

StreamNet Quarterly Progress Report

(October - December 1999)



Submitted to:
Bonneville Power Administration

Submitted by:
Pacific States Marine Fisheries Commission

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I. Columbia River Inter-Tribal Fish Commission

Submitted by: Phil Roger
Columbia River Inter-Tribal Fish Commission

Accomplishments:

Task 3.1 Collection development

- Duplicate exchange continues to be a good source for collection development. The Library participates in Backserv (email list for duplicate exchange) and IAMSLIC (International Association of Marine Science Libraries and Information Centers) duplicate exchange to offer and receive duplicate issues of journals, books and technical reports. Materials were mailed to libraries in Canada, Ireland, and the United States. Materials were received from Canada and various libraries in the United States. Trading partners primarily include Colleges and Universities as well as the Marine Laboratories and NOAA libraries.
- **Task 3.1d** Efforts have been made to identify documents published on the world wide web as PDF files. The Library has downloaded some for preservation purposes. We are also working on prioritizing documents currently held for inclusion in a digitizing project.

Task 3.2 Organization of the collection continued through record entry in OCLC WorldCat, the international cataloging source.

- Major efforts went into applying barcodes to the Library of Congress classified collection. This project was completed in record time due to the efforts of Laurie Nock and David Liberty.
- The StreamNet documents are still in the process of having barcodes applied. They are being integrated with the classified materials as they are processed.
- The InMagic database is also undergoing some renovations before it is uploaded into the StreamNet web catalog again. We are pursuing authority control in the database to make record entry easier for data compilers.

Task 3.4 Reference services kept Library staff busy as we assisted patrons in a wide variety of research topics. The Library received 83 reference assistance requests. Among the research interests were salmon survival, stream water quality, non-point source pollution, fish passage, watersheds, effects of grazing on habitat and the Hells Canyon Complex. Researchers were from many origins and contacted the Library via email, telephone and by walking in.

CRITFC
BPA
NMFS
ODFW StreamNet Library
Members of the general public

USFWS
PSU graduate students
Nez Perce Tribes, Fisheries Management Office
CTUIR GIS office
PCC students
ODOGAMI
WSU
Gomez & Sullivan Engineers

The StreamNet Library generated 66 interlibrary loan requests. We filled requests for staff members of ODFW, CTUIR, USFWS, and CRITFC. In addition, the Library loaned 20 books to other Libraries. (Task 3.4)

Users made approximately 1600 copies. (See list above) Most copies were from Library materials, including books, journals and StreamNet documents. This number includes copies made to fill Interlibrary loan requests from other libraries.

Task 4.2 Monitoring and Evaluation Led a CBFWA inter-caucus work group to develop an research, monitoring, and evaluation plan. This group produced a draft plan which is now under internal CBFWA review. Participation in this activity was supported by CBFWA, CRITFC, and StreamNet funding.

Task 4.3 Watershed Projects The Project Leader was an active participant in CBFWA discussions to update the 1991 subbasin plans as a basis for future funding decisions. Data management issues included access to existing datasets, potential new data needs, and the relationship of subbasin planning to the Framework and EDT analysis. Participation in these activities involves cost sharing with other funding sources.

Task 4.5 Services to Other Fish and Wildlife Program Projects The Project Leader and Database Programmer were regular participants in work groups to produce the Multi-Species Framework technical analysis. Data documentation standards and tools were produced. Although they were not immediately used due to imminent project deadlines, we anticipate using them in some form when EDT habitat data is reviewed during the Council's subbasin planning process.

Meetings:

Task 3.5 Promoted inter-library cooperation by presenting results of reference experiment at a joint meeting of the Oregon Chapter, Special Library Association and the Downtown Portland Librarians' Association.

Task 3.3 Attended InMagic Form Design training to enhance skills for retrieving information and reports for patrons.

Task 3.5 Hosted Oregon Chapter, Special Library Association Halloween party.

Task 3.2 Initiated meeting between PSMFC StreamNet staff and Librarians to better understand how the data and library functions interface. Also discussed possible enhancements to the website.

Miscellaneous:

Task 3.5 Promoted Library with Winter Holiday ornaments. These ornaments were mailed as Thank you's to patrons as well as advertisements to possible patrons.

Task 3.5 Continued as consultants for the Environmental web pages of CascadeLink through the Multnomah County Library.

Task 3.1 Worked on mapping world wide web for inclusion in CascadeLink and links pages for StreamNet Project.

