StreamNet Project

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First Quarter Progress Report

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Table of Contents **Pg.**

Introduction

StreamNet is a cooperative, multi-agency data compilation and data management project authorized by the Northwest Power Planning Council's Fish and Wildlife Program (FWP) and is funded primarily by the Bonneville Power Administration. The project is administered by the Pacific States Marine Fisheries Commission. Three fourths of the project consists of sub-projects within the state fish and wildlife agencies, Columbia River Intertribal Fish Commission and the US Fish and Wildlife Service to develop databases within the respective agencies and facilitate data transfer regionally.

The StreamNet Project compiles, manages and distributes information related to fish resources in the Columbia River basin, with additional information available for the rest of the Pacific Northwest. The state, tribal and federal fish and wildlife agencies collect and utilize data related to the region's fish and wildlife resources to meet their own mandates. A subset of these data, primarily the annually collected types of information that are routinely used to monitor trends within fisheries and populations and provide management information, are compiled by StreamNet into regionally standardized formats and publicly distributed. In this manner, data common to fisheries management but collected and stored in multiple formats by the individual agencies are standardized and made uniformly available basin wide. StreamNet also ties all data to the regional 1:100,000 scale routed hydrography (GIS stream network) so that different kinds of data can be compared on a geographic basis and mapped. The project utilizes the Internet as its primary means of data distribution, but also provides custom data services to FWP participants. The StreamNet web site provides access to information in a queriable database and also provides maps, individual data sets not contained in the queriable database, and library references. All data in the StreamNet database are referenced to source documents that are housed in the StreamNet Library. Work reported herein is tied to the specific jobs contained in the Fiscal Year 2003 (FY-03) Statement of Work, available at http://www.streamnet.org/about-sn/project_management.html, although some consolidation of project reports, within tasks where groups of project participants all conducted similar work, was done to simplify the report.

Work priorities for FY 2003 include updating existing long term data sets, managing the data and infrastructure necessary to maintain and deliver data, maintaining the StreamNet Library, providing data services to regional entities associated with the Fish and Wildlife Program, and project administration. A key effort this quarter was development and implementation of a revised Statement of Work and budget at a level-funded bridge funding level. This was necessitated by the formal project review and approval process for Mainstem / Systemwide projects extending well into at least the second quarter of FY-03. BPA authorized the StreamNet Project at the same amount as FY-02, without any adjustment for inflation, until such time as formal funding decisions are made. The effect of this was that a 'bare bones' base level project was described in the annual Statement of Work. In addition, since 85% of the project consists of personnel related costs and current expense spending is now largely reduced to fixed costs, it was necessary to reduce the amount of manpower included under the project contract. For example, support for the Programmer, GIS Specialist and Biological Data Coordinator at the regional level at PSMFC were reduced to only 8 months per year each under the StreamNet contract. A half month of the Program Manager's time was also dropped. Similar reductions occurred in the project components located within the cooperating Columbia Basin's fish and wildlife management agencies. These reductions of staff time on the StreamNet contract will result in proportional reductions in project output. The complex project proposal for this year, which included many additional data types that could be obtained if we were so funded, and the base level bridge funding budget and work statement, significantly added to the administrative workload for all project cooperators this quarter.

This report documents accomplishments made by the project at the regional (PSMFC) and cooperating project levels during the first quarter of FY-03. Since the StreamNet Project cooperators within the cooperating agencies work on different jobs throughout the year, and not all agencies address the same jobs in their respective portions of the Work Statement, the work accomplished this quarter varied by cooperator. Tasks and jobs that did not have any work addressed during the quarter were not included in this report.

Activities in the first quarter of FY-03 included routine development, maintenance and posting of various data sets, as well as routine administrative activities to continue project function. Key highlights of activities by each of the project participants this quarter are presented below:

Columbia River Intertribal Fish Commission (CRITFC)

Two significant accomplishments occurred in the first quarter. First, additional space was obtained for the StreamNet Library. This will allow continuation of present services without interruption and expansion of services to the Council's subbasin planning effort. Second, the project leader was designated chairman of the Oregon technical support team (TOAST) for subbasin planning. In this capacity he developed a conceptual framework for developing and incorporating subbasin planning data into future StreamNet files and services. These two accomplishments will significantly enhance the long range effectiveness of the StreamNet project.

U. S. Fish and Wildlife Service (FWS)

All routine tasks were accomplished. Programs were modified to provide hatchery release data to RMIS in format version 40. All hatchery release and age composition data for 2002 were obtained from the national fish hatcheries and stored in DEF format.

Idaho Department of Fish and Game (IDFG)

With completion of the redd count and hatchery return components of the Idaho Fish and Wildlife Information System (IFWIS), IDFG entered a mode of advanced entry of redd count and hatchery return data. IDFG StreamNet is well ahead of the past schedule in compilation of these data. We made major advances in the implementation of the IFWIS infrastructure. This includes hardware and networking infrastructure, as well as the .NET development environment which will help us more quickly develop new components. In a sudden move this quarter, the IDFG Fisheries Bureau initiated the development of a strategic fisheries data management plan. After reviewing the infrastructure and database that IDFG/StreamNet has created as the IFWIS, they adopted us as the core for their future development. This will provide huge advantages to regional data users because StreamNet will provide an existing conduit of data from IDFG to the region.

