

StreamNet

BPA Project Number 198810804

Fiscal Year 2001 Third Quarter Progress Report

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Table of Contents

Introduction.....	Page 2
Objective 1. Data Development.....	Page 3
Task 1.1. Anadromous Fish.....	Page 3
Task 1.2. Resident Fish and Other Aquatic Species.....	Page 12
Task 1.3. Habitat.....	Page 17
Task 1.4. Facilities.....	Page 18
Task 1.5. Habitat Restoration / Improvement Projects.....	Page 20
Task 1.6. Sub-basin Planning.....	Page 21
Objective 2. Data Management and Delivery.....	Page 24
Objective 3. Library.....	Page 40
Objective 4. Services to Fish and Wildlife Program Activities.....	Page 44
Objective 5. Project Management / Coordination.....	Page 49

Introduction

This report presents accomplishments of the StreamNet project for the Third Quarter of Fiscal Year 2001. The report is organized to clearly link accomplishments by the project participants to the tasks and responsibilities detailed in the FY2001 Statement of Work. It is organized by task for all project participants rather than by individual project participant. Since not all tasks are addressed each quarter, and project participants often work on different tasks at different times, some tasks do not show activity in the Third Quarter. Those tasks with no activity are not listed in this report.

Project participants contributing to the StreamNet project were Columbia River Intertribal Fisheries Commission (CRITFC), US Fish and Wildlife Service (FWS), Idaho Department of Fish and Game (IDFG), Montana Fish, Wildlife and Parks (MFWP), Oregon Department of Fish and Wildlife (ODFW), Pacific States Marine Fisheries Commission (Region), and Washington Department of Fish and Wildlife (WDFW). The Shoshone-Bannock Tribes (SBT) have been a participant for a number of years, but they are currently fazing out their participation in the project due to other workloads, and were not active this quarter.

Objective 1 Data Development

Increase the knowledge base concerning the region's fish and wildlife resources through the acquisition of new information that responds to emerging needs as well as the updating and enhancement of production and survival trends and other existing information.

Objective 1 Data Development

Task 1 Anadromous Fish

Acquire data sets related to salmon, steelhead and, where data are readily available, other anadromous fish populations from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.a Distribution, Life History (use type), and Barriers

Document the occurrence, distribution and habitat use of anadromous species, related barriers to migration, and life history characteristics

Project Work Element

Accomplishments, Third Quarter, FY2001

ODFW 1 Update, maintain, correct and exchange barrier information.

1) Entered Lower Deschutes and Hood basin Barrier records (from CREP Project) into the barrier database.
2) Updated several LLIDs in the database.
3) Synchronized the ODFW barrier database replicas with the master copy.
4) Added 3 hatchery-related barriers in the Willamette Basin. These were primarily test records to ensure the database structure can accommodate specific requirements associated with this type of barrier data. Assuming this data exchanges successful into the online query system, we would anticipate providing more records in the future.

ODFW 2 Update, maintain, correct and exchange anadromous fish distribution information (DistUse and DistPresence tables).

Compiled DistPres data from multiple projects into a single database. Acquired and processed all Oregon BLM and some USFS fish distribution data as part of the 24k Project.

ODFW 3 Modify / refine the automated approach to populating the FishBarrier table (as needed) and rectify any new anadromous distribution information with the barriers database.

1) Entered Lower Deschutes and Hood basin Barrier and Fishbarrier records (from the CREP Project) into the barrier database.
2) Added several hatchery facility-related barriers found in a report developed by ODFW pathology staff.

ODFW 4 Design and develop a database to capture carcass placement data.

Duplicate task - information provided under Objective 1, Task 5.b - Work Component 2.

ODFW	5 Update (and modify if needed) the Fish Presence Survey database which helps populate the DistPresence table.	Continued to enter data into the Fish Presence Survey Database which is designed to capture Oregon's upper fish distribution and culvert information collected by ODF/ODFW surveyors. To date, 4,918 records have been entered. Began modifying the design and structure of the Database to facilitate more efficient data entry by users. FPS data was processed into GIS coverages.
ODFW	6 Update (and modify if needed) the Incidental Fish Observation database, which captures incidental species observations not routinely reported in agency documents, which helps populate the DistPresence table.	Continued to enter forms as they came in - currently, 30 of the 112 records in the database are for Col. Basin streams. New information will not be processed and submitted to StreamNet due to budget cuts.
ODFW	7 Identify appropriate documents/references for anadromous fish distribution data in order to populate the DistPresence table.	Ongoing.
ODFW	8 Update, maintain, correct and exchange photographic information (MapCat and related tables).	Synchronized the ODFW image database replica with the master copy.
ODFW	9 Populate the genetic origin and production origin fields in StreamNet distribution exchange format for all anadromous fish distribution data in the Columbia basin.	This task was dropped due to budget cuts. Standards and definitions need to be developed in order for this work to occur. General definitions for Oregon were established as part of the 24k Project.

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.b Adult Abundance

Escapement, redd counts, trap counts, dam counts, hatchery returns

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
FWS	1 Compile FWS hatchery return data for FWS hatcheries	Continued making corrections in data
IDFG	1 Compile 2000-field season redd count data and 2000 field season hatchery return data and submit to the regional database.	1) Continued work to tie chinook and steelhead redd count transects to 100k LLID routes. 2) Using our data management tools, Idaho Supplementation Project began to enter redd count data into system.

ODFW	1 Update existing abundance and index trends (escapement, redd counts, trap counts, peak/other spawning counts, etc.) for anadromous species through 1999 and modify as needed to adhere to the 2000.2 Data Exchange Format. Four data submissions are planned.	<p>1) Checked stream route measures in relation to Trend measures.</p> <p>2) Submitted updated data to StreamNet at the start of April, which included 2,064 trends that had been corrected from a coding mismatch in the Category and TrendType fields.</p> <p>3) Continued updating trends from the Columbia Basin and Coastal HUCs as information became available. A total of 96 trends were either updated or created during this period. Of the 96, 36 were Adult Return - Estimates of Spawning Population, 52 were Adult Return-Peak/Other Spawning Counts, and 8 were Adult Return - Redd Counts.</p> <p>4) Met with Julie Firman to become more familiar with Stratified Random coho survey data. Ran queries to organize the Access tables provided by Julie to begin updating the SRS data.</p>
ODFW	2 Compile data on returns to ODFW hatchery facilities (updated for 1997, 1998, and part of 1999 returns).	No effort made this quarter. - Database Manager was hired in the latter part of the quarter.
WDFW	1 Update and exchange hatchery returns through 1999 in StreamNet data exchange format.	<p>1) WDFW staff considered a request by CRITFC's John Whiteaker asking for 2000 returns data in a specific format that would require a lot of preparation. Woodard sent Whiteaker the raw 2000 returns data and explained that priority conflicts limit our ability to prepare the data in the format he requested. Yet we noted his format needs will be considered in the current draft proposals for StreamNet's hatchery returns data format (Objective 2.3 Work Element 2).</p> <p>2) Woodard completed WDFW's new internal StreamNet hatchery return database that will be more flexible than our previous internal database. He restructured and rolled up the WDFW's Hatchery Division Form 5 data for return year 1999-2000 and updated this internal system. Considerable work must be done to roll-up the data correctly. Through this effort he found discrepancies between the Hatchery Division database and their Final Hatchery Escapement and Brood stock report. Woodard met with Kyle Addicks (Hatchery Division) to discuss the issue. He learned that the Hatchery Division do not correct their Form 5 database when errors are found yet the corrections do get reflected in the reports. So Woodard also spent considerable time proofing older 1995-1999 hatchery returns data for similar issues. Most of this older data had already been sent to StreamNet but now it must be re-exchanged after we confirm the corrections. Also through this effort, Woodard added two new fields to his internal system to handle Shipped/Planted fish and made minor adjustments to meet the needs of WDFW biologists and future accounting changes.</p>

the status of WDFW's Hatchery Division priorities and other internal staff priorities (Cox) that could possible play into the Form 5 issues (timely restructuring of data and the internal discrepancies) and other miscellaneous format issues. The facts of that discussion are related here. Historically WDFW's Hatchery Division has never had the staff to efficiently manage their data. Historically Cox's position works with their release data and where possible, advises or helps them create more efficient release data systems. Release data remains Cox's current priority but he also has low priority involvement with returns data but only as it relates to WDFW's Future Brood report of how many eggs each hatchery has. The Form 5 database doesn't need to be re-designed for WDFW's internal goals. Other external goals like the delivery of CWT recovery records to the Pacific Salmon Treaty's Regional Mark Information System do not need details on males, females or eggs. StreamNet's current format wants that detail and we don't want to exclude it. The focus now for WDFW StreamNet staff is to help WDFW's Hatchery Division correct their Form 5 database for past and future errors to avoid the inefficiency and confusion caused by only correcting the reports. Woodard will continue his discussions with Kyle Addicks to insure our next returns exchange with StreamNet reflects accurate counts. O'Connor has started discussions with Brian Edie for more permanent solutions. We may use Larry Brown to build a form so the Hatchery Division can correct past and future data errors to improve overall efficiency.

WDFW 2 Update and exchange natural spawner data (returns and/or redd counts) through 1999 for available species (CR, PS)

1) WDFW's internal StreamNet data collection system has been very inefficient for escapement data since new StreamNet formats for this data category were adopted in July 1998. The new formats forced the need to go back to original data sources to provide key information and left our internal automated B11 system mostly obsolete. Unfortunately it didn't die completely at that time because it took that long to demonstrate to all that we shouldn't rely on sophisticated automated systems that only a programmer can fix and to find the time to invest in another solution. If compiler's design their own basic but flexible system, they can adapt quicker to changes and for the time spent they learn more about a basic database manager software's capabilities instead of the myriad nuances of a complex automated system that are only specific to that system and will be obsolete the instant a format change is needed. This approach also yields more compiler proofing skills.

trying to compile data per the StreamNet format while still keeping our old internal system alive. Since our greatest gain was at the end of this quarter, last quarter's work and this quarter's early work seem redundant and portray a confusing story when described chronologically or in detail. Of all the data categories, escapement data is the most complicated to assess if or when any data collection effort is complete because the data is scattered widely in bits by geographic area, species, race and escapement data type. Add that complexity with any other inefficiency and it's even more difficult to understand what's complete and what still needs to be done.

3) This quarter we reached a significant milestone in managing our data more efficiently when Smith built a new flexible escapement database system per the current StreamNet format. She updated the new system with the data already on hand and any new 2000 data she collected to date. She also converted any Washington area natural spawner escapement data 60K trends originally compiled by PSMFC to WDFW trends, after comparing them with WDFW's current records.

4) We also made headway in building a clearer picture of what's complete and what still needs to be done at any point in time. Escapement data is so complex that we'll probably need at least two tools to show the data status. StreamNet's existing HistoricStat code are one tool that explains if data exists for that trend that precedes our earliest compiled record. The TrendStat code explains if any data exists for that trend that post-dates our latest compiled record. Yet, the codes must be determined and entered. Smith started entering these codes. Sikora reviewed the standardization of her effort, to date, and noted the process does help spotlight missing data records. Smith also contacted Ron Egan and Art Viola to track down more TrendStat and HistoricStat information. Completing and maintaining these codes will continue as a priority and we will continue to think of another tool that accurately describes the data at a broader level. Trend by trend descriptions only show part of the picture.

5) As time permitted, Lensegrav continued collecting anadromous species life cycle information for a future visual aid to display the cycles as a quick reference to aid data proofing and predict data availability.

6) Concurrent with Smith's work on salmon escapement and building the system that ultimately will carry salmon and steelhead data, the Olympia staff worked to improve the status of past and future steelhead escapement data. This quarter Sikora seriously started processing salmon escapement data that Woodard submitted in December. Processing this escapement data was delayed due to higher priorities on hatchery returns, hatchery facility and bull trout distribution data. Her work focused on converting all the salmon data to StreamNet's new format and integrating old StreamNet steelhead data in the new format. She identified a few steelhead records that could be updated with current format field requirements by just getting the information from the original publications. This search revealed few StreamNet records could be traced to the original publications. The issue was partially explained by Sikora's internal error in translating and preparing one complete file of our old internal B11 database trend locations and carrying the error through to other files. Sikora fixed the master B11 files and the working reference comparison files. After Sikora's error was corrected, late in April Lensegrav verified which existing StreamNet steelhead natural spawner records truly can and cannot be traced to the cited publication. Sikora will assess his total results before we decide to extend this comparison to any records tied to electronic reference sources. Again, higher priorities force delays on progress for this data exchange.

