StreamNet Project

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Second Quarter Progress Report

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Introduction

StreamNet is a cooperative, multi-agency data compilation and data management project authorized by the Northwest Power Planning Council's Fish and Wildlife Program (FWP). The project is funded primarily by Bonneville Power Administration and 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 develop databases within the respective agencies, standardize data between agencies, georeference data, facilitate data transfer regionally, and maintain the regional StreamNet Library. The 'regional' fourth of the project, located at PSMFC, manages and maintains the regional database, operates the Geographic Information System (GIS) and Internet mapper applications, and disseminates data through the on-line data query system.

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

Work priorities for FY 2002 include updating existing long term data sets, managing the data and infrastructure necessary to maintain and deliver data, maintaining the StreamNet Library, providing data services to regional entities associated with the Fish and Wildlife Program, and project administration. This year the distinction between anadromous and resident fish data in the data development objectives was dropped, and the 2003 Statement of Work (available at http://www.streamnet.org/about-sn/project_management.html) was reorganized to reflect that change in approach. This year, the agencies indicate in each individual job whether the work is directed toward anadromous or resident species for each particular data type. This change is a change in organization, not project direction. The majority of work remains focused on anadromous species due to the sport and economic value of these species and because of associated Endangered Species Act aspects. However, efforts are also underway to develop increased information on resident species distribution, and increased effort is directed toward identifying resident species information that may be developed by other projects funded through the FWP and obtaining those data for archiving so that they are more widely available.

This report documents accomplishments made by the project and its cooperators during the second quarter of Fiscal Year (FY) 2003. Since the cooperating agencies work on different jobs throughout the year, and not all agencies address the same jobs in their respective portions of the Statement of Work, the work accomplished in this quarter varies by cooperator. Tasks and jobs that did not have any work addressed during the quarter are not included in this report.

Summary of Second Quarter activities

Activities in the second quarter of FY 2003 included routine development, maintenance and posting of various data sets, as well as routine administrative activities to continue project function. Key highlights of activities by each of the project participants during the second quarter are summarized below. More detailed information is provided in the body of the report.

CRITFC:

Work on the Library expansion continued, although at a slower pace than anticipated. Several meetings were held with architects to design the new Library floor plan. Actual construction will not begin until the third quarter because of the need to coordinate remodeling with several other building tenants. The expansion was necessitated by the growing collection exceeding the space previously available.

Significant progress was made on integrating the StreamNet project with subbasin planning activities in Oregon. StreamNet and other sources were used to assemble a standard set of GIS layers and data tables for each Oregon subbasin. A new database system was developed to assist subbasin planners in conducting watershed assessments. This system integrates GIS information and tools and will eventually be housed with StreamNet to provide a regionally-accessible archive of subbasin planning information in Oregon. Preliminary discussions were held with several Washington subbasin planning groups about adopting the Oregon approach to their needs as well.

USFWS

The Fish and Wildlife Service StreamNet project completed its scheduled data development and data submission tasks. As the smallest component of the StreamNet Project, FWS has responsibility for only a few specific data sets and has relatively little to report each month.

IDFG

The Idaho StreamNet Project submitted updated redd count data through the 2002 field season to the regional database.   The data were completely reviewed and errors corrected before submittal. The data are now available on the StreamNet web site query system. Hatchery and age data compilation was also completed through the 2002 field season and will be submitted early in the next quarter.

Working with IDFG fish biologists, the project completed the georeferencing of 2,200 parr monitoring sites to the 100K LLID system. This will allow incorporation of a large IDFG database of snorkeling and electrofishing data into StreamNet compatible formats.

Part of the long-term plan for increasing the flow of Idaho data from the field to the StreamNet regional database is the development of applications for IDFG fisheries biologists running over the internal IDFG Intranet. The project successfully established an Intranet portal that includes a few preliminary data look-up applications and a web-based GIS mapping application. The Intranet portal will provide data entry and data management tools that incorporate data directly into a central database.

MFWP

Database maintenance continued in the second quarter. Some regional visits to capture data were completed during the quarter and most of the data collected during the 2002 field season were collected and entered into the system from FWP, USFS and BLM biologists in those regions. Requested edits are still arriving from the Natural Resource Information System on the Dams database and this information will be exchanged in the third quarter. The Future Fisheries Interface (Mitigation Projects) is being converted to a server-client configuration which will enhance the efficiency of data exchange and usability by other programs. When this conversion is completed the data will be exchanged in the third quarter.

Montana StreamNet staff assisted the Whirling Disease coordinator with GIS and database questions. Staff members participated in the region-wide Westslope Cutthroat Trout Assessment Project and are assisting in the regionalization of these data; which will be provided to Regional StreamNet upon completion. Staff members are still awaiting the barriers edits from the Westslope Cutthroat Trout Assessment. A few barriers were added to the database this quarter.

A major upgrade to the effectiveness of the StreamNet staff in Kalispell was accomplished by adding them to the State Network, which will allow them to more easily connect to other FWP staff and state services. Review of the proposed DEF Process document continues among the StreamNet Steering Committee members and regional staff, and a final document will be completed and approved next quarter. MFWP and the Salish-Kootenai Tribes have received contracts to complete subbasin planning for the Kootenai and the Flathead sub-basins. Montana StreamNet initially loaded their web pages on the FWP website, and StreamNet staff members are now serving in an advisory capacity for the development of the plans, including close work with GIS staff developing the products for the plans. Outside of StreamNet, hires were completed for the State Comprehensive Fish and Wildlife Conservation Plan that will assist in the development of the plan and the data behind it. StreamNet staff member Steve Carson will be directing the database development for non-game data and supervising staff to collect, gather and input the data. The IT Strategic Planning Process for MFWP has somewhat stalled, but work continues on data dissemination guidelines and improving an internal database development process. A Montana Fish Planner for the web using MFISH data has been designed and work has begun. An update to the MFISH website will occur by July to improve the system's stability.

ODFW:

Oregon StreamNet met all of its Statement of Work requirements during the second quarter. Data delivered or made available to regional StreamNet include updated anadromous and resident fish distribution, electronic images, reference information, freshwater harvest information, updated stream routes, and numerous updated or corrected abundance trends. The project accomplished normal activities, including completion of weekly and quarterly reports, attendance and participation in the StreamNet Steering Committee meeting, and responding to direct requests for information.

Using funding provided by the Governor's Natural Resources Office and Oregon Watershed Enhancement Board, Oregon StreamNet's focus on the 1:24,000 Fish Habitat Distribution Development Project centered on QA/QC, finalizing origin, and present production information, progressing towards completing the life-stage timing data, and drafting the project completion and information reports. These efforts continue to improve the quality and amount of Oregon information available to and usable by StreamNet. Staff also presented project results in a workshop presentation to interested data users. An extension of the project through the end of April was requested and approved to allow time to finalize all data sets and finish the project completion report.

Tabular and spatial database systems were effectively and appropriately managed and enhanced as needed, and the details of these efforts are included in this report. Of particular note is the continued progress that was made toward developing a comprehensive information system for Oregon's trend and barrier data sets, and the refinement of tabular metadata structure and online implementation within Oregon.

Staff successfully coordinated with regional StreamNet staff to assure smooth integration of Oregon data into the regional database. Staff continued participation in Oregon Subbasin Planning related meetings, gathered needed datasets to address EDT attribute ratings, and provided feedback on data related topics as needed. A GIS Analyst was hired to support subbasin planning spatial data needs, and efforts were made to automate the delineation of various data types by subbasin reaches.

Staff participated in or contributed to a number of different outreach efforts showcasing the work that is done by StreamNet and StreamNet cooperators.

WDFW

This quarter Washington StreamNet kept up a practice of consistent data flow and made three submissions to the regional StreamNet database. The submissions included salmon and steelhead distribution data, catch area spatial files and resolution of PSMFC's steelhead natural spawner 60K trends with minor updates for data from any SaSI Resource.

For some time the WDFW StreamNet Compilers have been forced to make a clutch of trends fit WDFW's (ergo StreamNet's) representation of the Washington hydrolayer. Although the hydrolayer representation probably accounts for only about 25-30 routing issues and 50 naming issues, these issues are persistent obstacles and time wasters. This quarter we've taken steps to improve that situation and created an interface that will allow WDFW StreamNet staff to edit the 100K hydrolayer.

Region / PSMFC

Regional StreamNet staff at PSMFC conducted all normal administrative tasks during the second quarter, including reporting and coordination through the Steering Committee. Considerable time was spent in developing an accurate understanding of the BPA's new accrual based accounting and how late FY-02 expenditures were related to the FY-03 accrual cap. Additional effort was expended in simply tracking the approval process for Mainstem/Systemwide Province project proposals. With FY-03 now more than half over, funding decisions for the Systemwide projects have still not been made.

Database updates were conducted as new and updated information was exchanged to the region from the cooperating projects.

This quarter all StreamNet participants shared descriptions of how each logs requests for information. Several were very similar, but other agencies had quite different outlooks on how to best track help requests. In the next quarter we will compare these methods to see if common information can be obtained to help standardize quarterly and annual reporting of this information.

Objective 1 Data acquisition and development

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

Objective 1 Data acquisition and development

Task 1 Anadromous distribution and life history (habitat use)

Document the occurrence, distribution and life history characteristics of anadromous fish species. Project participants have placed a high priority on updating these data during the fiscal year, utilizing a newly adopted Data Exchange Format (DEF). The new DEF represents a significant new workload, but will lead to more regionally consistent distribution information. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
IDFG	1	Convert Idaho's existing anadromous fish distribution into the new generalized fish distribution data exchange format.	All fish data tables (e.g., mapped distribution, reference-based distribution, collecting permits, stream surveys, and spawning ground data) were combined into a single comprehensive table. Fisheries Bureau staff are currently reviewing the data before allowing release. Meanwhile, IDFG/StreamNet is producing individual species maps from the various data sources and comparing differences.
ODFW	1	Update (to a minimal extent), maintain, correct and exchange anadromous fish distribution and documentation information. Also, evaluate the Oregon Museum collections database for potential utility in enhancing our historic distribution information.	New Incidental Fish Observation forms were entered into the IFO Database. These forms documented chum sightings in a previously undocumented area. These sightings will improve Oregon's generalized fish distribution information. Duplicate records were identified and removed from primary documentation table and new GIS coverages were created from the data. Six documentation coverages on the FTP site were replaced with the updated version of each. Oregon's metadata for our primary anadromous fish distribution datasets were also updated. Oregon StreamNet's GIS Analyst created version 10 of the 1:100,000 scale distribution datasets and posted it to the ftp site. Oregon StreamNet's GIS Analyst updated the QualCrit and RefID coding within Oregon's distribution data where documentation data fully encompassed the distribution data (approx 500 records). He then converted all distribution data records to the StreamNet Generalized Fish Distribution data format and submitted it to regional StreamNet. This submission included all of the Reference Memo RefID coding for the 24K Project which had not been previously submitted.

		Planned work elements	Accomplishments

WDFW 1 Continue updating data as received and actively solicit data as warranted. Convert tabular and spatial data to the current revised StreamNet DEF and submit to PSMFC.

WDFW StreamNet submitted 100K steelhead and salmon distribution data (known at WDFW as 100K Anad) in StreamNet's GeneralizedFishDistribution (GFD) format. Although the steelhead and salmon data submission was based on a conversion of the records in StreamNet's old DistUse table, it is sufficiently the same as the WDFW 100K Anad data.

