StreamNet Project

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Third 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) and is funded primarily by the Bonneville Power Administration. The project is administered by the Pacific States Marine Fisheries Commission. 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 and facilitate data transfer regionally.

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 queryable database and also provides maps, individual data sets not contained in the queryable database, and library references. All data in the StreamNet database are referenced to source documents that are housed in the StreamNet Library, located at CRITFC in Portland, OR.

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 annual statement of work 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 third quarter of Fiscal Year (FY) 2002. 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 Work Statement, the work accomplished in this quarter varies by cooperator. Jobs that did not have any work addressed during the quarter are not included in this report.

Activities in the third quarter of FY 2002 included routine development, maintenance and posting of various data sets, as well as routine administrative activities to continue project function. A major accomplishment that included efforts by all project participants was development of a project proposal for FY 03-05 funding under the Mainstem/Systemwide Provincial Review Process under a larger than normal scope to identify all data types, existing and new, that the project could develop with regional prioritization and funding. Key highlights of individual activities by each of the project participants this quarter included:

CRITFC: 1. Data sets for which CRITFC is responsible are normally updated in the first or second quarter of the fiscal year. During the third quarter we contacted tribal programs seeking additional data sets which are part of the base StreamNet system.
2. Problems with the existing harvest data were identified previously. In the third quarter we began assembling alternative harvest information to replace the existing data sets.
3. The bulk of third quarter activities focused on providing and extending routine Library services. Significant amounts of material were exchanged with other libraries which filled in voids (principally in journals and unpublished technical reports) in the existing collection. Requests for information concerning anadromous fish recovery planning under the ESA and subbasin planning increased and were filled in the third quarter. The present Library space is completely filled and options were identified for expanding space or reducing the size of the collection.
4. Significant time was spent by StreamNet staff (through other funding sources) working with Council and agency staff to organize subbasin planning efforts. These discussions included a number of data management issues and there is growing regional acceptance of the StreamNet system as an integral component of subbasin planning. This is both a complement to work accomplished by the project and a challenge to incorporate more regional services in the future.

IDFG: 1. Non-StreamNet IDFG staff continued entering data into the IDFG/StreamNet-developed databases. This illustrates the value of information systems that serve not just StreamNet and the Columbia Basin but also provide value to the state fish and wildlife agencies that do the original data collection.

2. We made substantial progress compiling 1998-2001 hatchery return, redd count, carcass, age, and live fish data into our internal database in preparation for updating Idaho data on the StreamNet web site.

3. We made major advances in the planning and purchase of the new computer infrastructure for the Idaho Fish and Wildlife Information System (IFWIS). IDFG/StreamNet, as a component of IFWIS, will benefit by this new infrastructure being supplied by non-StreamNet funds.

4. We continued advances in having IDFG biologists maintain data in their databases using StreamNet formats. We installed GIS data and tools in the IDFG Screen Shop in Salmon, Idaho.

5. Digital ortho-photo quads (computerized aerial photographs) were added to our GIS database to allow use of aerial photographs as backdrop images on our GIS applications.

7. Two major GIS service projects were completed: a map series for a status report on Yellowstone cutthroat trout and a set of 56 maps delineating priority anadromous watersheds for the Idaho Attorneys General office.

MFWP: Work on Objective 1 continued smoothly. The data are nearly caught up through 2001 and participation by FWP and federal fisheries biologists has been good. The Dams layer was submitted to StreamNet and work continues on the Barriers database. The project leader outlined a Web strategy for Subbasin Planning with the CBFWA Montana representative and will meet with the contractor who will do the work. The Steering Committee adopted a DEF for fish distribution and modified several other DEFs. The project leader presented information to the Montana NWPPC member and staff concerning the Montana StreamNet project. The staff filled over 60 data and GIS requests, with nearly 20 of those fisheries related.

ODFW: 1. Oregon staff participated regularly in numerous Oregon Subbasin Planning activities, and provided feedback on data related topics as needed during the quarter.

2. We completed a major QA/QC effort on our Barrier and Dam data and submitted 1,165 dam records, 1,002 DamxDamPurpose records, 906 DamxDamType records, 995 Barrier records, 370 FishBarrier records, and 64 Reference records to StreamNet.

3. We successfully united the Natural Resources Information Management Program (NRIMP) and GIS@ODFW Web sites, providing better access to data and other services to resource managers and other users in Oregon.

4. We accomplished normal project activities, including completion of quarterly reports, attendance and participation in the StreamNet Steering Committee and Technical Committee meetings, and responding to direct requests for information.

WDFW: 1. WDFW StreamNet staff compiled responses to the draft hatchery returns exchange format we circulated, and then created a new version ready for final review and approval in the fourth quarter. A proposal for finalizing this format will be presented at the August Steering Committee meeting.

2. WDFW staff played a major role in Steering Committee deliberations that resulted in an exchange format specification for Generalized Fish Distribution data. Key to success here was the willingness of all StreamNet data providers to focus on the data categories we support in common as the primary targets for exchange, and "letting go" of the need for representing all state-specific sub-categories and nuances.
3. WDFW staff submitted the first file of Washington dam facilities converted to StreamNet exchange format and validated for correct content, including spatial locations.

Region (PSMFC): 1.A primary accomplishment in the Third Quarter was development of the StreamNet project proposal for FY 03-05 funding. This effort was significant because of a last minute request to expand the proposal to include both existing capabilities plus data types and services that StreamNet could provide with additional funding. This approach was intended to stimulate discussion of regional data priorities and encourage regional review of StreamNet directions and priorities. Complete funding of the entire proposal is not expected. We do hope that the review process provides a means for regional entities to identify the priority data needs and some means for obtaining and delivering them.
2. StreamNet participated as part of the Program Team of the SAIC regional data needs and inventory project. Project activities centered around creation of a Coordinating Committee, development of interview questionnaires and documents explaining the project, and scheduling of the first round of interviews and focus groups designed to obtain information on regional data needs and existing data management capabilities. The ultimate objective is to develop recommendations for the best approach for managing and distributing information on a Columbia Basin wide scale.
3. We established a common data exchange format for generalized fish distribution information that can include both anadromous and resident data and work with the existing formats at the state fish and wildlife agencies. This resolved a long standing problem with developing agreement on what are the common core data for fish distribution at the regional scale, and will pave the way for posting updated distribution data.
4. We implemented a test system setup on older StreamNet computers that duplicates the production system and allows testing of all ColdFusion and ArcIMS mapping applications in a "live" online environment without affecting the production systems
5. We finished converting the Protected Areas data category from the old reach-based system (1:250,000 scale database) to the current LLID system (1:100,000 scale hydrography), making Protected Areas data searchable using the standard geographic criteria such as Subbasin 2001, HUC, Region, etc. The query system was updated with this new information and an ArcIMS application was developed and deployed to allow users to interactively map the information
6. New information on the location and characteristics of dam facilities was received from state compilers. This information was converted to a spatial format and new GIS coverages and shape files for Pacific Northwest dam facilities were created and posted along with metadata.
7. A new, updated Data Exchange Format, version 2002.1, was completed.

Following are specific accomplishments for the Objectives and Tasks as listed in the FY 2002 StreamNet Statement of Work (http://www.streamnet.org/about-sn/pub-docs/SN-2002-ws.pdf). Planned work is presented *verbatim* from the work statement, with actual work accomplished during the third quarter listed to the right. Jobs in the Statement of Work that had no activity by the individual project participants this quarter are not listed in this report.

Objective 1   Data Development and Updates, Priority Data sets

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. These priority data types will 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.

Objective   1   Data Development and Updates, Priority Data sets

Task   1   Distribution and life history (use type)

Document the occurrence, distribution and life history characteristics of native fish species, both resident and anadromous. Project participants have placed a high priority on updating these data during the fiscal year, utilizing newly re-defined use types.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Compile available IDFG data on fish distribution into the IDFG/StreamNet Fish Information System. These data will come primarily from Collecting Permit reports and IDFG files being digitized via a BLM Challenge Cost Share grant. Both of these data entry efforts are independent of StreamNet. Other data will be collected from incidental observations in other tasks. Convert these data into StreamNet data exchange format and send to PSMFC as they become available.	Data continued to be entered by IDFG staff into the IDFG/StreamNet-developed Fish Information System. Data included collection permit reports and stream survey data. These data will be used to update the StreamNet generalized fish distribution data.
MFWP	1	Complete Distribution and Use Types dataset from data collected from biologists, documents and reports during 1999-2000 using LLID stream routes. Exchange the data to the StreamNet database in the approved DEF format.	The edits and additions are ongoing.
MFWP	2	Visit MFWP biologists in 2002 to collect 2000-2001 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.	This task is ongoing. We continued to consult with USFS data managers.

ODFW	1	Update, maintain, correct and exchange anadromous and resident fish distribution information (DistUse and DistPresence tables). Efforts will focus particularly in the Upper portion of the basin (NE Region, upstream of the Hood River basin).	1. The GIS Analyst identified and proposed design changes to the Distribution database schema that address several issues of consistency as well as meeting requirements of the StreamNet DEF. Some of these changes were implemented into the Design Master. 2. The GIS Analyst entered Aquatic Inventory Project *O. mykiss* data for NE Oregon, but identified several downstream "extrapolation" issues that still need to be resolved before continuing with this work. He contacted the Aquatic Inventory Project Leader regarding downstream distribution extension assumptions and protocols, but at the time of this report, he is still awaiting an answer. 3. The GIS Analyst processed Malheur and Wallowa Whitman National Forest *O. mykiss* data for potential inclusion into our Distribution database.
ODFW	2	Update (and modify if needed) the Fish Presence Survey database which helps populate the DistPresence table. These data will update the distribution data developed under Task 1.1.	1. The FPS database developed a malfunction where it would not allow new surveyors, landowners, or culverts to be entered. Oregon StreamNet's Database Developer was able to fix the problems so data entry could continue. 2. Oregon StreamNet's Data Entry Technician completed entering all remaining fish presence survey data during this quarter. As of 5/30/2002, we have 6,356 records in the Fish Presence Survey database. She also spent time checking for and correcting errors associated with BasinID codes. Of the 97 erroneous records found, 12 remain uncorrected.
Region	1	Assist data contributing agencies in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database.	Staff from IDFG, MFWP, ODFW, PSMFC, and WDFW met to discuss the structure of tables needed for storing and delivering general fish distribution information. After several months of effort to update the structure, a DEF was created for this type of data.

Objective 1 Data Development and Updates, Priority Data sets

Task 2 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 and dam and weir counts. 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 2000.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Submit 1998, 1999, and 2000 field season redd count data.	1. We compiled the 2000 and some missing historical redd count data into our internal database. 2. We reviewed the redd count trend definitions to identify and fix trend ids that had been incorrectly entered into our internal database. This did not include the complete review and rebuilding of redd count trends that is necessary for the IDFG data. As explained in the 2002 second quarter progress report, the IDFG redd count trends need a thorough review that may include redefining trends. 3. The IDFG redd count data, includes carcass count and measurement data. We also entered these data into our internal database.
IDFG	2	Compile year 2001 field season redd count data and submit to PSMFC.	We continued to enter 2001 redd count data. Not all the data were available, so we will continue this task into the next quarter.
MFWP	1	Complete input of 1999-2000 data, including trend, count and references; exchange to StreamNet.	Work continued on this ongoing job.
MFWP	2	Collect all 2000-2001 survey data during field office visits.	Work continued on this ongoing job.
MFWP	3	Input 2000-2001 data into MRIS, including trend, count and references. Provide data in data exchange format to regional StreamNet staff if completed.	Work continued on this ongoing job.
ODFW	1	Update existing abundance and indices trends (escapement, redd counts, trap counts, peak/other spawning counts, etc.) where data collection continues for anadromous and resident species through 2000 and modify as needed to adhere to any new data exchange standards. Three data submissions are planned.	1. Oregon StreamNet's Database Analyst continued to update Oregon abundance trend data. She identified documentation sources for 109 Columbia Basin trends, and updated 113 trends associated with dam counts with correct begin and end measurements. She submitted updated data to StreamNet on 6/10/2002 - it contained 47 new trends and 215 updated trends. 2. Oregon StreamNet continued it's efforts to take responsibility for Oregon trends that had been entered by PSMFC in the past. There are 219 such trends in our database - all but 7 are hatchery return trends. We will transfer these trends to Oregon responsibility as we find ODFW data to overwrite and/or confirm each trend.

3. Oregon StreamNet's Database Analyst created a standardized email to send to past data providers to request updated data. The specifics of what's needed are added manually before it's sent. We have had tremendous response to these emails. Obtaining updated data from the Confederated Tribes of the Warm Springs continues to be a challenge.