7) On April 19, O'Connor, Sikora and Brown met to discuss Brown's role in helping Bob Leland (WDFW) work more efficiently with past and future steelhead escapement and run reconstruction data. This data was historically maintained in myriad spreadsheets named Steelhead Resource Inventory (SRI) tables but maintenance of the spreadsheets lapsed over the last 4-6 years. The discussion revealed a need for a tool to track the files since there are many copies of the spreadsheets varying by completeness and no easy way to automate the comparison to determine the best copy. We've used these files for our steelhead StreamNet data and for our interest, alone, we need a better tracking tool. Using sri-dir.db and sridescri.doc, Lensegrav catalogued and itemized issues for all Steelhead Resource Inventory files from the snapshot Cox referenced for steelhead escapement records he compiled and the files Sikora carried as the expected master SRI tables. Brown searched the web and found several cheap and useful software that will make documenting and tracking files easier in the future. After testing each product, Lensegrav identified the product we will purchase that will let us export it's output into a more flexible tracking database. Before we act further on the SRI data we need to learn more from Bob Leland.

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.c Juvenile Data

Sample records, abundance indices (as available)

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 Finalize the incorporation of the IDFG General Parr Monitoring (juvenile) data into StreamNet.	Implemented Juvenile Trap Operations interface.
ODFW	1 Prepare and submit recommended modifications of the draft Juvenile abundance portion of the DEF.	This task was dropped due to budget cuts.
ODFW	2 Update Oregon's 10 existing juvenile abundance records to approved DEF standards.	No work has been accomplished in this area. ODFW staff are awaiting a format change to the juvenile abundance record requirements and interface form design.

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.d Harvest

In-river, terminal, and other harvest, as available

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Provide remaining 1997 & statewide 1998 tributary sport harvest from angler harvest cards.	No work performed on this task during this quarter. Awaiting additional updates of harvest cards from the headquarters office.
WDFW	1 Update and exchange salmon harvest data through 1999, beginning with Columbia River commercial, sport and treaty harvest.	Reported in Dec 2000: WDFW advised StreamNet that better sources exist than PACFIN's ocean salmon harvest data they planned to compile using regional staff.
WDFW	2 Update and exchange steelhead harvest through 1998.	N/A - didn't add this back after budget cut.

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.e Hatchery Production

Releases and disposition

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
FWS	1 Compile FWS hatchery release data, w/ added CWT information	Continued compiling hatchery release data
FWS	3 Submit 2000 data to PSMFC via USFWS WWFRO	Checked calendar year 2001 data
IDFG	1 Compile 2000-field season hatchery returns data.	Continued migration of legacy hatchery return data.
ODFW	1 Develop the ability to remotely access the Portland mainframe hatchery database and download hatchery return data consistent with the StreamNet contract.	No effort made this quarter. - Database Manager was hired in the latter part of the quarter.
ODFW	2 Compile egg-take data into StreamNet format and submit to PSMFC.	No effort made this quarter. - Database Manager was hired in the latter part of the quarter.
WDFW	1 Update and exchange juvenile release data to PSMFC through 2000.	In this period Cox submitted release data updates to PSMFC including all the available 2001 data at that time. His last submittal during this period was on June 26, 2001.
WDFW	2 Explore providing "unrolled" release data directly to StreamNet.	Per Work Element 1, historic and current anadromous release data is captured by StreamNet via PSMFC's RMIS database. Per this work component entry, WDFW is exploring sending the data directly to StreamNet in their format instead of via the RMIS format. See Objective 2 Task 3 Work Element 4 for this FY's work cross-referencing PSC codes to StreamNet's location coding system as early preparation for this effort. In the first quarter of FY2002, WDFW will address converting all other relevant release data fields and exchanging the data directly to StreamNet.

Objective 1 Data Development

Task 1 Anadromous Fish

Task 1.f Natural Production

Survival, production factors, spawner recruit

<u>Project</u>	<u>Work Element</u>	<u>Accomplishment, Third Quarter, FY2001</u>
ODFW	2 Compile spawner-recruit data (updated for spring chinook surveys in 1998 and 1999, and available time series for fall chinook and coho returns)	This task was dropped due to budget cuts.

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.g Age

Age/sex composition for returning adults

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
FWS	1 Update age and sex data through 2000	
IDFG	1 Compile 2000-field season age and sex composition data.	
ODFW	1 Compile age frequency data (updated for natural spring chinook in 1998, available time series for natural steelhead in OR portion of Columbia basin).	This task was dropped due to budget cuts.

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.h Genetics

Areas where genetics data exists and the sources of these data

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Develop, with SC input, standardized database format and DEF for existing regional genetic data	Developed database for genetics data allowing user to view genetic markers and data for queries on species, location, and data type. Began compiling list of fields for data exchange format.
CRITFC	2 Provide allozyme and genetic data developed by CRITFC in standard format	CRITFC data were assembled into a database allowing user to see what is available.

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.i Populations

Population delineation, as determined by others

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Produce a cross-reference table of ODFW designated Gene Conservation Groups (GCG) by subbasin.	This task was dropped due to budget cuts.

Objective 1 Data Development Task 1 Anadromous Fish

Task 1.j Historic Range

As available at the watershed-level. Compilation at the reach level is an option if these data are available

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Work with the Steering Committee to define the term "historic" in the DEF.	Reviewed and commented on the latest distribution use-type definitions being proposed for StreamNet, including the term "historic".

Objective 1 Data Development

Task2 Resident Fish and Other Aquatic Species

Acquire data sets related to resident fish species, and where specifically identified other aquatic species, from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.a Distribution and Life History

Document species occurrence and distribution and life history characteristics

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 Add additional distribution information from references, collecting permits and stream and lake surveys for resident fish.	Fisheries staff continued data entry into reference and collecting permit modules.
MFWP	1 Complete conversion of distribution data for all fish species to measures using the routed hydrography in western Montana and eastern Montana when it becomes available. These data were collected from biologists in FY2000.	Completed. All datasets are now converted to routed hydrography.
MFWP	2 Provide distribution data in DEF to StreamNet when completed.	Ongoing. Began populating Origin in the distribution table.
MFWP	3 Determine a schedule for updating data in the future and at what frequency data needs to be collected from field biologists, also addressing species of special concern.	Ongoing
MFWP	4 Collect and catalog supporting references to document distribution and connect distribution to reference.	Reference table created in the database that can correspond with the FWP fisheries library. The FWP library uses the 80,000 series and we will use the 70,000 series internally.
MFWP	5 Explore the development of a standard field survey form to be used by state and federal biologists to record occurrence information.	Ongoing
MFWP	6 Continue to work with regional StreamNet staff and SC to develop/modify/add to a resident fish data exchange format if not completed in FY2000.	Still being reviewed by StreamNet Steering Committee.

ODFW	1 Update, maintain, correct and exchange resident fish distribution information (DistUse and DistPresence tables).	Cooperatively developed protocols to map resident species within the range of anadromous species as part of the 24K Project. Incorporated <i>O. mykiss</i> observation data on Winter and Summer Steelhead maps that went out to biologists for review (Lower Willamette, Lower Columbia).
Region	1 Compile distribution updates (tabular events) as they arrive. Create and maintain distribution GIS coverages from these event tables and distribute these via the StreamNet web site.	All StreamNet partners continued conversations on how to integrate at the regional level the resident fish distribution and habitat use tables maintained by each state. The state databases contain similar data, but the concepts of the data stored are slightly different and the data are stored in dissimilar fashions. No resolution was reached this quarter on how to accomplish the integration.
WDFW	1 Update and exchange statewide updated bull char distribution data at 100K resolution (see Task 2.3).	<p>1) In May, O'Connor built a draft conversion plan for bull trout data, which involved extracting fish distribution/use data from the GIS INFO tables and converting the records into appropriate StreamNet format for exchange. O'Connor started Burns compiling tabular file of the Bull Trout Distribution spatial data after Sikora edited his draft plan. Burns dumped a tabular file from WDFW's spatial layer, scoped the data, documented her findings, converted the data to StreamNet's format and submitted her work to Sikora. Sikora analyzed the original tabular file, identifying issues. Sikora, Burns, Hudson and O'Connor met, clarifying which issues are errors versus features of the spatial design. Hudson and Burns worked to correct the spatial layer errors. After those corrections are complete, the data will be re-dumped, re-scoped and converted for an exchange.</p> <p>2) By mid-June, the final round of major database corrections and updates were completed by Burns, with most new bull trout data coming from North Puget Sound, the Olympic Peninsula, and Southwest Washington. USFWS approved dissemination of the statewide bull trout layer to StreamNet and other users at that time, though all parties recognize the continuing need for updates.</p> <p>3) See Objective 3 Task 1 Work Element 1 for contacts database reference work related to this data.</p> <p>(Also see Objective 2, Task 3, Work Element 1.)</p>

Task2.b Adult Abundance

Escapement, redd counts, trap counts, dam counts

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 Coordinate with IDFG personnel to determine the feasibility of incorporating resident adult abundance.	Fisheries staff continued data entry into reference and collecting permit modules. Captured abundance data where it was available
MFWP	1 Enter 2000-2001 stream fisheries survey data collected for population trends; genetics and escapement, redd counts, trap count and other counts during visits to biologists.	Continued with data cleanup; some new data entry.
MFWP	2 Collect reference for each survey.	Ongoing.
MFWP	3 Provide data in data exchange format to regional StreamNet.	Data not ready to exchange.
ODFW	1 Update existing abundance and indices trends (escapement, redd counts, trap counts, peak/other spawning counts, etc.) for resident species through 1999 and modify as needed to adhere to the 2000.2 data exchange standards. Four data submissions planned.	Submitted existing data along with the data submission made in April for anadromous trends.
WDFW	1 Explore opportunities to compile, convert, and exchange portions of the Yakima Basin juvenile and adult abundance data from Ken Ham.	N/A - didn't add this back after budget cut.

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.c Angler Use

Fishing pressure, creel census

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Evaluate available creel data for appropriateness and fit into the StreamNet format.	This task was dropped due to budget cuts.

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.d Hatchery Production

Hatchery production (releases and outplants) for salmonids

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Acquire trout release data from 1997 through 2000 (by species, location, and facility) and compile into SN exchange format.	This task was dropped due to budget cuts.
WDFW	1 Complete conversion and exchange resident fish stocking data from 1930-1981, once location coding has been standardized and verified.	1) Sikora organized the gamefish release data and user support documents to simplify the process of responding to requests. As of April 10, 2001, Lensegrav answers all gamefish release data requests. Further release work is suspended until Lake work progresses. 2) StreamNet distributed a draft format proposal for resident hatchery releases in Q3. Late May/June, Sikora and Lensegrav started building WDFW's feedback on StreamNet's draft format proposal for resident hatchery releases. Lensegrav created an Access table of the verbatim entries on the draft and added fields to show which WDFW datasets have data per the format. This effort awaits Sikora's review and comments.

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.e Genetics

Areas where genetics data exists and the sources of these data

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	1 Update genetic spatial and tabular databases that contain the results of genetic analysis of populations of Montana's species of special concern	Updated databases with results received during the quarter.
MFWP	2 Update fish distribution table when new samples affect fields.	Ongoing.
MFWP	3 Exchange data.	Provided Phil Rogers with Montana's data structure; Phil is working on a regional genetics database; hopefully exchange format will be created so Montana can exchange data.
MFWP	4 Work with University of Montana Genetics Lab staff to develop a more efficient method of data entry/delivery.	Personnel changes at the University's lab has lead to training new staff that are very interested in entering data into database and producing letters to biologists using database. Receive data from the lab which then needs to be checked by StreamNet staff and distribution changed as a result of genetic analysis.

Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.f Population

Population delineation, as determined by others

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
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MFWP	2 Finalize westslope cutthroat trout priority areas as part Westslope Cutthroat Conservation Agreement and provide to StreamNet.	Completed during this quarter
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Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.g Historic Range

As available at the watershed-level

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
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MFWP	1 Complete the review of the historic distribution of Montana's native species developed by The Nature Conservancy.	Ongoing
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MFWP	2 Coordinate the development of a Data Exchange Format for StreamNet by working with a Steering Committee subcommittee.	Review and dissemination of Nature Conservancy's database will be dropped by steering committee; Montana will continue to maintain their coverage at the HUC level and will go to a finer resolution where data allows.
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Objective 1 Data Development

Task 2 Resident Fish and Other Aquatic Species

Task2.h Status

Population stability index

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
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MFWP	1 Assist regional and state data managers in developing data exchange format.	No exchange format developed so far this year
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Objective 1 Data Development

Task3 Habitat

Acquire data sets related to fish habitat from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 3 Habitat

Task3.a Stream / Watershed Habitat

Incorporate applicable stream and watershed level habitat and stream survey data, as these become available

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	1 Develop a statewide stream survey form based on information provided by Montana state and federal fisheries biologists in FY2000.	Ongoing
MFWP	2 Work with regional StreamNet staff on data exchange format, if sufficient interest and/or data.	No exchange format created; no work accomplished.

Objective 1 Data Development

Task 3 Habitat

Task3.b Water Quality

Incorporate existing Clean Water Act 303(d) data and other water quality data as applicable

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
All		No work was done on this task this quarter

Objective 1 Data Development

Task 3 Habitat

Task3.c Miscellaneous Habitat Data

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	2 Work with NRCS staff to determine usability of derived slope, aspect, gradient, sinuosity data in MRIS.	Have provided these data to biologists at the project level; need to determine if we should try to convert these data to LLID and integrate into MRIS.
ODFW	1 Update key stream management area designations for OR including FEMAT key watersheds, AFS aquatic diversity areas, ODFW coho source river reaches, ODSL essential salmon habitat and Priority Areas.	This task was dropped due to budget cuts.
ODFW	2 Track the progress of ODFW aquatic habitat prioritization model and provide a URL for StreamNet to link to model results when they are available.	Provided support to ODFW staff who are developing updated salmonid priority area designations.

Objective 1 Data Development

Task4 Facilities

Acquire data sets related to fishery-related facilities and structures from the multiple agencies, tribes and organizations within the Columbia Basin and compile and maintain them in standardized, consistent formats for the following categories:

Objective 1 Data Development

Task 4 Facilities

Task4.a Dams and Fish Passage 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

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	1 Combine the StreamNet dams dataset with dams named in the GNIS and the National Inventory of Dams, and exchange Montana's data.	Work in progress.
ODFW	1 Update, maintain, correct and exchange dam information (as part of the Barrier database).	1) Updated some dam information in the Hood basin. 2) Synchronized the ODFW barrier database replicas (containing Oregon's dam information) with the master copy. 3) At the request of Regional StreamNet staff, located and submitted LLIDs and measures for dam facilities recorded in the barriers database.
Region	2 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Updated the location information for most Oregon Dams.

Objective 1 Data Development

Task 4 Facilities

Task4.b Hatchery Facilities

Update and maintain a dataset on anadromous and resident hatchery facilities containing information on location, design, management and authorization

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	1 Provide update of these data if changes have occurred in Montana's facilities.	Data consolidated into coverage and related ACCESS database. Sent to MFWP Hatchery Bureau for review and entry of data missing from required fields.

ODFW	2 Review and update Oregon hatchery facilities data and submit to PSMFC.	<p>1) Updated the hatchery table structure to the new data exchange format.</p> <p>2) Submitted Oregon hatchery facilities data (58 records) to PSMFC.</p> <p>3) Continued to contact hatchery facilities trying to get updated information.</p> <p>4) At the request of Regional StreamNet staff, located and submitted LLIDs and measures for hatchery facilities recorded in the barriers database.</p>
Region	1 Maintain spatial aspect of hatcheries table including location of hatcheries and GIS data. Assist states in tying hatcheries to LLID-based stream locations when requested.	Revised some Oregon hatchery locations where new information was available.
Region	3 Assist StreamNet partners with acquisition, development, formatting and submission of data.	Added 5 new Hatchery Facilities from ODFW and updated 53 Hatchery records.
WDFW	1 Provide standard geo-spatial coordinates (Longitude-Latitude) for each facility.	<p>1) After many false starts, Hudson, Graves, Lensegrav and Sikora's work on projection parameter issues finally enabled our compilers to determine Begfts based on WDFW's hatchery facility site points for WDFW, USFWS and tribal hatcheries in Washington. Before this effort began, WDFW compilers also didn't have an efficient way to verify the streams nearest a given hatchery point (see Objective 2 Task 1 Work Component 1 for Hudson's enhancements for compiler viewing of WDFW's stream layer).</p> <p>2) Lensegrav loaded WDFW's points as a background layer to StreamNet's Event Mapper to determine the BegFts. He corrected LLID coding for the hatcheries, researched and determined specific hatchery sites for some hatchery records that previously had no location information, and corrected WDFW's layer when the existing point location was incorrect. He described all his changes and noted issues for Sikora to review.</p> <p>3) Lensegrav also augmented our Hatfac-fields.db file that describes every field that can be found in several viable hatchery facility files and easily shows the common fields.</p>
WDFW	3 Complete, convert, and exchange tabular and spatial data tables of Washington state hatchery facilities, including federal and tribal stations.	See Objective 1 Task 4.b Work Element 1

Task4.c Diversion/screening**Develop a data set for water diversions and screening**

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Develop a database structure and compile Oregon's fish screening data and submit a draft data exchange format to Steering Committee for review and adoption.	1) Met with OWEB staff to assure that all of OWEB's data requirements are included in the database structure. 2) Completed preliminary database development. Imported ODFW Fish Screening and Passage Program data into the new database structure. 3) Wrote a user's manual for the database, and a database fields and tables report for the Fish Screening Task Force. 4) Prepared and gave two presentations and one database training session. 5) Released a beta test version of the database to the Fish Screening and Passage Program Administrative Assistant.
ODFW	2 Identify fish screening data that is appropriate for the StreamNet site and submit test records once an exchange format has been adopted.	This task was dropped due to budget cuts.

Task5 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 for the following categories:

Task5.a Fish and Wildlife Program Projects

Prepare and maintain standardized data relating to tracking aquatic management and restoration projects related to the Fish and Wildlife Program

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	1 Data will be updated for FWP Projects during FY-01; the spatial data layer of project location will be updated.	Missing date issue resolved; data fully exchanged. Will create smaller version of dataset to provide on MRIS.
WDFW	1 Follow-up from FY2000 habitat restoration project compilation	Mid-May Lensegrav verified that StreamNet's format could handle an estuarine habitat restoration data resource and updated our contact list. He also tried repeatedly to learn more from IAC on how they want to handle PRISM database requests. Without any guidance from IAC, Lensegrav submitted PRISM data to Charles Steinback of Ecotrust for restoration projects on Lower Columbia River. As of Aug 15, we've still yet to get any response from IAC.

Objective 1 Data Development

Task 5 Habitat Restoration/Improvement Projects

Task5.b Other Projects

Prepare and maintain standardized data relating to tracking aquatic management and restoration projects other than related to the Fish and Wildlife Program

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
MFWP	1 Update Montana's Fish and Wildlife habitat restoration projects into StreamNet's Restoration and Mitigation database and submit in data exchange format.	Missing date issue resolved; data fully exchanged. Will create smaller version of dataset to provide on MRIS.
MFWP	2 Exchange Montana data in data exchange format.	Data were exchanged.
ODFW	2 Design and develop a database to capture carcass placement data for Columbia Basin activities.	Finalized the Carcass Placement Database given the information that has been provided to us thus far. Met with Tom Stahl to review the database in its current stages. Further database development was put on hold pending additional program fact gathering by Stahl.

Objective 1 Data Development

Task6 Sub-basin Planning

Develop consistent data sets and information that are particularly suitable and useful for regional sub-basin planning and make them readily available for planners

Objective 1 Data Development

Task 6 Sub-basin Planning

Task6.a Provide data for Sub-basin Planning

Organize and distribute the available fish, wildlife and habitat data in a standardized format for use in Sub-basin Planning or other regional planning efforts

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 Coordinate with sub-basin planning efforts to supply data.	Provided fish presence data for subbasin summaries.
MFWP	1 Provide data to planners on request	No requests were received
ODFW	2 Provide consultation services and assistance to ODFW data managers to assist them in meeting Subbasin Planning needs.	Wrapped up mapping and GIS support to Subbasin Summary planning that was initiated in the second quarter.

Region 2 Provide available tabular data described under tasks 1.1 through 1.5 to entities conducting sub-basin planning.

Due to the unexpectedly extensive work load this task entailed, a separate contract was obtained from NWPPC to provide data to the subbasin planning effort. This effort was undertaken by the StreamNet Biologist and GIS Specialist, who otherwise would have been working on other contracts for this part of the year, and extended into the fourth quarter. This work involved the following general elements:

- A) We obtained from BPA the GIS coverage of the new subbasin boundaries. We modified this coverage as necessary for our use to correct inconsistencies resulting from differences in GIS layer scale. That is, subbasin boundaries were adjusted to ensure that streams and lakes fell within the correct subbasins.
- B) Several errors unrelated to layer scale were encountered in the BPA subbasin GIS coverage. We corrected these errors as found.
- C) Using GIS, a cross table of lakes and streams versus subbasin was created.
- D) The cross table was used to query the StreamNet database by subbasin for each data type. The various data types were grouped according to subbasin, and a spreadsheet of data was created for each subbasin.
- E) Maps of species distribution, dam locations, hatchery locations, and streams listed under section 303(d) of the Clean Water Act were created for each subbasin.
- F) GIS layers of species distributions, dam locations, etc. were created for each subbasin.
- G) The spreadsheets, maps, and GIS layers created were posted to the StreamNet web site. A series of web pages were created to provide easier access to the files. In addition, the files for each subbasin were copied onto CD and the maps for each subbasin were printed, and these materials were delivered to the subbasin planners at the first meeting for each province.

Region	3 Provide StreamNet GIS coverages or other data (on request) to the entities conducting sub-basin planning. Assist subbasin planners with use of this data as needed.	As discussed under Work Element 2, the following work was accomplished under a separate contract from NWPPC which covered the GIS Specialist and Biologist during a period when they otherwise were not covered by the BPA contract: 1) Utilized GIS to map old subbasin boundaries to new subbasin boundaries for translation of data. 2) Used new subbasin boundaries to determine overlay of subbasins with all current StreamNet tabular data and spatial features including streams, lakes, and point locations. 3) Work continued to develop a complete package of maps for each subbasin that show StreamNet data, including fish distribution and hatchery and dam facilities.
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Objective 1 Data Development Task 6 Sub-basin Planning

Task 6.b Capture information from Sub-basin Planning

Acquire information developed during subbasin planning to update anadromous fish, resident fish, and wildlife data sets

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Develop applications and procedures to update watershed assessment data during subbasin planning	Regional discussions on final subbasin assessment guidelines and tools are proceeding slowly. In the meantime we updated approximately 150 trends with current data on mainstem dam counts and Yakama trends.
MFWP	1 Collaborate with regional staff and Montana CBFWA representative when data become available	Data available; no requests were received.
ODFW	1 Evaluate Subbasin Summaries and other Subbasin Planning related documents related to Oregon, identify data which are not contained in StreamNet and adjust staff work plans to capture new data if appropriate and applicable.	This task was dropped due to budget cuts.
WDFW	1 Provide data compilation, conversion, and analytical services in support of the subbasin assessment process, the NMFS Viable Salmon Populations model, and related NWPPC needs.	No work this period. Didn't add this back from the budget cut until Quarter 3.

