will be signed next quarter.
4 ODFW coordinate with related activities outside of the FWP	ODFW, on an opportunistic basis, will coordinate with other state, federal, or tribal agencies and various local inter-agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.	Much effort was expended on one project in particular: Oregon's Project Leader joined other StreamNet counterparts in a meeting to discuss the State of the Salmon Consortium (a joint program of Ecotrust and the Wild Salmon Center) data inventory Request for Proposals (RFP). He also met with the Regional StreamNet Program Manager and representatives from ESSA Technologies to discuss co-authoring a proposal in response to the RFP. We also discussed the goal and deliverables of the RFP, and determined that StreamNet could provide the trends of Pacific salmon distribution, diversity, abundance, and productivity, while ESSA could provide the analysis piece to address population status, as well as project coordination assistance.

<p>5 ODFW coordinate with internal ODFW staff to improve internal data compiling</p>	<p>ODFW, on an ongoing basis, will coordinate and work with internal ODFW staff to improve the agency data collection efforts to allow more efficient compiling into internal intermediate NRIMP-Oregon StreamNet databases and/or StreamNet databases at the regional scale.</p>	<p>He joined the StreamNet Steering Committee and staff from ESSA in a meeting with staff from Ecotrust on April 26 to get a better understanding of the State of the Salmon RFP, what results they are looking for, and what StreamNet and ESSA Technologies can provide. Communications around this topic spanned more than four weeks, and included a draft proposal being written, but resulted in no proposal being submitted, largely because of state agency decisions.</p>
		<p>Oregon's Project Leader reviewed the Framework Data License Agreement (put together by the Oregon Geographic Information Council, Dept. of Admin. Services), and submitted comments/questions to ODFW Management staff for review.</p>
		<p>Two staff members met with Fish Screen and Passage Program staff to discuss the complete redesign of their database. We received more in-depth input on what they want to see from the new FSP application, especially regarding the fiscal side of the application.</p>
		<p>We continued to provide data management, access, dissemination, and web development support to ODFW's Marine Resources Program (MRP). Specifically, we maintained the groundfish fishery quota status website through April.</p>
		<p>Staff continued to support the Oregon Plan Review (Metadata Warehouse) site and provide technical support to numerous users of the site. Data compilation of Oregon Watershed Council datasets in support of the Oregon Plan Assessment continued this quarter. This included posting statewide documents to the NRIMP Data Clearinghouse website, and creating a metadata record for each.</p>
		<p>Oregon StreamNet staff support of the Statewide Wildlife Conservation Strategy continued throughout the quarter, mainly focused on providing GIS and analytical support. The draft Strategy was completed and posted online for review in June. Effort will now focus on incorporating public feedback and streamlining the final document where possible.</p>
<p>6 PSMFC coordinate with related activities outside of the FWP</p>	<p>The Region, on an opportunistic basis, will coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife</p>	<p>The Program Manager and the Regional Fisheries Biologist met with Kevin Aitkin of USFWS-Lacey, Nancy Duncan of BLM-Roseburg, and Jeff Adams of The Xerces Society to discuss development, capture, management, and dissemination of data related to freshwater mussels. An outline for next steps was agreed to, along with StreamNet staff passing along the types of information that would be needed or useful in making these data available. resources.</p>

We hope to have these data available via StreamNet at some point in the future, with these outside entities providing the labor for data creating and management, while StreamNet provides data archival and dissemination and database management (and perhaps programming) expertise. Mussels are believed to be sensitive indicators of water quality, and may also provide information about fish species distributions.

StreamNet staff met several times with Ecotrust and also with ESSA Technologies to explore the possibility of StreamNet alone or in partnership with ESSA submitting a proposal to an RFP to conduct a data inventory related to salmon population status in the Pacific Northwest. This was seen as an opportunity to acquire other funding to cover activities that would increase the data available through StreamNet and also cover time for StreamNet staff that is not covered by the StreamNet contract. While the project appeared feasible, several cooperating agencies decided to refrain from participating in an NGO sponsored project, so a proposal was not submitted.

The Regional Fisheries Biologist attended a remote sensing workshop to learn about these technologies, their potential for use in aquatic monitoring programs, and the data management systems that would be necessary to handle the resulting data.