4. In an effort to improve the quality of the data provided by StreamNet, Oregon StreamNet's Database Analyst obtained random and index coastal spawning survey data for coho, chum, and winter steelhead and spent time correcting a large number of coastal trends from this data that were wrong due to a spreadsheet rounding error that had occurred in previous years.

5. Oregon StreamNet's Database Analyst re-created the Resident Fish Project Matrix sent by StreamNet, adding fields to record what data was available, the format the data is in, the longevity of the project providing the data, updated contact information, and which StreamNet contributor was responsible for compiling the data.

| WDFW | 1 | Research, compile, convert and submit natural spawner data updates (returns and/or redd counts) through 2000 (and 2001 as available) for available species (Columbia River and Puget Sound). |

1. Large blocks of time were spent locating 2001 escapement data and validating the data by putting it in a memo to reference. Normally the contacts for escapement data are the same year after year but with vacancies in WDFW, the normal contacts were no longer responsible for the data needed. Most of the Washington escapement estimates were tracked down but there are still some pink and chum numbers that will not be available since the data just wasn't collected or the data wasn't finalized due to the vacant biologist position. The position will not be filled until late 2002 or early 2003.

2. In our internal database in preparation for a StreamNet submission, the compilers augmented many natural spawner records, added more stock descriptions and extra fields to make compiling efforts more efficient. On June 10, 2002 a snapshot was taken of the work to date, some conversions were made to StreamNet's format and the file was submitted to the WDFW StreamNet Data Manager for finalization before a submission to StreamNet.

3. We assembled a computer to be used for downloading GPS locations taken during the fall stream surveys. These GPS points will be used to determine beginning and ending river miles within the index. A sampling procedure is being written for the fall technicians to use once the stream survey season starts.

Objective   1   Data Development and Updates, Priority Data sets

Task   3   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 2000. Release data for resident species are currently low priority and will require specific resources in the future. Efforts this year will focus on creating cross references between PSC release codes and LLID stream location identifiers. We will explore means of providing data on specific release locations rather than more general PSC codes.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
FWS	1	For anadromous hatchery releases, compile FWS hatchery release data, w/ added CWT information. Transform data to format 032. Submit 2001 hatchery release data to PSMFC via USFWS WWFRO.	The FWS StreamNet project leader transformed 2001 National Fish Hatchery release information into PSC format 032, and sent a copy of that file to the Western Washington Fisheries Resource Office.
ODFW	1	Acquire specific release location information for select releases in the Willamette, Lower Columbia, or Sandy basins as available.	Oregon StreamNet's Database Developer installed the CTCbridge32 application on both a laptop and our development server, which allows access to the ODFW Hatchery Management Information System from two computers.
ODFW	2	Investigate if Hatchery Release data can be acquired in an un-rolled format prior to it being submitted to RMIS.	The Project Leader worked with Mark Lewis (ODFW CWT project) to assess ODFW ability to provide 'unrolled' hatchery release data to StreamNet using a data model provided by WDFW. We found some information can be accessed easily, but some is only available from the hatchery facilities directly, and still more would have to be calculated from information obtained from HMIS or the hatcheries.
Region	1	Assist contributing projects with cross referencing PSC codes with LLID codes.	No work was done on this job because no assistance was requested by the contributing projects.
WDFW	1	For anadromous species, research, compile, convert and submit existing WDFW anadromous release data as detailed, "unrolled" records directly to StreamNet (instead of via RMIS). As warranted, organize procedures to ease future updates.	Hatchery releases continue to be a highly requested data category and until we make a submission to StreamNet we continue to handle any requests that come to our WDFW StreamNet staff.
WDFW	2	Collect, convert and submit Joint Stock Assessment Project (JSAP) blocked area release data (1994-Present, Columbia River drainage above Chief Joseph Dam) per the expected format. See Job 3 for efforts in other areas.	We analyzed and provided written feedback on several proposals related to a JSAP contract that involves a data integration and update tool, and took part in conference call to confirm findings.
WDFW	3	WDFW resident data is fractured in several collections by year. Research, compile, convert and submit data for any years we have finalized at a given time, until all collections are submitted. (Progress with this dataset relies upon improvements to our Lakes spatial layer first).	We started assigning StreamNet's location codes (LLIDs, etc) for any records pertinent to a direct data request.

Objective 1 Data Development and Updates, Priority Data sets

Task 4 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 2000. Development of disposition data is lower priority and would require additional resources.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Submit 1998, 1999, and 2000 return season hatchery return data.	1. We compiled the 2000 and some missing historical hatchery return data into our internal database. 2. We reviewed the hatchery return trend definitions to fix trend ids that had been incorrectly entered into our internal database.
IDFG	2	Compile year 2001 return season hatchery return data and submit to PSMFC.	We began to enter 2001 hatchery return data. Not all the data were available, so we will continue this task into the next quarter.
ODFW	1	Compile data on returns to ODFW hatchery facilities (updated through 2000 returns where possible).	Oregon StreamNet's Project Leader reviewed and commented on the new Hatchery Return DEF that was distributed by Bob Woodard of WDFW.
WDFW	1	Research, compile, convert and submit hatchery returns updates through 2000 in StreamNet data exchange format. This submission includes new data and corrects errors that were previously submitted for post-1995 data. Work further with WDFW's Hatchery Division to improve their original database source and collection procedures as an investment in future timely and accurate StreamNet updates.	We acquired some notebooks containing historical hatchery returns that date back to at least 1938. Some of this information has not yet been added to the current Master Hatchery Returns database. The information from this notebook is being transferred to an electronic report and once completed will be added to the Master Hatchery Returns database. This project is approximately 50% complete.

Objective   1   Data Development and Updates, Priority Data sets

Task   5   Dams and Fish Passage Facilities

Develop and maintain information on dam facilities. Enhance the existing StreamNet dams data set by updating relevant data from the Pacific Northwest Hydropower Database and Analysis System (NWHS) and the National Inventory of Dams.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
MFWP	1	Complete the creation of a Montana dams spatial coverage and associated data in the StreamNet exchange format. Layer and data are being created using the NWHS and the National Inventory of Dams. Tasks to date include combining the data from the two sources; manual checking needs to be done before the final product is completed. Exchange the Dams data set to the StreamNet database.	We made minor data edits involving spatial errors.
ODFW	1	Update, maintain, correct and exchange dam information (as part of the Barrier database).	1. Staff participated in a conference call to coordinate efforts to weed out duplicate dam records from the database and also approaches for assigning LLID and measures to records located on the 100K hydrography. 2. Oregon StreamNet's GIS Analyst finalized quality assurance/quality control of the spatial accuracy of dams within the Barrier Database. He verified the locations of 833 dams in all and identified over 30 potential duplicate records. He added LLIDs to over 200 records, but removed them from approximately 50 records. LLIDs were removed if the record was thought to be a duplicate or if the dam location was verified to not be on a 100k stream. He also corrected coordinate information for 91 records and adjusted GIS measures for about 300 records. 3. The Assistant Database Manager coordinated the management of three Snake River dam records with Evan Brown (IDFG) and Bill Kinney (PSMFC). It was decided that Idaho would be responsible for the management of the Brownlee Reservoir, Hells Canyon and Oxbow Dam records since Idaho Power owns all three dams. 4. Oregon submitted 1,165 dam records, 1,002 DamxDamPurpose records, 906 DamxDamType records, 995 barrier records, and 64 Reference records to StreamNet.
WDFW	1	StreamNet currently carries Washington dam information that wasn't officially exchanged by WDFW. We will compare StreamNet's existing Washington dams data with WDFW's internal dam layer and any other dam data resource (i.e., DOE's dams), adjust the WDFW layer accordingly and submit to StreamNet.	1. In June WDFW delivered their first dam facility data submission, eliminating. any pre-existing redundant records, including additional dam records from the Department of Ecology and National Inventory of Dams, and updating the LLID location coding. Relevant references were also delivered to the StreamNet Library. 2. Immediately following the data submission, we started augmenting the database further with records from miscellaneous references, including the SSHEAR. database. We also added a field to track the source of the BegFt determination since we tested many AML tools and procedures.

Objective 1 Data Development and Updates, Priority Data sets

Task 6 Hatchery Facilities

Develop and maintain information on anadromous and resident hatchery facilities, including information on location, design, management and authorization. Information will be updated through 2001 for required fields. We will review the optional (non-required) fields in the DEF.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
All			No work was performed on this task this quarter.

Objective 1 Data Development and Updates, Priority Data sets

Task 7 Harvest

Develop and maintain information on sport and commercial harvest. Higher priority is assigned to anadromous species.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	2	Correct and update ocean and mainstem Columbia River harvest data as agreed to by Steering Committee	Alternate catch reporting formats were reviewed and a basic data set was assembled from PSC, PMFC, state, and tribal sources. Data will be entered into the recommended format next quarter.
ODFW	1	Compile and exchange updated and/or new tributary sport harvest data.	1. Oregon StreamNet's Database Analyst contacted Will Cameron's office to obtain punch card data for spring chinook in the Umatilla River. He will provide updated information for the 1990's but had no prior data. He directed her to check with Tim Bailey, who provided Threemile Dam counts - the punch card data will be sent soon. The trend corrections/updates will be completed shortly after receiving the data. 2. No work was completed relative to acquiring sport and commercial harvest data this quarter. We continue to wait for an update of this data from the Portland Headquarters office.
WDFW	1	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.	We submitted data and information to StreamNet to speak to all the Washington and marine area harvest trends previously compiled for StreamNet by PSFMC. We adopted some trends by re-assigning them with WDFW trend codes, directed StreamNet to delete other trends since the data cannot be endorsed, or alerted StreamNet that the marine area trends are not Washington coast, ergo not WDFW's responsibility.

Objective 2 Data Development and Updates, Other Data sets

Support the need for region wide fisheries data for research, monitoring, modeling and management through acquisition of new information and updates to previous information for data sets of medium or lower priority as time and funding allow. This objective includes anadromous and resident species.

Objective 2 Data Development and Updates, Other Data sets

Task 1 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. Existing data sets will be maintained and enhanced as practical. Additional sources of this information will be explored.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
MFWP	1	Continue to collect, centralize and maintain all stream restoration projects 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.	Work continued on this ongoing job; plotting course to move database into SQL, update locations of restoration projects, put on MFISH website.
ODFW	1	Maintain, correct and exchange existing restoration project information.	There were no requests to update or correct existing records this quarter.

Objective 2 Data Development and Updates, Other Data sets

Task 2 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.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
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.	The existing data for Montana has now been collected and will be formatted for data exchange.

ODFW	1	Update, maintain, correct and exchange adult migration barrier information.	1. Oregon StreamNet's Database Analyst added hatchery barrier information, which was provided by Rich Holt (ODFW Pathologist), to the Barrier Database. 2. The Assistant Database Manager received several email messages from District Biologists giving us permission to cite them as the primary reference for our barrier and dam records. Following this, Oregon was able to submit numerous barrier, dam, and reference records. For details, see Objective 1, Task 5, Job 1.
ODFW	2	Update, maintain, correct and exchange anadromous and resident fish barrier data.	Oregon submitted 370 FishBarrier records to StreamNet.

Objective 2 Data Development and Updates, Other Data sets

Task 3 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. The rest of this data category is still under development and may require additional resources to accomplish.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Seek to obtain tribal data on smolt abundance. Inform Steering Committee on data availability	Reminders requesting smolt data were sent to tribal contacts.
IDFG	1	Begin design and collection of juvenile trapping component in IDFG/StreamNet Fish Information System. At current funding levels this task will be of lower priority than Objective 1 data components and progress will depend on completion of Objective 1 tasks. This task is also dependent on collaboration with non-StreamNet projects in IDFG.	IDFG biologists used the IDFG/StreamNet Juvenile Trapping Program to conduct quality control on data collected last year.
WDFW	1	As funding and time permits, collect and scope existing juvenile data to plan future conversion and submission efforts.	1. Work continued on enhancing and updating the Cedar Cr. 1998-2001 smolt and adult trap database. 2. Instructions were submitted to delete all Washington juvenile data previously compiled by PSMFC (60K trends) due to general errors and to eliminate any unnecessary obstacles for WDFW StreamNet's first submittal of this data type.

Objective   2   Data Development and Updates, Other Data sets

Task   4   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 test location for each cooperating agency this year as a means of testing data organization/format and utility.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Compile year 2001 Age/Sex Composition data.	1. We compiled the year 2000 and some missing historical age data into our internal database. We also started on the 2001 data, but not all of these data are available, yet. 2. We reviewed the age data trend definitions to identify and fix trend ids that had been incorrectly entered into our internal database.
MFWP	1	During the field office visits in 2002, the availability of age data will be determined. Information will be gathered on what is being collected, in what format and for what geographic areas. Data will be acquired, if available, and reviewed with the Steering Committee.	Work continued on this ongoing job.