Objective 2 Data Management and Delivery

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

Objective 2 Data Management and Delivery

Task 1. Database Management

Maintain functional database programs at the state and regional levels to make consistent 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 state levels, provide database management and administration necessary for accomplishing StreamNet objectives, to include: 1) maintaining regional and state-level StreamNet data sets, 2) processing exchange data into the regional database, 3) transporting data to the SQL environment, 4) enhancing StreamNet database structures and capabilities, and 5) providing programming services to project participants to allow for efficient data entry and transfer.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 After beta testing, implement Fish Information System in IDFG StreamNet and IDFG Fishery Bureau	1) Enhanced and implemented Fish Information System Reference Module to include redd count information. 2) Worked on migration of redd count data into new data exchange format. Identified migration errors and began process to correct them. 3) Conducted review and analysis of StreamNet trends in existing data. Prepared interface to correct and redefine trends where necessary. 4) Implemented methodology to migrate multi-stream trends to new database structure. 5) Worked on development of administrative routines for transferring data to PSMFC.
IDFG	2 Continue development and improvements to Fish Information System.	See Work Element 1.
MFWP	1 Provide state-level data management services, emphasizing coordination with StreamNet regional staff, MFWP and other state and federal natural resource agencies and encourage the use of consistent data attributes and data sets among all agencies.	Ongoing.
MFWP	2 Provide high quality data management services with specific emphasis on creation of regionally consistent data sets and the timely delivery of data to users in formats that meet their policy, planning, and management needs.	Ongoing.

MFWP	3 Update existing data sets as described in Task 1 and provide data to the regional StreamNet office in DEF. Provide data as sub-sets are updated rather than waiting for entire data to be complete.	Preparing fish distribution based on review of DEF.
ODFW	1 Provide state-level StreamNet database management / administration / development. Enhance StreamNet and ODFW database structures, interfaces, tools, and capabilities as needed.	<p>1) Continued development of Arcview / Access application to facilitate data entry from ODFW's 24k project. The majority of the tools (and data) will involve 1:100,000 scale data.</p> <p>2) Worked on GIS aspect of life-stage timing data.</p> <p>3) Met with DEQ to explore options for managing and developing this data.</p> <p>4) Corrected 2,064 abundance trends with a CategoryID and TrendTypeID mismatch. The problem identified partly by Regional StreamNet review, and partly by ODFW StreamNet staff. Also, corrected Willamette punchcard data (4 trends) and missing LocTypeID codes caused by a code mismatch in the category "unknown" between the interface and the backend database at StreamNet's request.</p>
ODFW	2 Develop custom GIS products and database structures that help improve data management and transfer with ODFW staff.	Produced "dual DRG" maps that display fish distribution and barrier data in the Lower Columbia, Lower Willamette and Sandy basins for updating by the 24K Project.
Region	1 Maintain and manage the StreamNet database so information / data are available internally to project participants and externally via Internet.	A new database server was purchased, installed and configured with SQL Server 2000 database management software. Databases were imported and optimized for the new software version, and all data files, query system programs and documentation were moved to the new database server. Created several new stored procedures and views to assist the programmer in optimizing the StreamNet web based query system.
Region	2 Add data submitted to the StreamNet regional office into the SN database within ~30 days of receipt from the project partners.	Loaded 41 new Trends tracking 200 new Adult Return escapement records for ODFW, along with 3 new References. Loaded 121 new and/or updated Trends related to 247 new mainstem dam Adult Return counts submitted by CRITFC (these TrendIDs re-coded from PSMFC range to CRITFC range). Loaded 598 new Trends tracking 5,523 new and/or updated escapement records and 227 new References for CDFG. New stream LLIDs totaling 16,333 were loaded to the tabular database to compliment new California hydrography. Trends and Hatchery Returns data were updated for USFWS, and the first Age data was successfully loaded into the StreamNet database (Age data is not yet available on-line).

Region	3 Assist data-providing agencies with error checking of data sets.	<p>1) Regional staff discovered errors in the escapement data table regarding the storage of per mile data. These problem records were reported to the originating agencies.</p> <p>2) Regional staff documented errors in beginning and ending river mile measurements in Oregon data. ODFW had already been addressing these problems.</p>
Region	5 Update the database structure as new data categories are added or categories are changed.	Added new Subbasin and Province tables depicting those recently adopted by the Northwest Power Planning Council, and created cross-reference tables for selecting LLIDs by the new Subbasin or Province code.
Region	8 Develop metadata for all spatial data sets posted to the StreamNet GIS web page.	Updated metadata for the lakes layer to document changes to this theme.
Region	10 Provide programming services to project participants to assist with efficient data entry and data transfer	Regional personnel assisted ODFW's Shanon Hurn with problems she encountered with the time series data input interface (Trend User Interface).
Region	11 Based on direction from the Steering Committee, develop recommendations on the means to move the StreamNet database into an SDE-compatible format to provide enhanced interactive mapping and to develop necessary structures to serve data through SDE.	Installed and configured SDE on StreamNet server. Loaded GIS layers of StreamNet data and other base information into SDE for future use with internet mapping.
Region	13 Ensure georeferencing of data is accurate and complete.	Regional personnel assisted ODFW with understanding of nonstream point locations as they are used at the regional level. Updated 16,333 LLIDs for California streams to true LLIDs derived from concatenated Longitude and Latitude coordinates of the stream mouth, and acquired new hydrography for California.
WDFW	1 Washington state data maintenance and exchange support services, including updated exchange format system, support for MS Access 97, and support for new data categories and fields.	<p>1) In May and June, Lensegrav created, compiled or augmented various technical instructions. This work included directions on transferring files from the Unix system to a PC (howtoftp.wpd), converting SDE coverage files to shape files, and how to send maps to the plotter and convert the graphic images to JPG images (Martininterface*.wpd). He also requested and loaded StreamNet's subbasin & region shape files as background layers in EventMapper.</p> <p>2) Sikora sent StreamNet clarification on WDFW's wishes for EventMapper improvements. Sikora coordinated with Brodie Cox and Susan Markey (WDFW) to re-clarify the best PSC code types to use for StreamNet hatchery return and natural spawner (escapement) data. She</p>

notified Woodard and Smith of the changes needed and gave Cox a list of new PSC codes needed per the determination that PSC code type 2 should be used for both data types.

3) To assist Woodard's redesign of his internal natural spawner database, Sikora reformatted Woodard's data per StreamNet's format expectations and extra fields needed to aid the conversion. She proposed the fields and conventions we should use for our internal database. Woodard feels the internal database design is complete.

4) O'Connor and Brown started research on how Brown could help WDFW's Ron Egan re-design his spawner survey database to help the eventual data flow to WDFW's StreamNet compilers.

5) Sikora developed the routines needed to use MS Access to define the unique entries to highlight non-standard entries (Access' duplicate wizard does not provide this focused information).

6) Brown finished the new fieldcompare.fsl and casetext.fsl (an upgrade to an older version) and Sikora finished her testing of the tools. Brown helped Sikora with her strange computer display problem to allow her to improve the on-screen user help for the those tools and memotool.fsl. Memotool either counts the maximum characters used by the longest field entry or compares memo field entries in a single table. Fieldcompare makes it easier for users to compare non-memo field entries in two tables. Casetext converts the case text entries (i.e. upper, lower, first word upper or individually for specific words defined in a dictionary [i.e. O'Leary]).

7) In the on-going effort for each agency to "take possession" of their data compiled earlier by PSMFC, Kinney created a file to track the appropriate agency's re-assignment of PSMFC's 60K range trend codes to trend ranges reserved for that agency. But his file misses half the point of Sikora's request for such a file. In October Sikora asked that the tracking file show the status of all 60K trend determinations, including decisions to just delete the records and show any state agency's determination that the record is the responsibility of the USFWS or another state agency. Unless it's clarified, it's too easy to assume that WDFW is responsible for data with Washington locations even after we've already confirmed that the Washington data in question is USFWS or other states data responsibilities. Unless that determination is shown in the tracking file, any agency has the unnecessary burden of continually re-checking the same data with no authority or knowledge to correct the trend assignment.

8) Hudson updated fish spatial event tables to reflect the new statewide 100K layer, as well as the new paths and library names needed as WDFW revamped its GIS database storage system. Hudson began work on improved spatial layer display and edit routines for Sikora and Lensegrav, to enable them to improve the hatchery facilities and lakes layers based on their research.

WDFW 2 Update existing data sets as described in Task 1 and provide data to the regional StreamNet office in Data Exchange Format (DEF). Provide data as subsets are updated, rather than waiting for entire data to be complete.

See Objective 2 Task 6 Work Element 2 for more detailed discussion of the EndFTs reported for WDFW data. Also note, the EndFTs included in StreamNet's Aug2001 Access database seem to include the measures submitted in WDFW's Oct2000 returns submission and not the Dec2000 submission. As of Sept 10, the true status still needs to be resolved. Kinney is seeing one thing on his end and Sikora is seeing another on hers.

Objective 2 Data Management and Delivery

Task2. Data Plan

Update and maintain a project data plan that identifies 1) current data holdings at the regional level, 2) data items to be incorporated in the current contract period and in future years, and 3) expectations for data development and delivery from participating organizations within the current contract period

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Provide input to the data plan to keep it responsive to subbasin planning and Framework needs and schedules.	Kept Steering Committee apprised of regional discussions, issues and developments concerning subbasin planning.
ODFW	1 Work jointly with other participants to modify elements of data plan or priorities based on needs arising out of sub-basin planning or other processes that drive Basin data needs through the amended Fish & Wildlife Program.	Acquired Oregon's 1999 and 2000 mass marking data, and rectified inconsistencies for PSMFC in response to a request from the NWPPC.

Task3. Data Exchange Standards

Establish and maintain data exchange standards that ensure consistent format and content of data that originated from the multiple agencies and data sources in the basin. Included will be proposed and adopted data exchange formats, metadata and location look-up tables for specific data items as described under Objective 1. At the regional level, this task will provide technical assistance regarding standard codes and exchange formats for Fish and Wildlife Program and ESA- related projects, and for applicable tribal data compilation activities. At the state level, this task will provide similar technical assistance for state agency data activities applicable to StreamNet.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	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.	Reviewed DEF issues as they were presented to the Steering Committee. Reviewed dam count and production DEFs as trend data in these areas was updated.
IDFG	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. Potential new data exchange standards may include juvenile abundance, genetics, stream habitat, stream temperature and resident fish releases.	Provided review and input to fish distribution data exchange format.
MFWP	1 MFWP StreamNet will participate in the design, development and maintenance of standard codes and data exchange formats through involvement on the Steering Committee and technical work groups.	Still under review.
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. Potential new data exchange standards may include juvenile abundance, genetics, stream habitat, stream temperature and resident fish releases.	Participated in discussions about proposed DEF changes with Regional StreamNet staff.

Region	1 Work with the project database managers to identify needed modifications to the Data Exchange Format (DEF) to accommodate changing data needs	Final changes were identified and implemented for a new version of the DEF. Draft tables were moved out of the DEF and into their own publication in order to improve usability of the DEF proper. Several ease-of-use, non-substantive changes were made to the DEF which will allow data contributors to more easily work with this document.
Region	2 Formally adopt changes to the DEF through the SN Steering Committee	A new version of the StreamNet Data Exchange Format was formally adopted and published on April 24, 2001. This is version 2001.1 and became effective May 31, 2001.
Region	3 Document all adopted changes to the DEF	All DEF changes were documented in the DEF tracking database after the completion of version 2001.1.
WDFW	1 Compile and review the specific criteria used by participating agencies in describing fish distribution, use, or extent information, in order to find and adopt common standards among data providers.	O'Connor reviewed existing StreamNet DEF tables related to fish distribution and use data (Dist_Presence and Dist_Use). Assembled thoughts concerning the broader fish presence topic into a draft paper and circulated it among Steering Committee members for comment, after review by Sikora. O'Connor reviewed and commented on earlier submissions by ODFW and MDFWP Steering Committee members, using e-mail exchanges as the forum.
WDFW	2 Analyze Hatchery Returns exchange format and explore whether a second table (covering Spawning and Disposition data fields) is needed to more accurately meet the needs of the Artificial Production Committee.	O'Connor continued compiling Steering Committee comments and grouping them by subject, but did not spend much time on it this quarter. Key issues that remain are determining which way to lump Arrival, Spawning, and Disposition information into two tables (two different philosophies have been advanced), and whether to support "jennies" by completely separating the Male/Female distinction from the Adult/Jack distinction.
WDFW	4 Move toward complete adoption of LLIDs as the standard stream referencing code by reviewing and completing the RRN-to-LLID conversion, addressing supercode issues, and assuring that LLIDs are assigned to all locations where StreamNet data exist.	Sikora started consolidating all the files and reviewing the issues described by Lensegrav in his LLID to PSC code cross reference work. (Also see Objective 2 Task 6 Work Element 2)
WDFW	5 Provide metadata for tabular and spatial datasets according to guidelines adopted by the Steering Committee.	Hudson corrected several items in WDFW's GIS data dictionary document, including the bull trout (char) distribution code definitions.
WDFW	6 Construct a new data compilation and conversion system to provide data in MS Access according to the most recently adopted exchange format version. Begin exchanging data in MS Access form by winter, 2001.	See Objective 2 Task 1 Work Element 1 for details.