The Program Manager and Programmer met with ODEQ staff to explore the feasibility of data sharing between StreamNet and the NW Water Quality Data Exchange. Initial discussions were promising, and we will look into developing a test prototype application to be able to obtain water quality data in conjunction with fisheries data.

The Regional Fisheries Biologist met with Kathleen Moynan of USFWS to discuss a swim speed data set she has developed for use in the Fish Xing program. Topics of conversation included the possible conversion of this spreadsheet into a database, and addition of this data set to the StreamNet independent data sets web page.

7 WDFW coordinate with related activities outside of the FWP

WDFW, on an opportunistic basis, will coordinate with other state, federal, or tribal agencies and various local inter-agency planning and management work groups beyond the FWP to enhance the collection and management of data related to management of fish and wildlife resources.

WDFW GIS staff attended a June 30 meeting of the Regional Oregon/Washington Hydro Framework Team in Portland. The future of Regional Framework as an effort distinct from NHD looks uncertain, as USFS is losing interest in maintaining LLID-based routes and BLM is focusing more on NHD-specific needs and their desire to move forward. We are staying close to the Washington effort in order to influence choices made that will enhance, rather than degrade, StreamNet data offerings.

The Project Manager met with Wildlife Data Management staff to discuss incorporating non-game fish data records into their new Wildlife Observation Database, which is replacing the Wildlife Heritage database that formerly housed these records. There are many freshwater mussel observations to be entered, but the new system lacks a data entry routine targeted toward non-game fish data. Discussions will continue during summer2005 as we seek greater internal coordination in the non-game area.

The Project Manager participated in the agency-wide review of hatchery datasets initiated by the Hatchery Reform Team. Proposed changes to hatchery-related datasets will affect many that are key sources for WA StreamNet data. We will stay close to this development effort in order to ensure easier data conversion and exchange with regional StreamNet.

WDFW staff started planning a dataset modernization project for the Joint Stock Assessment Project, which gathers data and does stock assessment for resident fish above Grand Coulee Dam. The current Washington data is stored in non-standard Excel spreadsheets; by October 2005 WDFW JSAP staff will be entering their 2005 sampling data into a modern Access-based data system. This will bring these data closer to the standards being discussed for StreamNet resident fish sightings data, and will facilitate conversion and exchange in the future.

## **Work Element 99    Outreach and Education**

### **Work Element 99    Title 1    Professional and public involvement**

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

Milestone Title	Milestone	Accomplishments in the Third Quarter
2 IDFG support professional and public involvement	IDFG, as needed or requested, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	The IDFG StreamNet data coordinator conducted a training session at the bi-annual IDFG In-Service Training School. The workshop focused on using data from the IDFG Standard Stream Survey in Excel, Access and ArcGIS. He also made a presentation at a CSMEP Workshop, demonstrating the procedures for integrating data among the IDFG Juvenile Trapping system, data in the Idaho Fish and Wildlife Information System and PTAGIS.

3 MFWP support professional and public involvement	MFWP, as requested, will prepare and deliver presentations to public, scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	Presentations were given at MFWP regional meetings and MFWP new employee orientation to describe and promote the project.
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## **Work Element 119    Manage and Administer Projects**

### **Work Element 119    Title 1    Manage project activities**

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 Project oversight and guidance: Project management and Steering Committee	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.	<p>Routine project management continued during the quarter. All project members contributed to a review of the FY-05 Statement of Work after conversion to the new Pisces format.</p> <p>All project members administered their respective parts of the project. All members also participated in the quarterly Steering Committee meeting held April 25-26, split between CRITFC and PSMFC. A large amount of the meeting was spent in developing the input and structure for the FY-06 Statement of Work, which will be organized around the new Pisces format. Additional topics covered were Generalized Fish Distribution coding and conventions, an update on progress on the Age DEF, an update on development of the QA/QC procedure document, progress on assignments from previous meetings, StreamNet's role in the NED workshop, member agency data that could be linked to from the StreamNet web site, and the Ecotrust RFP for a salmon assessment data inventory. Agreements were reached at the meeting to make specific progress on hatchery release data, hatchery returns data, and age data assignments.</p>
2 Project oversight and guidance: Supervision	All StreamNet cooperators will, except for FWS, supervise project staff and provide guidance and staff development.	<p>Normal supervision of staff continued for all project members, except for FWS, which has only one person part time on the StreamNet project.</p> <p>IDFG performed supervisory duties for both StreamNet and non-StreamNet staff members.</p> <p>MFWP scheduled mid-year performance appraisals with all project staff for early in the fourth quarter.</p>

ODFW provided two in-person training opportunities for Oregon's GIS Analyst at no cost to StreamNet; Customizing ArcIMS with HTML and JavaScript, and ArcSDE Administration for SQL Server in Olympia Washington.