Focus on 2nd Quarter:

Task 3.1c The Library is going to change priorities from working with materials that already have records in the database to items in the Library that have not been entered in the in-house catalog. This focus will change from integrating the StreamNet documents to cataloging the Northwest Power Planning Council's Fish and Wildlife collection.

Task 3.2c Develop a timetable for submitting the Library catalog data to the Regional Data Manager for translation to the web site catalog.

Task 3.4 Develop subject bibliographies and work with the Framework project

Tasks 4.2, 4.3, 4.5 Staff will continue to participate in and develop products for evaluation of the Multi-Species Framework analyses, subbasin planning, and research, monitoring, and evaluation needs.

Tasks 5.2 and 5.3 StreamNet staff will be active participants in discussions of program amendments designed to improve information management in the Columbia Basin. Two issues will be of primary concern: 1) improving the information management within a more aggressive adaptive management process for the Fish and Wildlife Program and 2) improving information coordination between the Fish and Wildlife Program and related agencies and restoration programs..

II. Idaho Department of Fish and Game

Submitted by: Bart Butterfield
Idaho Department of Fish and Game

ACCOMPLISHMENTS:

Objective 1: Data Development

Task 1.1: Anadromous Fish

- Task 1.1.c: Juvenile Data. Coordinated with IDFG Fisheries Bureau on general parr monitoring data structures and data collection.

Task 1.2: Resident Fish

- Task 1.2.a: Distribution and Life History. Updated resident fish distribution data from IDFG reports published through 1996.
- Task 1.2.d: Hatchery Production. Coordinated with IDFG Fisheries Bureau to locate current stocking sites and incorporate into GIS. Coordinated with IDFG Fisheries Bureau to prepare IDFG stocking data for migration to the IDFG StreamNet information management system.

Task 1.4: Facilities

- Task 1.4.a: Dams and Fish Passage Facilities. Began development of a dams module in the IDFG StreamNet information management system. Error checked relationships of dams to PNW hydrography.
- Task 1.4.b: Hatcheries. Began development of hatchery module in the IDFG StreamNet information management system. Error checked relationships of hatcheries to PNW hydrography.

Objective 2: Data Management and Delivery

- Task 2.1: Database Management. Continued development of stream survey modules in the IDFG StreamNet information management system. This item transcends the boundaries of a variety of other tasks, because it will be the foundation of how we compile much of our StreamNet data in the future.
- Task 2.3: Data Exchange Formats. Provided technical assistance and database analysis for the development of the Mitigation and Restoration Project data exchange format.

- Task 2.4: GIS Data System. Developed maps for public display of Cutthroat Trout distribution in Idaho and general parr monitoring sites in the Middle Fork Salmon River basin.
- Task 2.6: 1:100,00-scale Hydrography. Continued error correcting, enhancement and integration of PNW hydrography with lakes and dams for IDFG StreamNet information management system.

Objective 5: Project Management and Coordination

- Task 5.1: Manage Project Activities. Attended Steering Committee and technical work group meetings. Worked on proposed guidelines of operation for the Steering Committee.
- Task 5.3: Coordinate with Other Related Activities. Provided technical assistance to other IDFG Natural Resources Bureau staff in their development of an information system for compiling in-stream flow data. Coordinated with the IDFG MIS Bureau on biological and geographical data standards and programming methodologies.

PLANS FOR NEXT QUARTER (Jan 2000 – Mar 2000):

Objective 1: Data Development

Task 1.1: Anadromous Fish

- Task 1.1.a: Distribution, Life History (use type) and Barriers. Begin development of barriers database by direct extraction of potential barriers from existing distribution data.
- Task 1.1.b: Adult Abundance. Compile IDFG 1999 field season redd count data into the IDFG StreamNet database. Convert existing IDFG StreamNet anadromous adult abundance data to the 1:100,000-scale hydrography LLID system.
- Task 1.1.c: Juvenile Data. Build cross-reference of existing IDFG general parr monitoring (GPM) data to the 1:100,000-scale hydrography LLID system.
- Task 1.1.e: Hatchery Production. Convert existing IDFG StreamNet hatchery production data to the 1:100,000-scale hydrography LLID system.
- Task 1.1.i: Populations. Develop tables for IDFG population categories tied to 1:100,000-scale PNW hydrography.

Task 1.3: Habitat

- Task 1.3.a: Stream / Watershed Habitat. Build cross-reference of existing IDFG GPM stream habitat data to the 1:100,000-scale hydrography LLID system.