Montana Fish, Wildlife and Parks (MFWP)

MFWP StreamNet hired and is training Amy Pearson to help Steve Carson with resident fish data development. Amy has attended MS Access training and has begun to enter data. Most of the 2001 distribution and trend data have been entered and we will exchange the generalized fish distribution next quarter. Much new data on distribution and barriers have been gathered from the Westslope Cutthroat Assessment project with the USFS, NPS and other federal agencies. The initial planning and contacts for the 2002 visits have begun and we make the visits next quarter. Steve will go with Amy to the Helena field offices and then Amy will be on her own; Jeff Hutten will cover western Montana. No updates to the barriers data have occurred, however we are anticipating entry of the Flathead National Forest dataset next quarter and will incorporate the changes from the Westslope meetings next quarter. We received a database dump from the University of Montana Genetics Lab and continued with data entry; there has been a change it staff which has required us to visit the lab for further training. We coordinated data entry using the interface with the Helena and Lewis and Clark National Forests and assisted with the standardization of their datasets. We provided technical support to personnel with the Kootenai National Forest with using the fish survey interface. All FWP GIS layers and associated metadata can now be downloaded at: http://fwp.state.mt.us/insidefwp/fwplibrary/gis/. We reviewed the first draft of the DEF Process at the StreamNet Steering Committee meeting in Portland; another draft was sent out during the later part of the quarter that will be reviewed at the January SC meeting. We processed 20 GIS map and data requests with 1/2 of those being related to Fisheries. We have seen a substantial decrease in our data requests since our data layers have been posted on the FWP website. We have discussed with contract staff the posting of the Kootenai and Flathead Subbasin Planning websites on the FWP website and plan on posting in January. The annual report was written and submitted to regional staff; the document if full was reviewed upon completion.

Oregon Department of Fish and Wildlife (ODFW)

Oregon StreamNet met all of its Statement of Work requirements during this quarter. Data delivered or made available to StreamNet included anadromous and resident fish distribution, barriers, dams, fish barriers, hatchery facilities, and numerous corrected abundance trends.

Using funding provided by the Governor's Natural Resources Office and Oregon Watershed Enhancement Board, we continued to update 1:100,000 scale fish habitat distribution data in the entire anadromous zone of Oregon, and also to develop fish habitat distribution data at the 1:24,000 scale for this same area. Efforts this quarter focused on QA/QC, data delivery, progressing towards completing the timing, origin, and present production information, and drafting the project completion report. These efforts continue to improve the quality and amount of Oregon information available to and usable by StreamNet. An extension of the project through the end of March was requested to allow time to finalize all data sets and finish the project completion report.

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

Staff successfully coordinated with regional staff to assure smooth integration of Oregon data into the regional StreamNet database.

Staff continued participation in Oregon Subbasin Planning related meetings, and provided feedback on data related topics as needed.

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

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

Washington Department of Fish and Wildlife (WDFW)

Issues occur whenever we identify new QC procedures to run on existing StreamNet data or adopt even slight DEF changes. This year WDFW StreamNet staff members are devoting time to resolve all the niggling DEF and web query system conflicts that arose over time and have never been prioritized. These issues pose obstacles to pursuing new data and StreamNet Regional staff's ability to make progress with their system. This quarter we made a good start at chipping away at these issues (i.e. resolving 60K Trends and 90K SuperCodes, illegal dates spanning greater than 360 days).

Bull trout distribution data were submitted to the regional StreamNet database via a StreamNet DEF for the first time.

We are poised to convert and submit Age and Hatchery Returns data now, pending approval of the updated exchange formats. That approval will be sought at the next SC meeting in Boise (January 22-23, 2003).

Working through the uncertainty and accomplishing completion of a bridge work statement and budget was a LARGE part of our administrative efforts this quarter.

Pacific States Marine Fisheries Commission (Region)

Significant progress was made in updating data sets, with a variety of data sets received at the Regional office and loaded into the StreamNet database. Anadromous fish distribution data submitted by ODFW and bull trout distribution data were loaded into the new GeneralizedFishDistribution table (which will replace the currently-used DistUse table for storing fish distribution and habitat types, now that agreement has been reached on distribution definitions). Hatchery capabilities information was updated by IDFG. Hatchery facility records were updated by IDFG and ODFW. Hatchery returns data were loaded from ODFW. Dam facilities information was loaded from ODFW and IDFG. Harvest data from ODFW were loaded. 60,000-series TrendIDs (those originally entered years ago by PSMFC staff) relating to Washington were replaced by WDFW. Barriers data were updated by ODFW. CDFG provided a quarterly update for StreamNet data in California.

Optional XML output for most data categories in the web query system was finished. XML output by the StreamNet on-line query system will allow other web sites to dynamically gather data from StreamNet as needed and integrate the results into their own web sites. It is anticipated that over the next several years this will greatly enhance data sharing capabilities in the region.

The on-line query system's output reports and downloadable data for most data categories were updated. These updates focused on making available existing data fields that had mistakenly never been included in the on-screen and delimited file outputs. Various other changes and fixes to the query system were also made. These changes will become effective in the second quarter.

Use of the StreamNet web site showed a steady increase toward the end of the year. As usual, several thousand unique IP addresses accessed the site from search engines using general terms like "salmon" and "northwest". Of the more frequent repeat addresses, BLM, NMFS, and state agencies were some of the largest users of the StreamNet web site. The web query system is the most common single entry point on the web site. Page requests for the first quarter (PSMFC requests excluded) were 30,955 (Oct.), 32,921 (Nov.), and 37,301 (Dec.).