The nature of WDFW's internal 100K Anad tables are drastically different than the nature of StreamNet's GFD format. New programming is required to convert to StreamNet's format directly for WDFW's format. We never like to convert data from an "old" snapshot, as described in Item 1, because even small changes may have been made over time. To address this possibility we've drafted a work plan to program the conversion and re-submit this data to StreamNet next FY.

The Data Manager wrote a summary of specific GFD progress to date for the StreamNet Project Manager and explained the connection to upcoming Washington 100K hydro edits that WDFW is ready to carry out. These changes will affect the recent submission of 100K Anad data; some records will need to be corrected and re-submitted. Due to this unplanned work, WDFW will not be submitting a test set of 24K GFD data to the Regional Data Manager during the 2nd or 3rd quarter, as previously expected.

Objective   1   Data acquisition and development

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

Document the occurrence, distribution and life history characteristics of resident fish species. Existing resident fish distribution will be maintained, but development of new data or data for new species will be limited due to the funding level. This is priority 1 for Montana, but low priority under base funding in the other states.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003

IDFG 1 Participate in the Westslope Cutthroat Trout Conservation Assessment. In response to a decision by the 9th District court to require a new status review for westslope cutthroat trout, the states of Idaho, Montana, Washington, and Oregon, along with the Fish and Wildlife Service and the Forest Service, have agreed to work together to prepare the new status review. IDFG/StreamNet will send staff to several workshops to facilitate the capture of data that will include distribution. The data will be prepared for inclusion into StreamNet.

We obtained the draft Westslope Cutthroat Trout Assessment data from the USFS and reviewed it for eventual inclusion in StreamNet. We are still waiting for the USFS to finalize the data before integrating with our databases and submitting to PSMFC.

IDFG	3	Update the StreamNet distribution database using other sources, including collection permit reports, historical survey records, and information from published reports.	IDFG Fisheries Bureau completed data entry. We have taken all of our fish data tables (e.g., mapped distribution, reference-based distribution, collecting permits, stream surveys, and spawning ground data) and combined them into a single comprehensive table. Fisheries Bureau staff are currently reviewing the data before allowing its release. Meanwhile, IDFG/StreamNet is producing individual species maps from the various data sources and comparing differences.
MFWP	1	Complete Distribution and Use Types data set from data collected from biologists, documents and reports during 2000-2001 using LLID stream routes. Exchange the data to the StreamNet database in the approved DEF format.	Database maintenance continued in the second quarter. Some 2002 data were entered into the system. Regional visits were completed during the quarter and most of the data collected during the 2002 field season were collected from FWP, USFS and BLM biologists. Planning continued in the second quarter.
MFWP	2	Visit MFWP biologists in 2003 to collect 2001-2002 fish distribution and supporting survey data and references. Obtain data from federal biologists using our developed interface. Input all this information into the MRIS tables. Develop some QA/QC on data before distribution.	Some meetings were set up for the third quarter.
ODFW	1	Maintain existing resident distribution information.	Q/A work was conducted on Oregon's Bull Trout data resulting in new 24K and 100K Bull Trout coverages, shapefiles, event tables and snapshot images being created and posted to the ftp site.

Objective	1	Data acquisition and development

Task   3   Adult abundance in the wild

Develop and maintain 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). 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. Priority is given to updating these data through 2001. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Update mainstem Columbia and Snake River dam counts through 2002 and provide updated data to the StreamNet database.	These counts will be updated in the third quarter.
IDFG	1	Complete the compilation of the 2001 field season redd count data from IDFG. Included in these data are carcass counts and counts of live fish. Prepare the data for inclusion into the StreamNet regional database and submit.	QA/QC work on all chinook trends was completed. QA/QC of steelhead data was also completed to the extent possible. Historic steelhead redd count data is not well documented and we were unable to verify many of the trends and associated data. Steelhead redd counts were discontinued in 1999. We submitted all redd count data to PSMFC through 2001 on 1/14/2003. This task component is completed.

| IDFG | 2 | Start compilation of the 2002 field season redd count data from IDFG. The data set will not be complete, however, because all reports may not yet be available. | The 2002 redd count data were included in the previous job. The 2002 redd count data were submitted with the rest of the data and this task component is completed. |

MFWP 1 Collect all 2002 survey data during field office visits.

Some of the 2002 data were collected. Most data will be collected in the third quarter.

MFWP 2 Input 2002 data into MFISH, including trend, count and references. We will explore which DEF is appropriate for resident fish population surveys and provide bull trout redd count trends at the stream level.

Some of the 2002 data were entered in the system. Most of the 2002 data are not entered yet.

ODFW 1 Update existing anadromous, resident, and non-game abundance and index trends through 2001 and opportunistically collect new trend information.

All trends that still need to be updated were identified during this quarter, regardless of Trend Type. Most trends that are categorized as "Data currently collected for a time series" have now been updated.

Oregon StreamNet's trend data submission was finalized and completed with PSMFC staff. This data submission involved far less time than past submissions because the Oregon StreamNet database coding now mirrors the regional database. This is done by using the main database posted on the StreamNet site to cross check for differences before submission. Also, the write-up required by the submission protocol on the new updateable submission forms has also made it a lot easier.

Oregon StreamNet's Data Analyst worked on tracking down Bull Trout abundance trend data to add to the database. As part of this search, the report "Status of Oregon Bull Trout" was reviewed for additional leads on research conducted on Bull Trout and where the data might be found.

WDFW 1 Continue to update and enhance the existing natural spawner database (escapement estimates and/or detailed counts) for available species.

WDFW StreamNet submitted steelhead natural spawner data to the regional database. This submission adopted PSMFC's 60K trends, improved the data representation and updated any of those trends that relied on the Salmon and Steelhead Stock Inventory (SaSI) reference.

During the last natural spawner submission (XchangeWDFW20020814.mdb), some trends were internally rejected for various issues. A WDFW compiler used this quarter to research and correct the rejected data and PSMFC's 60K trends. She resolved the issues, adopted PSMFC's trends when warranted and updated our internal database with the 2002 natural spawn escapement data for Spring Chinook in the Lower Columbia River. As the WDFW Region 5 StreamNet Data Manager worked to prepare the data for a StreamNet submission, he encountered complications with the internal preparations and his fairly new PC. The issues are surmountable but will delay the submission.

Objective   1   Data acquisition and development

Task   4   Hatchery releases

Develop and maintain information on the release of hatchery reared fish. Priority is given to updating anadromous release records using RMIS data for anadromous species through 2001. Release data for resident species under base funding will be developed only where the data are readily available (primarily Montana). Efforts this year will focus on creating cross references between PSC release codes and LLID stream location identifiers. We will explore means of providing unrolled data on specific release locations rather than more general PSC codes. This is priority 1 under base funding. (Note: We need to reach a SC decision on exactly what we intend to do with this important data category this year under the base funding scenario)

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
FWS	1	For anadromous hatchery releases, compile FWS hatchery release data, with added CWT information. Transform data to format 040. Submit most current release year hatchery release data to PSMFC via USFWS WWFRO.	A format 4.0 PSC release information file was sent to both the USFWS Lacey office and the StreamNet regional database manager. The lead programmer spent significant amounts of time working on the 2002 release data and the new program that transforms it into PSC format 4.0. The file was sent to the Western Washington FRO.
FWS	2	For resident fish, explore availability of release data relative to FWS facilities. Provide resident fish production and release data to PSMFC.	The FWS StreamNet Project Leader spoke with the assistant project leader of Columbia River Fisheries about the desirability of acquiring coho release and return information from Dworshak NFH. He will speak to the Dworshak Fisheries Office project leader about that subject.

The project leader made final updates of CRiS data files and transformed data into the DEF using snReturn.prg. These data were sent to the StreamNet regional office. |
IDFG	1	Crosswalk PSC codes for Idaho hatchery releases in the Regional Mark Information System (RMIS) to StreamNet's stream georeferencing system of LLIDs and measures.	IDFG Fisheries staff have started development of a system to consolidate the various hatchery release databases in use by IDFG into a single database that will be compatible with StreamNet. IDFG/StreamNet staff are providing technical assistance and assuring StreamNet compatibility.
IDFG	2	Compete the crosswalk of IDFG catalog numbers to StreamNet's stream georeferencing system of LLID and measures.	We found a number of IDFG catalog numbers missing or in error in our lakes database. The new catalog numbers were added, a few new lakes added, and the corrections were made.
MFWP	1	Explore current DEF for hatchery releases and provide Montana data in exchange format, if requested.	Montana data has not been requested yet. When the DEF is complete, it will be exchanged promptly.
Region	1	Assist contributing projects with cross referencing PSC codes with LLID codes.	The regional GIS specialist assisted RMIS staff in acquiring and installing ArcGIS software.
WDFW	1	For anadromous species, finish researching, compiling, converting existing WDFW anadromous release data as detailed, "unrolled" records. Submit the data directly to the regional StreamNet office (instead of via RMIS).	As time permitted, we continued to assign LLIDs to any specific hatchery release data our WDFW StreamNet staff delivered to data requestors.

Objective   1   Data acquisition and development

Task   5   Hatchery returns

Develop and maintain information on the return, disposition and straying 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 2001. Development of disposition data is lower priority and would require additional resources. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
FWS	1	Compile FWS hatchery return data for FWS hatcheries for the most recent return year and submit to the regional database. FWS will also account for all adults returning to federal hatcheries.	The project leader updated an Access version of the Hatchery facility file received from regional staff and returned it after adding information for the closed Delph Creek Station and Social Security Pond Net Pens. The program that transforms information from the CRiS format into the StreamNet DEF was run for each hatchery and species. A lack of reporting of eggs taken has held up submission of this information to the regional StreamNet database.
IDFG	1	Complete compilation of the 2001 field season hatchery return data from IDFG and exchange with StreamNet database.	The data compilation into our local database was completed. The historic hatchery release data were reviewed and QCd. We are currently working on the conversion to StreamNet DEF and the data will be submitted early in the next quarter.
IDFG	2	Start compilation of the 2002 field hatchery return data from IDFG. Data will be incomplete because all reports may not be available within this project year.	The 2002 hatchery return data were included in the previous job. The data compilation into our local database was completed.
WDFW	1	Continue to update and enhance the existing hatchery return database for available species.	We downloaded more WDFW hatchery returns records (Form 3 and Form 5 data) and converted samples to the newly adopted DEF. This effort tested the new DEF prior to approval and scoped any new data issues for ultimate submission to the StreamNet database. A Hatchery Returns submission to the region will be prioritized after we submit the natural spawner/adult abundance data .