Task 1.4: Facilities

- Task 1.4.a: Dams and Fish Passage Facilities. Develop table structures and supporting tables for dams in the IDFG StreamNet information management information system.
- Task 1.4.b: Hatcheries. Develop table structures and supporting tables for hatcheries in the IDFG StreamNet information management information system. Add related hatchery structures, such as weirs and traps.

Objective 2: Data Management and Delivery

- Task 2.1: Database Management. Continue development of the IDFG StreamNet information management system. This will include additional user screens, database structures, and other required programming.
- Task 2.3: Data Exchange Formats. Participate with the Steering Committee and technical work groups in designing and adopting DEF 2000.1.
- Task 2.6: 1:100,00-scale Hydrography. Complete the error correcting, enhancement and integration of the PNW hydrography with lakes and dams for the IDFG StreamNet information management system. Coordinate and participate with the National Hydrographic Dataset (NHD) review process.
- Task 2.7: Data Requests. Continue to reply to data requests that come into IDFG for StreamNet data. Develop some applications to automate and streamline the process of filling data requests.

Objective 5: Project Management and Coordination

- Task 5.1: Manage Project Activities. Attend Steering Committee and technical work group meetings. Complete proposed guidelines of operation for the Steering Committee. Develop a project management plan for IDFG StreamNet. Complete quarterly report.
- Task 5.3: Coordinate with Other Related Activities. Continue to coordinate with IDFG Fisheries Bureau in the development of the IDFG StreamNet information management system.

DATA REQUESTS:

The following table summarizes the data requests the IDFG StreamNet responded to during the quarter. A detailed list is available on request.

	Federal	State	Private	Other
Data Requests	32	6	14	1
Map Requests	0	2	0	0

III. Montana Department of Fish, Wildlife & Parks

Submitted by: Janet Hess-Herbert
Montana Department of Fish, Wildlife & Parks

Significant Accomplishments

1. Data Development

1.2 (e) Updated the Westslope Cutthroat Genetic table as part of MRIS electrophoretic and DNA analysis conducted at the University of Montana's Wild Trout and Salmon Genetics Lab. Added over 80 new sites to the dataset. Fields and records in the MRIS Fish Distribution table were updated to reflect the new information. Also updated the coverage of genetic sample site location.

1.2(f) and (h) MRIS data used to provide maps and reports of Westslope Cutthroat Trout distribution and genetic results for a meeting of all state and federal fisheries biologists in December to determine Westslope Cutthroat Trout Priority Areas. Staffed meeting, created draft Priority Area maps. Priority areas were classified from I to VI, depending on various attributes such as genetic purity, contiguous populations, and land management and non natives present. Priority areas will be used to guide land, water and species management decisions in Montana made by state and federal agencies. For streams east of the Continental Divide, also included fields concerning expansion opportunities and extinction rates.

1.2(a) As part of updating the Fish Distribution Table to better determine MFWP Native Species Management Areas for Montana's fish community, sent out 1994 MRIS stream reach records where no species records were listed to determine if they had been surveyed for fish and if so, what species were present. Of the 1994 streams, 6% had not been surveyed but the stream reach was known to contain fish; 7% had been surveyed and no fish captured, and 87% had never been surveyed. Will provide valuable information to biologists when planning field surveys in the future.

1.3 (c) Updated the MFWP Dewatered Concern Areas with data collected in October of 1999. Areas are streams where MFWP Fisheries Biologists have recognized impacts of stream fisheries due to either natural or man-caused dewatering.

2. Data Management and Delivery

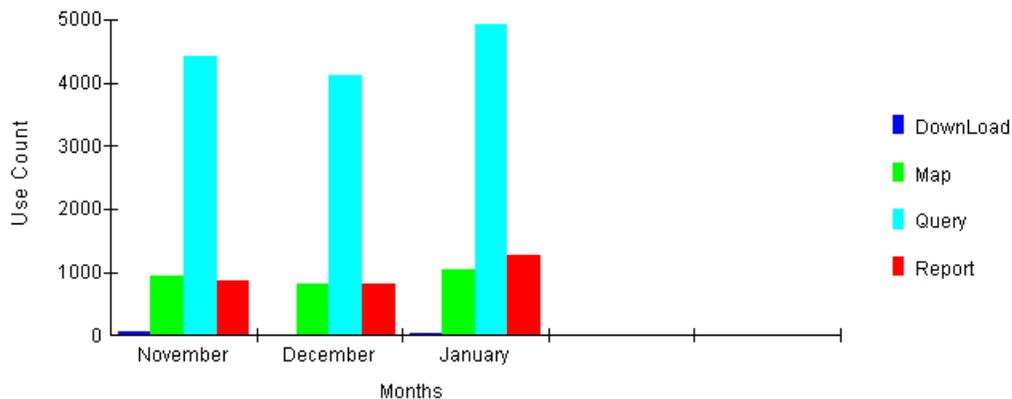
2.1 Completed the MFWP Fisheries Stream Classification System replacing the stream assessment values generated during the original Montana Rivers Study as part of the Northwest Rivers Study of 1985. Provided maps and tabular reports to all state and federal fisheries biologists, managers and administrators. Also available through the MRIS query program.