Objective   2   Data Development and Updates, Other Data sets

Task   5   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.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
All			No work was performed on this Task this quarter.

Objective   2   Data Development and Updates, Other Data sets

Task   6   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.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
All			No work was performed on this Task this quarter.

Objective   2   Data Development and Updates, Other Data sets

Task   7   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.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
MFWP	1	Obtain results from genetic analysis from the University of Montana Genetics Lab for sampled populations of Montana's species of special concern.	Work continued on this ongoing job.
MFWP	2	Update fish distribution table when new genetic samples affect fields/records.	Work continued on this ongoing job. All genetics samples have been entered this quarter.
MFWP	3	Exchange data to the StreamNet regional database when a DEF is approved by the Steering Committee.	There is no DEF for genetics yet.

Objective   2   Data Development and Updates, Other Data sets

Task   8   Information generated during Subbasin Planning

Work with Subbasin Planners to acquire information that is developed for Subbasin Plans and make it available basin wide in a standardized format. Data that fits existing DEF will be incorporated in the queryable database. Otherwise, data will be posted 'as is' and made available on the StreamNet website. Actual data development beyond the existing DEF would require additional resources.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Work with Oregon Technical Support Team (when funded and formed by NWPPC) to obtain existing data in electronic Format	No work was performed this quarter. We are still waiting for the Power Planning Council processes to coalesce.
CRITFC	2	Work with Oregon Technical Support Team (when funded and formed by NWPPC) to develop applications to capture additional data generated during subbasin planning	No work was performed this quarter. We are still waiting for the Power Planning Council processes to coalesce.
MFWP	1	Will communicate with Montana's CBFWA representative to better understand where they are in the planning process. Currently we receive all survey data generated from BPA contracts in Montana. Will discuss other products that may become available.	The Project Leader discussed Montana's subbasin effort with the CBFWA representative. FWP will host the website that will contain the Subbasin Planning documents for the Flathead and the Kootenai. We will meet with the contractor once the contract is secured.

Objective   2   Data Development and Updates, Other Data sets

Task   9   Supplemental data sets

Obtain data sets that are important to regional monitoring and management but that do not fit the existing DEF for posting 'as is' on the StreamNet web site. Primary emphasis will be toward resident fish data developed by BPA funded fish and wildlife projects, data developed by cooperating agencies on other funding, and data developed by the FWP.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
ODFW	1	Pursue supplemental datasets on an opportunistic basis consistent with StreamNet direction.	Staff continued to correspond and coordinate with partners in the Oregon Fish Finder Project, which will add species location information to the StreamNet data system. The Database Developer created a draft schema of the database, which mirrors our internal data storage and improves data compilation capabilities.

Objective   2   Data Development and Updates, Other Data sets

Task   10   Carcass placement

Work with management agencies to capture information on placement of salmon carcasses and results from carcass placement projects. This is currently a low priority and will require additional resources to take on as a primary data type. Existing data may be acquired for posting 'as is'.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
ODFW	1	Exchange carcass placement report 'as is' for 2001 placement efforts.	Oregon StreamNet's Database Analyst coordinated with ODFW's Carcass Placement Project Leader to develop a data submission approach that would satisfy the needs of both projects. They jointly wrote the data request instruction letter. Also, a replica copy of the Carcass Placement Database was packaged and shipped to a new user (a field biologist) upon his request. In addition, we had to assist several users with installation and data submission procedures using FTP. As she received populated copies of the database, the Database Analyst synchronized them with the master copy of the database, creating a partially complete dataset. The dataset was only partially complete because some data was provided directly to the Carcass Placement Project Leader in MS Excel format. Unfortunately, the Carcass database may not survive to a second field season, as it was met with much resistance from field staff. The Carcass Placement Project Leader ended up inputting more than half the data himself, and nearly everyone who used the database needed assistance to populate and post it, and questioned why the reporting format had changed from a spreadsheet to a database. The 2001-02 data will be provided to StreamNet during the next quarter.

Objective   2   Data Development and Updates, Other Data sets

Task   11   Populations - status and delineation

Develop a data set to describe population status as determined by other agencies. This is currently a low priority, and efforts will be exploratory in nature during FY2002. Links to existing data may be posted on the StreamNet web site.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
MFWP	1	Species of Special Concern are currently identified on the MRIS website; when the Montana Natural Heritage Program website includes status information on these species, we will create a link between our site and theirs. Will also look into linking to USFWS website if information is available on Threatened and Endangered Species. Will link to MFWP new native species web page when that becomes available.	Project Leader has continuing to work with FWP Fisheries Division to complete Native Species Management areas, which will serve as the basis for population status.

Objective   2   Data Development and Updates, Other Data sets

Task   12   Develop other data sets

On an opportunistic basis, develop data that relate to other existing data sets in the StreamNet database or would be useful for regional planning, monitoring or management efforts. This is a low priority, but some efforts may be expended if the data appear useful and they can be obtained within current resources.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
ODFW	3	Compile and exchange hatchery-wild fraction data for an undetermined location in the Oregon portion of the Columbia basin as a prototype for these data. It is not clear if these data are still available since the dissolution of PATH, and the data developed by PATH, which are not in StreamNet, need to be captured so that they are not lost. We intend to attempt to locate and obtain the data in some fashion.	1. The StreamNet Project Leader discussed the utility and importance of hatchery fraction data with Eric Tinus (who is believed to be the last person with ODFW to work with this type of data). Apparently this is an old data type that StreamNet desires but no one has submitted in the past, as there is no DEF. The data is controversial and problematic at best, because there are so many ways to derive it. However, we will continue to pursue it per our StreamNet Statement-of-Work unless we receive guidance to the contrary. 2. Columbia River Management staff began field data collection necessary to estimated hatchery and wild fractions of wild summer steelhead passing Bonneville Dam.

Objective 3 Data Management and Delivery

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

Objective 3 Data Management and Delivery

Task 1 Maintain and enhance 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 fish, resident fish and to a lesser extent wildlife 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, and 2) enhancing or optimizing StreamNet database structures and capabilities.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Maintain and enhance hardware and software for the IDFG/StreamNet Fish Information System. This task includes general system maintenance, addition of new servers and workstations, where possible, providing necessary system administration and disaster recovery, and maintaining software licenses.	1. We provided routine system administration to the servers and workstations in IDFG/StreamNet. 2. We continued to obtain hardware, peripherals and software as part of our infrastructure enhancement. We have not yet installed any of the new infrastructure. We are waiting to have all the necessary equipment on site. 3. We obtained five new workstations for StreamNet and IFWIS staff with non-StreamNet funds. We installed and configured the new workstations with IDFG's new Windows 2000 network. 4. Our programmer analyst reviewed and implemented rules and constraints on our database that ensure data integrity in the Fish Information System. 5. As an regular part of our work, we investigated technical enhancements, updates, and methodologies that may improve the performance of and data quality of the Fish Information System.
MFWP	1	Provide a high-quality, state-level data management system, emphasizing coordination with StreamNet regional staff, MFWP and other state and federal natural resource agencies to encourage the use of consistent data attributes and data sets among all agencies.	Work continued on this ongoing job.

ODFW	1	Provide state-level StreamNet database management, administration, and development. Enhance StreamNet and ODFW database structures, interfaces, tools, and capabilities as needed. Maintain hardware and software.	1. Oregon StreamNet's GIS Analyst reviewed several metadata development tools, specifically for developing non-spatial metadata. He looked at MS Access modules for summarizing the contents of Access databases, among other things, then drafted a template for storing "overview" level metadata for non-spatial data, and proposed that we test out a 2-tier approach for documenting our databases. 2. Our Database Developer completed the application that was developed for Life-stage timing data compilation. It was deployed to 24K Fish Distribution Development Project staff for use with data the crews collected.
Region	1	Locate and evaluate data obtained by the precursor projects to StreamNet (CIS and NED), including floppy disks and hard copy reports. Determine the types of data that are available in each format and how much are already included in StreamNet. Determine the feasibility and value of reclaiming lost data and the workload required. Prepare a report making recommendations to the Steering Committee for the possible inclusion of those data not already included in StreamNet.	Georeferencing for protected areas was updated to use LLIDs whenever possible. This update allowed for better incorporation of this data category into the main query system. It will also allow for easier updating of this information as it is done during subbasin planning over the next year.
Region	2	Maintain and upgrade StreamNet database servers and software. Administer SQL Servers. Advise on office software acquisition. Maintain and optimize database structure and function .	Routine maintenance and administration of SQL Server databases and servers continued. A second T1 communications line was added at PSMFC to increase internet bandwidth for all projects.
WDFW	1	Coordinate activities to maintain all new and existing WDFW internal tabular databases, code and cross-code assignment files related to StreamNet tabular and spatial submissions for data sets defined in Objectives 1 and 2. Submit any tabular databases as warranted to coordinate with spatial layer exchanges. Maintain the hardware and software necessary to the database system.	1. All WDFW StreamNet tabular data staff met in Olympia on June 27 to assess data development progress, discuss ramifications of recent exchange format changes, plot a strategy for bringing other StreamNet entities to closure on the draft Hatchery Returns exchange format, and discuss work priority shifts in light of recent increased support needs in the GIS area. 2. We started the necessary discussion and planning to transfer some data exchange/submission responsibilities from Leslie Sikora to Robert Woodard to alleviate the current bottleneck caused by using one person with too many responsibilities.

Objective   3   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 fish, resident fish and to a lesser extent wildlife 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, and 2) maintaining a regionally consistent hydrography layer at the 1:100,000 scale.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Maintain and enhance hardware and software for the IDFG/StreamNet GIS and Fish Information System. This task includes general system maintenance, addition of new servers and workstations where possible, providing necessary system administration and disaster recovery, and maintaining software licenses. We will also be evaluating the impact and cost of moving from ArcInfo 7.2.1 and ArcView 3.2 to ArcGIS 8.1. Depending on that outcome, we may make this major software migration this year, including necessary hardware reconfigurations.	1. We provided routine system administration to the servers and workstations in IDFG/StreamNet. 2. We continued to obtain hardware, peripherals and software as part of our infrastructure enhancement. We have not yet installed any of the new infrastructure. We are waiting to have all the necessary equipment on site. 3. We started planning for the installation of our new upgrade and the upgrade to Windows 2000 and Windows 2000 Server. 4. We started working with ESRI to account for all of our GIS licenses in order to migrate to ArcGIS using a single license manager.
IDFG	2	Provide GIS support and data infrastructure to the IDFG/StreamNet Fish Information System. The IDFG/StreamNet Fish Information System is built upon a foundation of GIS data and we will continue to provide that base. Products from this task will play a key role in integrating GIS with traditional tabular data models, specifically SQL Server and Microsoft Access.	1. Our non-StreamNet GIS staff installed a statewide set of GIS data including coverages, scanned topos, and digital elevation models in the IDFG Screen Shop in Salmon, Idaho. We also installed a set of ArcView tools, including a geographic information locator, an Idaho projector tool, and a set of fish tools for attaching data to StreamNet hydrography and assigning LLIDs and measures to fish data. This will facilitate the collection of diversion and screen data in StreamNet compatible formats. 2. We were briefed by a private consultant developing a GIS-based data management system for the IDFG screen shop. Their data is geo-referenced using latitude and longitude. While not attached to LLIDs, being in a GIS format will facilitate the eventual incorporation into StreamNet. 3. Using non-StreamNet funds, we developed an application for tagging IDFG fishing regulations to the StreamNet hydrography. 4. We added 1204 digital ortho-photo quads to our enterprise database. This cover approximately 75% of the state of Idaho. 5. We enhanced our ArcView tools to include the digital ortho-photo quads as a background layer. 6. We provided general GIS assistance to IDFG staff, including headquarters and regional staff.