Objective   1   Data acquisition and development

Task   6   Dams and Fish Passage Facilities

Develop and maintain information on dam facilities. Primary emphasis is now on maintenance of existing information, with occasional updates as necessary. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
MFWP	1	Provided an updated Montana dams spatial coverage and associated data in the StreamNet exchange format if additions, deletions or modifications are made to the Montana coverage.	Requested edits are still arriving from the Natural Resource Information System at the Montana State Library and will be exchanged in the third quarter.

| ODFW | 1 | Maintain and update, as needed, based on errors found in the Oregon dam and fish passage facilities information. | Oregon StreamNet staff identified and corrected a small number of records with erroneous fishway coding. |

Objective 1 Data acquisition and development

Task 7 Hatchery facilities

Develop and maintain information on anadromous and resident hatchery facilities, including information on location, design, management and authorization. Primary emphasis is now on maintenance of existing information, with occasional updates as necessary. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
IDFG	1	This is a maintenance item for IDFG. We will maintain this database by making modifications for staff changes or other necessary fields, and prepare updates for inclusion into StreamNet.	A few minor modifications were made to the Idaho hatchery facilities table relating primarily to contact information. The updates were submitted to PSMFC.
MFWP	1	Update the StreamNet hatchery database with Montana's public and private facilities. Exchange with StreamNet upon completion.	The annual private license renewals have not arrived yet from Helena MFWP Headquarters. These data will be exchanged in the third quarter.
ODFW	1	Maintain and update, as needed, based on errors found in the Oregon hatchery facilities information.	Time was spent researching the location and other background information for two historic hatchery facility locations, at the request of our USFWS StreamNet partner.
WDFW	1	Update the hatchery database adding records and improving field entries as warranted, including record updates for related tables (i.e. HatcheryXProduction data).	In January WDFW's GIS Data Manager (Tim Young) expressed an interest in improving the availability of Hatchery Facility data. WDFW's StreamNet Data Manager (Leslie Sikora) manages this data for the agency and for StreamNet submissions. Yet the system to efficiently funnel the information is broken and needs attention by a programmer. Sikora made initial efforts to organize the work needed, yet Tim Young hasn't been available to participate as originally hoped / expected.

Under separate funding, the Olympia WDFW StreamNet Tabular / GIS Compiler continued work on the Hatchery Scientific Review Group (HSRG) Project. Originally we planned to update StreamNet's HatcheryXProduction table by 8/31/2003, but the HSRG Project maps information that will aid the StreamNet submission and the HSRG Project won't be completed until August or September. For efficiency we will delay the StreamNet work and submission until the HSRG products are completed. |

Objective 1 Data acquisition and development

Task 8 Harvest

Develop and maintain information on sport and commercial harvest. Higher priority is assigned to anadromous species. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Complete and update ocean and Columbia River catch data through 2002.	No work on this task was undertaken this quarter. This is an unfunded activity. Data may be updated as part of the subbasin planning process.
ODFW	1	Compile and exchange Oregon sport harvest data through 2000, in two submissions.	371 Oregon freshwater harvest trends were added or updated with 1996 – 2001 information during this quarter. These updated trends were included in this quarter's trend submission. Efforts during the next quarter will be to update marine harvest trends and searching for more data to update harvest trends not updated to this point.
WDFW	1	Re-submit any existing StreamNet Washington harvest data, updating it per StreamNet's current location coding format to validate and correct the conversion that was completed by non-WDFW personnel.	This quarter the WDFW StreamNet Data Manager and Tabular / GIS Compiler focused on correcting the location coding for any existing harvest trend. For this effort they pioneered new ways to use Arc products, researched Washington Laws that describe and dictate the area boundaries and established and improved internal spatial layers for marine catch areas. They submitted the initial spatial layers to PSMFC with any Alaska or BC marine layers that were available and asked StreamNet's Regional staff to create a comprehensive Regional marine layer.
WDFW	2	Although we should only be in maintenance mode for this data set, WDFW re-organized their data collection process several times since our last StreamNet update (and it's still in flux) so it poses a large workload. As such, we need a large allotment of time before renewing this effort. As funding and time permits, compile freshwater harvest for key Columbia Basin salmonid stocks for both anadromous and resident data, using existing WDFW data sets (i.e. Angler Fish Database) and other sources. Standardize the data (to stock if possible), convert and submit it to PSMFC.	WDFW Region 5 (Vancouver) StreamNet staff completed the 2001 sport data summaries for WDFW's Joe Hymer and Susan Markey. Our WDFW StreamNet staff's expertise and participation allows us to insure more accurate harvest data will ultimately be submitted to StreamNet.

Objective   1   Data acquisition and development

Task   9   Habitat restoration / improvement projects

Acquire data sets related to habitat restoration / improvement projects from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats. This data category is still being organized, but interest in this information is growing as there is no consistent source of this information on a regional basis. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
MFWP	1	Continue to collect, centralize and maintain all stream restoration projects data for Montana using the "Future Fisheries Interface" which StreamNet staff maintains and the Fisheries Division inputs data. Exchange data to the Region twice during the year.	The Future Fisheries Interface is being converted to a server-client configuration. When this conversion is completed the data will be exchanged in the third quarter.
WDFW	1	If funding and time permits, finalize conversion of Washington's IAC's (Interactive Committee for Outdoor Recreation) PRISM database for WRIA 5 records and submit to StreamNet. Build an ArcView project file that incorporates Washington Salmon Recovery Funding Board data, basin-specific salmon habitat limiting factors (LFA) and potentially SaSI stock status. Assess if this tool allows managers to effectively compare relative expenditures (and the factors they intend to address) to identify priority issues in the basin and the utility of creating similar products for other basins.	We re-established our ODBC connection with IAC's PRISM database. It had been unavailable for some time.

Objective   1   Data acquisition and development

Task   10   Barriers and diversion/screening

Develop and maintain data sets for barriers to fish migration and diversion structures with information on screening status. This category is still being organized. Existing data on adult barriers will be maintained and updated as practical. Other sources of data will be explored. Work on juvenile barriers, culverts and diversion screening may require additional resources. The primary emphasis is on anadromous species except in non-anadromous areas. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
IDFG	1	Participate in the Westslope Cutthroat Trout Conservation Assessment. In response to a decision by the 9th District court to require a new status review for westslope cutthroat trout, the states of Idaho, Montana, Washington, and Oregon, along with the Fish and Wildlife Service and the Forest Service, have agreed to work together to prepare the new status review. IDFG/StreamNet will send staff to several workshops to facilitate the capture of data that will include barriers. The data will be prepared for inclusion into StreamNet. Delivery is dependent on the Forest Service completing the database.	We obtained the draft Westslope Cutthroat Trout Assessment data from the USFS and reviewed it for eventual inclusion in StreamNet. We are still waiting for the USFS to finalize the data before integrating with our databases and submitting to PSMFC.
MFWP	1	Continue to collect barrier location, species affected and other fields on stream barriers in Montana. Information will be collected on all species regardless of life history. Exchange Barriers data with the StreamNet database.	We are still awaiting the barriers edits from the Westslope Cutthroat Trout Assessment. A few barriers were added this quarter.
ODFW	1	Compile and exchange Oregon fish screening and diversion data assuming a new DEF is adopted. If no DEF is approved, data will be posted on the NRIMP site and linked to StreamNet as an 'as is' submission.	Efforts this quarter centered on providing technical support to Oregon's Fish Screening and Passage Program as they continue to learn, populate, and use the database we developed for them. Efforts were also made to prototype and review how Oregon's fish screening data might be made available via the web.
ODFW	2	Update and maintain Oregon's barrier data and minimal fish barrier data development based on new barrier information.	Oregon StreamNet's GIS Analyst initiated an effort to identify and fill gaps in our FishBarrier table coding, in particular those records related to dams. A visual QA process was used to determine the different types of unique cases that exist between the distribution and the FishBarrier table coding. This effort was completed for both summer and winter steelhead. Work on other species will continue during the next quarter.

Objective 1 Data acquisition and development

Task 11 Juvenile data, abundance and outmigration

Develop and maintain information on smolt production (as determined from smolt traps), juvenile abundance (as determined through snorkel, electrofishing, and other surveys), and smolt density model estimates. Primary emphasis will be on maintaining the existing smolt density model data and development of a DEF for these data. The rest of the work for this data category is still under development and will require additional resources to accomplish. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
IDFG	2	Code the IDFG General Parr Monitoring database to StreamNet's georeferencing for streams using LLID and measures.	We completed georeferencing over 2,000 parr monitoring sites to the StreamNet 100k hydrography. Work continues to link the survey data to the monitoring sites. This work is now being conducted from the IDFG Fish Research office with StreamNet assistance.
MFWP	1	Pursue incorporation of resident fish survey data into the DEF, if a DEF is adopted.	The general forum discussion of the fish survey data topic continued in the second quarter.
WDFW	1	As funding and time permits, keep informed about other WDFW agency staff efforts to organize the juvenile data and scope existing juvenile data to plan future conversion and submission efforts.	A WDFW StreamNet data compiler continued improving the Cedar Creek adult and smolt trap databases by generating statistically accurate figures, improving the data flow and updating the database records.

Objective 1 Data acquisition and development

Task 12 Age

Develop and maintain information on age/sex composition of returning adults, primarily for anadromous species. This is a medium priority, with the primary focus on developing data for a few test locations as a means of testing data organization/format and utility. Remaining DEF issues will be resolved. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Use CRITFC age data on sockeye populations and Bonneville Dam sampling to evaluate and develop an age DEF.	No work was performed on this task this quarter. A draft DEF for age data will be presented to the Steering Committee next quarter.
FWS	1	Update age and sex data for the most recent return year.	An updated Fish Removal file has been received from one of our National Fish Hatcheries, and will require an updating of both CRiS and Hatchery Return files before data is submitted to the StreamNet regional office.
IDFG	1	Complete the compilation of the 2001 field season age data using hatchery returns data from IDFG.	The compilation of age data into our local database was completed. Our historic age data were reviewed and QCd. We are currently working on the conversion to StreamNet DEF and the data will be submitted early in the next quarter.

Objective   1   Data acquisition and development

Task   13   Production factors and run reconstruction

Develop and maintain information on survival, production factors, spawner / recruit estimates, and run reconstruction. This is currently a low priority, but the existing spawner / recruit estimate data will be maintained. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Coordinate with ESA recovery planning and NWPPC subbasin planning efforts to capture available anadromous fish and bull trout productivity data for eventual DEF testing and inclusion in StreamNet.	Subbasin planning activities are lagging behind the anticipated schedule. The intent is still to gather these data and complete the task as part of subbasin planning.

Objective   1   Data acquisition and development

Task   14   Habitat

Acquire data sets related to fish habitat (including water quality, stream/watershed habitat quality, temperature, invertebrates, and miscellaneous habitat data) from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats or archive them in original format, as appropriate. This is currently a low priority under the existing contract, and data development will be pursued only on other funding. Data developed on other funding will be organized and included in the StreamNet database. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Coordinate with ESA recovery planning and NWPPC subbasin planning processes to capture watershed assessment data for DEF testing and eventual inclusion into StreamNet.	Subbasin planning activities are lagging behind the anticipated schedule. The intent is still to gather these data and complete the task as part of subbasin planning.

Objective   1   Data acquisition and development

Task   15   Genetics

Develop and maintain information on genetic information and data sources for areas where genetics data exist. Efforts this year will concentrate on organizing existing information, and then working on a Data Exchange Format. This is priority 1 in Montana but priority 2 under base funding for the other states and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Work through the coast-wide genetics work group to update the genetics data catalog.	Based on the FY-02 decision to not treat genetics as a core standardized data set, we will contribute this information as an independent data set.