2.5 and 3.2 Visit the new Montana’s StreamNet query program hosted by the Natural Resource Information System website at:

<http://nris.state.mt.us/scripts/esrimap.dll?name=MRIS2&Cmd=INST>

The website includes MRIS data on fish distribution, genetic samples, trend surveys, references at the stream level, fisheries classification values, and protected areas; data can be viewed in a report format or mapped online. **Have averaged over 4,000 “hits” each month for November and December.**

Summary of requests by type



NRIS filled 23 tabular data requests during the quarter with the majority prior to the MRIS query program on the web was released. Provided 16 Fisheries related GIS requests during the quarter.

2.6 Continued to merge USFS and FWP hydrography in order to create routes and assign and LLID for each stream in the 1:100,000-scale Hydrography PNW coverage. Sent coverages to regional StreamNet staff for routing and LLID assignment. Continued to work with Duane Anderson, NRIS Water Information Coordinator, on the NHD, reviewing coverages as they have become available and encouraging and supporting efforts to get product completed.

3. Library/Reference Services

3.2 Completed inputting of all Fisheries Division documents into Mark record format. Able to access all Montana reference documents using the MRIS query program or on a distributed copy on CD using InMajic runtime.

5. Project Management /Coordination

5.1 Hired two new employees; Steve Carson, StreamNet Data Manager for MFWP, working in Helena and Kim Lindstrom, GIS Programmer/Analyst, .3 FTE on StreamNet working in Kalispell.

5.3 Coordinated two meetings between the MFWP staff and Montana's Natural Heritage Program staff that are involved with Montana's fish and wildlife species of special concern. Focus of meeting is to understand each other's systems, develop a coordinated approach to classify species of special concern, and determine how to best share and provide data to users.

Products Delivered

5.1 Annual Report

5.1 FY1999 4th Quarter Report

3.1 Sent all reference records from Montana in Marc format to library.

Next Quarter's Emphasis

Using StreamNet data exchange format, restructure various tables in MRIS and schedule visits to state and federal offices with fisheries biologists. Update data tables from biologist interviews for last 3 years.

Complete Westslope Cutthroat Trout Priority Areas

Complete Stream Level Routing and LLID assignment for Western Montana. Develop NHD Scope of Work with NRIS Water Information Coordinator.

Demonstrate MRIS web-based query program at annual MFWO Fisheries Division and Montana Chapter of the AFS meetings.

Attend StreamNet technical meeting and Steering Committee meeting.

Complete Montana StreamNet workplan for FY2000 and 1st quarterly report.

IV. Oregon Department of Fish and Wildlife

Submitted by: Cedric Cooney
Oregon Department of Fish and Wildlife

Period Highlights

1. Continued verifying location and physical information for barriers in our Barriers database with Oregon field biologists. During this quarter, 262 new barrier records and 3,548 FishBarrier records were added, for a total of 2,404 barrier records and 3,863 FishBarrier records. Of the 2,404 barrier records, there are 1,306 (down from 2,142) that need to be verified by field staff, 390 which have been reviewed by agency biologists but lack some information necessary for submission to StreamNet, and 708 barriers which have been converted into the new Barrier Exchange format. (Task 1.1a, 1.2a, and 6.1a)
2. During this quarter, 65% of Oregon's on-line Dam/Weir Count trends were reviewed for accuracy and/or updated through 1998 (this is only for trends where data was collected for anadromous fish in 1998). At the present time, 65% of these trends has been reviewed and/or updated. (Task 1.1b)
3. During this quarter, 43% of Oregon's on-line Redd Count trends were reviewed for accuracy and/or updated through 1998 (this is only for trends where data was collected for anadromous fish in 1998). At the present time, 43% of these trends has been reviewed and/or updated. (Task 1.1b)
4. During this quarter, 84% of Oregon's on-line Estimates of Spawning trends were reviewed for accuracy and/or updated through 1998 (this is only for trends where data was collected for anadromous fish in 1998). At the present time, 84% of these trends has been reviewed and/or updated. (Task 1.1b)
5. During this quarter, 89% of Oregon's on-line Peak Count trends were reviewed for accuracy and/or updated through 1998 (this is only for trends where data was collected for anadromous fish in 1998). At the present time, 89% of these trends has been reviewed and/or updated. (Task 1.1b)
6. Produced, formatted, and posted in-season fishery management information (dam counts, hydrological data, and harvest estimates) on CRM/ODFW web page for four Columbia River Compact hearings (October 1, 1999 - December 31, 1999). (Tasks 1.1b, d, e, f, and g).
7. Acquire, compile, and maintain in-season updates of harvest estimates by species in Columbia River commercial fisheries. (Task 1.1d).
8. Updates to Oregon's hatchery return trends are on hold until a new DEF is proposed and adopted. (Tasks 1.1f and 7.2)
9. During this quarter, 100% of Oregon's on-line resident fish abundance trends were reviewed for accuracy and/or updated through 1998 (this is only for trends where data