Task 4. GIS Data System

Establish and implement procedures for coordination of StreamNet-related spatial data activities among participating organizations, to include regular meetings and or other communication links among participating GIS specialists. Designate and maintain metadata format for spatial data to be used by StreamNet participants. Prepare map products in hardcopy and/or electronic format for use in Program-related aquatic resource policy, planning, and management. Provide for distribution of spatial data in GIS and tabular format and as GIS products.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 Maintain and enhance a geographic information system (GIS) related to regional and state-level StreamNet goals and Objectives	1) Developed the Fish Tools ArcView application to connect x,y coordinate fisheries data with StreamNet hydrography. 2) Developed an ArcView application to enable biologists to identify unrouted stream reaches to be added to the LLID route system.
IDFG	2 Prepare data and map products from StreamNet data on request	1) Updated fish distribution shape files to include more complete attribute information, including full references. 2) Provided 5 requests for shape files.
MFWP	1 Maintain a state- level GIS program (state & StreamNet funded)	Reviewed current data layers that ISU staff maintains and updated database that stores information. Processed budget for new FTE.
MFWP	2 Prepare map products in hardcopy and/or electronic format for use in Program-related aquatic resource policy, planning, and management.	Filled 15 Fisheries related GIS map and data requests during the quarter.
ODFW	1 Participate in planning and coordination meetings for state-level 24k hydrography layer to ensure compatibility with the StreamNet's adopted hydrography.	Attended a joint Oregon / Washington Framework Hydrography meeting to ensure continued compatibility between current ODFW data management and the 1:24,000 scale stream route systems that are under development.
ODFW	2 Maintain and enhance a geographic information system (GIS) related to regional StreamNet goals and objectives (general maintenance, metadata development and maintenance, planning and coordination activities, etc.).	Initiated transition from an entirely Unix based GIS to one that takes better advantage of the capabilities and performance provided by Windows NT.
ODFW	3 Prepare spatial data and map products in hardcopy and/or electronic format for use in Program-related aquatic resource	Provided technical assistance to numerous people who requested ODFW's online salmon distribution maps in PDF format. policy, planning, and management.

Region	1 Maintain and enhance a geographic information system (GIS) related to regional StreamNet goals and objectives.	<p>1) Revised the StreamNet lakes GIS layer to include information for western Montana. Posted this GIS layer, along with updated documentation, to the StreamNet web site for download. Added revised lakes information to the tabular database for use by the online query system</p> <p>2) Downloaded and appended a complete set of 1:250,000 digital elevation data for the Pacific Northwest region. This layer is helpful for use as a background for map products and for some basic analysis of elevation for data locations.</p> <p>3) Hired a GIS/Data Technician for assistance with the subbasin planning project.</p> <p>4) Assisted ODFW StreamNet in hiring a GIS Analyst for a 1:24,000 fish distribution project</p> <p>5) Determined GIS-based locations for macroinvertebrate sampling locations from Oregon DEQ. All but 22 were confirmed by ODEQ; these 22 locations remain to be corrected.</p>
Region	2 Prepare GIS data and map products from StreamNet data.	<p>1) Prepared GIS data and map products from StreamNet data, as needed. Responded to all requests from the public and prepared GIS data, maps, and other products for 30 public requests. Requests were from a variety of sources including private citizens, environmental consulting firms, government agencies, educators, and students.</p> <p>2) Prepared more detailed map products for requests from the NWPPC and associates for use in reports, etc. This included a project to develop maps which illustrate the number and proportion of adipose clipped fish that were released from hatcheries in the Columbia Basin in year 2000 and to summarize these totals by state. A web site was designed to deliver this information and it was reported to the Northwest Power Planning Council and Columbia Basin Fish & Wildlife managers for use in regional planning.</p>
Region	3 Integrate the functioning of the GIS system with the StreamNet fisheries and habitat database, in support of the query system. Create cross tables and queryable maps used via the StreamNet web interface.	Updated cross-reference table to reflect modifications to hydrography and new lake information.
Region	4 Direct users to other GIS resources when requests exceed SN capability	Directed users to other GIS resources when requests exceeded SN capability.
WDFW	1 Create approved reference documents for all exchanged spatial data sets. (See also Task 2.3, Work Element 5)	See Objective 3 Task 1 Work Element 1 for any new efforts to exchange spatial reference data.

Objective 2 Data Management and Delivery

Task5 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 Objective 1 and providing access to reference materials secured through Objective 3. Appropriate training on the use of the system will be provided through a combination of on-line help and in-person training sessions.

Objective 2 Data Management and Delivery Task 5 StreamNet Internet Site

Task5.a Maintain the StreamNet Client Server system

Project Work Element

Accomplishments, Third Quarter, FY2001

Region 1 Maintain, upgrade as needed, and administer the StreamNet web servers.

A new database server was purchased, installed and configured with SQL Server 2000 database management software. Security for PSMFC StreamNet staff and the web based query system were established. Databases were imported and optimized for the new software version, and all data files, query system programs and documentation were moved to the new database server. The web query system was modified to work with this new server, and extensive testing occurred to ensure it functioned correctly.

Objective 2 Data Management and Delivery Task 5 StreamNet Internet Site

Task5.b Enhance and improve the StreamNet website

Maintain and enhance components of the StreamNet home page and incorporate new features that complement existing components

Project Work Element

Accomplishments, Third Quarter, FY2001

CRITFC 1 Work with subbasin planners to identify modifications and new uses which will make the website more useful to them

The subbasin plan PDF files were finalized and all were linked to a summary page. We began capturing and storing the new plans and documents from the CBFWA website to that all the relevant documents on a subbasin can be linked to from one page. Also began developing pages for each subbasin to list the documentation.

CRITFC 2 Identify changes and new features which will improve delivery of Library services

Work continues with Ariel software to work out all the bugs. Staff identified another piece of software that will change Ariel documents to PDF files.

CRITFC 3 Work with regional staff to implement changes identified above.

Continued working with Karen McGill on website coordination.

IDFG 1 Recommend and/or take part in review of new products and features. Provide feedback on content, suitability, navigability and data currency issues.

Provided feedback on the new StreamNet website.

MFWP 1 Montana will review and comment when necessary.

Reviewing new website for StreamNet regional staff.

ODFW	1 Recommend and/or take part in review of new products and features. Provide feedback on content, suitability, navigability and data currency issues.	1) Investigated ArcMap and VBA. Also researched numerous Arcview extensions as part of the 24k Project Data Capture Tool development process. 2) Provided feedback to StreamNet about problems and suggestion for the new StreamNet Library web-page design. 3) Provided feedback to Steering Committee members on Oregon's email update list feature. This has been a very successful feature on our web site which provides routine emails to interested partners describing new data and other features on our Oregon web site.
ODFW	2 Provide a link from the StreamNet website to available Columbia River fisheries information (including Columbia River Compact Action Notices, In-Season Updates, and Joint Columbia River Management Staff Reports and possibly in-season catch estimates) along with informational text to describe each link.	No work was performed on this task during this quarter. Work efforts were concentrated on updating the existing web site prior to developing the link to StreamNet.
Region	1 Summarize results from the StreamNet online user survey. Compile a list of recommended changes and improvements to the online data system	Several problems with the web query system were identified and corrected.
Region	2 Continue to review the StreamNet website for clarity, organization and ease of use. Recommend and implement changes to maximize utility for people accessing the site to obtain information. Changes will include updating, replacing, and retirement of existing web pages, and archiving of all existing pages.	During the quarter, the possibility of creating a "StreamNet News" mailing list was discussed. This mailing list would be sent out 3 to 6 times per year as significant changes to the database or web site are completed and implemented. The commercial web site Topica.com was used to create a "StreamNet News," and this was then tested for ease of use, privacy, and general suitability. It was decided not to implement this system just yet, and to continue researching other ways to create a mailing list. This was because of privacy issues at Topica.com, and because Topica.com actually sends out more "informational" emails than StreamNet News itself would deliver.
Region	7 Develop an on-line mapping application which may be used over the internet by the public to view StreamNet data "layers" through interactive maps. This application will allow users to view and query StreamNet data spatially, generate reports and tabular or GIS data based on spatial queries, and create their own custom maps.	Installed and configured ArcIMS (internet mapping software) to the StreamNet server with the assistance of Alsea Geospatial as contractor.
WDFW	1 Take part in review of new products and features. Provide feedback on content, suitability, navigability and data currency issues, especially issues related to providing static or dynamic map capabilities.	In early June Lensegrav tested the new StreamNet website format and provided feedback on suggested improvements.

Task 6. 1:100,000-scale Hydrography

Maintain the 1:100,000-scale PNW hydrography for purposes of attaching StreamNet data. Coordinate with efforts to prepare a National Hydrographic Dataset (NHD). Develop a standardized method for incorporating lake hydrography and attribute information.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	1 Maintain the Idaho portion of the 1:100,000-scale PNW hydrography for purposes of attaching StreamNet data.	Identified needed new routes and some corrections to make. Changes not yet made.
IDFG	2 Participate in coordination of the National Hydrographic Dataset (NHD).	Provided feedback to other state agencies regarding relations of PNW river reach files and NHD. Also provided feedback on development of 24k hydrography layer for Idaho.
MFWP	1 Support the efforts of the NHD and convert Montana hydrography to NHD upon receipt.	Completed conversion of Montana hydrography to NHD. Eastern Montana built on NHD. Western Montana still based on PNW.
MFWP	2 Enhance layer with LLID and stream level routing.	Completed assignment of LLID and stream level routing for eastern Montana. Converted MRIS data to routed hydrography for eastern Montana. Regional StreamNet staff assisted in the process of assigning LLID and other quality checking.
MFWP	3 Coordinate with NRIS in the QA/QC of the NHD for Montana including the development of a lakes layer (funding provided by the BOR for lakes).	Completed the QA/QC by NRIS staff. StreamNet did further QA/QC in looking at the hydrography with respect to MRIS data. Spatial component of the statewide lakes layer completed. The next phase is synchronization with the MRIS lakes database.
ODFW	1 Continue to maintain the Oregon portion of the 1:100,000-scale PNW hydrography for purposes of attaching StreamNet data and for use in ODFW information management systems. Submit all modified PNW hydrography to PSMFC for inclusion in the regional PNW hydrography data.	Resolved some inconsistencies in hydro data between StreamNet and ODFW in the Willamette basin.
ODFW	2 Participate in technical and policy discussions concerning efforts and activities that relate to or impact the PNW hydrography (NHD, OR/WA state framework physical data model, clearinghouse issues, data dictionary development, etc.)	Attended a joint Oregon / Washington Framework Hydrography meeting to keep informed of how the emerging regional hydro data model relates to the PNW 1:100,000 hydro model.
ODFW	3 Provide technical advice on hydrology routing and other issues including those related to working with higher resolution hydrography.	Tested procedures for transitioning data between stream "templates" that are at different scales (1:100,000 and 1:24,000).