Objective 1 Data acquisition and development

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

Objective   1   Data acquisition and development

Task   1 Anadromous distribution and life history (habitat use)

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
IDFG	1	Convert Idaho's existing anadromous fish distribution into the new generalized fish distribution data exchange format.	We began to develop a DTS package for integration of the IDFG/StreamNet Fish Information System (FIS) and the Idaho Supplementation Studies databases for use in the review of new fish distribution data in comparison to existing data.
ODFW	1	Update (to a minimal extent), maintain, correct and exchange anadromous fish distribution and documentation information. Also, evaluate the Oregon Museum collections database for potential utility in enhancing our historic distribution information.	Oregon StreamNet created updated event tables for all it's 100K distribution and posted them to the ODFW FTP site. This was necessary because the quality criteria information was updated during the quarter. We also cleaned up our fish observation coverages in relation to maintaining correct measures from the source events, and developed metadata for observation coverages. This information was also posted for anadromous species on the FTP site. Feedback was solicited from all ODFW Watershed Districts where Oregon information was developed. Corrected information Fish Finder was received from at least one biologist in each district. However, the data are not completely corrected for any districts because not every biologist has responded. Corrected information has been incorporated into the database when it can be used to update existing or generate new distribution information. Oregon's GIS Analyst evaluated the Fish Collection Museum data provided to Oregon StreamNet by Jeff Dambacher. A list of issues in regards to how we might incorporate these data into our documentation database or use them to map historic distribution was provided to the Project Leader for consideration.

WDFW	1	Continue updating data as received and actively solicit data as warranted. Convert tabular and spatial data to the current revised StreamNet DEF and submit to PSMFC.	The Data Manager converted and submitted WDFW's 100K Bull trout distribution data to the Regional StreamNet office. We also noted the Map Catalogues will need to be updated or purged upon each submission of new distribution data. We will speak to what should be done with each when we submit the anadromous data.

We identified some internal issues with WDFW's 100K Anadromous distribution data. Since conversion to StreamNet's DEF requires a lot of manipulation, it's safer to resolve the issues first at the internal level before we attempt the conversion. For now, we will convert StreamNet's existing snapshot of WDFW data (DistUse table records) into the new format and submit it as soon as possible. This will give StreamNet the freedom to completely abandon the old DistUse and DistPresence tables.

The Data Manager (Leslie Sikora) spoke briefly with WDFW's Region 2 Biologist (Connie Iten) about capturing US Forest Service Distribution data for a StreamNet submission. Leslie will pursue this further after the StreamNet database is updated with our own WDFW data.

We continued to conduct mapping parties to collect updated distribution data.

Objective   1   Data acquisition and development

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

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
IDFG	1	Participate in the Westslope Cutthroat Trout Conservation Assessment. In response to a decision by the 9th District court to require a new status review for westslope cutthroat trout, the states of Idaho, Montana, Washington, and Oregon, along with the Fish and Wildlife Service and the Forest Service, have agreed to work together to prepare the new status review. IDFG StreamNet will send staff to several workshops to facilitate the capture of data that will include distribution. The data will be prepared for inclusion into StreamNet.	We participated in the Westslope Cutthroat Trout Assessment Workshops in Salmon and Coeur d'Alene. Our primary role was in data compilation and providing access to fishery data in our existing databases.
IDFG	3	Update the StreamNet distribution database using other sources, including collection permit reports, historical survey records, and information from published reports.	IDFG Fisheries Bureau staff continued to input data into the IDFG StreamNet Fish Information System.

MFWP	1	Complete Distribution and Use Types data set from data collected from biologists, documents and reports during 2000-2001 using LLID stream routes. Exchange the data to the StreamNet database in the approved DEF format.	Database maintenance continued in the first quarter. Most of the 2001 data have been entered.
MFWP	2	Visit MFWP biologists in 2003 to collect 2001-2002 fish distribution and supporting survey data and references. Obtain data from federal biologists using our developed interface. Input all this information into the MRIS tables. Develop some QA/QC on data before distribution.	The initial planning and contacts were started in the first quarter.
ODFW	1	Maintain existing resident distribution information.	The line work component of a semi-comprehensive, contiguous coastal cutthroat layer at a 1:100,000 scale was completed during this quarter. Work was also done to refine the RunID and LifeHistoryID coding.

Objective 1 Data acquisition and development

Task   3   Adult abundance in the wild

Develop and maintain information on adult abundance for native fish species, resident and anadromous, including escapement, redd counts, peak spawner counts, trap counts, dam and weir counts, and resident fish populations (where calculated). Also included in this data category are data gathered during spawning ground surveys regarding straying of hatchery fish onto spawning areas, i.e., marked/unmarked ratio. Priority is given to updating these data through 2001. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Update mainstem Columbia and Snake River dam counts through 2002 and provide updated data to the StreamNet database.	No work this quarter. Dam counts are typically available in corrected form in the second or third quarter.
IDFG	1	Complete the compilation of the 2001 field season redd count data from IDFG. Included in these data are carcass counts and counts of live fish. Prepare the data for inclusion into StreamNet and submit.	We continued QA/QC of the 1998 - 2001 redd count data. These data were sent to PSMFC in StreamNet data exchange format. There were 82 trends, 437 surveys, 7 references and 2 supercodes.
IDFG	2	Start compilation of the 2002 field season redd count data from IDFG. The data set will not be complete, however, because all reports may not yet be available.	We began work on compiling the 2002 redd count data.
ODFW	1	Update existing anadromous, resident, and non-game abundance and index trends through 2001 and opportunistically collect new trend information.	In response to questions related to Oregon's trend data submission in September, our Database Analyst completed necessary corrections and updated the database with the changes. We made a number of requests for updated data, and updated the database with new trend information received from data providers.

| WDFW | 1 | Continue to update and enhance the existing natural spawner database (escapement estimates and/or detailed counts) for available species. | We itemized the original source documents needed to assess the 60K Washington trends compiled by PSMFC for StreamNet. After receiving the reference documents from the StreamNet Library, we started assessing which trends should be adopted by WDFW or just purged from the StreamNet system. The StreamNet Data Manager submitted instructions to resolve a few of these trends. Since many of these trends relied on SASSI sources, we also launched into general research on the newest SASSI database. Resolving all 60K trends is about 90% complete.