was collected for anadromous fish in 1998). There are a number of other trends where it is unknown if data is still being collected. (Task 1.2b)

10. Provided technical assistance to OWEB staff, answering MS Access questions to make compilation of ODFW mitigation and restoration data into StreamNet format more efficient. (Task 1.5a)
11. Continued to enhance ODFW's Fish Observation Database to capture fish observation data derived incidentally during normal field activities. This data will be used to document our fish distribution dataset - the Presence table in the StreamNet data exchange format. (Task 2.1)
12. Developed a Fish Presence Survey Database in MS Access to capture Oregon's upper fish distribution and culvert information collected by ODF/ODFW surveyors. (Task 2.1)
13. Compiled functional requirements for and investigated library software packages to allow better tracking of information requests, documents and the ability to do key word searches. (Task 2.1)
14. Made changes to the Abundance data entry interface to ease data entry and to correct problems that were corrupting data. (Task 2.1)
15. Numerous staff reviewed and commented on the StreamNet Internet site and the Test Site. (Task 2.5).
16. Produce a pre-season report summarizing white sturgeon and smelt stock status and Columbia River winter fisheries and post on ODFW/CRM web page. (Task 2.5).
17. Identified and corrected numerous stream route issues. (Task 2.6).
18. Numerous staff worked on resolving discrepancies in the LLID and LLIDxHUC tables. (Task 2.6)
19. A total of 13 data, 75 document, 4 map/GIS related, and 2 other requests were answered during this quarter. A detailed list of requester and request type can be made available upon request. (Task 2.7).
20. Six staff members attended the 4th Annual Microcomputer Applications in Fish and Wildlife Conference in Stateline, Nevada. One staff member attended an introductory training course on the use of MS Access. (Task 5.1)
21. Completed the July - Sept. 1999 quarterly report and the FY-99 Inventory Report and submitted both to PSMFC/StreamNet. (Task 5.1)
22. One or more staff members participated in 19 essential project coordination meetings. (Task 5.1).
23. Completed the *Status Report, Columbia River Fish Runs and Fisheries, 1938-1998* report. (Task 5.4).

Data submitted during this quarter:

(Note: there is more data that is ready to be submitted but it is being withheld until the 2000.1 DEF is approved and available.)

1. October 13, 1999 -- Submitted an updated database containing OWEB's mitigation/restoration project data (MitOdfwData.mdb). (Tasks 1.5 and 8.2).
2. November 10, 1999 -- Submitted John Day basin distribution event table to StreamNet containing Summer Steelhead, Spring Chinook, Redband and Westslope Cutthroat and updated available data on the ODFW FTP site. (Task 1.1a and 1.2a)
3. December 20, 1999 -- Submitted barrier database records to StreamNet. 502 Barrier records, 198 Dam records, and 8 Hatchery barrier records - 708 barrier records total - plus 2604 records from the FishBarrier table were included in this submission. (Task 1.1a, 1.2a, and 6.1a).