MFWP	1	Maintain, update and enhance MFWP GIS data layers, provide these data as distributed files, on the web or as part of map requests. Integrate the use of GIS into management decision making processes.(Most of this work is conducted outside the StreamNet contract with MFWP dollars). Maintain the MFWP StreamNet GIS system.	Data manager completed conversion of several tabular datasets into GIS layers.
MFWP	2	Work with Natural Resource Information System staff and StreamNet GIS staff to maintain the 1:100 K NHD hydrography for Montana. Data layer will be enhanced with lakes and reservoirs and include stream level LLID routes.	Maintenance of the layer is ongoing.
ODFW	1	Develop and maintain a fully functioning GIS system and the database structures that help improve spatial data management and transfer with ODFW staff and the regional StreamNet system.. Maintain the hardware and software systems necessary for the GIS.	Our GIS Analyst upgraded to ArcGIS version 8.1.2
Region	1	Assist the database manager, as needed, with the spatial component of data and its implementation online.	The GIS Specialist assisted the QA'd and validated dam facility locations at the request of the database manager.
Region	2	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 GIS Specialist reviewed and updated all of the geographic cross tables in the database and recomputed the values in them to ensure that they were consistent with each other and that obsolete stream codes were dropped from the database.
Region	4	Maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata).	The GIS Specialist wrote metadata (documentation) for the dam facilities data and posted it to the GIS data page for public download.
Region	5	Maintain a regionally consistent 1:100,000 hydrography layer (the PNW Reach File) for internal use and public access through consultation with the state stewards of the hydrography.	The 1:100,000 hydrography layer was maintained.

Region	6	Rebuild LLID-based stream route system on the National Hydrography Dataset hydrography for Western Montana (this work is complete for ID, OR, WA).	1. A project was completed to assist California Dept of Fish and Game (CDFG) in developing a consistent GIS layer of 1:100,000 scale hydrography, using standard attributes and formats already in place in the Pacific Northwest. The GIS Technician evaluated the stream layers and assigned unique stream networks to high priority watersheds. The GIS Specialist then designed a series of automated routines that took this information and stream network information previously completed at CDFG and built a stream route system on the hydrography layer. (Note: This base layer is the National Hydrography Dataset (NHD) This StreamNet work enhances the NHD by adding stream-based route systems, which are not a native part of this data model). This additional work by the GIS Specialist included fixing stream networks to begin at the center lines of twin-banked features, evaluating the stream networks to find the downstream nodes, assigning an LLID (longitude - latitude identifier) based on the coordinates of each downstream node, building routes upstream on stream networks from these nodes, and matching these route systems to agree with existing systems in place along the Oregon border. The results were packaged on CD with documentation and delivered to staff at CDFG, where work will continue to identify remaining networks in mid and low priority HUCs. The GIS Specialist will continue to provide training and assistance with this process during the fourth quarter. This work is being done on funding outside the StreamNet contract, which covers only 3/4 of the GIS specialist's time. 2. Testing of the NHD/LLID conversion application continued. Final QA was performed. Some problems remain, but these will be dealt with on an 'as-needed' basis in the future.

Region 6 Rebuild LLID-based stream route system on the National Hydrography Dataset hydrography for Western Montana (this work is complete for ID, OR, WA).

1. A project was completed to assist California Dept of Fish and Game (CDFG) in developing a consistent GIS layer of 1:100,000 scale hydrography, using standard attributes and formats already in place in the Pacific Northwest. The GIS Technician evaluated the stream layers and assigned unique stream networks to high priority watersheds. The GIS Specialist then designed a series of automated routines that took this information and stream network information previously completed at CDFG and built a stream route system on the hydrography layer. (Note: This base layer is the National Hydrography Dataset (NHD) This StreamNet work enhances the NHD by adding stream-based route systems, which are not a native part of this data model). This additional work by the GIS Specialist included fixing stream networks to begin at the center lines of twin-banked features, evaluating the stream networks to find the downstream nodes, assigning an LLID (longitude - latitude identifier) based on the coordinates of each downstream node, building routes upstream on stream networks from these nodes, and matching these route systems to agree with existing systems in place along the Oregon border. The results were packaged on CD with documentation and delivered to staff at CDFG, where work will continue to identify remaining networks in mid and low priority HUCs. The GIS Specialist will continue to provide training and assistance with this process during the fourth quarter. This work is being done on funding outside the StreamNet contract, which covers only 3/4 of the GIS specialist's time.

2. Testing of the NHD/LLID conversion application continued. Final QA was performed. Some problems remain, but these will be dealt with on an 'as-needed' basis in the future.

WDFW 1 Coordinate activities to maintain all new and existing WDFW internal spatial layers related to StreamNet tabular and spatial submissions including but not limited to 100K hydro (streams and lakes), marine areas, distribution, production (hatchery and dam), and release site layers. Manage regionally standard location codes (LLIDs). Submit any spatial layer as warranted to coordinate with tabular exchanges. Maintain the hardware and software necessary for system function.

1. Our skills in ArcView grew this quarter and the ArcView software made it possible to submit Dams data instead of stalling while we waited for adoption into the WDFW GIS system. We tested both WDFW's and StreamNet's AMLs for generating BegFt measures and will have to report in the next Quarterly Report our thoughts on each tool.

2. WDFW StreamNet staff gave an engaging PowerPoint presentation on use of GIS as a visual tool in representing fish presence at the WDFW Fish Program Science Division's Annual Meeting on June 4. The take-home message for field biologists was to start/continue to capture standardized location information (preferably using GPS receivers) for their sampling sites and budgeting some time and funding to help spatially enable those sites and the data tied to them.

3. We started compiling a GIS layer to show marine area boundaries for the WaterBodyIDs we've been using and added to our list of PSC codes to LLID cross-references for marine areas and streams.

4. We also delivered a normalized tabular and GIS database to the Yakima EIT Project staff, in. More work is pending yet it depends on the needs of data recipients in the Ellensburg office.

Task   3   Data management and coordination

This task includes data management after they 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 regions and contributing agencies will collaborate to fix problems and assure seamless loading of data into the database.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	2	Review and update entire redd count dataset, in order to ensure the proper past assignment of trend definitions, location identifiers, and accurate counts.	IDFG/StreamNet continued its review of existing redd count data.
IDFG	3	Add additional stream routes and assign LLIDs to 1:100,000 scale hydrography. New routes will be added as required to support locational data in the IDFG/StreamNet Fish Information System. All new routes will be submitted to PSMFC.	Based on feedback from IDFG biologists using our database tools, we began to compile a list of streams and other modifications to add to the StreamNet hydrography.
ODFW	1	Work with regional staff as necessary to assure seamless loading of data into the regional database.	We communicated regularly with regional StreamNet staff including notifying them that we would submit our barrier/dam data by the end of April, rather than the end of March as planned, answered numerous questions regarding our barrier/dam data submission, brought attention to the level of confusion being caused by the various names given to cutthroat trout in the query system, and submitting new references associated with Oregon StreamNet data.
Region	1	Whenever new tabular data with a spatial component are submitted to the project (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 and as downloadable layer(s) for StreamNet GIS users.	New dam facilities information was received from state compilers. The GIS Specialist evaluated the location information and computed an additional attribute to separate major dams from other dam facilities. The GIS Specialist converted the dam facilities information to a spatial format and created new GIS coverages and shape files for Pacific Northwest dam facilities and posted these files to the GIS Data page for public download.
Region	2	Update hatchery releases database with data from the Regional Mark Information Center and directly from state agencies where information is available in either StreamNet data exchange format or a modified PSC data exchange format without rolling CWT release records into single records by tag code. Reconcile known redundancies in the hatchery release table resulting from acquisition of data from multiple sources.	At a technical meeting of data compilers, we discussed the Work Plan item for state agencies to investigate the feasibility of obtaining hatchery release data directly from state agencies in either StreamNet data exchange format or a modified PSC data exchange format without rolling CWT release records into single records by tag code as the Regional Mark Information Center data is required to be. While this may be possible, the early indications were that it had the possibility of being considerable work in order to accomplish this. This investigation is continuing.

Region	3	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.	1. Dam Facilities information was updated for ODFW, WDFW & MFWP. 2. Hatchery Facilities information was updated for ODFW, WDFW and MFWP. 3. Barrier data was updated for ODFW. 4. Loaded new and updated escapement data for ODFW. 5. TrendIDs previously assigned to PSMFC were replaced by ODFW, WDFW and CDFG. 6. Test Juvenile Abundance data from ODFW and WDFW were archived and removed from the SN database. 7. A technical meeting of StreamNet data compilers and programmers took place April 17th at PSMFC to facilitate sharing & understanding of methodology and data exchange processes. 8. Mitigation/Restoration/Monitoring data loading from MFWP was completed (continuation of data loading which began in the second quarter).
Region	4	Examine the StreamNet database for errors and report any found to the appropriate entity for correction.	1. An error was found in the 303(d)-list coverage for Idaho. Idaho DEQ was informed of the error. 2. Stream code errors and data structure problems were found by Bill Bogue of EPA in the pilot water temperature data that were compiled by PSMFC staff. These errors were fixed and the corrected data posted on the web site. 3. Dams from Eastern Montana (east slope of Rockies) were deleted from the Dam table (as we don't have hydrography for those streams). 4. Numerous database updates were made to refine StreamNet information after verifying errors and synchronizing with agency compilers.
Region	5	In order to modernize existing data sets, begin converting the georeferencing for the Protected Areas and Smolt Density Model data from river reach numbers to LLIDs.	The GIS Specialist corrected fixable errors in the Protected Areas/Smolt Density Model data conversion. The data set was then updated to the StreamNet database by the Data Manager. The Programmer then improved the tabular query system to take advantage of the new location information for Protected Areas data and deliver it to users through a more flexible interface. The GIS Specialist designed an interactive Internet application to deliver the protected areas data to Web users through a visual, map-based approach.
WDFW	1	Work with regional staff as necessary to assure seamless loading of data into the regional database. Explore new ways to simplify the instructions to the Regional Manager on how to post our data submission and purge any old records that are now irrelevant to avoid follow-up issues.	1. Our WDFW Data Manager drafted exchange protocols and worked with the Regional StreamNet Data Manager to finalize the DataExchangeProtocol.doc. 2. After the dam submission, the Regional StreamNet Data Manager notified us that we submitted blanks in secondary fields (i.e., Height) for StreamNet records we adopted even though StreamNet carried some information. With discussion we agreed StreamNet could restore the missing field data.

Objective   3   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. Track adopted and proposed data exchange formats and location coding (including metadata) for data categories described under Objectives 1 and 2. At the regional level, this task will provide coordination and technical assistance regarding interpretation of database structures and codes. At the agency level, this task will provide similar coordination and technical assistance to activities applicable to StreamNet.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Review and comment on DEF issues brought to the Steering Committee	Reviewed DEF issues as they were presented to the Steering Committee.
FWS	1	Review and comment on DEF issues brought to the Steering Committee	The FWS StreamNet project leader participated in a Technical meeting which in part examined the issue of hatchery release information.
IDFG	1	Working with the StreamNet Steering Committee, maintain and enhance the data exchange standards as needed.	1. Our data manager supplied IDFG input on modifications to the hatchery return data exchange format. 2. We also helped develop and agree to a generalized fish distribution data exchange format.
MFWP	1	MFWP StreamNet will participate in the design, development and maintenance of standard codes and data exchange formats. This will occur through involvement on the Steering Committee and technical work groups.	The project leader and the data manager participated in the review of several DEF changes as part of the Steering Committee.
MFWP	2	Work with CRITFC to develop a draft DEF for genetics data for adoption by the Steering committee	Montana's StreamNet staff participates when necessary.
MFWP	3	Work with Regional StreamNet staff and Steering Committee to create a Data Exchange Format for Distribution and Use Type.	The Steering Committee agreed on the format and it is currently being tested.
ODFW	1	Participate in the design, development and maintenance of standard codes and data exchange formats. This will occur through involvement on the Steering Committee and technical work groups. There is no set schedule for this task, because it is highly dependent on issues facing the Steering Committee.	Oregon staff prepared for and attended an all day StreamNet meeting to hash out the Distribution DEF. We made it as far as finalizing a new DistPres table, which is now called Generalized Fish Distribution. It is intended to store current fish distribution data that is based on sampling and / or best professional (biological) judgment. Then, after a period of review and testing, we participated in a follow-up conference call regarding ODFW StreamNet's acceptance of the StreamNet DEF for the Generalized Fish Distribution Table.