Region	1 Continue to maintain the regional 1:100,000-scale PNW hydrography.	Routine maintenance and management of the hydrography continued.
Region	2 Implement updates to the 1:100,000-scale PNW hydrography from state cooperators.	Made minor changes to hydrography layers in coordination with state fish & wildlife agency GIS contracts.
Region	3 Update and serve a regional web version of the 1:100,000-scale PNW hydrographic set from the StreamNet website.	Continued serving the 1:100,000 PNW hydrographic data set on the StreamNet website.
Region	5 Update Montana hydrography with LLID routing as updates are received from MFWP.	Implemented minor updates to hydrography from MFWP.
Region	7 Develop a complete cross-reference application between all streams in the PNW Reach Files and the NHD (National Hydrography Dataset) for Washington, Oregon, and Idaho to allow collection and distribution of stream-based data in both LLID and NHD formats.	Work continued on a project to build a cross reference application for transferring data between the PNW LLID-based stream referencing system and the NHD reach-based referencing system and related GIS files. Work this quarter consisted mainly of rebuilding LLID routes onto the NHD linework and QAing the results to ensure an accurate rebuild. Completed approximately 70% of the streams in the project area (WA,OR,ID) during Quarter 3. (This was an EPA funded project - GIS Specialist worked on this half-time during Quarter 3)
WDFW	1 Complete Steering Committee discussion about lake attributes useful to share in a regional database; determine support for a new data format.	See Objective 2 Task 6 Work Element 2.
WDFW	2 Compile, standardize, and exchange point, line, and polygon information for lakes stocked with fish that appear at 100K (or higher) resolution.	1) After sending Bob Pfeifer (Parametrix) a copy of our lake layer shape files, Sikora also sent him a copy of our Lake2k file and documentation that shows links between WDFW's GIS lakes and Wolcott's 'Lakes of Washington' lakes. 2) In a Framework meeting, O'Connor tried again to engage DOE's interest in resolving the issue that their new WBIDs are sometimes far from the centroid of the lake. Sikora failed to diagnose the scope of the issues to aid O'Connor's message since most WDFW files dropped the old WBID when the new WBIDs were adopted. Per this need, Hudson revised the tabular data dump routine to include the old and new WBIDs. This effort probably has stalled until WDFW gears up next FY to clean other lake issues preparatory to coding lake release for resident data.

3) As requested by Sikora and Lensegrav, Hudson enhanced WDFW's hatchery facility interface to show the stream LLID and stream names. Before this feature addition, compilers had no reliable way to view WDFW's stream layer and had to flip between WDFW's interfaces, StreamNet's EventMapper and www.topozone.com to work with stream locations.

4) Kinney submitted a list of trends for Washington data that report Endfts greater than the total length of the stream as determined by the spatial layers. These trends include WDFW exchange data and PSMFC data. Sikora reviewed the issues and notified all of the need to coordinate the spatial and tabular exchanges better by establishing rules and procedures for the exchange of spatial data. The details are described in spatial-locformat.doc and subsequent emails.

WDFW 4 Maintain Washington 100K HUCs by performing error fixes, addressing cross-border and cross-HUC incompatibilities, and related duties.

1) O'Connor (working with other WDFW staff) tracked down the true "Doukhober Creek", after discovering that two adjacent creeks were given that name in the 100K hydrography. This item was added to the "repair" list for Hudson to work on after July 1.

2) Hudson re-cast the Washington 100K layer into a single statewide layer, and modified maintenance programs to manage both the statewide and the HUC-based layers simultaneously. Mapping programs were created or modified to take advantage of the speed of working with the statewide layer. Township-based mapping was incorporated as well, to accommodate the common need for detail in StreamNet-related data requests.

WDFW 5 Provide technical advice on hydrology routing and other issues related to working with higher resolution hydrography as needed.

See Objective 2 Task 6 Work Element 2.

Task7. Data Requests

Receive and respond to requests for data, 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.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 See Tasks 1.1h, 1.6, and Objective 3	Answered requests for materials and information as in Objective 3.
IDFG	1 Continue to respond to requests for information from StreamNet database, including requests for fishery information that comes into the Idaho Conservation Data Center (Natural Heritage Program), other IDFG programs and personnel, and outside agencies and consultants.	Completed 33 requests for location specific fish species list and other data requests.
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 2 data, 51 document, 4 map, and 10 'other' requests were answered during this quarter. A detailed list by requester and request type can be made available upon request. Also, 2,492 data downloads were made from the ODFW FTP site during this quarter.
Region	1 Respond within one day whenever possible to all user requests received via email, phone, or other medium. Typical requests received include help using the query system, complex data requests not easily done with the query system, and requests for GIS coverages and maps.	Responded to 62 requests from users during the quarter. Assistance was given to users from NWPPC, ODFW, Oregon Water Resources Department, Oregon Watershed Enhancement Board, Washington Department of Ecology, county governments, several tribes and tribal organizations, USDA, USFWS, NMFS, USGS-BRD's CRRL, several universities, conservation groups, private consultants, Batelle PNL, watershed councils, subbasin planners, a Spokane reporter, the Oregon Restaurant Association, elementary schools, and the general public. User request topics were varied, and included GIS layer requests, requests for custom maps, searun cutthroat trout data between Bonneville and the Dechutes River, StreamNet query system help, library requests, and general fish biology questions.

manner, with highest priority for people working for the NPPC's Fish and Wildlife Program. Requests from outside the Fish and Wildlife Program or participating agencies will be addressed on an 'as possible' basis.

compiled data on the number and percentage of salmon mass marked with an adipose fin clip and released during calendar year 2000. The intent was to determine the progress toward marking all hatchery fish for selective fisheries as recommended by the governors. The data were presented during a Council meeting. Subsequent to the meeting, the Council requested additional information about the purpose for various marking programs. We will work with the management agencies next quarter to address this question.

2) The StreamNet Data Manager provided NMFS (Tamara Harms) with a raw excel spreadsheet of Eric Tinus' Age data for ODFW. This data is not in StreamNet format and is not available on-line, but she was referred to us from Cedric Cooney at ODFW for the information.

WDFW 1 Generate maps, data reports, and electronic copies of datasets as requested.

1) Lensegrav responded to requests for maps of lakes in eastern Washington and select Lower Columbia drainage cutthroat plants for Cameron Sharpe (WDFW). Sikora provided hatchery returns data for Fiona McNair, harvest data for Stacie Kelsie and stream catalogue data for Gary Allgood.

2) Hudson built several new options into the menu-driven data release system, including different mapping extents and the ability to select JPG as an image file option.

3) Burns and O'Connor responded to numerous requests for bull trout data, both for statewide coverages and specific basins. Requests came from USFS, USFWS, WDOE, WDOT, private consultants, and even FEMA, working in the aftermath of the February earthquake to condition repair permit requests based on presence of sensitive fish species.

4) Important data requests are reported under the task number pertinent to each dataset when requests reveal data issues or inspire different compiling approaches. Upon request, the details for each data request is also available from a detailed tracking file (internally stored on WDFW's server at S:\Fish\Groups\BDS\Streamnt\Requests\Datareq.db).

WDFW 2 Provide PRIORITY data support for subbasin assessments and other new elements of the NWPPC Fish & Wildlife Program.

No requests for this assistance were received during this quarter

Objective 3 Library / Reference Services

Provide a full service regional library for fish (and to some degree wildlife) literature (published and gray), including documentation of all data in the StreamNet database.

Objective 3 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 source materials, Fish and Wildlife Program activities and reports, and other gray literature for access by regional scientists, agencies, interested parties, and other libraries.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Coordinate source material submissions for data compiled under Objective 1. Develop standards for document submissions.	Received and cataloged submissions from Project members.
CRITFC	2 Collect and catalog documents prepared by contractors (including final products published by BPA and draft documents suitable for public release) under the Fish and Wildlife Program. Work with Publications distribution for better publication notification and deposit system.	Work continued on identifying materials not yet received from BPA contractors.
CRITFC	3 Collect and catalog documents from the Council's Fish and Wildlife Program-related collection.	We continued working on cataloging the ephemeral literature.
CRITFC	4 Collect and catalog additional books, journals, agency reports, gray literature, research reports, and documents that are applicable to management of the region's aquatic resources.	630 records were added to the online catalog. Traveled to Yakama Nation Fisheries Dept. to discuss library procedures. Brought back part of the collection to add to the StreamNet Library.
MFWP	1 Provide an update to the electronic version of documents used as source materials for data compiled in Objective 1.	Requested the Fisheries Division continue funding of contractor to maintain Fisheries Division library.
ODFW	1 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.	Referencing of new data holdings continued.
ODFW	2 Update the set of historic (pre-1975) Oregon Fish Commission and Game Commission reports and provide to the StreamNet library as available.	This task was dropped due to budget cuts and the fact that the StreamNet Library is running out of physical space to hold new materials not linked to StreamNet trends.

ODFW	3 Update library bibliography of ODFW, Fish Commission, and Game Commission reports with historic and current publications and make the bibliography available for reference via StreamNet and ODFW websites.	1) Continued to perform numerous maintenance, update and correction activities to the InMagic bibliography, however the bibliography is not yet ready for online access because the database manager (who will develop this capability) was hired during the latter part of the quarter. 2) Received 2 boxes of donated historical documents, including full sets of various F & W series from the early to mid 1900's. 3) Completed an inventory of annual Progress and Information Reports and replaced those copies that were missing.
WDFW	1 WDFW StreamNet will continue to collect documents used as source materials for data in Objectives 1 and 2. Documents will be assigned reference numbers and forwarded to the StreamNet library as per established SN guidelines.	In April, using the Fish Distribution spatial data reference assignment, Sikora continued consistent training sessions with Burns for her to learn how to manage, scope, and document data files and issues. In that time, they standardized the initial database. In May, Burns improved her documentation of the database. The effort awaits Sikora's final review.

Objective 3 Library / Reference Services

Task2. Provide Access to Collection

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

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Maintain an appropriate facility for the storage and public use of the physical collection.	Began negotiations with Ashforth Pacific to expand library space. Several drawings were presented with ideas for space utilization and expansion.
CRITFC	2 Catalog, organize and maintain the collection for appropriate on-site use.	1) Continued cataloging materials. 2) Considered options for shifting materials to make room in different areas.
CRITFC	3 Provide access to the StreamNet Library Catalog.	Continued to fine tune web access to the Library catalog.
CRITFC	4 Develop a schedule for regular updates of the reference table.	Continued developing data exchange format for the StreamNet reference table vs. the Library catalog.
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.	No effort made this quarter regarding the library software because the Database Manager was hired in the latter part of the quarter. However, as a result of a series of meetings, ODFW management staff have agreed to relocate the library to a new location that is of suitable size to house all materials in one place. Currently, library materials are spread between 6 locations throughout the Clackamas facility.

Objective 3 Library / Reference Services

Task3. Improve Electronic Access

Enhance the online capabilities of the StreamNet Library, including catalog access via the internet and an electronic archive of key Columbia Basin documents.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Manage and maintain the Library catalog server	Fine tuned web pages and began discussions with Regional Web programmer to synchronize the Library and StreamNet web sites.
CRITFC	2 Integrate the library catalogs into a single web application using TextWorks Web Publisher	Continued working with Montana database structure to integrate with the existing catalog structure.
CRITFC	3 Develop an electronic archive of key Columbia Basin documents	Completed the 1990 subbasin plans, but need more staff time to develop bibliographies.
CRITFC	4 Make electronic documents available through the Library web page.	1990 subbasin documents are all linked and available for download.

Objective 3 Library / Reference Services

Task4. Library Services

Manage the StreamNet Library and provide library services to the StreamNet user community and the general public.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Provide access guide to outline services for patrons.	Monitored to online access guide to show all updates of policies.
CRITFC	2 Assist users to locate information by providing reference, referral, and computer based search services.	Answered 145 requests for information. We have had at least 2 visitors per day average to use the collection.
CRITFC	3 Provide document delivery services, including inter-library lending and borrowing.	We lent 25 books to other libraries. We delivered materials to the NPPC offices; Pendleton, OR; and other locations.
CRITFC	4 Maintain hardcopy files of draft and final documents related to the NPPC amendment process, subbasin planning, and Columbia River/Portland harbor dredging	Located drafts of the 1990 subbasin plans. We are archiving the hard copies of these, but will not be providing access electronically.
ODFW	1 Respond to requests for ODFW documents and other source materials.	Provided 392 hardcopy documents and 8 electronic documents to 65 individual users during the quarter.

Objective 3 Library / Reference Services

Task5. 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

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Collect information about other regional fish and wildlife library collections and access policies.	Continued efforts at locating fish and wildlife libraries in the region.
CRITFC	2 Provide consultations for agencies and groups on ways to coordinate catalogs and services.	Visited with the Yakama Nations Fisheries Dept. to discuss library policies and procedures and options for a working collection on-site at their offices.
CRITFC	3 Coordinate with users, agencies, and regional libraries to improve services and avoid unnecessary duplication. Perform a needs assessment for the Library.	1) Approached PORTALS (Portland Area Libraries System) to negotiate for membership, but \$5,000.00 yearly admission is not fiscally possible. 2) Continued to update records of library periodical holdings.
CRITFC	5 Maintain presence in related Library groups (i.e. IAMSLIC, NRIC) provide access to knowledge on Best Management Practices for to libraries and current awareness of subject-related materials.	Renewed membership in PNLA. Assisted with conference coordination. Also presented a program on the Columbia River Salmon for librarians.
ODFW	1 Coordinate with the Oregon State Library system to enhance access to published periodicals, journals, and other documents for StreamNet users.	General coordination efforts continued.