We submitted steelhead natural spawner data corrections for illegal date fields and miscellaneous issues.

Internally we finalized the 2001 Lower Columbia River chum data in our Master Escapement database. |

Objective   1   Data acquisition and development

Task   4   Hatchery releases

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
FWS	1	For anadromous hatchery releases, compile FWS hatchery release data, with added CWT information. Transform data to format 040. Submit most current release year hatchery release data to PSMFC via USFWS WWFRO.	Modifications were made to current programs so that 2002 release data will be submitted to RMIS in the new version 40.
IDFG	1	Crosswalk PSC codes for Idaho hatchery releases in the Regional Mark Information System (RMIS) to StreamNet's stream georeferencing system of LLIDs and measures.	We made initial contact with IDFG personnel in charge of the hatchery release data regarding building a PSC to LLID crosswalk.
MFWP	1	Explore current DEF for hatchery releases and provide Montana data in exchange format, if requested.	We currently have a copy of the planting database from Fisheries Division staff in Bozeman; we will convert to DEF if requested.
Region	1	Assist contributing projects with cross referencing PSC codes with LLID codes.	Regional StreamNet staff met with RMIS staff to discuss the direction that project will be taking in regards to database management and mapping software. Some discussion also took place regarding the acquisition of better location coding in RMIS data that can be mapped using StreamNet's geo-referencing scheme. We will continue to assist in defining requirements as needed.

WDFW	1	For anadromous species, finish researching, compiling, converting existing WDFW anadromous release data as detailed, "unrolled" records. Submit the data directly to StreamNet (instead of via RMIS).	Hatchery releases continue to be a highly requested data category and until we make a submission to the StreamNet database we continue to handle any requests that come to our WDFW StreamNet staff.
WDFW	2	WDFW resident stocking data is fractured in several collections by year. Work at researching, compiling, and converting data for any years we have finalized at a given time, until all collections are submitted. (Progress with this data set relies heavily upon initial improvements to our Lakes spatial layer).	We continued to assign StreamNet's location codes (LLIDs, WaterbodyIDs, etc) for any records pertinent to a direct data request.

Objective 1 Data acquisition and development

Task   5   Hatchery returns

Develop and maintain information on the return, disposition and straying of adult fish returning to hatcheries, including information on coded wire tags. This is an anadromous related task only. Priority will be placed on updating total return and egg take data through 2001. Development of disposition data is lower priority and would require additional resources. This is priority 1 under base funding.

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
FWS	1	Compile FWS hatchery return data for FWS hatcheries for the most recent return year and submit to the regional database. FWS will also account for all adults returning to federal hatcheries.	Hatchery return information was received from all National Fish Hatcheries in the basin. The snReturn program was used to create records in the current StreamNet Hatchery Return file.
IDFG	1	Complete compilation of the 2001 field season hatchery return data from IDFG and exchange with StreamNet database.	Our 2001 hatchery return data were submitted to PSMFC.
IDFG	2	Start compilation of the 2002 field hatchery return data from IDFG. Data will be incomplete because all reports may not be available within this project year.	We began compilation of 2002 hatchery return data.
WDFW	1	Continue to update and enhance the existing hatchery return database for available species.	WDFW hatchery return records (Form 3 and Form 5) were downloaded from the Olympia NRB server and samples were used to test the newest DEF proposal and the next StreamNet submission.

Objective 1 Data acquisition and development

Task 6 Dams and Fish Passage Facilities

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
MFWP	1	Provided an updated Montana dams spatial coverage and associated data in the StreamNet exchange format if additions, deletions or modifications are made to the Montana coverage.	A few edits have been made and the data will be exchanged next quarter.
ODFW	1	Maintain and update, as needed, based on errors found in the Oregon dam and fish passage facilities information.	Staff added RefID's to three records in the DamXDamPurpose table (DamID 53884, 53885 and 60332). Also, the OwnerTypeID field was added to so that the entries there would correspond to the entries in the BarrierOwnerTypeID in the Barrier table.

Objective 1 Data acquisition and development

Task 7 Hatchery facilities

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
MFWP	1	Update the StreamNet hatchery database with Montana's public and private facilities. Exchange with StreamNet upon completion.	The data update is scheduled for March, because annual private licenses are issued after the first of the year.
WDFW	1	Update the hatchery database adding records and improving field entries as warranted, including record updates for related tables (i.e. HatcheryXProduction data).	Under separate funding, the Olympia WDFW StreamNet Data Compiler (Gil Lensegrav) started a three month Hatchery Scientific Review Group project for Jack Tipping of WDFW. The work involves creating several detailed maps of miscellaneous hatchery regions using ArcMap. Loaning this staff member to this project will pay off when we need to compile the HatcheryXProduction data for StreamNet at the end of the fiscal year. After his work on this project is complete, Gil will be able to generate the HatcheryXProduction data needed or he will have established good will with the contacts who can summarize the data for us.

Researching the information provided by Eric Lowrance of BPA, miscellaneous issues with our hatchery facility data were revealed. Two site points were moved where the locations were simply wrong. WDFW and Regional StreamNet staff also made plans to re-generate all BegFts since a few were clearly wrong and it's easier than checking each one. WDFW started searching various sources for potential new hatchery facilities that should be added. Next quarter after we conclude the search, we will run the process to re-generate BegFts.