MFWP	1	Obtain genetic analysis results from the University of Montana Genetics Lab for sampled populations of Montana's species of special concern.	This task is ongoing. Data were entered into the database as they arrived.
MFWP	2	Update fish distribution table when new genetic samples affect fields/records. Finalize a GeneticSample table field to facilitate querying purity	Fish distribution was updated as genetic samples were received.
MFWP	3	Exchange data to the StreamNet regional database when a DEF is approved by the Steering Committee, and/or provide data as a "showcase" data set.	There is no genetics DEF yet; a suggestion to showcase these data on the StreamNet website has been presented to the Steering Committee. We will explore this in the 3rd quarter.

Objective   1   Data acquisition and development

Task   16   Other data sets

On an opportunistic basis, conduct scoping or exploratory level work on the availability of other types of fish related data, as requested by FWP participants. Actual acquisition, standardization, georeferencing and distribution of these data would be dependent on funding for new work. This is priority 2 under base funding, and will be addressed only as time and other priorities allow.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
IDFG	1	We will work with IDFG and other agency staff to facilitate either the incorporation of their data into StreamNet or independently posting their data on the StreamNet web site.	The main work on this task is actually detailed under job 1.11.2, the parr monitoring data. To date, we have addressed no other independent data sets.
MFWP	1	Will explore as opportunities arise	Montana StreamNet staff assisted the Whirling disease coordinator with GIS and database questions. The idea of MFWP creel data was explored. We participated in the region-wide WSCT assessment project.
ODFW	1	Develop data sets outside Oregon StreamNet's base efforts if requested by subbasin planners, as time and funding allow.	Oregon StreamNet's Assistant Database Manager prepared and submitted ODFW's Image database to regional StreamNet staff in late February.
Region	1	Advise/assist data developers with data sets not in the StreamNet DEF. Low priority, and within current resources only.	The GIS specialist attended several meetings with watershed planners using EDT datasets to try to relate this work to StreamNet's hydrography.

Objective   2   Data management and delivery

Provide high quality data management services, with specific emphasis on the creation of regionally consistent data sets and the timely delivery of data to users in formats that meets their policy, planning, monitoring, and management needs

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Objective   2   Data management and delivery

Task   1   Maintain and enhance the tabular database systems at the project and regional levels

Maintain functional tabular database programs at the agency and regional levels to make consistent tabular data sets for anadromous and resident fish available through the StreamNet online database system. At both the regional and agency levels, provide database management and administration necessary for accomplishing StreamNet objectives, to include: 1) maintaining and updating the hardware and software systems necessary to support the StreamNet project, 2) enhancing or optimizing StreamNet database structures and capabilities, and 3) developing and maintaining electronic tools to facilitate data loading, management and quality assurance.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	Existing systems and data are being maintained. Budget constraints do not allow any enhancement of hardware or software.
IDFG	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	We continued standard maintenance of our database infrastructure, including daily backups, application of patches and service packs, security administration, and administration of user accounts and privileges. Progress has been made in both design and coding for migrating our existing applications to the .Net framework. This has been helped with the addition of a new programmer that is paid part time by StreamNet and the rest by other funds.
IDFG	4	Maintain existing modules of IFWIS, including the spawning ground, juvenile trapping, collecting permit reports, and the reference programs. This includes maintenance of data integrity in the IFWIS database.	Routine maintenance of the existing IFWIS modules continued
IDFG	5	Build additional IFWIS components, interfaces or tools as required to complete other tasks. Specific jobs will be identified on an as needed basis, but may include tools to evaluate existing trend-based data.	We began work to develop an Intranet portal that will ultimately allow implementation of our fisheries data applications over the IDFG internal Intranet. This would speed the entry of data into a central system for packaging for StreamNet. It will also provide a place for other developers in IDFG to communicate and work in common to build a comprehensive information system containing StreamNet compatible coding protocols.

MFWP	2	Modify/expand the edit/entry interface for the MFWP Collector's Permit fisheries survey data and build other interface/editing tools as needed	Project staff assisted the Gallatin National Forest during this quarter with their fishery database.
ODFW	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	One ODFW field staffer needed Oregon's Fish Presence Survey database to be converted to Access 2000 format, which necessitated a number of revisions and fixes to the database. Most of the problems came from a bug that affects replicated Access 97 databases that have been converted to Access 2000. FPS surveys began in March so we wanted to ensure that the system would work, regardless of which version of Access was used.

Efforts were made to improve the currency and usability of the StreamNet MapCat database. The Assistant Database Developer downloaded the Subbasin2001, Region2001 and Province tables from StreamNet web site, added them to the MapCat database, and updated the ID's in the MapCatXSubbasin table to correspond to the new codes in the Subbasin2001 table. The Subbasin2001 and Region2001 tables replaced the previous Subbasin and Region tables. She also created a new MapCatXProvince table and form, updated the MapCatXRegion and MapCatXSubbasin subforms, and updated the main data entry form. |
| ODFW | 2 | Conduct initial development of a corporate information system for trends and barrier/dam data | Staff began work on implementing the Trend COM Component in C++, using the Active Template Library (ATL) and utilizing a dynamic link to the MFC library. This new object will contain an internal collection of Trends so as to allow almost instant access to the data when initialized. Our new internal database structure was also prototyped. Currently it holds the Trend and EscData tables and their required lookup tables. This database is mainly for use in developing classes on the various objects we'll need as part of the corporate information system. The testing of the prototype VB COM object is complete and passed all its tests. Using the component, we are now able to connect to the system using a variety of scripting code, allowing varied users to query a Trend record and pull data from the SQL Server database seamlessly. A Data Transformation Service (DTS) package in SQL Server was also created that allows our old trend data to be migrated to our current format. A similar package will also be used to prepare our data for submission to regional StreamNet, insuring that all StreamNet coding values and rules are adhered to while sending only the data that is required. Screen shots of the system are now posted on the web for review and progress tracking. |
| Region | 1 | Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security. | Routine maintenance, administration, and backup of the SQL Server databases and servers continued. |

WDFW	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	We continued work to adopt MS Access 2000 data systems for our internal StreamNet Hatchery Returns, Natural Spawner and Hatchery Release databases. At this time, WDFW Hatchery Division staff still base their work in Paradox and the Hatchery Returns data will consistently need to be converted.
			We started researching the cost and procedures to create useable CDs of the Washington Resource Inventory Area (WRIA) Stream Catalogs. This resource will allow us to more efficiently cross-code location data with StreamNet's coding system.

Objective   2   Data management and delivery

Task   2   Maintain and enhance the GIS and hydrography database systems at the project and regional

Maintain functional Geographic Information System programs at the agency and regional levels to make consistent GIS layers for anadromous and resident fish available through the StreamNet online database system. At both the regional and state levels, provide GIS management and administration necessary for accomplishing StreamNet objectives, to include: 1) maintaining regional and agency-level GIS systems, including hardware and software, 2) maintaining a regionally consistent hydrography layer at the 1:100,000 scale, and 3) developing and maintaining tools to facilitate use and manipulation of GIS data.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
IDFG	1	Maintain and update, as necessary, the hardware and software, including ArcView and other tools, extensions and projects, that constitute the regional and cooperating state agency Geographic Information Systems. Provide system administration, backup and recovery, and security.	We continued standard maintenance of our GIS infrastructure including, daily backups, application of patches and updates, and maintenance of our plotter. We completed the installation of ArcIMS and have developed an initial "proof-of-concept" web mapping application on our internal network. We plan on using web mapping applications on the IDFG Intranet to allow biologists to enter geographic data, such as barriers and survey sites, directly into our fisheries information system in StreamNet compatible formats.
IDFG	2	Maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region. Submit all changes to the StreamNet database at the Regional office.	We have collected approximately 100 changes or additions to make to the Idaho hydrography. Many of the additions were collected from biologists through the use of an ArcView tool developed in our shop (non-StreamNet funding) for that purpose. Work on those changes will start early next quarter.
ODFW	1	Maintain and update, as necessary, the hardware and software, including ArcView and other tools, extensions and projects, that constitute the regional and cooperating state agency Geographic Information Systems. Provide system administration, backup and recovery, and security.	Oregon's GIS Analyst continued to work on GIS license renewal issues. The cost sharing agreement we had with other ODFW projects caused some holdups but things should be cleared up in the next quarter. He also performed routine back-ups of important database files that are stored on our local Unix server, as well as performed some much needed hard drive and email maintenance.

ODFW	2	Maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region. Submit all changes to the StreamNet database at the Regional office.	Oregon StreamNet's GIS Analyst identified and fixed an error in the stream route for the North Fork Wenaha River, and added a route for an irrigation canal in the Imnaha basin that contains Bull Trout. These proposed changes were submitted to. PSMFC
Region	1	Maintain and update, as necessary, the hardware and software, including ArcView and other tools, extensions and projects, that constitute the regional and cooperating state agency Geographic Information Systems. Provide system administration, backup and recovery, and security.	Regional staff upgraded GIS software to ArcGIS 8.3.
Region	2	Maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region. Submit all changes to the StreamNet database at the Regional office.	StreamNet regional GIS Staff made several small updates to the regional hydrography to reflect distribution data for bull trout.
Region	3	Integrate the functioning of the GIS system with the StreamNet fisheries and habitat database in support of the query system. Maintain up-to-date cross tables used via the StreamNet web interface to select information by geographic area.	The regional GIS specialist created a series of tools to assist in the creation of cross tables in Visual Basic.
WDFW	1	Maintain and update, as necessary, the hardware and software, including ArcView and other tools, extensions and projects, that constitute the regional and cooperating state agency Geographic Information Systems. Provide system administration, backup and recovery, and security.	WDFW StreamNet staff integrated WDFW's new ZEH plotting routines into our process which allows WDFW to track use and bill projects accordingly. The WDFW StreamNet Tabular/GIS Compiler researched internal agency issues regarding ArcView GIS upgrades. We organized a process to internally share updated shapefiles on the server. Users that rely on ArcExplorer can view these files if they at least have version 4.0.1.
WDFW	2	Maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region. Submit all changes to the StreamNet database at the Regional office.	Near the end of this quarter, WDFW's Fish Program GIS Manager created an interface to allow WDFW StreamNet staff to edit WDFW's 100K hydro layer in the ARC\INFO environment.