ODFW also conducted interviews with six Software Developer / Assistant Database Manager candidates and a unanimous consensus was reached. Interviews for the Data Technician position were scheduled for early in the fourth quarter for seven candidates.

PSMFC conducted annual staff performance evaluations for two staff members, and the job description of one was updated.

The WDFW Data Manager met with his Data Compiler to help facilitate the flow of data and give direction to complete contractual obligations as well as meet the needs of the agency. The Data Manager met with Olympia StreamNet staff to discuss the 2005 SOW and to verify that contractual obligations are being met.

3 Project oversight and guidance: Budget control

All StreamNet cooperators will manage expenditures to accomplish the jobs in the Statement of Work within the approved budget.

All project members performed routine budget management and expenditure tracking for their respective portions of the StreamNet project.

4 FY-05 accrual reports, first

PSMFC, with input from the cooperating projects, will produce interim accrual reports (June and August) and provide them to BPA.

PSMFC submitted the first of the required accrual estimates.

6 FY-06 draft SOW/budget package, cooperators

Project cooperators will provide their respective input to the FY-06 Statement of Work and budget to PSMFC 105 days prior to the end of the FY-05 contract period.

All project members submitted proposed work statements and budgets for FY-06 to PSMFC on time. All budgets were held level with the previous year's budgets as required by BPA. A brief conference call was held on June 6 to coordinate among project members and develop the SOW with consistency among project members.

ODFW StreamNet requested input on their priorities for FY-06 from ODFW staff, but only one suggestion related to data compilation assistance was received

MFWP StreamNet staff held a work planning session in conjunction with developing the FY-06 SOW. The most noticeable change in the budget for next year was in personnel; due to consolidations of Information Management Unit programs within the agency, project management will be funded solely by MFWP; there will be only 3 positions funded by StreamNet.

6	FY-06 draft SOW/budget package, PSMFC	PSMFC, with input from all project cooperators, will prepare and submit a Statement of Work and budget to BPA 90 days prior to the end of the FY-05 contract period.	With input and consultation from all Steering Committee members, a Statement of Work and budget were developed for FY-06 and entered into the BPA Pisces system by the end of this quarter. The budget was held to the prior amount.
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## Work Element 141 Produce Status Report

### Work Element 141 Title 1 Quarterly reports

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
3 Jan. - Mar. 2005 Quarterly Report submitted to BPA	The StreamNet contractors will report accomplishment of the work outlined in the FY-05 Statement of Work, second quarter, to PSMFC.	All project members submitted input to the Second Quarter Report to PSMFC. The draft report was then reviewed by all members with edits provided back to PSMFC.
3 Jan. - Mar. 2005 Quarterly Report submitted to BPA	The Region will report accomplishment of the work outlined in the FY-05 Statement of Work, second quarter, through a quarterly progress report submitted to BPA.	With input from all member projects, the Second Quarter Progress Report was prepared, circulated among the project members, and then submitted to BPA.

## Work Element 132 Produce Annual Report

### Work Element 132 Title 1 Annual report

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

<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 PSMFC 2004 annual report submitted to BPA	All StreamNet contractors will submit their input to the draft FY-04 annual progress report for the sub project to PSMFC.	All project participants participated in one last review of the FY-04 annual report in brochure format before final release.
1 PSMFC 2004 annual report submitted to BPA	The Region will submit the FY-04 annual progress report to BPA. The format will be abbreviated due to the level of detail conveyed in the quarterly reports, with the final report also published as a brochure.	The FY-04 annual report, which had already been officially submitted to BPA, was reformatted into a brochure format, reviewed by project members, and then published as a brochure.

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## Work Element 115 Produce Inventory or Assessment

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### Work Element 115 Title 1 Inventory of data for the CSMEP Project

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<u>Milestone Title</u>	<u>Milestone</u>	<u>Accomplishments in the Third Quarter</u>
1 IDFG conduct data inventory for CSMEP Project	IDFG will conduct an inventory of existing fish related data in support of the Coordinated Systemwide Monitoring and Evaluation Project (CSMEP).	IDFG StreamNet assisted in the completion of CSMEP Table C-1 data catalogs for the upper Salmon River and Middle Fork Salmon River, helped IDFG CSMEP representatives find needed data, and assisted in analysis.