Objective 4 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

Objective 4 Services to Fish and Wildlife

Task 1 Monitoring and Evaluation

Assist in the development of products that contribute to the monitoring and evaluating (M&E) of Fish and Wildlife Program effectiveness.
Specific area of involvement will include:

Objective 4 Services to Fish and Wildlife

Task 1 Monitoring and Evaluation

Task 1.a M&E Participation

Participate in Program-related monitoring and evaluation work groups

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Assist basin wide efforts to develop an R/M/E plan consistent with the regional Framework	Reviewed OWEB monitoring protocols with ODFW staff. Their approach provides a stratified, statistically-sound approach to tracking changes in the condition of some habitat conditions. Further work will be needed to determine whether they are tracking appropriate parameters from the NWPPC and multi-species framework perspectives. Monitoring protocols still need to be developed for fish and wildlife populations, which are not covered by the OWEB habitat methods.
IDFG	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	Participated in discussions at Steering Committee meetings.
MFWP	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	Discussed at Steering Committee meeting.
ODFW	1 Participate in discussions concerning data needs to support processes adopted by the amended Fish & Wildlife Program for Monitoring and Evaluation.	Participated in email discussions related to restoration data needs.

Task 1.b Evaluation

Periodically re-evaluate the StreamNet data plan to ensure consistency with M&E needs

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Keep Steering Committee apprised of regional R/M/E plans and needs	Presentations are made regularly to the Steering Committee when new information or action occurs at the regional level. Steering Committee prioritized data updates based upon regional monitoring needs.

Objective 4 Services to Fish and Wildlife Task 1 Monitoring and Evaluation

Task 1.c M & E Reporting

Prepare reports and data products that illustrate key M&E topics

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Assist Steering Committee to identify useful M&E products which StreamNet can produce at regular intervals	CRITFC staff assumed responsibility for updating the dam count and harvest data, since these can be obtained from one or a few central locations. As part of updating these trends, we will evaluate additional products which may be feasible to add to the StreamNet web site.
ODFW	1 No work planned but we are willing to adjust work plans to address amended Fish and Wildlife Program needs.	This task was dropped due to budget cuts.

Objective 4 Services to Fish and Wildlife

Task 2. Watershed Projects

Provide data and data services to Fish and Wildlife Program-sponsored watershed planning and assessment projects

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Assist subbasin planners to develop monitoring and evaluation activities for watershed projects that will integrate smoothly with StreamNet databases (cost sharing)	Subbasin planning activities have yet to begin. No activity this quarter.
MFWP	1 Participate in watershed and, sub-basin planning to the extent requested by the Council and other regional participants. Coordinate with Montana CBFWA representatives in the process and assure a valuable product. Volunteer to complete a pilot sub-basin in the process within Montana.	No requests were received during the quarter.

Task3. Stock Assessment Projects

Provide technical assistance to the Upper Columbia Basin and Upper Snake River Basin resident fish stock assessment projects, including a) identification of regionally consistent data exchange standards and b) Internet access to project data and other information. Specific actions will be defined in consultation with stock assessment project managers

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
ODFW	1 Provide assistance as needed.	This task was dropped due to budget cuts.

Objective 4 Services to Fish and Wildlife

Task4. Service to Other Fish and Wildlife Program Projects and Activities

In consultation with CBFWA, the Council, and BPA StreamNet will provide technical assistance and data services to select Program projects

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Collaborate with CBFWA, NPPC, and other fish and wildlife programs in the Columbia Basin to identify and provide technical and other services to the Fish and Wildlife Program	Discussed possible StreamNet services with NWPPC and NMFS staffs. No specific services were identified due to the slow progress of subbasin planning discussions.
IDFG	1 Provide technical and other services to other FWP projects occurring in IDFG.	Continued coordinate with Idaho Supplementation Studies project. Completed data summary for Council staff on anadromous fish clipping in Idaho hatcheries.
ODFW	1 Provide technical assistance and data services to F&W Program projects as needed and adjust work plan priorities accordingly.	Continued to finalize tagged and untagged hatchery release data to contribute to the response to the request from the NWPPC. No other technical assistance was requested this quarter.
ODFW	2 Produce pre- and post-season harvest and stock status reports for Columbia River fish runs and fisheries and make reports available via either via the StreamNet site directly or via the ODFW Columbia River Management site with a link from StreamNet.	1) Began work on the Status Report on Columbia River Fish Runs and Fisheries, 1938-2000. 2) Began work on the 2000 Lower Columbia River and Buoy 10 Recreation Fisheries report. 3) Completed 1 Joint Staff Report, 9 Fact Sheets, and 10 Action Notices for the Columbia River Compact and posted on ODFW/CRM web site.
ODFW	3 Draft a summary of real-time data services that can be provided as well as a description of how these services differ from current data services provided in the Basin.	1) Completed plan for reorganization of our current web site to better incorporate real-time data. 2) Completed a rough draft of a paper describing/proposing a new format for our web site. This paper describes the new web site as well as what is expected to be included in this web site.

basin to assist with providing information needed by the projects and acquiring and distributing information generated by the projects.

Fisheries Biologist spoke with Vinnie Pero of the Shoshone-Paiute tribes. Because BPA wishes to better capture the information from the fish and wildlife projects they fund, and because the BPA-funded project which Vinnie Pero runs is collecting data that might be incorporated easily into StreamNet, the three entities are working together to create a method for Vinnie Pero's to create data in standard formats that can be easily captured by StreamNet. If successful, it is hoped this effort can serve as a template for other data acquisition effort for the improvement of regional databases.

2) At the request of the NPPC, the region worked with the cooperating projects to compile data on the status of marking salmon in the Columbia Basin with a mass adipose clip. The data were needed to determine how much progress has been made toward marking all hatchery fish for harvest in selective fisheries as requested by the four governors. Regional staff worked with state, CRITFC and federal data managers to compile the information, since not all release data from year 2000 had been submitted to RMIS, and the current RMIS system was not designed to output this kind of information. This proved to be a larger job than originally anticipated. A preliminary compilation of the requested data was assembled and presented at a Power Planning Council meeting.

Objective 4 Services to Fish and Wildlife

Task5. 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 Work Element

Accomplishments, Third Quarter, FY2001

All

No work was done on this task this quarter. The Protected Areas data set remained accessible on the StreamNet Website.

Objective 4 Services to Fish and Wildlife

Task6 Basin Data Needs

StreamNet will provide information and assistance to regional reviews of data management projects and data management needs conducted by the PPC, ISRP, ISAB and other regional entities

Task6.a Data Management Needs

Work with regional entities to develop an analysis of regional data management needs, challenges and capabilities

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Participate on Council advisory committees to identify data needs and data gaps	RAAC committee progress (slow) on implementing the EDT validation project was reported to the Steering Committee.
MFWP	1 Provide review of any and all regional data management issues	Attended StreamNet Steering Committee meeting where topic was discussed.
ODFW	1 Assist as needed with identifying data needs of the amended Fish and Wildlife Program	1) Assisted in finalizing a project proposal to compile all fish related data in the Willamette Basin to support and populate NMFS's Viable Salmon Population analysis as well as provide information needed for the Council's Subbasin Planning effort. 2) Assisted in developing interview questions, conducted interviews with Regional StreamNet staff, and successfully filled a new Population Viability Biologist position.

Objective 4 Services to Fish and Wildlife Task 6 Basin Data Needs

Task6.b Data Needs Workshop

Promote organization of a regional 'data needs workshop' to establish regional data / information needs and priorities and to develop recommendations for roles and responsibilities for acquiring and providing the needed data / information

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
All		No work was done on this task this quarter

Objective 5 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 5 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

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Provide normal supervision of StreamNet Library staff and the CRITFC database Programmer.	Normal supervision of staff was provided as required.
CRITFC	2 Produce quarterly reports within 1 month after the end of each quarter	Report was delayed.
CRITFC	4 Participate in Steering Committee meetings	One Steering Committee meeting was attended this quarter.
FWS	1 Represent FWS in Steering Committee meetings	Pastor attended the second day of May/June Steering Committee Meeting
FWS	2 Produce quarterly reports w/in 30 days of quarter end	The second quarter activity report was submitted.
IDFG	1 Participate in Steering Committee activities. Manage all aspects of StreamNet in IDFG, including budget, personnel, and work management. Products will include: Annual IDFG StreamNet work statement; Quarterly and annual reports of progress; and, Participation in Steering Committee activities.	Conducted all parts of StreamNet management for IDFG, including progress reports, budget management, work management, and supervision.
MFWP	1 Administer all aspects of the project for Montana, including oversight of budget, personnel, work statement preparation and implementation, coordination, and project reporting. Participate in Steering Committee.	Received contract for additional funding for FY01. Processed contract and sent back to PSMFC.
ODFW	1 Administer all aspects of the project for Oregon, including budget oversight, personnel, staff work plans, project implementation and coordination, Steering Committee and technical issues meeting attendance.	1) Developed interview questions, interviewed, and hired the Fish Distribution GIS Coordinator, Fish Presence Survey Data Entry Assistant, and the StreamNet Database Manager. 2) Attended the May StreamNet Steering Committee meeting in Gladstone.

NMFS's Viable Salmon Population analysis as well as provide information needed for the Council's Subbasin Planning effort. Also assisted in developing interview questions, and participated on the interview panel. A successful candidate was offered the position and accepted the position in mid-June.

ODFW	2 Participate/attend appropriate training and conferences in order to enhance technical skills which are relevant to StreamNet's mission.	1) One staff person read and completed exercises contained in an Access VBA Instruction Guide. That person also, attended an Intermediate Access class offered through the OSU Forestry Department. 2) One staff person attended the fourth and sixth of eight 21st Century Government training sessions. The fifth session was missed due to conflicts with scheduled annual leave.
ODFW	3 Produce and provide a Statement of Work, budget proposal, quarterly reports, and annual report for Oregon.	1) Prepared CRM portion of the Quarterly report for the second quarter. 2) Continued to work on the Oregon Quarterly Reports for the first, second, and third quarters, as well as finalizing the FY-2000 Inventory Report. 3) Prepared and submitted a revised statement of work for Oregon StreamNet staff.
Region	1 Provide oversight for the StreamNet Program	Normal program administration continued during the quarter.
Region	2 Supervise StreamNet regional staff. Provide training opportunities for project staff to further their technical development and capabilities.	Routine supervision of project staff continued, including conduct of performance appraisals for some staff members.
Region	3 Develop program budgets and manage / monitor expenditures	Routine budget tracking was carried out during the quarter.
Region	6 Coordinate with regional management agencies / entities and data using entities to determine information and data service needs and to assure rapid response to reasonable data and information needs.	We responded to a request for information on adipose marking of hatchery salmon for selective fisheries from the NWPPC, and coordinated with Council staff to assure their questions about adipose marking for selective fisheries are adequately addressed.
Region	7 Produce quarterly reports within 1 month after the end of each quarter	1) The Fourth Quarter report for FY2000 was produced using the Access database. 2) The First Quarter report for FY 2001 was produced using the FY2001 version of the database.

budget and unexpected work on compiling mass marking data for the NWPPC, caused a delay in preparing the annual report for FY2000. Work on the annual report progressed this quarter, with actual submission planned early next quarter.