Objective   2   Data management and delivery
Task   3   Data management and coordination

This task includes GIS and tabular data management at the regional and cooperating project levels after the data have been developed. Once data are submitted to the regional database, assure they fit established formats, perform appropriate error checks, and load the data into the StreamNet database and perform routine management of the data. The region and contributing agencies will collaborate to fix problems and assure seamless loading of data into the database. The cooperating projects will perform similar functions for managing data in their systems.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Maintain and manage all data developed under Objective 1 in functional database systems at the cooperating agency level. Coordinate with regional staff to assure smooth submission of data to the regional StreamNet database.	No work was performed this quarter. Aside from the Library (see below) CRITFC does not maintain agency databases for the StreamNet system.
CRITFC	2	Prepare FGDC standard metadata for all GIS layers developed by the cooperating agencies and submit to the regional StreamNet database.	Subbasin planning activities are lagging behind schedule. As GIS data layers are developed as part of that process, metadata will also be developed.
CRITFC	4	Develop data handling applications to ease transfer of tribal data to StreamNet	No work was performed on this task this quarter. Tribal data will be developed and submitted as part of the subbasin planning process.
FWS	1	Maintain and manage all data developed under Objective 1 in functional database systems at the cooperating agency level. Coordinate with regional staff to assure smooth submission of data to the regional StreamNet database.	Photographs of National Fish Hatcheries in .jpg file format were sent to the StreamNet Web Mistress for addition to the StreamNet web site.
IDFG	1	Maintain and manage all data developed under Objective 1 in functional database systems at the cooperating agency level. Coordinate with regional staff to assure smooth submission of data to the regional StreamNet database.	We have utilized components of our internal fisheries information system to manage all the data that we have submitted to PSMFC. This includes both new data compilation and QC of the existing historical data. During data submission, we have coordinated closely with the PSMFC data manager to work out data formatting and submission issues.
IDFG	4	On an opportunistic basis, coordinate with IDFG fishery programs to facilitate the use of data standards that are consistent with StreamNet and other regional standards.	In addition to answering questions and providing advice to IDFG staff, Idaho StreamNet was involved in several specific initiatives with IDFG fisheries staff. The first was a program to consolidated various IDFG hatchery release databases into one with StreamNet compatible coding. Another was cleaning up and making the IDFG parr monitoring data StreamNet compatible.
MFWP	4	Maintain interfaces for capture of U of MT genetics analysis and Future Fisheries restoration project data	Project staff assisted both UM and Mark Lere with their Access database projects.

ODFW	1	Maintain and manage all data developed under Objective 1 in functional database systems at the cooperating agency level. Coordinate with regional staff to assure smooth submission of data to the regional StreamNet database.	Staff responded to questions from regional StreamNet staff involving assigning RefIDs to documents already in the StreamNet Library system, erroneous dates in the Trend database, and minor issues related to our distribution data submission.

Our Assistant Database Manager responded to a request for Hatchery ManagementTypeID data, OutflowType information for several hatchery facilities, and Barrier OwnerTypeID data from regional StreamNet's Database Manager.

Oregon StreamNet's GIS Analyst posted a topic on the StreamNet Forum related to criteria for designating partial barriers. As part of this, he wrote a draft set of criteria for defining what constitutes a partial blockage.

Gaps were identified within StreamNet's Generalized Fish Distribution table (both Lahontan and Westslope Cutthroat are missing). These data had been submitted previously, but will be resubmit during the next quarter. |
| ODFW | 2 | Prepare FGDC standard metadata for all GIS layers developed by the cooperating agencies and submit to the regional StreamNet database. | Metadata for Bull Trout distribution was revised and submitted this quarter.

Preliminary metadata were developed for both the Timing Unit GIS dataset and the Origin / Present Production Unit GIS dataset. Also, the distribution metadata was updated to include Origin and Present Production codes and definitions. |
| ODFW | 3 | Work cooperatively to define the level of effort needed to develop metadata for tabular StreamNet data. | Non-spatial metadata was also developed for the Distribution database and added to the NRIMP Metadata Warehouse. This information will be ported to regional StreamNet once the non-spatial metadata format is finalized. Staff also defined each of the fields in Oregon StreamNet's Tier I level metadata template and included it on the NRIMP Metadata Warehouse website. |
| Region | 1 | Update and append data as submitted by StreamNet participants. Isolate erroneous or duplicative data and work with source agencies to correct problems. Produce downloadable versions of StreamNet databases.   Maintain logs of data submissions and major database changes. | Data additions through the first half of the project year included:
        474 new time series Trends,
        111 new data References,
        604 new Hatchery Return records,
     4,993 new Escapement Count Data records,
    30,313 new Generalized Fish Distribution records,
      1,108 new Barrier records,
        125 new Dams,
          84 new Photographs and/or maps, and
          14 new Hatcheries. |

Region	2	Whenever new tabular data with a spatial component are submitted to the Region (e.g., fish distribution, hatchery facilities, etc.), create regional GIS layer(s) from this information where possible. Verify correct format, accuracy and logical consistency of spatial data sets and attributes through coordination with state GIS contacts and then load data to the regional database in coordination with the database manager. Post mappable layer(s) for the online query system, the ArcIMS interactive mapping system, and as downloadable layer(s) for StreamNet GIS users.	The regional GIS specialist created a series of tools to extract distribution data from the tabular database to create the new spatial datasets. Updated fish distribution tables to the New GenFishDistribtion tables.
Region	3	Maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata).	In working with partners in California we received a new version of the California routed hydrography.
Region	4	Obtain and refine layers such as ESUs, ecoregions, or elevations, and create cross tables for use by the query system.	The regional GIS specialist created a draft set of QX tables for ESU boundaries.
Region	6	Assist the database manager with the spatial component of data and its implementation online, as needed.	The regional GIS Specialist assisted the Database Manager with the spatial location of many features related to fish distribution.
Region	7	Assist data contributing agencies in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database.	Several new codes were developed for the DEF between regional staff and WDFW. Logical problems with the original design of the Fish Barrier category were examined and a proposal to change the structure of the Barrier and FishBarrier tables was presented to ODFW for review.
Region	8	Examine the StreamNet database for errors and report any found to the appropriate entity for correction.	Updates to data records were submitted by WDFW, ODFW, IDFG and CDFG, including reassigned Trend Categories, more precise hatchery location information, more consistent coding of "per mile" type count data, and removal of redundant data records.

WDFW	1	Maintain and manage all data developed under Objective 1 in functional database systems at the cooperating agency level. Coordinate with regional staff to assure smooth submission of data to the regional StreamNet database.	WDFW's StreamNet Data Manager responded to issues raised by StreamNet's Regional Data Manager.

WDFW StreamNet staff held internal procedural discussions in order to choose a consistent approach to converting and exchanging generalized fish distribution data for streams that cross or meander across state borders. Questions concerning the "responsible entity" for some of the anadromous fish data in Southeast Washington / Northeast Oregon were raised during the conversion of the DistUse table. We urged the Regional Data Manager to examine our submission and instigate discussions between Oregon and Washington StreamNet staff if questions or inconsistencies remain.

The WDFW StreamNet Project Manager sent a copy of WDFW's 24K hydro data to the StreamNet Regional GIS Manager for initial review and familiarity with this higher resolution dataset.

WDFW	3	Work cooperatively to define the level of effort needed to develop metadata for tabular StreamNet data.	The WDFW StreamNet Project Manager sent standard metadata developed to describe WDFW's 100K hydro data to the Regional GIS Manager for review.

Objective   2   Data management and delivery

Task   4   Data exchange standards

Establish and maintain data exchange standards to ensure consistent content and format of data that originate from multiple data sources. Monitor adopted and proposed data exchange formats for data categories described under Objective 1. This task will provide coordination and technical assistance regarding interpretation of database structures and codes.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
All	2	Develop a protocol / process for changing and making additions to the DEF	The StreamNet Steering Committee members from all cooperating projects continued editing and improving the draft document that will formally describe the procedures to be followed when developing or modifying a regional Data Exchange Format. The procedure document will be finished in the third quarter.
CRITFC	1	All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	CRITFC data responsibilities are fairly routine and do not normally involve DEF issues. Steering Committee discussions were monitored and suggestions offered, as appropriate.
FWS	1	All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	The project leader exchanged email and teleconferenced with other StreamNet personnel regarding details of the Hatchery Returns DEF.

IDFG	1	All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	IDFG/StreamNet actively participated in the final adoption of new hatchery return and age data exchange formats at the January Steering Committee meeting. We reviewed a variety of proposed changes to the DEF, including adoption of new location coding fields and a discussion of CountValue in the ESC table.
ODFW	1	All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	Staff received and reviewed numerous updates posted to the StreamNet Forum including topics related to removing some lightly used fields from the DEF and about redefining some data categories. We also downloaded and reviewed the new version of the StreamNet database structure.

The Assistant Database Manager reviewed the proposal to consolidate barrier and dam data into one table and to eliminate the DamID field from the FishBarrier table. Oregon StreamNet staff plan to meet in April discuss the proposal further, and will provide feedback at that time. |
| ODFW | 3 | Develop and submit a draft DEF for carcass placement efforts | Work on this task has been delayed while waiting for adoption of StreamNet's new protocol / process for changing and making additions to the DEF. |
| Region | 1 | All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types. | The regional fisheries biologist made updates to the draft of the next DEF, which will be version 2003.1. This version was sent out for review within PSMFC at the end of the quarter, and contains three major changes: a new, more general location coding scheme built upon the LLID concept already in place, which affects all data categories; replacement of the hatchery returns tables; and a major rework of the habitat restoration projects data category which will allow more details yet will be a less complicated database structure. When PSMFC staff have reviewed the draft and any other changes are made, it will be sent out to the other StreamNet projects for review before adoption.

The regional database manager made a proposal for adjusting the tables for fish barrier information. This proposal resulted from difficulty in managing the current tables, and in using them for the web query system. As of the end of the quarter this proposal had gone only to PSMFC and ODFW staff for review. If they approve this change, it will be proposed for the 2003.1 DEF, or the following DEF if too late for 2003.1. |
| WDFW | 1 | All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types. | The Steering Committee adopted the revised Hatchery Returns and Age DEF at the January 2003 meeting. WDFW's Region 5 StreamNet Data Manager continued work to create supporting DEF lookup tables that will represent each agencies needs. |

WDFW StreamNet staff continued to provide additional feedback on the latest regional discussion of Habitat Restoration DEF changes.

We also engaged in Regional StreamNet's initial effort to clean up, re-organize and standardize the TypeID codes.

The WDFW Project Manager posted WDFW's response to Mike Banach's "Flattening the DEF" White Paper to the Forum created to discuss the topic.

WDFW StreamNet staff posted responses to the Hatchery Fraction data Forum discussion after the January 22-23 Steering Committee meeting.

Objective 2 Data management and delivery

Task 5 StreamNet Internet site

Continue to maintain and enhance the existing client-server system to provide access to StreamNet data products through the Internet at both the regional and cooperating project levels. The StreamNet home page will continue to be utilized as the project's primary data delivery vehicle. Priority will be given to incorporating data developed through Objective 1 and providing access to reference materials secured through Objective 3. GIS systems will be used to promote data sharing, data transfer, communication, and to pilot efforts that improve efficiency in data migration to the StreamNet database. Appropriate training on the use of the system will be provided through a combination of on-line help and in-person training sessions.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
All Cooperators	1	Provide ongoing review of the StreamNet Internet site, as time permits. Identify problems or needed improvements, and critique new features and functions	During the normal course of project operations, cooperators reviewed function of the StreamNet Internet site. The FWS StreamNet project leader identified a glitch in the query system when searching for information about the Mad River (tributary to the Entiat River). The query system listed no streams between Priest Rapids and Chief Joseph Dams. The error was reported and corrected
ODFW	2	Manage and maintain Oregon's web-based data integration, communication, and transfer system site and their links to StreamNet.	The NRIMP web site statistics could not be retrieved from the host server for all but one week of the quarter. In the only week available, the NRIMP web site received a total of 1,133 hits on all pages. This would extrapolate to well over 14,000 hits over the course of the 13 week quarter, but this number is probably low since the only week available was the week of the New Year holiday. The most frequently viewed pages were the Data Resources page, the Home page, the Fish Distribution Data page, the Fish Distribution Maps page, the 24K Main page, the Fish Counts page, and the ODFW Maps page.