The Data Manager also began discussions with WDFW's GIS Data Manager (Tim Young) about availability of continual hatchery data updates.

Objective   1   Data acquisition and development

Task   8   Harvest

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Complete and update ocean and Columbia River catch data through 2002.	No work this quarter. This is an unfunded activity. Data will be updated as part of the subbasin planning process.
WDFW	1	Re-submit any existing StreamNet Washington harvest data, updating it per StreamNet's current location coding format to validate and correct the conversion that was completed by non-WDFW personnel.	For Dick Stone of WDFW, we cross-referenced StreamNet's LocationIDs with the catch record codes captured in the current fishing regulations. This is our first big step in resolving the location coding needed for all historic and present harvest data.
WDFW	2	Although we should only be in maintenance mode for this data set, WDFW re-organized their data collection process several times since our last StreamNet update (and it's still in flux) so it poses a large workload. As such, we need a large allotment of time before renewing this effort. As funding and time permits, compile freshwater harvest for key Columbia Basin salmonid stocks for both anadromous and resident data, using existing WDFW data sets (i.e. Angler Fish Database) and other sources. Standardize the data (to stock if possible), convert and submit it to PSMFC.	For the second year, we received the remaining CWT sport snout sampling data and summarized the data in spreadsheet tables for WDFW's CWT Recovery Analysts (Susan Markey and Joe Hymer). This work serves as internal background work for a future harvest data submission.

Objective   1   Data acquisition and development

Task 9 Habitat restoration / improvement projects

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All			No work was done on this data type this quarter.

Objective   1   Data acquisition and development

Task 10 Barriers and diversion/screening

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
IDFG	1	Participate in the Westslope Cutthroat Trout Conservation Assessment. In response to a decision by the 9th District court to require a new status review for westslope cutthroat trout, the states of Idaho, Montana, Washington, and Oregon, along with the Fish and Wildlife Service and the Forest Service, have agreed to work together to prepare the new status review. IDFG/StreamNet will send staff to several workshops to facilitate the capture of data that will include barriers. The data will be prepared for inclusion into StreamNet. Delivery is dependent on the Forest Service completing the database.	We participated in the Westslope Cutthroat Trout Assessment Workshops in Salmon and Coeur d'Alene. Our primary role was in data compilation and providing access to fishery data in our existing databases.
MFWP	1	Continue to collect barrier location, species affected and other fields on stream barriers in Montana. Information will be collected on all species regardless of life history. Exchange Barriers data with the StreamNet database.	No updates to the barriers data have occurred, however we are anticipating entry of the Flathead National Forest dataset next quarter and will incorporate the changes from the Westslope cutthroat trout meetings next quarter..
ODFW	1	Compile and exchange Oregon fish screening and diversion data assuming a new DEF is adopted. If no DEF is approved, data will be posted on the NRIMP site and linked to StreamNet as an 'as is' submission.	Efforts this quarter involved providing technical support to Oregon's Fish Screening and Passage Program as they continue to learn, populate, and use the database we developed for them.

| ODFW | 2 | Update and maintain Oregon's barrier data and minimal fish barrier data development based on new barrier information. | This quarter, staff corrected errors associated with existing barrier records. Also, all records in the FishBarrier table were updated to StageID=30, "Not specified", after adding the StageID field to the database. Forty records in the FishBarrier table with a null value for the Position field (a required field) were updated to code 99. An updated version of the FishBarrier table was posted on ODFW's FTP site, making it available to StreamNet. |

Objective   1   Data acquisition and development

Task 11 Juvenile data, abundance and outmigration

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
IDFG	2	Code the IDFG General Parr Monitoring database to StreamNet's georeferencing for streams using LLID and measures.	We worked on locating the general parr monitoring sites on the StreamNet 100k hydrography. 658 new sites were located.
MFWP	1	Pursue incorporation of resident fish survey data into the DEF, if a DEF is adopted.	A general forum on the fish survey topic was started in the first quarter.
WDFW	1	As funding and time permits, keep informed about other WDFW agency staff efforts to organize the juvenile data and scope existing juvenile data to plan future conversion and submission efforts.	The Region 5 StreamNet Data Compiler (Michelle Smith), continued to keep the internal Cedar Creek adult and smolt trap databases current by adding collected data weekly. She checked the technician's data for errors after exporting it into the MS Access database. She updated the Master database and generated reports for John Weinheimer and Shane Hawkins for further scrutiny. After we're caught up with general escapement submissions, we will consider how these data fit in the existing EscData tables and confer with regional StreamNet staff on improving user education on distinguishing between the various data provided.