ODFW	2	Develop and propose a DEF for screening data.	Oregon StreamNet's Assistant Database Manager put together a first draft of the new StreamNet Data Exchange Format (DEF) for Fish Screening and Passage data. A second draft of the DEF will be prepared once the changes/additions to the current version of the ODFW FishScreen database have been completed.
Region	3	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.	Data References were appended from ODFW, WDFW & MFWP.
Region	4	Maintain and update the StreamNet Data Exchange Format as necessary to incorporate additions and modifications agreed to by the Steering Committee. Record accepted revisions in the DEF document. At least one update of the DEF document will be made during the year.	1. The changes agreed to for regionally general fish distribution information were incorporated into the DEF . With this change complete, Version 2002.1 of the StreamNet Data Exchange Format was completed and accepted by the Steering Committee, with an effective date of July 7, 2002. 2. The need to interpret codes used in the DEF is a frequent requirement of data compilers. At times, interpretations differ between people. The need for definitions for codes was discussed this quarter and will likely happen in the future along with moving the DEF to a database, where changes and definitions can be tracked.
Region	7	Assist with development of XML schema based data exchange option for both incoming and outgoing data.	The Data Manager signed up for a course titled Building XML enabled Applications using SQL Server 2000, but the course was later cancelled.
WDFW	1	Engage in data exchange format (DEF) discussions. Lead new efforts to amend the format as warranted when WDFW's data cannot be accurately converted. Provide metadata for tabular and spatial data sets according to guidelines adopted by the Steering Committee.	1. We continued to confer with CDFG over their proposal to change the Habitat Restoration DEF. CDFG and WDFW have similar DEF needs. 2. We met with other project participants on April 18 to finalize discussions on a fish distribution and use exchange format. By the end of the meeting, we had finalized a format for Generalized Fish Distribution data by setting aside categories on which consensus could not be reached. The remaining categories represent the most commonly-requested and useful fish distribution data. A summary of the differences between this exchange format and the WDFW internal database was generated and distributed to WDFW tabular and spatial data staff. 3. At the April meeting, it was decided that individual fish observations data might best be captured in a FishSurvey table. Further detailed discussions were postponed until the May Steering Committee meeting. A proposed approach to conducting those discussions was sent out to all SC members in early May. The Forum was suggested as the best tool to use to organize and archive these discussions. 4. WDFW staff provided specific examples of both "rolled-up" and "unrolled" hatchery release data to Steering Committee members to support ongoing discussions about a new hatchery release exchange format that would be designed to support "unrolled" releases (unlike the current RMIS format).

WDFW	2	Develop a revised DEF for Hatchery Return data and propose to Steering Committee	WDFW's Region 5 StreamNet Data Manager spent considerable time drafting a new DEF proposal for the hatchery returns data and leading the technical team to finalize a proposal. After several revisions, a semi-final draft DEF was sent back out for each state to test on their own agency hatchery returns data. We downloaded the WDFW hatchery returns data to test it out on this semi-final DEF and the effort to finalize a DEF was still ongoing at the end of this quarter.

Objective   3   Data Management and Delivery

Task   5   StreamNet Internet Site

Continue to maintain and enhance the existing client-server system to provide access to StreamNet data products through the Internet. The StreamNet home page will continue to be recognized as the project's primary data delivery vehicle. Priority will be given to incorporating data developed through Objectives 1 and 2 and providing access to reference materials secured through Objective 4. 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, Third Quarter 2002
ODFW	2	Work with Regional StreamNet staff to link the StreamNet website to available Columbia River fisheries information (including Columbia River Compact Action Notices, In-Season Updates, Joint Columbia River Management Staff Reports and possibly in-season catch estimates), along with informational text to describe each link.	1. Columbia River Management was not able to make any progress with PSMFC to develop the link to the Columbia River Management web site. 2. Columbia River Management continued to include real time sport and commercial catch data on their web site this quarter.
ODFW	4	Manage and maintain the ODFW Natural Resources Information Management Program website and it's links to StreamNet.	1. Oregon successfully launched it's new natural resources website, uniting the NRIMP and GIS@ODFW web sites. 2. Oregon's Webmaster posted three TMDL Reports developed by DEQ using ODFW's distribution and life-stage timing data, added four Willamette Basin fish management plan reports in PDF format, posted a newly completed Lamprey status report, added a new link for the Montana Fisheries Information System, posted the StreamNet GIS Specialist position announcement and posted a Northeast Oregon trout fishery report. 3. Standard site maintenance was performed including updating the various StreamNet and 1:24K Fish Habitat Distribution data links. Other updates were made to the Links, Information, News, Site Contents, Library, Tools & Tips, and Contacts pages. We added a "Suggest a Link" form to our site, so visitors could suggest natural resource related links for us to post, an "ODFW Library Wish List" page so patrons could donate missing but desired literature, and added a new domain-specific web search feature.
Region	1	Maintain the GIS Data, Map, and PNW Reach File Internet pages.	Maintenance of the GIS Data, Map and PNW Reach File Internet pages continued.

Region	2	Add an Internet mapping component to the StreamNet site to allow users to access StreamNet data through an interactive map interface. Internet mapping component will utilize spatial database engine (SDE) technology to improve speed and performance, and will utilize ArcIMS software for application design and delivery. Internet mapping component will serve at least 2 purposes: (1) to provide users with a vehicle to display and query StreamNet data in a spatial format; and, (2) to provide an alternate means of entry to access information in the current StreamNet query system.	Debugging and development of the ArcIMS mapping applications continued: 1. The GIS Specialist made enhancements to the Internet mapping applications, including the addition of 303(d) water quality impairments and dam facilities data and the ability to gather information on these data types through the map interface, the ability to link to EPA water quality information by watershed in the application, and other minor aesthetic and functional enhancements. 2. The GIS Specialist designed a new Internet mapping application to allow users to view and query information on Protected Areas. 3. The GIS Specialist also added a specialized application to be used to generate stream-level maps of fish distribution via requests from the tabular query system. 4. The Programmer enhanced fish distribution category in the tabular query system to allow access to stream-level maps from the mapping application noted in 3. 5. The Programmer enhanced protected areas category in the tabular query system to allow access to maps from the Protected areas mapping application noted in 1.
Region	3	Maintain and enhance the look and usability of the current web-based query system.	1. We converted and implemented the Protected Areas data category from RRN to LLID, making Protected Areas data searchable using the standard geographic criteria such as Subbasin 2001, HUC, Region, etc. The query system was updated so that protected areas could be queried by the updated geocoding. This also made the data suitable for display via Internet interactive mapping, and an ArcIMS application was developed and deployed for this purpose (see Task 3.5, Job 2) 2. Regional staff completed a review of the completeness of the web query system's output. Output of the web query system's on-screen display and the delimited files downloaded were compared to the database tables and to the data exchange format. It was found that a number of items compiled and available in the tables are not being output to users of the StreamNet system. A complete list was compiled for each data category. The next step, which will probably occur in the fourth quarter, is to compare the items not available to the user with the database tables. Where no data are available, these fields will be identified and proposed for removal from the database and the DEF. Where data are available, the query system will be modified to ensure all available data are delivered to users. 3. Several query system errors were detected and corrected during the quarter.
Region	4	Develop and test a new and enhanced web-based query system based on a more open and flexible programming environment (Cold Fusion).	We implemented a Test system setup on older StreamNet computers that duplicates the production system and allows testing of all ColdFusion and ArcIMS mapping applications in a "live" online environment without affecting the productions systems.
Region	5	Deploy features of the new flexible query system as components are approved by the Steering Committee	1. Added E-Newsletter sign-up functionality through main StreamNet site and Tabular query system.

| Region | 6 | Maintain logs of web query history and error events. Track and report internet site usage by month and investigate web query system errors encountered. Assist programmer in debugging web query system problems that may be data related. Maintain and upgrade StreamNet web server and software. | 1. Usage and Error logs were maintained. The Quarter 3 overall StreamNet usage logs (not including use by StreamNet Project participants) show: |

Month	Requests	Pages
April, 2002	154,466	38,597
May, 2002	116,285	27,550
June, 2002	87,668	17,620

The last column is the most significant because it reflects actual page requests (clicks for a specific page or the StreamNet Home Page). This shows the expected trend of decreasing usage going into Summer as seen in previous years, due to schools being out and biologists and researchers being in the field.
2. We updated the Apache web server to version 2, resulting in enhanced performance (faster) and more reliability (less error and/or request time-outs).

| Region | 7 | 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 bugs. | Regional staff discussed the possibilities and problems associated with permitting "or" queries via the web query system. No conclusion was reached, but potential complicating factors were communicated. This has been an issue of discussion for several years, and remains on the long-term horizon for implementation once a user-friendly interface can be invented. |

| Region | 8 | Complete review of the existing StreamNet HTML pages. Decide which pages to archive and delete, which to include in the StreamNet web site, and which to modify for inclusion in the StreamNet web site. | Links were added to the StreamNet web site for the Kalispell Tribe, Pacific Fisheries Management Council, and USGS' nonnative aquatic species page. |

| WDFW | 1 | As time permits, review new products and features of the StreamNet Internet site. Provide feedback on content, suitability, navigability and data currency issues, especially issues related to providing static or dynamic map capabilities. | We continued to provide feedback on StreamNet's ArcIMS application. |

Objective 3 Data Management and Delivery

Task   6 Tool development and maintenance

Provide programming services to project participants to support efficient data entry and transfer. Tools may be developed at the regional or agency levels. Even when developed for within agency use, tools should be shared among all project participants.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Provide support services to CRITFC staff working on interagency information issues, as needed	Advice and suggestions were provided to staff working on inter-agency M&E and subbasin planning issues. These efforts, however, are only in the planning stage.

IDFG	1	Continue to develop the IDFG/StreamNet Fish Information System (FIS). The FIS provides data entry and management tools to IDFG biologists. It also provides for an electronic flow of data from the field to StreamNet. It ensures data integrity, data and coding standards, and an efficient transfer of data from the field to StreamNet.	1. We developed an interface for editing and defining trends. It also provides screens for verification of trend related data elements and routines for converting IDFG formats to StreamNet data exchange format. 2. We investigated the development of XML documents for transferring data to the regional StreamNet project. 3. We made modifications to our internal database system for hatchery and dam facilities to conform to the StreamNet data exchange formats. 4. IDFG/StreamNet provided administration of the Fish Information System for the joint IDFG/BLM project for capturing historical fish distribution data. 5. We also provided administrative and technical support for the Collection Permit Program in the Fish Information System. This system contains data from collecting permit reports turned into IDFG. 6. We finalized data transfer methodology for the Juvenile Trap Program, moving data from the field project coordinators to a central IDFG/StreamNet database. 7. We implemented a data compilation program to be used in the field by biologists conducting redd count surveys. The data are uploaded to project coordinators before delivery to IDFG/StreamNet. 8. Our programmer analyst prepared routines for migrating historical juvenile trapping data into the Juvenile Trapping Program. 9. We assisted with development of methodologies and data structures for historical spawning ground survey data. 10. We began the initial development and coordination of data structures for the migration of existing data and entry of new data for daily hatchery return data.
MFWP	1	Maintain and enhance the edit/entry interface for fisheries survey data distributed to individuals with a MFWP Collector's permit, including federal land management agencies.	Work continued on this ongoing job.
MFWP	2	Explore creating a complete user interface for MFWP biologists, preferably a web based system; standardize look-up tables across the state.	Work continued on this ongoing job.
MFWP	3	Maintain U of M system for genetics analysis input, Future Fisheries for restoration project data entry, and other interfaces upon request if they relate to StreamNet workplan.	Work continued on this ongoing job. The data manager Received a database dump from the Genetics lab and checked against the MFISH database.
Region	1	On an as-needed basis, update or develop tools to assist with data entry and data management. Assist StreamNet data compilation agencies with trouble-shooting, modification, or development of data input interfaces. Tools might include input interfaces, error checking routines, geographic locators, etc.	1. We completed a web-based tool for tracking bugs and enhancements for all Regional applications (e.g., Tabular query system, mapping applications). 2. Completed tool for distribution of StreamNet E-newsletter

Task   7   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, Third Quarter 2002
IDFG	1	Respond to requests for data and queries of the IDFG/StreamNet Fish Information System. These requests come from a variety of sources, federal agencies, state agencies, and private consultants. All data requests will be logged for reporting.	1. We filled 37 data requests that came directly to our office. The requests consisted of 5 species lists, 8 sets GIS layers, 6 requests for queries of our redd count database, 1 request for barrier data, 1 request for juvenile abundance data, 5 requests for fish species distribution data and 11 technical assistance requests. The technical assistance requests usually consist of some sort of analytical or summarization of our databases. 2. StreamNet staff worked with IDFG fisheries staff and a University of Idaho professor to create maps for a report on Yellowstone Cutthroat Trout. This project demonstrated the difficulties of not have data that are in standard formats or at least georeferenced. We spent considerable time using GIS to manual select stream segments and code non-standardized data to them. Ultimately, we created a series of maps for each major watershed and overall for the state of Idaho. 3. Working with regional IDFG biologists, we also produced a series of 56 maps for the Idaho Attorney General's Office and various stakeholders. The purpose was to prioritize drainages for anadromous fish management and to preempt future litigation.
MFWP	1	Receive and respond to requests for data, source materials, and custom products. Respond to requests within the limits of available resources, with priority given to information requests having direct relevance to the F&WP.	The staff filled 17 fisheries related GIS requests during the quarter.