Plans for Next Quarter

1. Produce a preseason report on salmon, steelhead, and shad stock status and Columbia River spring and summer fisheries and post on ODFW/CRM web page (Frazier, Melcher, Case, Morgan, and Engwall, Task 2.5).
2. Acquire, compile, and maintain in-season updates of commercial harvest estimates by species in Columbia River commercial fisheries (Melcher, Task 1.1d).
3. Begin process to convert *1938-1998 Status Report* into electronic version for inclusion in the StreamNet database and to make available through the Internet via StreamNet information system (Engwall, Task 2.5).
4. Begin progress on *Status Report, Columbia River Fish Runs and Fisheries, 1938-1999* (Frazier, van der Naald, Case, Fulop, and Engwall, Task 5.4).
5. Develop table formats to post in-season harvest updates and season guidelines for sport and commercial harvest of white sturgeon on the Internet (Melcher and Engwall, Tasks 2.5).
6. Summarize and transfer age and spawner/recruit data to StreamNet database (Morgan and Tinus, Task 1.1g).
7. Work with PSMFC to develop hot link from StreamNet to ODFW/CRM home page (Frazier, Task 2.5).
8. Complete development of database and interface to capture Oregon's fish carcass distribution data (Bourne, K peli, Task 2.1).
9. Continue development of database and interface to record Oregon's upper fish distribution data. (K peli, Task 2.1).
10. Continue the acquisition and/or development of a bibliography and library tracking database (K peli, Bourne, Task 3.2)
11. Finish updating the species distribution information in the north coast, Lower Columbia, Southcoast, Midcoast, and Clatskanie basins using the 1:100K Hydrography and provide the data to StreamNet. (Bowers, Task 1.1a and 6.1a).
12. Develop the data retrieval process for ODFW's Fish Observation Database and distribute to ODFW field staff. (Kupeli, Task 2.1)
13. Continue to enhance Willamette Valley distribution documentation records (the Presence Table in

the exchange format) and submit updated distribution records to PSMFC. (Bowers, Brodeur, Task 1.1a and 1.2a).

14. Initiate Northeast anadromous salmonid distribution & barrier updates if agency biologists are available. (Bowers, Brodeur, Task 1.1a and 1.2a).
15. Enhance our Barriers Database with new information and link this database with our anadromous species distribution information using the FishBarrier Table. (Bowers, Brodeur, Task 1.1a and 1.2a).
16. Continue development efforts on a database to capture Oregon's upper fish distribution data (Kupeli, Task 2.1).
17. Restructure and add to the Oregon's MapCat (photograph) database and incorporate the current MapCat table into it. Also, link this database to the barriers database. (Brodeur, Task 1.1a and 1.2a).
18. Have at least 50% of Oregon's abundance estimates and indices for anadromous species updated with available 1998 data. (Sounhein, Task 1.1b and 1.2b).
19. Update the one remaining 1996 Oregon abundance trends through at least 1997 and 1998 if data is still being collected. (Sounhein, Task 1.1b)
20. Compile 50% of the 1999 Stratified Random Sample spawning survey data into StreamNet format (Sounhein, Task 7.1)
21. Continue to answer information requests as received. (All, Task 2.7).

StreamNet GIS Data Downloads off the ODFW FTP Server: October - December 1999

(Tabulated by Jon Bowers - 01/11/2000)

GIS Coverages	Number of Files Downloaded	Number of Different Users Downloading Files
Bull Trout	80	23
Fall Chinook	69	21
Spring Chinook	70	18
Chum	21	10
Coho	129	24
River Routes	242	17
Summer Steelhead	63	15
Winter Steelhead	71	18
PDF – CSRI maps	95	33
Metadata	273	90
Core Areas	12	9
Cutthroat	21	15
Total Downloads	1146***	

***Note: Some of the download numbers are lower than the previous quarter due to the fact that we began to serve the anadromous salmonid datasets at the statewide rather than the HUC level thereby provided more information to user in fewer downloads.

V. Pacific States Marine Fisheries Commission

Submitted by: Bruce Schmidt
Pacific States Marine Fisheries Commission

ACCOMPLISHMENTS:

Objective 1: Data Development

Significant progress was made toward an updated version of the StreamNet data exchange format.

Further refined and tested a data input interface for entering habitat restoration project data. Updated documentation for its use.

Created a "Ranges" database table. This table serves to assist in managing codes assigned to the various StreamNet partners. It also will be used in data input forms to automate selection of appropriate codes for new data.

Assisted StreamNet partners with use of the Event Mapper utility used for capturing LLID and measures.

At the request of ODFW's and CRITFC's StreamNet data managers, created an LLID-subbasin cross table for use by all StreamNet partners.

The switch from RRN to LLID requires a new approach for "supercodes," which define geographic areas that do not fall entirely within one stream reach. Extensive research and discussion of the best methods to accomplish this coding were conducted.

Lookup tables were created and updated.

Reviewed and commented on Idaho Division of Environmental Quality's draft water temperature monitoring guidelines, which will become the state's standard for water temperature data collection. Suggested items that will both make data collection more scientifically sound, and also flow more easily into StreamNet or another database that will provide data in a format compatible with StreamNet.