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## Supplemental Information

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### Work accomplished outside the specific work elements in the SOW

**This section describes specific accomplishments during the third quarter that did not relate specifically to any of the Work Elements / Milestones in the annual Statement of Work. These activities either were performed on StreamNet contract funding but related to topics that were not specifically covered by a milestone in the Statement of Work (SOW) or they were performed by staff of the various StreamNet projects but on other funding. Work is often done by StreamNet staff on other funding because the StreamNet contract is not always sufficient to support all staff time. Such work is reported here when it relates specifically to StreamNet objectives or is ultimately of benefit to the project.**

<u>Project</u>	<u>Accomplishments, third Quarter 2005</u>
IDFG	<p>Non-StreamNet funds and personnel developed an ArcView Avenue application to calculate the stream distance between two points for use in genetic sampling analysis.</p> <p>Also using non-StreamNet funds and personnel, we are developing an ArcMap Visual Basic program to identify the LLID and measures on a stream, as well as the geographic coordinates in decimal degrees with just a mouse click. The program will be added to the IDFG Standard Stream Survey for locating new stream surveys.</p>
MFWP	<p>A major accomplishment during the 3rd quarter was the completion of the " MFWP Biological and Natural Resource Data Access Policy" which outlines a policy for access to data collected and managed by FWP including a mediated request form for requests made from outside the agency for data in non standard data formats. Discussions began with DEQ on the completion of a Montana Wetlands data layer. An application to enter, edit and report Game Damage was designed and programming is near completion; shooting for an August 1 release. Involvement in the State Wildlife Grant Program continued including Federal FY-05 Project selection and an internal review of the draft Comprehensive Fish and Wildlife Conservation Strategy for Montana, which was released June 1. Staff spent considerable time in this review. Discussions continued with the Montana Natural Heritage Program concerning their future management. At this time, consolidation into MFWP is not likely. Presentations at MFWP regional meetings and new employee orientation occurred where programs of the Information Management Unit were highlighted. Progress on the new office space for the Information Management Unit and other FWP staff in the Montana State Library continued; moving day is scheduled for the first week of August. The unit hired a photographer to provide photographs for the FWP website.</p>



- ODFW Significant effort was put towards researching, designing, and developing a database to track Restoration and Enhancement funding applications that interacts with ArcIMS. This is the first significant ArcIMS effort for ODFW, and along with Wildlife Division needs, is one of the primary reasons the necessary hardware and software was successfully acquired. By the end of the quarter, the basic site's framework infrastructure and associated database entries had been completed, along with several components of the IMS application. Work on this effort will continue during the 4th quarter.
- We finalized a funding proposal to develop an online database to manage, access, and disseminate sage grouse survey results in Oregon. The initial goal is to convert their current Access database to a web version, then add functionality as needed. This quarter, our Database Manager / Developer migrated the existing database into our MySQL format and completed development of the data access components of the application. He also completed most of the user interface components. Work continues on the page structure, basic reporting tools, and making sure the site has continuity.
- WDFW After lengthy internal discussions, WDFW Fish Program policy-makers decided against authorizing the agency to participate in a proposal for funding on a cooperative project with Ecotrust.
- Region Regional staff participated in several activities that were not specifically identified in the Statement of Work:
- Regional staff assisted the state StreamNet partners in drafting a proposal in response to the RFP from Ecotrust and the Wild Salmon Center to conduct an inventory of salmon status data in the Pacific Northwest. Unfortunately, state agency concerns prevented participation in the project, so the proposal was not submitted. The work would have been done by StreamNet-related staff on this new, short term funding source, thus covering time that is not covered by the StreamNet contract.
- The Regional GIS Specialist developed a work plan in support of another PSMFC project working on marine essential fish habitat. This work will be done on that funding and will cover the three months of the specialist's time that is not covered by the StreamNet contract. The work will be done primarily in the fourth quarter. The GIS Specialist also continued maintaining the website that he developed for NOAA Fisheries that depicts proposed Critical Habitat for listed salmon populations.
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