We captured various adult & smolt trap point locations in a spatial file. |

Objective   1   Data acquisition and development

Task 12 Age

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Use CRITFC age data on sockeye populations and Bonneville Dam sampling to evaluate and develop an age DEF.	2002 scale samples are being processed. A draft DEF for age data will be presented to the Steering Committee next quarter.
FWS	1	Update age and sex data for the most recent return year.	Age compositions were completed for most species returning to National Fish Hatcheries in 2002 using CRiS programs. The snAge program was then used to make entries in the StreamNet DEF.
IDFG	1	Complete the compilation of the 2001 field season age data using hatchery returns data from IDFG.	Our 2001 age composition data were submitted to PSMFC.
IDFG	2	Start compilation of the 2002 field age data from IDFG. Data will likely be incomplete because all reports may not be available by the end of the fiscal year.	We began compilation of 2002 age composition data.
ODFW	1	Compile age frequency data for an as-yet undetermined basin or hatchery in the Oregon portion of the Columbia Basin as a test case for this data type.	A test dataset was submitted to StreamNet in late October using a draft age data table from Regional StreamNet. The structure that was used is similar to the draft HatchFrac table Oregon developed in FY-2002.
WDFW	1	Stay in step with the other StreamNet cooperating agencies' efforts to research, compile, convert and submit age data for natural spawner data in one prototype subbasin (probably Lower Columbia R). This effort is to assess any problems with the existing format and standardization with other agencies' data , and plan for further data submittals.	Per a request from Cramer and Associates, we completed a Lower Columbia River anadromous age dataset for escapement data. Cramer and Associates is a consulting firm contracted by the Lower Columbia Fish Recovery Board (LCFRB). These data will be used as WDFW's pilot submission once any questions regarding StreamNet's age DEF are resolved.

Objective   1   Data acquisition and development

Task 13   Production factors and run reconstruction

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Coordinate with ESA recovery planning and NWPPC subbasin planning efforts to capture available anadromous fish and bull trout productivity data for eventual DEF testing and inclusion in StreamNet.	This work began late in the quarter. Conceptual database designs were discussed with NMFS and NWPPC subbasin planning groups. The design will allow mapping of fish data, habitat data and wildlife data on the same map. A test data set will be developed for Hood River in the second quarter. If successful, a similar design will be used for other Oregon subbasins. This effort is funded with subbasin planning funds and is being closely coordinated with StreamNet.
Region	1	Assist cooperating projects, as needed, in determining availability and potential acquisition of these data.	Existing Spawner/Recruit data were maintained, but no new work was done on this low priority data category.

Objective   1   Data acquisition and development

Task 14   Habitat

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Coordinate with ESA recovery planning and NWPPC subbasin planning processes to capture watershed assessment data for DEF testing and eventual inclusion into StreamNet.	See report for Objective 1, Task 13.
Region	1	Assist cooperating projects, as needed, in determining availability and potential acquisition of these data.	No work was done on this data category under the level funded bridge budget.

Objective   1   Data acquisition and development

Task 15 Genetics

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Work through the coast-wide genetics work group to update the genetics data catalog.	A FY-02 recommendation was to discontinue trying to treat genetic data as a core standardized dataset. Individual agencies may contribute this information as independent data sets.
MFWP	1	Obtain results from genetic analysis from the University of Montana Genetics Lab for sampled populations of Montana's species of special concern.	We received a database dump from the lab and continued with data entry in the first quarter.
MFWP	2	Update fish distribution table when new genetic samples affect fields/records. Finalize a GeneticSample table field to facilitate querying purity	We updated fish species distribution as the new samples have come in.
MFWP	3	Exchange data to the StreamNet regional database when a DEF is approved by the Steering Committee, and/or provide data as a "showcase" data set.	There is not a genetics DEF yet, which was a low priority under base funding this year.

Objective   1   Data acquisition and development

Task 16 Other data sets

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
MFWP	1	Will explore as opportunities arise	We have met with FWP staff on standardizing the whirling disease locations. The disease layers/tables might be a dataset that StreamNet is interested in as a miscellaneous table.
ODFW	1	Develop data sets outside Oregon StreamNet's base efforts if requested by subbasin planners, as time and funding allow.	As requested by the Oregon Subbasin Planning Coordination Group, efforts this quarter centered on locating and evaluating available datasets that could be used to populate data variables required by the EDT analysis model.

Objective 2 Data management and delivery

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

Objective 2 Data management and delivery

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

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
FWS	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	Modifications were made to the programs used to provide data to RMIS to conform to version 40.
IDFG	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	Data system management activities this quarter included the following: We performed general administrative tasks related to security, application of service packs and security patches, and established user accounts and privileges. We implemented Microsoft recommended "Best Practices" for security, maintenance and integration. Daily backups of the servers were conducted. We prepared, monitored and updated scripts and server agents for database and system backup routines. We started debugging and identifying network performance problems and proposed modifications to improve performance. IDFG StreamNet has made a commitment to move to the .NET framework; we began research and investigation of design strategies for .NET that contains SQL Server 2000 and IIS.
IDFG	2	Complete the administrative programs to convert locally held data to StreamNet data exchange format. This includes: redd counts, hatchery returns, hatchery facilities, and references. Depending on the adoption of an appropriate StreamNet juvenile data exchange format (see Task 3.4), juvenile trap data map also be included.	Work was begun on design strategies for using XML in data transfer packages for the StreamNet data exchange.

IDFG	3	Prepare documentation of the Idaho Fish and Wildlife Information System (IFWIS). IFWIS is the information system at IDFG that contains the locally held and compiled StreamNet data. Documentation should include resource diagrams, entity relationship diagrams, database standards document, programming standards document, and database metadata.	We began documentation of the IFWIS system backup and recovery plan, and worked on documentation of the infrastructure and design of IFWIS.
IDFG	4	Maintain existing modules of IFWIS, including the spawning ground, juvenile trapping, collecting permit reports, and the reference programs. This includes maintenance of data integrity in the IFWIS database.	Significant progress was made in maintaining and improving the IFWIS. We updated the Juvenile Trapping Program for the 2003 trapping season. Support for Pitagis3 was added and the disposition codes translation between PITAGIS and the Juvenile Trapping program were corrected. Data import/export routines were updated for the field and cooperator versions of the program. We developed a data import methodology for historic trapping data. The Spawning Ground Program was updated for the 2003 field season. The work was focused on more thorough data validation and improved import/export routines. Working with ISS cooperators, we developed procedures for data transfer from non-IDFG cooperators. We made several minor fixes to routines in the IFWIS Reference Program. We investigated the possibility of scanning hard copy reports into the Reference Program.
MFWP	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	The Montana database system was maintained as part of ongoing project operation.
MFWP	2	Modify/expand the edit/entry interface for the MFWP Collector's Permit fisheries survey data and build other interface/editing tools as needed	We coordinated with the Helena and Lewis and Clark National Forests and assisted with the standardization of their datasets. We provided technical support to personnel with the Kootenai National Forest with using the fish survey interface.
ODFW	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	A great deal of effort and progress was made during this quarter. Improvements and updates were made to the ODFW Image/MapCat database and the FishBarrier sub form in the barrier/dam database. Also, the Provisional field in the Dam table was changed from byte to bit format to conform to the 2002-1 DEF, and the Provisional field on the Dam form was changed from a combo box to a check box.