Many modifications and improvements were made to the NRIMP website throughout the quarter. |

Region	1	Maintain and upgrade the StreamNet web server and software, including programming, tool development, system	Several links were added to the StreamNet internet site, including Eco- Law.net. Like the list of query improvements described in Job 2.5.5, regional staff also maintain a log of Internet site enhancements that are to be done. This list was also reviewed this quarter, as it had been approximately a year since this was last done. Most items had been completed. Those that were not were left on the list or updated as needed, and will be addressed in the coming months.
Region	2	Maintain and enhance the functionality, look and usability of the StreamNet web-based query system.	The regional programmer has been working on fixes and enhancements to the web query system for a number of months. Last fiscal year, the regional fisheries biologist noticed that a number of fields of data were not being delivered through the web query system either on-screen or through the ASCII downloads. The programmer began work to incorporate these missing fields as a major enhancement of the web query system. This quarter, the programmer completed and the regional fisheries biologist reviewed the changes. Currently these changes exist only in the test query system. It was found that several items were still not included. The programmer is currently making these final changes. We will have these enhancements available during the third quarter.
Region	3	Maintain the GIS Data, Map, and PNW Reach File Internet pages.	The regional GIS specialist updated distribution data that is served from the website
Region	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.	The GIS specialist upgraded the test server to ArcIMS 4.0. This upgrade will allow the server to work off a standard port which will allow more users access to the mapping applications.
Region	5	Guide development and enhancement of the StreamNet web query system from the perspective of data users. Review changes to the web query system to ensure they are implemented appropriately and do not create unforeseen problems.	The Region maintains a list of desired query system improvements in a database. As issues related to or enhancements for the web query system are identified they are documented in this database. As each is addressed, they are marked as completed, and then checked by a second individual to ensure changes were done appropriately. During this quarter a list of over 70 query system improvements that had been addressed were checked off as completed. Others were checked off because circumstances had changed from when they were entered and thus they were obsolete. (For example, making changes to a data category that no longer exists.) Other items were modified to reflect current circumstances.

Because the current query system output for the Habitat Restoration Projects is in need of improvement, the regional fish biologist used Visual Basic to build a prototype output display for this data type that could be emulated by the StreamNet query system. Also completed was a list of the output files that should be created so that ASCII downloads can be made available for this data category. The output prototype will be reviewed by Regional staff in the 3rd quarter, with web query system improvements being started after the review.

Project	Job	Planned work elements	Accomplishments
Region	7	Convert the core data query system to an open ColdFusion environment	More data categories were converted this quarter. This job should be completed by the fourth quarter.
Region	9	Maintain logs of web query history and error events. Track and report Internet site usage by month and investigate web query system errors encountered.	Regional staff discussed the need for better analysis of our query logs for reporting purposes, and to better determine how the StreamNet query system is being used. After some discussion a method for identifying individual query sessions was identified, and is implemented beginning with this report. It is hoped this will allow us to better enumerate and characterize query system use.

Objective   2   Data management and delivery

Task   6   Respond to data / information requests

Receive and respond to requests for data and information, source materials, and custom products. 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.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported	This is not a funded CRITFC activity under the base budget. The StreamNet project was promoted as the preferred archiving method for data being developed under the Council's subbasin planning process.
IDFG	1	Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported	We responded to 35 requests for data or information: 27 requests from state agencies, 6 from private consultants, 1 tribe and 1 university. Most of the requests were for project specific species lists, but also included GIS data layers, technical assistance and queries of our internal databases.
MFWP	1	Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported	Staff provided data and/or maps for 31 GIS related requests; 12 of these were fisheries related.

ODFW   1   Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported

A total of 14 data, 1 document, 4 map, and 32 'other' requests were answered during this quarter. A detailed list by requester and request type can be made available upon request. Also, 3,894 data downloads were made from the ODFW FTP site during this quarter. The trend of fish distribution downloads greatly exceeding the downloads of observation information that supports the fish distribution continued this quarter. The list of requests below is provided as an example of the range of requests we respond to. These requests include:

a. Assisting ODFW staff with large format printing needs.

b. Providing feedback to District field staff regarding Core Area data and maps.

c. Answering consultant's questions regarding Essential Salmonid Habitat.

d. Identifying Baker County bull trout data and reference documents for a review of the USFWS's Bull Trout Recovery Plan that is being done by the Baker Co. Bull Trout Recovery Plan Response Team.

e. Providing the Oregon Geospatial Data Clearinghouse with a statewide 1:100,000 scale hydro dataset with merged cross-HUC routes.

f. Providing existing Winter Range data to an OSU graduate student.

g. Plotting water rights maps for Habitat Division staff.

h. FTP site technical support.

Region   1   Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported

A total of 40 direct data/information requests were received during the quarter, up from 35 last quarter (Table 1). These do not include data, maps or other information downloaded directly from the StreamNet web site. Use of the StreamNet web site remained high (Table 2), with more than 250,000 'hits' per month. Hits are not included in Table 2, since it is unclear exactly what a 'hit' represents. Page views are more indicative of actual use of the web site.

One request for information came from Peter Goodwin, Steve Clayton, and Robin Jenkinson of the University of Idaho, and required more effort than is usual. They are involved in a multi-partner study starting up to evaluate stream habitat restoration efforts across the United States. They are looking both for data from all parts of the country, and a means to manage and query it. We provided extensive help in providing them with the StreamNet habitat restoration database, documentation of the database structure, a tool for better accessing the data (the Visual Basic query system prototype described in Job 2.5.5, as the on-line query system is still quite limited), and time in explaining the database. In addition, the regional fisheries biologist met with them to discuss their project, their data and data management needs, and how StreamNet could be of help in their study in the future. Because of the current number of habitat restoration projects databases, not all of which can exchange data, he also encouraged them to adopt an existing database structure rather than make their own, as per Job 5.3.2.

Table 1. Direct data or information requests received during the second quarter.

User type	No.
Federal government	9
State government	6
University faculty	5
Tribal government or CRITFC	4
General public	4
Private consultant	4
County/local government	2
NWPPC	1
Undergraduate student	1
Graduate student	1
Utility district	1
Industry	1
Environmental group	1
Total	40

Table 2. StreamNet website summary (robots and project use excluded).

	Jan-03	Feb-03	Mar-03
Overall Page Requests	38,637	34,090	34,074
Data Query Page Requests	12,604	11,120	10,654
Unique Query Sessions	1,468	1,845	1,535
Data Reports Viewed	2,536	1,887	2,122
Top 10 individual requesters	noaa.gov, attbi.com, aol.com, av.com, state.id.us, parametrix.com, 192.94.25, uswest.net, washington.edu	noaa.gov, attbi.com, aol.com, uswest.net, dfw.state.or.us, wa.gov, 165.235, deq.state.or.us, orst.edu, charter.com	noaa.gov, attbi.com, uswest.net, aol.com, army.mil, 165.235, washington.edu, state.id.us, usda.gov, ca.gov

WDFW	1	Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported	WDFW StreamNet staff responded to 40 data requests this quarter. We also reviewed and provided feedback to Regional StreamNet staff on their draft Detailed Data Request proposal. We felt it compiles detail excessive to the amount necessary to efficiently track general data requests.

Objective 3   Library and reference services

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

Objective   3   Library and reference services

Task   1   Collection development

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

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	The Library cataloged approximately 100 new StreamNet reference documents received from participants.
CRITFC	2	Coordinate source material submissions for data compiled by participants.	Contributions of relevant materials were received from several sources this quarter. Most of these documents were new to the library, although many were several years old. As the collection grows, more agencies are contributing to the collection via donations of relevant materials. As materials are received temporary records are added to the catalog in order to allow quick access by researchers. In addition, the library purchased several books that have direct relevance to the collections on fisheries management and the Columbia Basin ecosystems.
CRITFC	3	Develop a collection of materials related to the Columbia Basin, including reports from other Fish and Wildlife Program projects, other agency documents as they relate to the Basin, and other published and unpublished materials as requested by clients.	In particular, the library filled in a series of documents from Canada this quarter. We also added a series from the Pacific Northwest Research Station of the U.S. Forest Service titled "Wildlife Habitats in Managed Rangelands". This series includes a volume on fish habitat in rangelands.

CRITFC	4	Maintain and develop a collection of journals related to fisheries and aquatic sciences as well as other related scientific topics.	The Library renewed several subscriptions to relevant journals, all of which are now current through the end of 2003. As these materials are received, staff look through the tables of contents to identify relevant articles. We email notifications of these articles to researchers we know will have an interest in them. A complete listing of our journals collection can be found through the Library catalog.
CRITFC	5	Format the library reference table of StreamNet documents for inclusion in the StreamNet database. New updates will be sent to the regional database monthly after that.	The Regional Data Manager and Regional Librarian made real progress in syncing up the reference table with the Library catalog. We exchanged data and information to smooth out the process of translating from the library's catalog software to the SQL tables at PSMFC.
FWS	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	USFWS Wind River spring Chinook survey reports were sent to the StreamNet Library. These reports will be used as references for a new trend. The FWS StreamNet project leader obtained an electronic copy of a report entitled "Genetic Analysis of Bull Trout and Dolly Varden in Washington" authored by Spruell and Maxwell, upon request by the StreamNet library.
IDFG	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	Reference materials for our redd count data submission were sent to the StreamNet library.
ODFW	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	Oregon StreamNet's Database Analyst reviewed the number of new references that had been created since Oregon's last reference submission. She created a submission of recent / new /updated documents in the reference table and submitted it to the StreamNet Library. A large number of references from the 24K fish distribution project still need to be cataloged and submitted.
Region	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	111 new References related to StreamNet data were added to the Reference table and the StreamNet Library so far in this project year.
Region	2	Enhance the StreamNet data reference system by repairing or establishing procedures for updating and reconciling data-related references between the StreamNet database at PSMFC and the StreamNet Library database housed at CRITFC.	A review of the idiosyncrasies of the remolded StreamNet Library software relative to maintaining a link between data references and Library documents was initiated.
WDFW	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	WDFW StreamNet staff submitted new references or reference updates as warranted to the StreamNet Library.

Objective 3 Library and reference services

Task 2 Provide access to collection

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

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Provide and maintain an appropriate facility for the storage and public use of the StreamNet Library collections.	The library staff made final decisions on the floor plan for the new space, needed to. house the expanding collection. Work was scheduled to begin on April 1, 2003.
CRITFC	2	Catalog and organize the materials for ease of use by clients and staff.	Staff cataloged over 500 new documents into the library catalog. The library catalog was made available through the website for people to search. In addition, the Library added the ability for researchers to contact us directly using MSN Messenger or Yahoo Messenger in order that we might more quickly answer requests for information. The Library website has also added more documents for researchers as the staff have been digitizing documents upon request and adding web pages for specific researchers to retrieve those documents.
CRITFC	3	Provide access to the catalog of materials via the Internet and update the online catalog on at least a monthly basis.	The library catalog was made available through the website for people to search. The library catalog was updated monthly.
CRITFC	4	Develop and execute a plan to place electronic documents in the catalog and on the library website.	As part of our digitization process, the library staff have been developing web pages for frequent clients. As documents are scanned, we add the information to the client's personal webpage. This practice increases the speed of delivery over regular mail. The client also receives a better quality document than via fax.
CRITFC	5	Develop and keep a schedule of open times and reference desk staff hours.	The library has a regular schedule and includes non-traditional business hours in the mornings. The staff coordinates schedules for lunches and meetings so that the library remains open from 8-5 Monday through Friday.