Region	9 Manage and serve the StreamNet Steering Committee through: Organizing and conducting committee meetings at least quarterly; Calling additional meetings as needed to address timely issues; and, actively consulting with Steering Committee on program activities	Hosted the spring meeting of the StreamNet Steering Committee in Gladstone on May 31 - June 1. Used this meeting to prioritize work elements for the FY2002 work plan.
WDFW	1 The WDFW StreamNet state coordinator will participate in all Steering Committee and StreamNet Project management activities. 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.	1) In April, Sikora demonstrated for O'Connor a compiler's work load to compile records from several reference publications. 2) Sikora corrected Schmidt's Statement of Work (SOW) database for final work plan cuts and addbacks after the FY2001 budget was resolved. O'Connor and Sikora thoroughly trained themselves to use the SOW database, adopted conventions to code our work per the existing task numbers and formed ideas on a better strategy for organization in the FY 2002 SOW. 3) O'Connor and Sikora met with Woodard and Smith to discuss project progress and collect their input on work statement priorities for next fiscal year, just prior to the May 31 - June 1 Steering Committee meeting in Gladstone. 4) O'Connor and Sikora attended the Steering Committee meeting, which was organized around establishing next fiscal year's work plan. O'Connor drafted a report summarizing WDFW progress and presented it to the group. O'Connor and Sikora participated in key discussions concerning FY2002 work statement priority-setting, the timing of data updates, balance of "catch-up" versus "keep-up" versus "new data development" work, and generation of more attainable goals in the annual statement of work. Synchronizing work on certain datasets across the Region was discussed, but no conclusions were reached at that time. Additional progress needs to be made on resolution of fish distribution data exchange formats and generation of a data submission protocols report. 5) Sikora researched and reported to WDFW the comp time balance and intentions for Smith and Lensegrav and updated and submitted her application for the ITAS 3 and 4 register. She also conducted Lensegrav's performance evaluation on June 29.

6) Staff ran FPROT software on their computers after a Melissa Virus was found on Burns' computer. The problem seemed limited to Burns and O'Connor's files. Some problems still occur with Lensegrav's

- computer that originated after he received a new computer.
- 7) O'Connor and Sikora produced and submitted the FY2001 second quarter report.
- 8) O'Connor submitted final budget adjustments and supporting documentation for FY2001, based on additional contract funds from PSMFC.
- 9) O'Connor began drafting funding proposals for StreamNet "carry-forward" and unspent EPA money. Areas of focus included a pilot habitat restoration project assessment tool and the spatial enabling of key resident fish sampling data in the upper Yakima drainage.

Objective 5 Project Management / Coordination

Task2. Participate in Fish and Wildlife Program Development Activities

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 aimed at identifying ways that StreamNet might more effectively contribute to the Fish and Wildlife Program (FWP). 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.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Participate in appropriate coordination meetings with BPA, CBFWA, the Council, ESA officials, ISAB/ISRP, and/or staff and management of participating organizations aimed at identifying ways that StreamNet might more effectively contribute to the Fish and Wildlife Program.	Discussions regarding StreamNet role under the Fish and Wildlife program continued with NWPPC staff and contractors and with the RAAC group. Battelle Northwest Labs made a pitch to the CBFWA Anadromous Fish Committee to provide significant information management services in the for of a regional "collaboratorium" hosted on the Battelle mainframe. The proposal was not fully formed and the reception was lukewarm. Battelle would like a large role in regional information management. The WDFW representative indicated it may be a choice between Battelle or StreamNet.
CRITFC	2 Where appropriate, 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, with particular emphasis on subbasin planning and R/M/E issues.	Approximately 12 formal and informal meetings of the above listed groups occurred this quarter. Many of the discussions involved developing subbasin assessment guidelines for subbasin planners. Completing these assessments will be a particularly data-intensive activity.

MFWP	1 Participate in appropriate coordination meetings with BPA, CBFWA, the Council, ESA officials, ISAB/ISRP, and/or staff and management of participating organizations aimed at identifying ways that StreamNet might more effectively contribute to the Fish and Wildlife Program.	Attend Steering Committee meeting.
ODFW	1 Participate in activities aimed at identifying ways that StreamNet might more effectively contribute to the Fish and Wildlife Program, including participation in Fish and Wildlife Program advisory groups and applicable regional policy, planning, and management forums.	1) Consulted with the ODFW CBFWA Representative on the knowledge and skills to look for when evaluating candidates for the Population Viability Biologist position. 2) Attended a meeting at NMFS headquarters in Seattle regarding the data needs of the Willamette/Lower Col. Technical Recovery Team and how StreamNet and the VSP Project might address those needs. 3) Met with ODFW's Will./L. Col. TRT liaison to discuss ODFW's role in providing data to the Will./L. Col. TRT.
WDFW	1 No specific work planned; available as needed for coordination.	(see related work under Tasks 1.6, 2.2, 2.7, 4.2a, 4.7a).

Objective 5 Project Management / Coordination

Task3. Coordinate with Other Related Activities

Maintain communications between StreamNet and other applicable regional and state-level fish and wildlife activities to identify means for collaborative data collection, storage, and dissemination. Collaborative data activities will target 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 agencies. Collaboration with coast-wide and private data collection/compilation efforts will be pursued when this supports overall project goals. Areas of particular emphasis are 1) participation in Fish and Wildlife Program monitoring and evaluation activities, and 2) exploring opportunities for integration of StreamNet data exchange formats into Fish and Wildlife Program contract terms and conditions.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Seek closer cooperation, coordination, and consistency of information management practices and standards between salmon restoration programs in the Columbia Basin (e.g. Mid-Columbia PUDs, LSRCP) by participating on appropriate work groups.	No activity this quarter. It is most likely that coordination of information management across programs (e.g. the Power Act, Forest Service, and LSRCP) will surface during subbasin planning which will be most active during the next two fiscal years.
MFWP	1 Maintain communication, help coordinate activities with Montana Department of Natural Resources, Department of Environmental Quality and the Natural Resource Information System as they relate to StreamNet activities. Participate in appropriate conferences by preparing papers and giving presentations.	Ongoing.

ODFW	1 Establish / maintain working relationships with data collection projects within and outside ODFW to promote efficient and beneficial data sharing.	<ul style="list-style-type: none"> 1) Reviewed and commented on the potential impacts of HB 3826 which requires ODFW to prepare an inventory of all dams, culverts and other fish passage obstructions. 2) Coordinated with NMFS-Seattle staff to identify Oregon field projects that are capable of providing coordinate data for individual redds locating in Col. Basin streams. 3) Coordinated with Willamette Industries, BLM staff, and USGS staff regarding joint efforts to develop fish habitat distribution data in the Willamette and Hood River basins. 4) Approached the Oregon Department of Forestry seeking a cooperative partnership for digitizing Fish Presence Survey locations and maintaining the data in a usable format. Due to the costs associated with this effort, ODF was not able to participate. 5) Met with OWEB staff to discuss the potential for developing at statewide passage barrier database as laid out in the latest Oregon Plan Annual Report. 6) Attended a meeting with the Bureau of Reclamation and Water Resources Department to discuss developing a comprehensive data system for the John Day basin (yes, another one!).
Region	1 Coordinate the efforts of the StreamNet project with other data compilation projects occurring in the region. Address issues of data gaps, duplication of effort, data set integration, georeferencing standardization, scientific rigor, management needs, etc.	<ul style="list-style-type: none"> 1) Regional personnel met with the Xerces Society staff to discuss how StreamNet and Xerces might work together to gather and incorporate aquatic macroinvertebrate data into StreamNet. 2) The Regional Fisheries Biologist attended the Taxonomic Workshop of the Northwest Biological Assessment Workgroup and gave a presentation on database integration. At this meeting, representatives of state, federal, provincial agencies, and of consultants agreed to try and integrate their databases on a regional scale that could eventually include areas from Arizona to southeast Alaska. StreamNet will remain involved with this group to provide assistance and to ensure data are compatible with our formats. 3) The Regional Fisheries Biologist worked with Oregon DEQ to convert their macroinvertebrate database into a regional StreamNet/Xerces structure. Tools were created for converting data back into their new structure, which is based on the structure created by StreamNet and Xerces. 4) The Program Manager attended an Open House meeting of the fish habitat related projects at the NMFS NW Science Center. The purpose was to learn about the data needed within and coming out of the various habitat projects being conducted by the Center. This resulted in discussions of data contents in StreamNet that are available to support ongoing efforts.

- 5) Regional personnel attended a meeting at the USACOE's Reservoir Control Center in Portland, OR. The COE convened a meeting to discuss creation of a regional water quality database, and wished to discuss data standards and integration with existing databases. At this meeting, the Regional Fisheries Biologist gave a presentation on how StreamNet operates and the costs involved, gave suggestions for data storage and integration, and on how they might create a program for water quality monitoring in order to support their proposed database. Georeferencing consistent with StreamNet or the National Hydrography Dataset was stressed so that the data would be compatible with other data in the StreamNet database.
- 6) Regional personnel met with Richard Kang of NMFS to discuss the data available in StreamNet and how it could be useful for the database NMFS wishes to create to support their ESA responsibilities. StreamNet personnel gave a presentation on this project and the available data. Discussions followed regarding what NMFS is attempting to create and how StreamNet can contribute to that effort.
- 7) Under a grant from NMFS, ODFW hired a biologist to locate and collate data for NMFS's viable salmon population (VSP) analyses. Regional and ODFW StreamNet personnel interviewed candidates and hired a biologist for this position. ODFW StreamNet trained the new person and supervises her work.
- 8) The Program Manager participated in a meeting of the Pacific Salmon Information Network to continue coordination among regional salmon information efforts. The teleconference approach used for this meeting may have value for other coordination efforts around the basin.
- 9) Regional staff participated in a meeting to initiate the ODFW 1:24,000 fish distribution project to assure work at that scale is compatible with data at the 1:100,000 scale.

WDFW 1 Maintain working contact with Washington Hydro Framework partners and USGS Regional Ecosystem Office staff to promote effective sharing of hydrology base layers and attached fish and habitat data.

- 1) Hudson and O'Connor participated in Washington State Hydro Framework meetings with other state and federal agencies to review progress on the statewide 24K hydro contractor work managed by WDNR and to offer advice on cleaning, routing, and quality control issues discovered during WDFW's own work on the SSHIAP contract.
- 2) O'Connor discussed coordination of habitat data gathering and the possibility of submission to StreamNet with Steve Lanigan of the USFS. Initial coordination work was handed to the WDFW SSHIAP staff for this Lower Columbia River area of interest. O'Connor will watch for an appropriate time to bring these (detailed) habitat data to the StreamNet table for discussion concerning incorporation.

Objective 5 Project Management / Coordination

Task4 Prepare Public Information Materials.

As needed, produce public information materials including updated versions of the project brochure, computer demonstration materials, and/or other appropriate materials

Objective 5 Project Management / Coordination Task 4 Prepare Public Information Materials.

Task4.a Prepare Public Information Materials

As needed, produce public information materials including updated versions of the project brochure, computer demonstration materials, and/or other appropriate materials

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
CRITFC	1 Produce and update a Library brochure and Access guide listing services, hours and cost recovery fees.	Library brochure distributed at several conferences and events.
ODFW	1 Write informational articles on StreamNet data activities for natural resource oriented publications and give oral presentations to relevant user groups.	1) Prepared and gave two presentations on the ODFW Fish Screening and Passage Program Database. 2) Prepared presentation and hosted workshop to describe and discuss 24K Fish Distribution Development Project with interested stakeholders.
Region	3 Create a demonstration of the data and services available by StreamNet. Update this presentation as necessary. Materials developed will be for presentations covering the data and services provided by StreamNet, and how to use the StreamNet web site to obtain data.	A slide show presentation created in the second quarter was modified for use at a meeting with the US Army Corps of Engineers' Reservoir Control Center in Portland, OR. The topic of the meeting was the COE's need to create a water quality database. StreamNet personnel provided advice on how best to create such a database and program of data collection.

Objective 5 Project Management / Coordination Task 4 Prepare Public Information Materials.

Task4.b Participate in informational meetings/conferences

Participate in appropriate state, regional, and national educational and professional conferences, including, where applicable, giving presentations, preparing poster session materials, and contributing to conference proceedings.

<u>Project</u>	<u>Work Element</u>	<u>Accomplishments, Third Quarter, FY2001</u>
IDFG	2 Serve as chairman and organizer for the 2001 ArcInfo User's Group Conference scheduled for October 2001.	Continued work on 2001 Northwest GIS User Group Conference.
ODFW	1 Participate in appropriate meetings & conferences as opportunities arise to highlight StreamNet programs & data	Attended inter-agency coordination meeting on managing culvert related data to make replacement efforts more efficiently and cooperatively. StreamNet data management abilities and the on-line query system were reviewed as a possible method of distributing the various agencies' data.
WDFW	1 Participate as opportunities arise to highlight StreamNet programs & data	Mid-June, Lensegrav made a short presentation on lakes of Washington mapping technologies at WDFW's Annual Science Division meeting. O'Connor and Sikora also attended the meeting.