ODFW	1	As requested, consistent with other deliverables in this contract, receive and respond to requests for data, source materials, technical training, and custom products.	A total of 5 data, 5 document, 2 map, and 19 'other' requests were answered during this quarter. A detailed list by requester and request type can be made available upon request. Also, 3,640 data downloads were made from the ODFW FTP site during this quarter. The number of downloads dropped this quarter because distribution information can now be downloaded all at once as well as by species. The list of requests below is provided as an example of the range of requests we respond to. These requests include: 1. A request for our hard copy 24K bull trout distribution data in the John Day, Umatilla, and Grande Ronde basins. 2. A request for a map showing summer steelhead distribution and barriers for the eastern HUCs encompassing the Oregon EMAP Project. 3. A request for John Day basin Summer Steelhead distribution mileage (5 subbasins with South Fork broken out) and also stream mileage. 4. A request for our distribution data that covers Marion County. 5. A request for hunting boundary information from a web site visitor. 6. A request from the Bureau of Reclamation for Bull Trout maps as well as maps for other anadromous species within the Deschutes Basin.
Region	1	Respond within one day whenever possible to users who request information or assistance. Requests may be for help in navigating the StreamNet web site to find desired information, help in learning to use the on-line data query system, help in finding information not contained in StreamNet, assistance finding GIS layers, providing unique or customized data, or a variety of other types of requests.	Regional staff responded to 48 requests for information or help during the quarter. These requests broke down by type as follows: GIS (18), assistance finding data (11), maps (4), general fish biology (3), general fisheries (1), error reports (3), help finding images (1), query system help (1), other (6). These requests broke down by type of person making request as follows: federal agency (13), private consultant (6), nonprofit organization (5), general public (4), university faculty (3), NW Power Planning Council staff (3), tribe or tribal organization (2), state government (3), local government (2), other/unknown (7).
WDFW	1	Generate maps, data reports, and electronic copies of data sets as requested. Provide PRIORITY data support for subbasin assessments and other new elements of the NWPPC Fish & Wildlife Program, within existing resources.	1. All staff responded to data requests and documented them in a detail database available on request. Our clients continue to be interested in all data types. 2. WDFW staff responded in detail to a client who posted a response to the StreamNet Web site concerning the absence of fish distribution data in an area above the Cowlitz Falls dam where fish are being hauled on a regular basis. This type of distribution data is coded as "Documented-Artificial" in the WDFW database, and fish distribution data sent to StreamNet in the past did not include this sub-category. The new Generalized Fish Distribution data format supports inclusion of this distribution type, so we explained that these data will appear in our next data submission.

Objective 4 Library / 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

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Objective 4 Library / Reference Services

Task 1 Collection Development

Develop a collection of materials applicable to the mission of StreamNet. Collect, catalog and organize materials to document data sources, Fish and Wildlife Program activities and reports, and other gray literature for access by regional scientists, agencies, interested parties, and other libraries.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Coordinate source material submissions for data compiled by participants.	We received and cataloged materials from California and Washington.
CRITFC	2	Develop 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.	Approximately 250 new items were added to the library catalog. We also received materials that are not yet cataloged.
CRITFC	3	Maintain and develop a collection of journals related to fisheries and aquatic sciences as well as other related scientific topics.	1. We continued to review subscriptions for FY 2003. We will no longer be using a subscription agent, which will save money and enable us to subscribe to one or two more journals. 2. We received over 300 items to fill gaps in collection through duplicate exchange.
CRITFC	4	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.	We continued working with the Regional Data Manager to integrate the library reference table in the SQL Server database.
MFWP	1	Update the StreamNet library with references and publications from the Fisheries Division Library on an annual basis.	We will update when it is requested.
MFWP	2	Collect and catalog supporting references to document the sources of the distribution information and other data types developed under Objectives 1 and 2, and to connect the data to references. Submit updated references to the StreamNet Library	Work continued on this ongoing job.

ODFW	1	Update library bibliography of ODFW, Fish Commission, and Game Commission reports with historic and current publications.	The ODFW Librarian continued to maintain the library bibliography.
ODFW	2	Provide originals/copies of all documents and reports referenced in the compilation of new StreamNet data holdings, but not already housed in the StreamNet Library.	We submitted four additional references to the StreamNet Library and updated ODFW's Reference Database to keep it in sync with StreamNet's.
ODFW	3	Organize and submit to the StreamNet library all references related to the data developed under Objectives 1 and 2.	This component is essentially a sub-component of Objective 4, Task 1, job 1. Therefore no information is provided here.

Objective   4   Library / Reference Services

Task   2   Provide Access to Collection

Provide user access to the materials described in Task 4.1 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, Third Quarter 2002
CRITFC	1	Provide and maintain an appropriate facility for the storage and public use of the StreamNet Library collections.	Negotiations continued for increased space for the library. We continued to digitize documents, especially historical Oregon Fish Commission documents received from Gloria Bourne.
CRITFC	2	Catalog and organize the materials for ease of use by clients and staff.	We continued work on integrating materials into one subject run.
CRITFC	3	Provide access to the catalog of materials via the Internet and update the online catalog on at least a monthly basis.	1. The StreamNet Library web page was updated frequently with news about the library. We also uploaded bibliography pages for users and began using the Web as a delivery tool for reference requests. 2. The catalog was updated monthly.
CRITFC	4	Develop and execute a plan to place electronic documents in the catalog and on the library website.	We continued digitizing documents for patron requests. We also worked on digitizing the historical collection of Oregon Fish Commission documents.
CRITFC	5	Develop and keep schedule of open times and reference desk staff hours.	Todd Hannon was hired as the Assistant Librarian. We are working on a new schedule for the reference desk and open times.

Task   3   Library Services

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

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Provide information and reference services to library clients	The StreamNet Library answered over 365 requests for information. (The Interlibrary borrowing statistics are now included in this field.)
CRITFC	2	Provide information about services and hours to library clients via print and Internet	1. The library services webpage was revised to reflect an increase in copy prices. 2. We revised the library brochure to reflect staff changes and current open hours.
CRITFC	3	Provide interlibrary borrowing services for library patrons to access materials not yet owned by the StreamNet Library.	These statistics are now wrapped into the reference requests (see Objective 4, Task 3, Job 1).
CRITFC	4	Provide access to hardcopy and electronic files of draft and final documents related to subbasin planning and the NPPC amendment process.	Work has been delayed by delays in initiation of subbasin planning itself.
CRITFC	5	Identify changes and new features that will improve delivery library services	We changed delivery of electronic documents to Web-based rather than sending via email, since most email systems will not accept large attachments anymore.
ODFW	1	Enhance, maintain, and update ODFW Library software and procedures to ensure adequate tracking of information requests, key word searches, and easy comparison to the StreamNet Library holdings.	The Database Manager finished customizing ODFW's Library application. He also downloaded all of the Librarian's bibliography records and initiated the transfer of all the data into the new DBtext database, insuring that any duplicates from the various source files are not included.
ODFW	2	Respond to requests for ODFW documents and other source materials through the ODFW Library.	Few document requests were filled this quarter because the Oregon Librarian focused her efforts on moving the Oregon Library holdings to a new location. Requests were forwarded to the StreamNet or other libraries dependent upon the request.

Objective 4 Library / 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, Third Quarter 2002
CRITFC	1	Provide interlibrary lending services for other libraries to access the library's unique collection	We provided over 50 items to other libraries.
CRITFC	2	Maintenance of memberships in appropriate library and subject-related associations. Ex. IAMSLIC, NRIC, OFWIM, etc.	The StreamNet Librarian began serving as Treasurer of NRIC (Natural Resources Information Council).
CRITFC	3	Provide consultations for groups and other agencies on library organization and services.	We answered a request for information from the City of Portland Environmental Division on setting up a library catalog.
CRITFC	4	Coordinate with other StreamNet libraries, library clients and other libraries to improve service to clients and limit duplication of effort.	We worked with Gloria Bourne at the ODFW Library to ensure that we would have access to portions of that collection after it is closed at the end of June.
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	No work was accomplished on this job because of delays in the subbasin planning process itself.
ODFW	1	Provide an index of Oregon Fish Commission, Oregon Game Commission, and Oregon Wildlife Commission processed reports to the StreamNet Library for the purpose of identifying documents that are not currently within library holdings.	Fewer than normal documents were provided to the StreamNet Library during this quarter due to efforts to move Oregon Library holdings to a new location. Some old Oregon Fish Commission documents were provided to the Library for digitizing.
ODFW	2	Coordinate with the Oregon State Library system to enhance access to published periodicals, journals, and other documents for StreamNet users.	No significant coordination took place this quarter due to efforts to move Oregon Library holding to a new location.

Objective 5 Services to Fish and Wildlife Program Activities

Provide technical data services to Fish and Wildlife Program decision-makers and appropriate Fish and Wildlife Program projects

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Objective 5 Services to Fish and Wildlife Program Activities

Task 1 Data and services to support the Subbasin Planning effort

Within existing data categories and staffing levels and as workloads permit, assist Subbasin Planning efforts by 1) providing data in formats that fit planner needs, 2) working with planners to locate data within the StreamNet database and contributing projects' databases, and 3) advising and assisting planners on data management issues.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Provide described services to CRITFC staff working on subbasin planning and NMFS' TRT groups	Effort this quarter was modest and focused at advising the subbasin planing process to plan how to manage the new information which will be collected. Recognition is growing that StreamNet will be a necessary component of this effort. Actual work in this area has been delayed by a slow Council process to actually initiate subbasin planning.
MFWP	1	Work with Montana's CBFWA representative involved with subbasin planning and provide data, map products and assistance as needed.	The project leader discussed posting the subbasin planning information and progress on the FWP website. Will meet with contractor next quarter.
ODFW	1	Participate in Subbasin Planning meetings and provide data, advice, and related assistance to subbasin planning efforts in Oregon (within existing resources and as workloads permit)	1. The NRIMP Project Leader reviewed the Oregon Subbasin Planning Technical Tasks document distributed by Phil Roger and provided comments. 2. The NRIMP Project Leader participated via conference call in the June14 Oregon Subbasin Planning Coordination meeting. 3. The NRIMP Project Leader talked with Bruce Schmidt and Drew Parkin regarding StreamNet's and Oregon's roll in Subbasin Planning and about possible funding options/sources.

Objective 5 Services to Fish and Wildlife Program Activities

Task 2 Support monitoring and evaluation efforts

Assist in the development of products that contribute to the monitoring and evaluating (M&E) of Fish and Wildlife Program effectiveness. Specific areas of involvement will include: participation in Program-related monitoring and evaluation work groups; periodic re-evaluation of the StreamNet data plan to ensure consistency with M&E needs; and design of databases and formats to house and disseminate M&E information to the degree possible under the existing contract.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Work with NMFS, NWPPC and subbasin planning groups to identify M&E needs and plans	The project leader worked with other CBFWA members to develop an M&E development project for submission under the Council's rolling provincial review. This project would provide an overall, statistically credible M&E framework, providing a core set of M&E parameters for all areas and a matrix for coordinating additional site specific efforts.

Objective 5 Services to Fish and Wildlife Program Activities

Task 3 Support for and participation in regional data management initiatives

Work with regional entities to promote and implement sound data management programs that ensure efficient organization, management and delivery of pertinent fish and wildlife related information within the Columbia Basin. Efforts may include determination of regional data needs, identification of obstacles and challenges to effective regional data management, and development of recommendations and will take place in a collaborative atmosphere.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Participate on Regional Data Management Committee and other groups to improve data management in the region	The project leader is a member of the NWPPC/NMFS Columbia Basin Collaborative Information System project team. Work this quarter focused on developing an information needs survey which will be administered next quarter.
Region	1	Participate with regional entities in the development of effective regional data management programs and approaches. Provide input based on years of StreamNet experience with management of data sets on a regional basis, along with insights into challenges, obstacles and costs. Support effective regional data management and delivery at reasonable cost with avoidance of duplication of effort. Support and encourage regional data needs assessments.	StreamNet began formal participation in the regional database needs and inventory project being conducted by SAIC under contract to the Council. We attended an organizational meeting in Boise in April and accepted a role on the Project Team. Initial efforts included review of project documents (including the study approach, explanatory documents, and questionnaires to be used to solicit information), and in providing input on organizations and names that should serve on the Coordinating Committee and/or be included in interviews and focus groups.