Oregon acquired an updated age data table from the regional StreamNet Database Manager and worked with the regional staff on the best format to use to submit Oregon's data, since there is no adopted DEF. It's still undetermined what information is required and what is optional. Staff did locate a useful age data reference that explains how the data are captured and what the different formats are. The structure of the table is similar to the HatchFrac table we turned in FY-2002.

Metadata documents were updated for Oregon's Barrier and Dam datasets.

We collaborated to develop a two-tiered tabular metadata structure. The Database Manager developed and posted an online metadata warehouse application based on the draft structure that will allow us to enter, store, edit, and produce XML metadata documents. Users also have the ability to login and edit/delete documents that they created. Since this was similar to the FishFinder site, such as processing forms and queries, accessing databases, etc., he decided to consolidate much of the code and create a Common Gateway Interface (CGI) Application Programming Interface (API). This library allows creation of objects that can parse variables from POST and GET requests and execute SQL queries to the databases. It also allows us to parse static HTML pages and replace text dynamically before displaying them to a web browser. This feature allows us to change the entire look of a site by changing a few HTML pages. The library is completely written in C++ to take advantage of Object Oriented Programming, the most efficient and fastest code possible, which also provides complete system portability. We are able to perform development efforts on a local machine, and when finished, upload everything to the server, recompile it, and have a working application instantly.

The Database Manager created a utility program that identifies which Trends have been reviewed and which have not. It also randomly generates a short list of Trend ID's that could be reviewed during quality assurance/quality control efforts.

ODFW   2   Conduct initial development of a corporate information system for trends and barrier/dam data

We began ramping up for the Corona project (Oregon's corporate information system). The Database Manager put together an application framework library including generic windows, controls, functions, etc. that can be used or extended for different programming problems. To maximize portability and performance, the framework is written entirely in C++. A large part of the framework is built upon Microsoft Foundation Classes, another framework library that encapsulates most of the Windows Application Programming Interface. Where we have a more focused need, the framework is built from scratch and makes calls to the Windows API directly. He started working on the Trend and EscData data objects, which are the classes that will represent the objects in memory while the user is interacting with them. He temporarily installed our copy of SQL 2000 Development Server onto a local computer to migrate existing Trend data into SQL databases, then verified that data were correctly migrated and tested some data access components. This step tested whether we could safely migrate all the data and the SQL 2000 instance to the NRIMP developmental server. All existing data from the new Trend UI database was migrated to a database file in our development version of SQL Server. This migration was for testing purposes only and will be done once more when we are ready to switch completely to SQL Server. We then completed a stable beta version of the Corona application. It is somewhat modeled after the Microsoft Management Console. The application will function as a container for snap-in COM objects that provide most of the specific functionality. This application provides all the basic window controls, such as message mapping, printing, etc.

Region	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	Routine maintenance, administration, and backup of SQL Server databases and servers continued.
Region	2	Update or develop data entry and management tools. Assist the cooperating agencies with tool development, as needed and requested. Tools may include input interfaces, error checking, geographic locators, etc.	The software on the GIS Specialist's computer was updated to ArcGIS 8.2. Routine maintenance and management of the GIS system continued.
WDFW	1	Manage, maintain and enhance existing tabular database systems, including hardware, software, tools, QA/QC activities, and system administration, backup and security.	As we cross-referenced WDFW data to StreamNet's location coding regime, we continued to create needed SupercodeIDs or re-assign and improve the Supercode contents table for codes originally created by PSMFC for Washington data.

The Region 5 WDFW StreamNet Data Manager continued work on converting our internal escapement database from Paradox to MS Access 2000. MS Access will be the storage facility and data entry tool. Paradox will continue to be a very important tool for data manipulation.
Region 5 WDFW StreamNet staff started a year long project to capture and store GPS locations from Region 5's stream survey documents. This work covers locations for index areas, redds, presence and absence data. By electronifying GPS data in an ArcView and tabular database, we can improve the efficiency of StreamNet data submissions. WDFW will also use these data to eventually help manage the resource, issue or deny permits, and improve our responses to questions on anadromous use of each watershed. As we progress we've defined the resources we need to purchase to maintain the best progress.

Objective   2   Data management and delivery

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

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All states & Region	1	Maintain and update, as necessary, the hardware and software, including ArcView and other tools, extensions and projects, that constitute the regional and cooperating state agency Geographic Information Systems. Provide system administration, backup and recovery, and security	The Region and all cooperating state agency projects maintained their GIS systems. IDFG installed and configured ArcSDE and prepared to install ArcIMS next quarter. ODFW finalized its GIS license server transfer request and converted a local PC into a license server as part of a move away from serving licenses from their Unix server. Two keys were provided to the Willamette Mitigation Project (ODFW), and discussions were held to resolve renewal of the maintenance agreement.