Objective 2: Data Management and Delivery

Data Management:

Wrote and edited documentation describing use of the StreamNet data dictionary database and report-generator.

Created permanent archives of old StreamNet files on compact disk.
Identified “supercode” trends with 100K Hydrography

Used the new 100K PNW Reach System to assess the geographic extent of our supercode trends, a group of trends with abnormal geographic areas. Used Arc/Info to determine all stream LLIDs and FMEAS and TMEAS where these trends are located. Organized the data with MS Access and presented a summary of the results to StreamNet regional staff.

Results: See

ftp://www.streamnet.org/pub/streamnet/doc_files/100Kconversion8Nov99.doc

Wrote the Mitigation Project Interface

Tested the Mitigation Project Interface, an application developed by the Data Manager to enter mitigation data in a StreamNet format. Wrote a technical document that describes the interface and gives step-by-step instructions on how to use it.

Results: See ftp://www.streamnet.org/pub/streamnet/doc_files/MitigationUI-1.doc

Redesigned the StreamNet map web site: Developed a new concept for the StreamNet map web site based on requests from the steering committee and regional staff. Constructed the site using HTML. Tested and implemented the site.

Results: See http://www.streamnet.org/map_catalog.html

Documented StreamNet data categories: Researched the StreamNet data categories, including content and data structures. Created relational database diagrams with Visio software for the data categories and wrote descriptive information for the StreamNet data category online help section.

Results: See http://www.streamnet.org/OnlineHelp/datacategory.html

Enhanced AIWP 2000 site: Created two new means to query on-line for AIWP subbasin projects and workplans: (1) created a subbasin map with internet bit mapping. (2) added a Java script function to select subbasins. Implemented these on the AIWP 2000 web site and managed related files.

Results: See http://www.streamnet.org/aiwp2000.html

Data Delivery:

The regional StreamNet office responded to 51 direct data/help requests during the quarter. Estimated number of visits to the StreamNet website, and estimated number of database queries are shown in the following table.

Month	Website Visits	Database Queries
October	18,419	923
November	15,281	983
December	15,950	772
Quarter Total	49,650	2,678

New web site analysis software was acquired and run on the StreamNet log files. Explored how to most accurately estimate StreamNet web site use and the number of queries run. The above table is a result of this new procedure.

Explored the possibility of allowing multi-factor queries on the StreamNet database query system. We decided against this for two reasons. First, we currently are trying to make the query interface easier to use, and this would add complexity rather than reduce it. Second, we were uncertain how to adequately explain to users the difference between "and queries" where both selections must be true (Year>1980 *and* Year <1992), and "or queries" (Year<1972 *or* Year>1992) where either selection can be true. Without an adequate understanding, users would get results they do not understand.

Created a logical template for modifying the way in which the StreamNet database stores and queries the geographic referencing data. This template would help produce better results for people querying the database.

Objective 3: Library/Reference Services

Transported reference materials that were located at PSMFC to the StreamNet library.

Objective 4: Services to Fish and Wildlife Program Activities

Met with NWPPC, BPA, and FPC staff on October 15 to discuss data needs and availability for understanding the effectiveness of capital outlays for the fish and wildlife program. This meeting was in support of a request by the region's governors to help understand the relationships between funding levels, projects funded, and on-the-ground results over the years.

Provided a data summary for John Harrison of NWPPC. Provided fish population trends and hatchery releases by subbasin.

Objective 5: Project Management and Coordination

Conducted weekly regional staff meetings to discuss accomplishments, plans, and difficulties encountered.

Attended and participated/facilitated Steering Committee meeting in Boise, Idaho.

Bruce Schmidt started as StreamNet Program Manager on November 22.

Bruce Schmidt was given an orientation to the StreamNet web site, database query system, and other items and functions administered at PSMFC.

Announced, interviewed for, and hired StreamNet Regional Data Manager. Bill Kinney started on January 3, 2000.

Completed and submitted final FY1999 fourth quarter progress report.

Initiated work on FY1999 Annual Progress report.

Initiated work on detailed work statements for all participants

Created a summarization of the status of StreamNet's time series data, to support determination of work priorities for the rest of the year.

VI. Shoshone-Bannock Tribes

Submitted by: Doug Taki
Shoshone-Bannock Tribes

PERIOD HIGHLIGHTS

Attended the Steering Committee meeting in Boise. The majority of time was spent working with Anadromous Fish Managers on the confusion between StreamNet and other information systems in the Fish and Wildlife Program. Doug Taki spoke with ISRP/ISAB and Power Planning Council members about the “rolling review” process and how StreamNet will be reviewed.