Objective   5   Services to Fish and Wildlife Program Activities

Task   4   Archive function for regional 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, Third Quarter 2002
MFWP	1	Be available to Montana entities as a source of information and assistance for capturing F&WP-related data, as needed.	There were no requests received during the quarter.
Region	1	Research and obtain resident fish data sets developed by BPA-funded projects. Where data are of a type similar to StreamNet data types, work with project sponsors to capture data in StreamNet format and enter into the StreamNet database. Where data are of a different type, work with project sponsors to identify the best means to post useful data in an archive format 'as is.'	The first phase of the project to inventory information on resident fish species gathered by BPA funded projects was completed. All projects were contacted, either by the Regional Data Technician or by state StreamNet staff, and information on data contents, format, availability, etc. were entered into a spreadsheet. The Data Technician wrote a progress report detailing the information obtained during the inventory. During the inventory, the technician found that much of the data of types that are included in StreamNet are already being captured and included in the StreamNet database. Efforts to obtain other data on resident fish species will be carried out by the State StreamNet projects only as time and other priorities permit.

Objective   5   Services to Fish and Wildlife Program Activities

Task   5   Data and services as requested by other FWP participants

In consultation with CBFWA, the Council, and BPA, StreamNet will provide technical assistance and data services to Program projects as requested, to the degree possible under the current contract.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
IDFG	1	Provide technical assistance to fisheries projects in IDFG. Under current funding from both the F&WP program and IDFG, we are very limited in our ability to provide this assistance. Assistance will generally be focused where there is some mutual benefit to both StreamNet and the other project.	1. Much of the IDFG redd count data comes from the Spawning Ground Report. As a service to IDFG and to facilitate StreamNet obtaining accurate data, we helped to develop and write the Spawning Ground Report. 2. We worked with the Upper Snake Native Salmonid Assessment to incorporate StreamNet data formats into their database. 3. We also worked with the Cutthroat Trout Genetics project to develop a database that could be incorporated into StreamNet in the future. 4. At the request of the Northwest Power Planning Council staff, IDFG/StreamNet contacted all FWP resident fish projects in Idaho to obtain information on the types and availability of data being collected. This summary was included in a basin-wide report compiled by StreamNet and presented to the NPPC staff.

MFWP	1	Data services will be provided by Montana StreamNet staff on request.	The project leader met with Montana's NWPPC member and staff and MFWP Fisheries Division Administrator to review Montana's program. It was very well received. They requested that the project leader give a similar presentation at the August NWPPC meeting in Helena.
ODFW	1	In consultation with CBFWA, the Council, and BPA, Oregon StreamNet staff will provide technical assistance and data services to Program projects as requested, to the degree possible under the current contract.	1. At the request of the ODFW CBFWA representatives, the NRIMP Project Leader provided comments on a BPA funding proposal that may impact Oregon projects. He also coordinated with Oregon's CBFWA Representative regarding StreamNet's Provincial Review Summary and talked specifically about how ODFW can help. 2. The NRIMP Project Leader developed a StreamNet 'product matrix' at the request of Tony Nigro as part of the SN three-year proposal development.
Region	1	Respond to requests to the StreamNet project from F&WP participants for data, maps, or GIS products or general assistance. Provide assistance, including custom map work where feasible. Direct users to other resources if requests exceed project capabilities.	1. Regional GIS staff provided assistance and advice to the Kalispell Tribe to assist their development of mapping capability and a web site to deliver information. 2. The program manager worked with Council staff to hire a statistician to work in the NMFS NW Fisheries Science Center to support the SWAM project. Interviews were held and the selected candidate began work in April. 3. The program manager participated with USACE staff in review of several existing databases to assist USACE select a database system for storage of water quality data.

Objective   5   Services to Fish and Wildlife Program Activities

Task   6 Protected Areas

StreamNet will a) maintain and provide access to the Council's Protected Areas dataset, b) archive the official version as a historic record, and c) in consultation with the Council, respond to requests for information concerning Protected Areas

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
Region	1	Maintain the Protected Areas database within the StreamNet database	Protected Areas data tables were appended with LLID, BegFt, EndFt determined by the project to convert these data from the 1:250K River Reach referencing system to the 1:100K LLID system. In cases where conversion was not possible due to ambiguity or possible coding problems, QIDs were developed to georeference whatever was determinable based on the HUC code embedded in the River Reach Code, e.g., Region, County or State where an undeterminable stream reach fell in a HUC contained in only one Region, County or State.

Objective 6 Project Management / Coordination

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

Objective   6   Project Management / Coordination

Task   1   Manage project activities

Administer all aspects of the project at the regional and sub-contractor levels, including oversight of budget, personnel, work statement preparation and implementation, coordination among participating agencies, active participation in steering committee work, and project reporting.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Attend and participate in Steering Committee meetings	The CRITFC StreamNet project leader participated in the quarterly Steering Committee meeting.
CRITFC	2	Effectively administer the CRITFC StreamNet project	Normal project and personnel management was provided. The Assistant Librarian resigned and was replaced by a highly qualified individual from the University of Oregon Library. Otherwise, work was very routine this quarter.
FWS	1	Represent FWS in Steering Committee meetings. Produce quarterly reports w/in 30 days of quarter end. Produce FWS component of FY2001 final report. Create FWS StreamNet budget & statement of work for FY2003. Contribute FWS portion of Project Renewal documents.	The FWS StreamNet project leader attended the May 8 & 9 Steering Committee meeting at the Mallory Hotel in Portland, OR, and prepared Q1 and Q2 quarterly reports. He prepared the USFWS portion of the Project Proposal to BPA. He helped the Library staff obtain a copy of a Fish & Wildlife Service document prepared in the FWS Oregon State Ecological Services Office.
IDFG	1	Prepare budgets, work statements, and progress reports	1. The IDFG StreamNet project coordinator completed the FFY2002 second quarterly report. 2. The coordinator also managed the IDFG/StreamNet FY 2002 budget, leveraging new support from within Idaho Department of Fish and Game. 3. The IDFG/StreamNet project coordinator prepared the FY 2003-2005 FWP StreamNet proposal and budget. In addition to identifying objectives, tasks and budgets, this work included summarizing newly supplied in-kind match by IDFG and identifying other FWP projects which StreamNet provides a significant support contribution. It also included, at the request of a CBFWA representative, a budget expanded beyond the base StreamNet program to include all potential data categories. The IDFG/StreamNet proposal was combined with the other StreamNet participants to create the new overall StreamNet FWP proposal.

IDFG	2	Provide project management and staff supervision for IDFG StreamNet.	The IDFG/StreamNet project manage provided project planning and management to IDFG/StreamNet. He provided supervision for all IDFG/StreamNet staff.
IDFG	3	Participate in Steering Committee activities, including Steering Committee meetings, project direction, and data exchange format development.	Due to scheduling conflicts, IDFG/StreamNet did not participate in this quarter's steering committee meeting.
MFWP	1	Provide normal supervision of Montana StreamNet staff and project. Produce quarterly reports within 1 month after the end of each quarter. Produce final report within 2 months of the end of the contract period. Participate in Steering Committee meetings. Collaborate on developing a final detailed Statement of Work for FY02.	The Project leader requested and received pay increases for several staff. The project leader began the job posting process for a new position in Helena.
ODFW	1	Administer all aspects of the project for Oregon, including budget oversight, personnel, work statement preparation, staff work plan preparation, project implementation and coordination, reporting, and participation with the Steering Committee and technical issue working groups.	1. Meetings: Several Oregon staff prepared for and attended a StreamNet Technical Team meeting where issues regarding data management and workload were discussed. Meeting attendees also brainstormed ideas about how the current system falls short and how we might go about correcting inefficiencies. Other discussions included the potential role of Tech Teams, Forum design, Data Exchange Protocols / Forms, Frequency of DEF updates, priorities for DEF changes and how and what to bring before the Steering Committee. Oregon's Project Leader met with representatives from ODFW's CBFWA and Habitat Division to discuss 1) StreamNet's 3-year project proposal to the Power Planning Council, 2) the Council's SAIC database development effort, 3) the lack of response from ODFW staff to our data requests, and 4) a strategic vision of where our project should be planning to go in the future. The NRIMP/StreamNet Project Leader participated in ODFW's System -wide Proposal Review meeting via conference call. He also attended the CBFWA Member's Management Group meeting with Bruce Schmidt to present StreamNet accomplishments and discuss future directions. 2. Reports and SOW: Oregon reviewed and commented on the 2001 StreamNet Annual Report draft. Oregon StreamNet completed and submitted it's 2002-1 Quarterly Report. Staff spent a considerable amount of time developing Oregon's portion of the StreamNet Rolling Provincial Review funding proposal. 3. Training: The Assistant Database Manager attended a Visual Basic Programming class at Central Oregon Community College (COCC). The Database Analyst attended a free grant writing workshop and received a great workbook that covers the presentation and grant writing process very well. She also completed a free, on-line SQL course at sql.com. Oregon StreamNet's GIS Analyst attended a week-long ESRI instructed course titled, "Introduction to Programming ArcObjects with VBA". The class provided exceptional instruction on how to work with the nuts and bolts behind the ArcGIS suite of tools." The 24K GIS Coordinator attended a half-day defensive driving course.

4. Library: Oregon's Librarian was instructed during this quarter to curtail normal Library operations and focus almost exclusively on relocating the library holdings to the new library facility.

5. Hardware/Software/Equipment: At the invitation of Microsoft, Oregon StreamNet's Database Manager took two beta tests on the .NET framework. The first test was on Developing Windows Applications with Visual Basic .NET and the .NET Framework. The second was on Developing Windows Applications with C++ and the .NET Framework.

| Region | 1 | Project Administration: Perform ongoing administration of the StreamNet project, to include budget development and tracking, contract monitoring, personnel functions, inventory control, etc. | An FY 03-05 StreamNet Project proposal and estimated budget were prepared for consideration under the Mainstem and Systemwide Province under the Rolling Provincial Review process. Because there have been numerous requests for data types not included in the current StreamNet database, we prepared a proposal that included maintenance and update of existing data categories as part of the base project plus a list of data categories that could be obtained if resources were available and the region deems them high priority. To be considered for inclusion in this list of potential new data types, the data had to already exist (since StreamNet is not able to do field sampling), the data must be of value to ongoing analysis, management or planning activities in the basin, and the data are not being managed on a regional basis by other entities. The proposal was developed with the intent of initiating regional consideration of data priorities, and with full realization that funding constraints would not allow funding of all new data types in the proposal. The proposal was submitted by the established deadline. |
| Region | 2 | Reporting: Submit quarterly progress reports to BPA within one month of the end of each quarter and submit an annual report within two months of the end of the fiscal year. | The delayed Fiscal Year 2001 Annual Report was completed and submitted in April. Once the project proposal was submitted, considerable effort was placed on catching up on the quarterly reports. The First Quarter Report was completed and submitted for review by the Steering Committee. It will be formally submitted the first week in July. Input was received from three of the projects and from Regional staff for the Second Quarter Report. Completion of this report is anticipated in mid July. |

WDFW	1	The WDFW StreamNet state coordinator will participate in all Steering Committee and StreamNet Project management activities, including meetings and follow-up work assignments (progress reports, Statements of Work, budgets).	1. The WDFW StreamNet Data Manager led the April 8, 2002 StreamNet meeting that assembled all available technical staff from each participating agency. It was a meeting that will go down in infamy, failing in the intent to rally the technical members to learn about the staff and work process in each agency, brainstorm about the technical issues of the management and data flow and identify plans to tackle these obstacles. 2. WDFW staff drafted work proposals, budgets, and FTE information for FY2003 in the various required formats. In addition, staff generated out-year budget estimates for FY2004 and FY2005, as well as supplemental budget and work proposals for two FTEs worth of "new work", in coordination with other StreamNet participants. 3. The WDFW FY2002 Second Quarter report was finalized and submitted. 4. The WDFW StreamNet Project Manager and Data Manager attended the May 7-8 Steering Committee meeting and gave progress reports on data development work, exchange formats work, and other related initiatives. At this meeting, the Steering Committee reviewed and assessed the success of the April Technical Committee meeting and drafted the format and initial content of the StreamNet FY2003-05 Budget Proposal to BPA.
WDFW	2	The state coordinator and the state data manager will jointly manage all aspects of StreamNet in WDFW, including budget, personnel, work scheduling, and product delivery.	We spent considerable time gauging employee workloads and procuring promotions as warranted.

Objective   6   Project Management / 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 and its data development activities.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Work with NWPPC and related agency staffs to improve data management services to the region	The project leader worked regularly with tribal, state, and federal staffs to coordinate recovery planning and subbasin planning efforts. Most of this quarter was devoted to developing a consensus on the core technical activities shared by these two efforts. Emerging from these discussions is a recognition that StreamNet is likely to be an important component of both efforts for providing data management services.