Objective 3 Library and reference services

Task 3 Library services

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

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Provide information and reference services to library clients	Requests for information came from a wide array of clients this quarter. The majority of requests were from state fish and wildlife agencies. Other consultants and unidentified affiliations were the next highest categories.
CRITFC	2	Provide information about services and hours to library clients via print and Internet	The staff printed new brochures for distribution at several events. We also regularly update the webpage with information about the library's availability.

CRITFC	3	Provide interlibrary borrowing services for library patrons to access materials not yet owned by the StreamNet Library.	The library responded to 305 requests for information from January through March 2003. In addition, there were over 30 walk-in requests for information.
CRITFC	4	Provide access to hardcopy and electronic files of draft and final documents related to subbasin planning and the NPPC amendment process.	We continued to look at the bibliographies for the 1990 subbasin plans. In addition, we have begun to identify the lead agencies for current subbasin plans to capture the materials they are using for current plans.
CRITFC	5	Identify changes and new features that will improve delivery library services	As mentioned previously, we have added the ability to do instant messaging through Yahoo Messenger or MSN Messenger for immediate reference assistance. Both of these services allow us to browse the web with the client in order to help them in refining their web searching. This saves on telephone costs as well.

Objective   3   Library and reference services

Task   4   Inter-library coordination

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

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Provide interlibrary lending services for other libraries to access the library's unique collection	The library filled over 91 requests from other libraries for materials in our collection. 68% of these requests were from libraries in Oregon, Washington, Idaho and Montana. The state libraries of Washington and Oregon were the majority of these requests.
CRITFC	2	Maintenance of memberships in appropriate library and subject-related associations. Ex. IAMSLIC, NRIC, OFWIM, etc.	Memberships were renewed in subject relevant organizations. As cost savings, we did not renew memberships in the larger organizations that tend to charge higher dues. IAMSLIC (International Association of Aquatic and Marine Science Libraries Information Centers) and NRIC (Natural Resources Information Council) were given priority over other organizations.
CRITFC	3	Provide consultations for groups and other agencies on library organization and services.	We did not have any opportunities to assist other libraries in the area. Many agencies in the area have discontinued their libraries and their researchers are now using the StreamNet Library as their main source of information and research.
CRITFC	4	Coordinate with other StreamNet libraries, library clients and other libraries to improve service to clients and limit duplication of effort.	We have been providing services and materials to public libraries (Multnomah County), academic libraries (Portland State University) and other special libraries (David Evans & Assoc., S.P. Cramer Assoc.). In addition, we have had conversations of how best to coordinate our efforts so that clients receive the fastest and best information assistance. We contacted a new initiative in Oregon for 24/7 reference assistance to all Oregon citizens. We would be a secondary provider of information rather than primary as we do not have the staffing to be open during evening/night/weekend hours.

CRITFC	5	Work with subbasin planning groups and TRTs to identify modifications and new uses to make information related to these processes easier to retrieve	We were not presented with opportunities to work with these groups. It may be helpful to travel to the subbasin planning meetings with these groups.

Objective 4 Services to the Fish and Wildlife Program
Provide technical data services to Fish and Wildlife Program decision-makers and appropriate Fish and Wildlife Program projects

Objective 4 Services to the Fish and Wildlife Program

Task 1 Data and services to support the Fish and Wildlife Program (Base project level only)
Provide data management assistance to the Fish and Wildlife Program, as requested. Services may include custom development of data, provision of data from the StreamNet database to support FWP activities (such as planning, monitoring and evaluation, etc.), and general advice and technical assistance with database management, data delivery, and GIS. Under base funding, requests under this objective will have to be balanced against other ongoing activities.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding.	The StreamNet Library digitized a number of reference documents for subbasin planning and made them available over the Internet. The Database Programmer assisted Oregon subbasin planners to develop StreamNet-compatible prototype databases for use in subbasin planning.
CRITFC	2	Participate in various NWPPC planning and management work groups to improve and coordinate regional information management programs, such as serving as leader of the technical work group for Oregon's Subbasin Planning effort.	As chair of the Oregon technical assistance team for subbasin planning (TOAST), the project leader developed and conducted a successful technical workshop for subbasin planners in the Deschutes basin. Modifications to the standard EDT assessment approach were developed and tested which better integrates GIS technology into assessments and databases. This work is supported under separate funding.
IDFG	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding.	The IDFG/StreamNet project manager continued coordination with the IDFG Subbasin Planning coordinator to develop a plan for development of subbasin assessments in Idaho. IDFG will have the lead role in the Salmon and southern Idaho subbasin assessments. Our StreamNet shop will provide key database and infrastructure support, as well as provide office space for subbasin assessment staff.

MFWP	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding.	Montana has received a contract to complete subbasin planning for the Kootenai and the Flathead sub-basins. We initially loaded up their web pages on the FWP website http://fwp.state.mt.us/kootenai_MTsubbasinplan/ and http://fwp.state.mt.us/flatheadsubbasinplan/. Montana StreamNet staff is serving in an advisory capacity for the development of the plans including close work with GIS staff developing the products for the plans.
ODFW	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding.	Prior to receiving funding support for Subbasin Planning, Oregon StreamNet staff responded to data related questions from the Technical Oversight and Assistance Team. We also requested data from various ODFW projects and programs that may be pertinent for Subbasin Planning purposes. We talked to Mike Banach and Bruce Schmidt from regional StreamNet to find out if all subbasin data is on the web. In addition, we downloaded StreamNet Subbasin Assessment packets for distribution to Planners upon request. Staff also participated in meetings with TOAST representatives and the lead for the Willamette Subbasin on separate occasions.
Region	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding.	In 2001, StreamNet data were provided by subbasin for Subbasin Summaries being conducted in the Columbia basin. A request from Oregon was received to update these data, and so a complete set was created this quarter for all subbasins in the Columbia Basin. The spreadsheets were added to the StreamNet Subbasin Summaries web page at http://www.streamnet.org/subbasin/2001-subbasin-data.html. In addition to the spreadsheets, regional staff provided subbasin planners in Oregon (through CRITFC) with macroinvertebrate data from Oregon DEQ. Under separate funding several years ago, regional staff worked with staff from ODEQ, Xerces Society, and Washington DOE to create a regional database structure. Though that effort is still not completed (pending additional funding), the database held by StreamNet regional staff is still in a more accessible form than the database of ODEQ. For this reason we receive requests for these data periodically, such as this instance.
WDFW	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding.	WDFW Region 5 StreamNet staff filled various data requests for consulting firms that are working on the Lower Columbia River recovery plan.

Objective   4   Services to the Fish and Wildlife Program

Task   2   Archive and deliver independent data sets, as requested

Work with regional entities to aid in the capture and distribution of data generated through Fish and Wildlife Program activities and to help determine the most appropriate means of storing and disseminating them. Where data do not fit in existing StreamNet data sets, develop archive functions to, at a minimum, make data available 'as is', regardless of their current form.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
All	1	On an opportunistic basis, obtain, warehouse and deliver data sets of non-StreamNet type fish and wildlife data from FWP participants or related entities. These data sets will be maintained in their original formats for posting 'as is' to make them available regionally through the regional StreamNet web site, but not through the StreamNet online data query system.	All project cooperators actively looked for data and information that would be of value to the basin's fish managers and planners for potential posting on the StreamNet website. CRITFC worked with multiple agencies to identify and query diverse databases useful for subbasin planning. These will be organized along a stream reach system for each subbasin and posted as they are developed. MFWP explored the possibility of posting the Montana fish genetics data next quarter. ODFW explored posting the agency's Life Stage data, although the many tables may prove to be an obstacle. They also sought permission to post agency data on fish screens and cougar harvest, which are potentially controversial. Answers are expected next quarter.
CRITFC	2	Develop strategies for ESA recovery planning and NWPPC 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.	A proposal for funding was developed and presented to the NWPCC to have the StreamNet Library designated as the official archive for information developed during subbasin planning.

Objective   4   Services to the Fish and Wildlife Program

Task   3   Protected Areas

StreamNet will a) maintain and provide access to the Council's Protected Areas dataset, b) archive the official version as a historic record, c) in consultation with the Council, respond to requests for information concerning Protected Areas, and d) modernize georeferencing and make data available through online mapping.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
Region	3	Provide Protected Areas data, by subbasin, to subbasin planners for use in planning and for review and updating	Regional staff attempted to create a spreadsheet of Protected Areas for each subbasin, providing all Protected Areas data in a flat spreadsheet format. This effort was largely successful. Because this data category was last updated years before current staff worked on the StreamNet project, it required substantial effort to determine which tables are used to store these data and how the tables relate to one another. These difficulties were overcome.

Some problems were encountered which could not be overcome, however. Due to geographic referencing in the old system that are nonstandard and do not map to the new georeferencing system, many records cannot be converted to the new LLID-based georeferencing system. Likely what will be required is for StreamNet staff to work with each subbasin team to examine the records that exist and provide updated georeferencing information for them. The original hardcopy maps of the protected areas will need to be located for this work. This effort would be very labor intensive. At this point, we are waiting for NWPPC staff to begin coordinating such an effort. We have been in contact with Peter Paquet, who hopes to organize this effort as part of the subbasin planning process.

Objective 5 Project management and coordination

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

Objective 5 Project management and coordination

Task 1 Manage project activities

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

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
All	1	Project oversight and guidance. Participate cooperatively in the StreamNet Steering Committee to guide the direction of the project, coordinate within respective agencies, and resolve policy and technical issues for the project	All of the project leaders from the cooperating StreamNet projects plus the regional GIS Manager and regional Fisheries Biologist participated in the Winter Steering committee meeting in Boise on January 22-23, hosted by IDFG StreamNet. A number of issues were resolved at the meeting., and the Steering Committee members followed up on decisions and assignments following the meeting. CRITFC followed up with discussions related to fish harvest data. All members provided input and discussion regarding project management, planning, and funding issues. ODFW provided information on project accrual estimates at the request of ODFW's CBFWA representative
All	2	Supervision. Supervise project staff at the cooperating agency and regional levels to provide guidance and staff development.	With the exception of FWS (which involves only a portion of a single person's time on the StreamNet Project), all cooperating project leaders exercised routine supervision of staff members. IDFG StreamNet adjusted several reporting responsibilities, hired staff that work closely or part time on StreamNet, and provided technical training opportunities for staff members.