PLANS FOR NEXT QUARTER

Continue to stay apprised of the review process and inform other Steering Committee members what to expect and discuss how to prepare.

DATA REQUESTS / RESPONSE LOG

No data requests were made during this quarter.

VII. U.S. Fish and Wildlife Service

Submitted by: Stephen Pastor
U.S. Fish & Wildlife Service

Period Highlights

Attended a Steering Committee meeting in Boise.

Assigned LLIDs to most of the National Fish Hatcheries and locations known to have been used by the U.S. Fish and Wildlife Service to raise fish. LLID was also assigned to the StreamNet Hatchery Water Supply database. The StreamNet produced EventMapper was used to identify the LLIDs.

The hatchery facility file was sent to StreamNet, as was a June version of the same file. Hatchery facility data for National Fish Hatcheries found on the StreamNet web site was still out of date at the end of this quarter. (The previous manager of Carson is still listed. There has been a new manager for well over a year.) The Hatchery Water Supply data file was also sent to StreamNet.

Plans for Next Quarter

Attend Technical and Steering Committee meetings.

Possibly begin work on hatchery return and age composition files if current issues are resolved.

VIII. Washington Department of Fish and Wildlife

Submitted by: Dick O'Connor
Washington Department of Fish and Wildlife

Period Highlights

Tasks that received significant attention:

- [Task 1.1] Updated 1977-1994 hatchery returns data, adding stock and run/subrun codes. This will combine and thus eliminate certain trends in the current database (once exchanged).
- Compiled Columbia River anadromous fish age data from hatchery returns, sport harvest, and natural spawner sampling data and entered into new "scales" database. Conversion to exchange format began.
- [Task 1.2] Data entry of spatial presence data for 100K resolution "minor" fish species (mostly resident) was completed.
- Historical hatchery release data was final-proofed, spending most time on verification of location coding for the alpha descriptions we found in the data records.
- [Task 2.4] Drafted first cut at metadata for WDFW StreamNet GIS data layers (hydro, presence/use, barriers).
- [Task 2.6] Worked on re-entry and cleanup of some lakes location data, including TRS and other reference information.
- [Task 2.7] Historical release data from the blocked (upper Columbia) area was sent to Joint Stock Assessment Project biologist Jason McLellan for his review and comment prior to exchange of historical release data.
- [Task 5.1] Participated in StreamNet Steering Committee meeting November 10-11, 1999 in Boise; assisted in regional decision-making involving personnel and governance issues for StreamNet; managed WDFW StreamNet staff and progress on work plan.
- [Task 5.4] Produced near-final version of white paper on dynamic segmentation (background, techniques, application to current spatial data management).

Prepared and displayed PowerPoint presentation on WDFW StreamNet GIS database contents and management at statewide GIS Fair, November 19, 1999.

Products delivered to StreamNet:

No data files were exchanged. Draft metadata for GIS data layers were shared with Steering Committee members and key PSMFC StreamNet staff for review (via e-mail).

Tasks scheduled for significant attention next quarter:

- [Task 1.1] Convert and exchange hatchery returns data through 1998 run year.
- [Task 1.2] Initiate 100K resolution bull char presence/use spatial data update statewide.
- [Task 1.4] Complete, convert, and exchange hatchery facility data statewide (anadromous and resident facilities).
- [Task 2.1] Attend training in MS Access97 to prepare for new exchange format mode (Leslie, Sarah).
- [Task 2.6] Complete location code mapping (lakes) from name to point to WDFW code to centroid "LLID".
- [Task 5.4] Complete and share final version of dynamic segmentation white paper for StreamNet review.

Summary of information requests:

WDFW StreamNet staff responded to five data requests (totaling over 20 files) and five map requests totaling over 82 maps. Details about these requests are available from the Project Lead.

WDFW StreamNet Staff, FY2000

Project Leads:	Dick O'Connor, Bill Kinney
Tabular Systems Manager:	Larry Brown
Spatial Data and Systems Manager:	Martin Hudson
Tabular Data Manager:	Leslie Sikora
Tabular Data Compilers:	Bob Woodard, Sarah Nielsen
Spatial Data Compiler:	Cindy Burns

The StreamNet project contact in Washington state is Dick O'Connor. You can reach him at (360) 902-2778 or by sending electronic mail to oconnrjo@dfw.wa.gov.