MFWP	1	Provide services as requested	The project leader has provided input to funding process and procedures.
Region	1	Work with regional entities to contribute data management expertise with development of activities within the scope of the Fish and Wildlife Program.	1. PSMFC and WDFW personnel met with Jim Lemieux of the Kalispell Tribe to discuss the Resident Fish Stock Status Above Chief Joseph and Grand Coulee Dams (JSAP) project. Discussions revolved around types of data in StreamNet, and how data collected under JSAP could be incorporated into StreamNet. 2. Regional staff attended three aquatic monitoring coordination meetings called by the USFS. USFS aquatic monitors for the Northwest Forest Plan area are exploring interagency coordination to lead to improved and more efficient monitoring of streams and riparian areas. They are seeking eventual agreements on monitoring protocols between federal and state agencies. In addition, they are looking for data management and hosting assistance, and thus contacted us in this regard. 3. Regional staff spoke with Mike Edmondson of Idaho Department of Environmental Quality about a regional macroinvertebrates database. This conversation resulted in IDEQ supporting the StreamNet effort to create a regional macroinvertebrates database, and an agreement for IDEQ's involvement. Comparisons of the StreamNet and IDEQ macroinvertebrates databases indicated that the two systems should probably work together well. 4. The program manager met with the CBFWA Members Management Group to familiarize them with the StreamNet project, fill them in on recent activities and accomplishments, and inform them of the need for greater regional input on needs and priorities. The approach and intent of the new FY 03 proposal was explained. 5. The program manager worked with ODFW staff to formally explain by letter the long term intent of StreamNet to continue support for positions in ODFW to gather data, but explained that as an annually contracted project, no absolute long term assurances were possible.

Task   3   Coordinate with other related activities

Maintain communications between StreamNet and other applicable regional and state-fish and wildlife activities 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, Third Quarter 2002
CRITFC	1	Work with NMFS and non F&WP agency staffs to improve and provide data management services to the region	1. The project leader is a member of the NWPPC/NMFS CBCIS project team to assess Columbia Basin information needs and options. In the third quarter effort was spent developing an information needs survey. 2. The project leader worked regularly with tribal, state, and federal staffs to coordinate recovery planning and subbasin planning efforts. Most of this quarter was devoted to developing a consensus on the core technical activities shared by these two efforts. Emerging from these discussions is a recognition that StreamNet is likely to be an important component of both efforts for providing data management services.
MFWP	1	Maintain communication between state and regional entities	The project leader and data manager met with NHP and FWP staff to determine the approach for the Wildlife Database, and met with NRIS about hydrography issues. The project leader provides input to FWP administrators when appropriate.
ODFW	1	Establish / maintain working relationships with data collection projects within and outside ODFW to promote efficient and beneficial data sharing.	1. Oregon StreamNet's GIS Analyst attended a full day Oregon / Washington Hydro Framework meeting at the regional office of the Forest Service, where he learned the latest about the FGDC Content Standard, the Hydro Clearinghouse, the status of the hydro data processing and watershed coverage delineation. 2. The NRIMP Project Leader attended the first ODFW Data Management Workgroup meeting. He also participated in a meeting with BLM, USFS, and ODFW representatives to discuss the development of a statewide barrier prioritization process. He met with USFS staff to discuss merging ODFW's and the USFS's barrier databases. Lastly, he attended the EDT / EMAP / Comparative Survival Study meeting in Portland with Rich Carmichael (LaGrande), Bruce McIntosh (ODFW-Corvallis), and Kelly Moore (OWEB). 3. ODFW StreamNet's Barrier database structure was provided to BLM as an example of how they might design their new system. 4. The NRIMP Project Leader reviewed a recommendation from the Oregon Department of Forestry to revise the forest practice rule definitions for fish-bearing and non fish-bearing streams based upon a physical habitat approach. The recommendation lacked enough detail to do a thorough evaluation.

5. An attempt was made to contacted Bob Greswell to get information about his project proposal to "develop a database of vital information on historical and current distribution and important life history characteristics of coastal cutthroat trout in Oregon and Washington". This project was brought to our attention by Ken Bierly of OWEB.

Region	1	In order to broaden the scope and utility of the StreamNet database, develop appropriate proposals for data development activities that would compliment the main StreamNet data holdings. Ensure proposed work is not currently conducted by other entities. (Examples may include traditional StreamNet data types outside of the Columbia River basin, macroinvertebrates, water temperature, and habitat restoration.) Conduct of such work will be dependent on availability of additional resources. Once awarded, efforts will conform to the approved contract. Such work will be coordinated with this work plan so that activities under this task do not impede accomplishment of the remainder of the work plan. This task is necessitated by the fact that project staff have time available that is not covered by the. BPA contract	Several coding issues were brought up by staff working on California projects that coordinate with StreamNet. These issues were resolved and the improvements incorporated into the StreamNet DEF (both projects utilize the same DEF to maximize the ability to share data).

Objective   6   Project Management / Coordination

Task   4   Prepare and present public information related to the StreamNet Project.
As needed, produce public information materials and participate in various meetings and forums to explain the project's capabilities and purpose and to generate support and additional data sources. Activities may include brochures, demonstrations, posters and talks.

Project	Job	Planned work elements	Accomplishments, Third Quarter 2002
CRITFC	1	Prepare and present demonstrations and descriptions of the library services available through StreamNet	The CRITFC StreamNet project leader and StreamNet Librarian each gave a presentation at the Transboundary Conference in Spokane, WA: Towards Ecosystem-Based Management: Breaking Down the Barriers in the Columbia River Basin and Beyond.
MFWP	1	Determine if Montana needs any publications, documents and produce them if needed. Review regional products when necessary.	The Project leader presented information to Montana's NWPPC staff and member. She provided handouts concerning history of program

ODFW	1	Produce public informational documents on StreamNet data activities for natural resource oriented publications, give oral presentations to relevant user groups, and participate in various meetings and forums.	1. Oregon StreamNet's Distribution Data Coordinator submitted an article to ODFW's internal newsletter detailing the survey responses we've received from data users who download our fish distribution data. The article was also posted on the NRIMP website. 2. Oregon StreamNet's Project Leader attended the Region 6 USFS meeting in Welches, Or., and assisted Bruce Schmidt with presenting StreamNet and Oregon's Fish Distribution Development efforts to Forest Service staff attending the meeting.
Region	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities and accomplishments and to solicit additional data and involvement or coordination with the project.. Expected results would be enhanced visibility for the project, increased participation and data flow from agencies, improved coordination, and avoided duplication of effort.	1. A full database backup of the production StreamNet database containing all tables, views, and stored procedures was provided to Richard Kang, NMFS, per his request. 2. The program manager and fish biologist participated in a regional meeting of Forest Service fisheries biologists from all forests in the region and demonstrated the contents and functionality of the StreamNet data delivery system and discussed data issues. Forest Service biologists seemed to already be familiar with fish distribution data in StreamNet but were less aware of the various kinds of tabular data that are available.
Region	2	Develop materials to support the project. Improve public materials such as the StreamNet brochure, data inventories, etc. as needed. Maintain and update explanatory materials such as the Query System User Guide and documents that explain data categories and structures.	1. During the quarter, the first StreamNet Newsletter was prepared. A list of 7,034 unique email addresses were collected from several existing email lists, and by parsing email addresses out of available web pages. Several email discussion lists were identified to also send the Newsletter. Web pages and back-end programming was completed in order to let people use a link in the newsletter to easily sign themselves up for future newsletters. A last-minute problem caused by a software upgrade prevented us from sending out the newsletter this quarter. It will be sent early in the fourth quarter. 2. A first draft of a white paper describing the data available in the Habitat Restoration Projects portion of the StreamNet database was completed. The paper was sent out to StreamNet participants for comment in anticipation of it being posted on the web site as explanatory material.

Supplemental Information

Work accomplished outside the specific work elements in the FY 2002 Statement of Work

Describes specific accomplishments during the third quarter that did not relate specifically to any of the Tasks / Work Elements in the annual Statement of Work. Such work contributes to the overall mission of the StreamNet Project, but in some cases was opportunistic in nature, and in other cases was conducted by staff related to StreamNet but on other funding sources due to the fact that a number of StreamNet staff are supported by the StreamNet Project contract for only a portion of the year.

Project | Accomplishments, Third Quarter 2002

CRITFC   The CRITFC StreamNet project leader was named to be the tribal ex officio member on the Independent Science Advisory Board. The Project Leader was also asked to lead the technical team for the Council's subbasin planning efforts in Oregon. In this capacity, much effort (not at StreamNet expense) was spent scoping and developing watershed assessment methods and defining other technical tasks required to complete subbasin plans.

IDFG   1. Evan Brown, the new IDFG/StreamNet data manager, attended the IDFG new employee tour. The tour visits all the IDFG regional offices and gives new employees an opportunity to not only see the state, but to meet and visit with other IDFG employees. Evan already knew many of the fish biologists and he discussed StreamNet's capabilities and plans with them.
2. We completed a major office move in IDFG. StreamNet and IFWIS offices moved into new quarters within our building. This move provided StreamNet and IFWIS with more room in which to accommodate our new equipment and provide staff with more productive workspaces. The move included a new, secure room to house our servers as well as a common work area for printing, digitizing, scanning, etc..
3. Using non-StreamNet funds, we began a project to attach the IDFG fishing regulations to the StreamNet hydrography. The project is designed to provide web-GIS access to our fishing regulations, but should become a valuable StreamNet database in the future.
4. We provided technical assistance to the Idaho Conservation Data Center to help them decide whether to purchase a new custom data management system or to build one in-house.

MFWP   We have greatly updated the MRIS query system and renamed it to formal tasks in SOW   MFISH (Montana Fisheries Information System) since we have added the ability to query lakes and reservoir data as well as streams and rivers. Several new data categories were added and we modified the front-end to make it more user friendly. The project leader has been designated the co-coordinator for the agency to develop a Strategic IT plan. A draft plan was submitted to the State IT Department. The Unit was moved under Department Management from Fisheries due to the diverse services the unit provides and the multi-division emphasis. Work continued on the antelope layer, a centralized fur bearer data management system; a mule deer data management system and began work on an interactive Fish Planner. FWP GIS data will be downloadable from the FWP website next quarter.

ODFW   1. Staff continued development of life-stage timing unit data in the formal tasks in SOW   Umatilla, Walla Walla and Grande Ronde basins. He requested the Regional Ecosystem Office 5th / 6th field watersheds coverage to facilitate this work. We changed the original design the Timing user-interface to allow the user to add/update/delete the timing information and also to create periodicity tables based on Timing Units. At the present time, we have about 8,000 timing records and 23,000 associated detail records in the Timing Database.
2. The Assistant Database Manager provided technical support to ODFW Fish Screening and Passage Program throughout the quarter, including performing a data salvage effort after they experienced a data synchronization problem. She performed a cursory q/a check on some of the data to ensure error-trapping routines were catching data entry errors. She completed the development of Version 2.0 of the FishScreen database, including an updated User's Guide, and a new splash screen with copyright and funding statements

3. The NRIMP/StreamNet Project Leader drafted and submitted a FRIMA funding proposal in an effort to hire a dedicated person to work on Oregon's barrier data.

4. The NRIMP/StreamNet Project Leader met with Kathryn Kostow (ODFW Geneticist) and provided her with a copy of the Willamette-Lower Columbia TRT Database, and also introduced StreamNet's Genetics Database to her.

WDFW   The WDFW StreamNet Project Leader participated in two conferences calls as a member of the support team for the Columbia Basin Cooperative Information System Project, a Basin-wide information needs assessment being conducted by SAIC, Inc. The result of these meetings was a finalized schedule for a Research Trip by SAIC staff in July. This trip involves formal "interview-style" meetings with key data providers (including state fish and wildlife agencies). The Project Leader will co-host the Olympia meeting with Brian Walsh, Northwest Power Planning Council staff support person for Western Washington.

Region   1. The GIS specialist and GIS Data Technician enhanced a layer of digital hydrography for the state of California with unique stream assignments and an (LLID) routing system. This work was completed for high priority watersheds by the StreamNet project (on other funding), and work now continues by CDFG to complete this for the entire state. StreamNet personnel now perform an advisory capacity to assist with this work as needed. The final digital hydrography for California will be compatible with the PNW Reach File, which is used by StreamNet and other agencies and firms in the Pacific Northwest states (Washington, Oregon, Idaho, and Montana). This uniform format will allow exchange and comparative analysis of stream-based data between California and the Pacific Northwest states, and keeps the StreamNet database consistent with it's sister project in California.