All	3	Budget. Manage expenditures to accomplish the jobs in the Statement of Work within the approved budget.	All cooperating project leaders conduced routine budget tracking during the quarter. In addition, considerable effort was expended on understanding the new BPA accounting approach and developing accrual estimates. The StreamNet Program Manager attended a BPA workshop on the new accounting. In addition, the ODFW Project Leader worked on resolving accounting issues related to previous StreamNet contracts and the VSP project to ensure expenditures were coded to the correct projects and years.
All	4	Develop the annual project proposal and budget within submission deadlines	The StreamNet Program Manager followed up on complaints that subcontracts for FY-03 had not been received by several of the cooperating projects. Copies of the contracts were re-sent to all cooperators to make sure that all have current copies. Wording changes were made to the FY-03 Statement of Work to simplify and consolidate jobs under several Tasks where all project participants are assigned essentially similar work. This was a cosmetic change only, with no change to the substance of tasks and jobs. The intent of the Steering Committee in requesting these changes was to simplify reporting.
All	5	Report accomplishment of the work outlined in the annual SOW through quarterly reports submitted to BPA within 30 days of the end of each quarter	All project participants submitted reports of their individual accomplishments for the first quarter of fiscal year 2003 by mid January. The quarterly report was written and submitted to BPA by the end of the month.
All	6	Submit the FY-02 annual progress report to BPA within 60 days of the end of the fiscal year.	The Fiscal Year 2002 annual performance report was written primarily during the first quarter, but due to work related to the review of the FY-03-05 project proposal, the annual report was not finalized and submitted to BPA until the beginning of the second quarter.

Objective   5   Project management and coordination

Task   2   Participate in Fish and Wildlife Program development activities

Work with regional entities to assist in the area of data management as requested to support development of Fish and Wildlife Program projects and programs. Organize, facilitate, and/or participate in appropriate coordination meetings with BPA, CBFWA, the Council, ESA officials, ISAB/ISRP, and/or staff and management of participating organizations to identify ways StreamNet can effectively contribute to the Fish and Wildlife Program (FWP) and facilitate capture and dissemination of data. Participate in advisory groups, task forces, and other groups whose purpose is enhancing the effectiveness of the Fish and Wildlife Program relative to its data development activities.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP.	The project leader participated on the NWPPC/NMFS data management Project Team. The Project Leader and Database Programmer worked with subbasin planning staff at the regional and local levels in Oregon to develop and test databases and database management tools for subbasin planners. A prototype data system and data catalog were developed.

ODFW	1	Work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP.	Oregon StreamNet's Project Leader participated in the Oregon Subbasin Planning Coordination Group meeting via conference call on Feb.28th.
Region	1	Work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP.	The Program Manager delivered a summary of the StreamNet Project's annual report to the Columbia Basin Fish and Wildlife Authority's Members Management Group. The presentation highlighted what was done to meet regional data needs in the past year and to discuss potential future activities in support of CBFWA interests.

The Program Manager participated in several meetings with CBFWA members, BPA and NMFS related to the CBFWA RM&E proposal. The intent was to provide input regarding data acquisition and management under the project, and to emphasize the value of our relationships with regional fish and wildlife agencies as beneficial to conducting this proposed project. |
| WDFW | 1 | Work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP. | The Washington Project Manager wrote a summary of Washington- StreamNet history, accomplishments and skills available to lend to subbasin planning or similar Council activities. This summary was provided to WDFW representatives to CBFWA and the Council to help them understand the strategic importance of StreamNet in meeting data management needs of the Fish and Wildlife Program. |

Objective   5   Project management and coordination

Task   3   Coordinate with other related activities

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

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups to enhance the collection and management of data related to management of fish and wildlife resources.	See the report for previous Objectives and Tasks related to subbasin planning and regional data management coordination.

The project leader participated on the NWPPC/NMFS data management Project Team.   He assisted in preparing final review comments on the SAIC study of a potential Columbia Basin Coordinated Information System. |

MFWP	1	On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups to enhance the collection and management of data related to management of fish and wildlife resources.	Montana StreamNet staff participated in the SAIC process; staff met with SAIC staff in January in Helena and provided follow-up information to the process.
ODFW	1	On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups to enhance the collection and management of data related to management of fish and wildlife resources.	Oregon StreamNet's Project Leader met with Jim Turner (NOAA Fisheries) to discuss his upcoming project to delineate critical salmonid habitat on the coast, and how StreamNet's data might support that effort.

The Project Leader attended the Fish Passage Task Force Prioritization Workshop where he presented ODFW's draft barrier restoration prioritization process, and provided input on other prioritization processes that were presented. The task force has been charged with developing and implementing a statewide prioritization process, which is also something OWEB wants for prioritizing funding proposals.

The Assistant Database Manager met with Wildlife Division staff to discuss ODFW's Sage Grouse data, and to answer database-related questions.

Our GIS Analyst coordinated with a Benton County GIS staff person in regards to compatibility issues amongst our separate barrier databases.

ODFW Headquarters staff have been instructed to follow the department's "Document Retention Policy" when discarding materials in preparation for the Headquarters move from Portland to Salem. Oregon StreamNet staff communicated some concerns to agency managers that certain valuable and one-of-a-kind data sets will be lost forever if this policy is followed. This lead to a series of communications throughout headquarters, but the issue is still not totally resolved as of this report. |
| Region | 1 | On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups to enhance the collection and management of data related to management of fish and wildlife resources. | Regional staff met with Curtis Cude of Oregon DEQ to discuss a new national water quality data distributed system being developed by state and tribal environmental quality agencies. We discussed the roles that StreamNet could play in the development of this system. We agreed to act as reviewers for their system proposal as it is developed this year. It is likely that StreamNet will not become highly involved in this effort, but the opportunity may exist to help standardize data between that system and the existing StreamNet database systems. |

Region	2	Coordinate with agencies and organizations involved with habitat restoration work in the Columbia Basin regarding data needs, standards and formats, storage and delivery. Work toward achieving regional consistency in restoration project data with efforts such as the REO and AREMP.	The regional fish biologist met with University of Idaho personnel involved in a national stream habitat restoration effectiveness study. One of their needs is a database in which to store information. He provided them with the StreamNet data in Microsoft Access format, a program for browsing these data, the StreamNet data exchange format document, and the "plain language" description of the database to help them decipher the data. He discussed data management principals with them, and stressed the need to try and be interchangeable with other habitat restoration projects in the basin.
Region	4	Participate with regional entities in the development of effective regional data management programs and approaches, such as through SAIC and RPA 198.	We reviewed the first and second drafts of the project completion report by SIAC concerning their ideas for a Columbia Basin cooperative information system (cbcis). Edits were provided to the Project Team and to SAIC for their consideration. The Program Manager worked with other Project Team members to edit a PT recommendation for future actions regarding a cbcis to be presented to the NW Power and Conservation Council in the third quarter.

Objective 5 Project management and coordination

Task 4 Prepare and present public and professional information related to the StreamNet Project.

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, demonstrations, posters and talks to public, policy or professional groups and organizations.

Project	Job	Planned work elements	Accomplishments, Second Quarter 2003
CRITFC	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	The Regional Librarian attended the Lower Columbia River Estuary Research workshop, Portland, Oregon in March 2003. StreamNet is routinely described and promoted as the archive for subbasin planning information during workshops conducted with local subbasin planning groups in Oregon.
ODFW	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	The Project Leader reviewed and commented on a presentation prepared by Bruce Schmidt for the upcoming CBFWA Members Management Group meeting. The presentation is designed to provide the MMG with an update of our activities and progress made during FY-2002.

Staff reviewed and provided comments on Mike Banach's restoration project data white paper. This paper may have the building blocks of information needed for StreamNet non-spatial metadata format.

Staff drafted and submitted a legislative briefing paper, including distribution, hydrography, and observation data summaries, for a Habitat Division Ways and Means hearing presentation. |

Region	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	The Program Manager gave a presentation on A Minimum Data Sharing Approach for Regional-scale Fish Monitoring as part of a regional monitoring symposium at the Oregon Chapter American Fisheries Society annual meeting.

Supplemental Information. Work accomplished outside the specific work elements in the Statement of Work

Specific accomplishments during the quarter, often on other funding sources, that did not relate specifically to any of the Tasks / Jobs in the annual Statement of Work, but that did relate to StreamNet and served the project mission.

Project   Accomplishments, Second Quarter 2003

CRITFC   See the reports for previous Objectives and Tasks. Most of those tasks were performed under funding provided from CRITFC, not the StreamNet contract. All of the project leader's time is now covered by CRITFC.

MFWP   Hires were completed for the State Comprehensive Fish and Wildlife Conservation Plan that will assist in the development of the plan and the data behind it. Steve Carson will be directing the database development for non-game data and supervising staff to collect, gather and input the data. The IT Strategic Planning Process for MFWP has somewhat stalled but work continues on data dissemination guidelines and improving an internal database development process. A Montana Fish Planner for the web using MFISH data has been designed and work has begun. An update to the MFISH website will occur by July to improve the system's stability.

ODFW   The Assistant Database Developer received and reviewed a copy of the latest Wildlife Conservation and Management Program data, and worked on developing and testing a new Wildlife Habitat Database. She also began writing a draft StreamNet data exchange format for the Wildlife Habitat Conservation and Management Program Database.

The GIS Analyst prepared materials for and met with ODFW field staff to fill some gaps in Oregon's Timing Unit GIS dataset and Origin and Present Production database. The Timing Unit GIS dataset was modified based on input provided at the meeting. He also populated the Origin and Present Production table with data that were collected during the meeting and associated them with the appropriate distribution data. Feedback was also received on the Mid-Willamette timing unit delineations during the quarter, and adjustments were made to these boundaries in several places as well.

Mary Hanson's 2001 Bull Trout event data were incorporated into the Distribution database for use as a starting point for reconciling with the hardcopy data that were developed during the 24K fish distribution Project. Reconciliation and updates were completed in the Grande Ronde, Imnaha, McKenzie and Middle Fork Willamette basins. Visual QA of differences between the 2001 coverage and 24k dataset was performed. Accuracy of event data outside of the geographic scope of the 24k Project was also confirmed, and ancillary attribute data were coded.

The Project Leader attended the initial Willamette Subbasin Planning meeting on February 25th in Portland. The meeting had a broad range of attendees representing a number of different entities within the Willamette subbasin.

The Assistant Database Developer submitted 84 new MapCat records (plus related records) and 84 new photos to regional StreamNet.

Region	PSMFC holds 30 MapObjects licenses for use with the Event Mapper software. We received a request from WDFW for more licenses, but all 30 were accounted for. In response, we contacted all people to whom license rights were extended, and asked them to relinquish them if they were not needed. We were able to free up enough licenses to have 8 left over after assigning WDFW all the licenses they needed.
WDFW	The Project Manager (O'Connor) began testing the Universal DataBase system delivered by consultants to the Joint Stock Assessment Project (Upper Columbia resident fish contract). This system promises to provide flexible data storage and management capabilities similar to StreamNet's "Data Warehouse" concept; it too does not require adherence to a standard format for data submissions.
	O'Connor continued to work on a cross-agency state task force to design and populate the Washington Natural Resource Data Portal. The aim of the portal is to serve as a directory to Web sites (or individual contacts) that serve natural resource data, especially data related to salmon and watershed recovery. Members of the task force have asked that a portal entry be created for the StreamNet Web site, which O'Connor will provide in Q3.
	WDFW GIS staff continued to compile and enter updated generalized fish distribution and use data from areas of Washington outside the Columbia Basin (specifically Puget Sound during this quarter). Preparations were made during this quarter to compile, enter, and review updated data from the Upper Columbia, particularly new bull trout data from the Pend Oreille area (Northeast Washington). These data will become our focus in Q3.
	WDFW GIS staff developed a database and generated maps to overlay bull trout critical habitat with WDFW trout stocking sites and WDFW salmon hatcheries for USFWS. The Service requested a more formal review of agency hatchery practices with respect to potential impacts on threatened populations of bull trout.