All states & Region	2	Maintain and update, as necessary, the 1:100,000 scale hydrography files for the states and the PNW region. Submit	The Region and all cooperating state agencies maintained their respective portions of the 1:100,000 scale hydrography. Few significant changes or modifications were needed during the quarter. In Washington, conversion of bull trout distribution data revealed new discrepancies in a small number of 100K streams, and a few more discrepancies are anticipated during conversion of salmon and steelhead data. The errors are being documented and will be fixed in the second quarter.
IDFG	3	Complete the migration to ArcGIS 8.2. We will continue to maintain and support ArcView 3.x.	After sorting out our various Arc licenses, we installed ArcGIS 8.2 on all of our computers. While learning and getting used to ArcGIS, we continued to use and support ArcView 3.x.
Region	4	Maintain and improve the LLID/NHD hydrography conversion tool. Immediate need is to complete error trapping routines and polish the final application.	The PNW reach files were converted to Geodatabase standards, and we converted most internal GIS layers to Geodatabase standards.
Region	5	Increase data usability with new GIS software and by converting from coverage format to geodatabase format.	A variety of data sets were received at the Regional office and loaded into the StreamNet database. Anadromous fish distribution data submitted by ODFW and Bull trout/char distribution data were loaded into the new GeneralizedFishDistribution table, (which will replace DistUse table). Hatchery Capabilities information was updated by IDFG. Hatchery Facility records were updated by IDFG and ODFW. Hatchery Returns data were loaded from ODFW. Dam Facilities information was loaded from ODFW and IDFG. Harvest data from ODFW was loaded. 60,000 series TrendIDs (those originally entered by PSMFC) relating to Washington were replaced by WDFW. Barriers data were updated by ODFW. CDFG provided a quarterly update for StreamNet data in California.

Task 3 Data management and coordination

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All Coop. Projects	1	Maintain and manage all data developed under Objective 1 in functional database systems at the cooperating agency level. Coordinate with regional staff to assure smooth submission of data to the regional StreamNet database.	All cooperating projects conducted routine data management and QA/QC. Specific actions included: IDFG worked with the Region to format hatchery returns and redd count data for submission to the Regional database. ODFW identified and corrected a few coding and location errors while updating database structure to be similar to the Regional structure. Barrier, Dam and Hatchery table BegFt measures were re-submitted to the Region after correcting a problem with conversion of BegMeas values from Single to Long Integers. Coding was changed as per input from the regional Database Manager. WDFW identified an LLID not contained in the hydro layer, which will be corrected with the next submission of distribution data, and a few other discrepancies, which were corrected. Instructions were submitted to the Region to delete several 60K series trends that are now WDFW's responsibility.
All Coop. Projects	2	Prepare FGDC standard metadata for all GIS layers developed by the cooperating agencies and submit to the regional StreamNet database.	All cooperating projects maintained GIS metadata. Specific actions included: CRITFC began developing and testing GIS layers for subbasin planning, and metadata will be submitted as coverages are developed. MFWP maintained metadata for all publicly available spatial data, which can be downloaded at http://fwp.state.mt.us/insidefwp/fwplibrary/gis/. ODFW edited and reposted all metadata for the 24K and 100K distribution data to indicate that the origin was from professional observation and professional judgment (not judgment alone). WDFW submitted metadata with the tabular Bull trout Distribution data submission
. All Coop. Projects.	3	Work cooperatively to define the level of effort needed to develop metadata for tabular StreamNet data.	Little work was directed toward metadata for tabular data. IDFG began to review and research metadata standards and requirements for tabular Data
IDFG	4	On an opportunistic basis, coordinate with IDFG fishery programs to facilitate the use of data standards that are consistent with StreamNet and other regional standards.	Work with IDFG fisheries staff included the following: We participated on the IDFG IT Technical Team. We participated on the IDFG Fisheries Database Strategic Planning Team. We attended the Idaho Supplementation Studies Annual Cooperators Meeting. We continued close coordination with IDFG Fisheries Bureau staff regarding database and development standards and methodologies. We coordinated with IDFG and the BLM on a joint fishery data capture project. We provided technical assistance to various individual biologists in IDFG on fishery data issues and projects. We completed site visits to 3 IDFG regional offices, plus the Fish Research and Eagle Fish Genetics Lab to install GIS data and ArcView tools that provide StreamNet data coding standards.

MFWP	4	Maintain interfaces for capture of U of MT genetics analysis and Future Fisheries restoration project data	We converted MFWP Future Fisheries Database (Restoration Projects) to SQL Server and updated the interface to reflect the linked tables.
Region	1	Update and append data as submitted by StreamNet participants. Isolate erroneous or duplicative data and work with source agencies to correct problems. Produce downloadable versions of StreamNet databases. Maintain logs of data submissions and major database changes.	New generalized fish distribution data were received from ODFW and we performed QA/QC checks on the data as they were loaded into the database.
Region	2	Whenever new tabular data with a spatial component are submitted to the Region (e.g., fish distribution, hatchery facilities, etc.), create regional GIS layer(s) from this information where possible. Verify correct format, accuracy and logical consistency of spatial data sets and attributes through coordination with state GIS contacts and then load data to the regional database in coordination with the database manager. Post mappable layer(s) for the online query system, the ArcIMS interactive mapping system, and as downloadable layer(s) for StreamNet GIS users.	We created a new directory structure for internal storage of GIS files to take advantage of new capabilities of the updated GIS software..
Region	3	Maintain a library of StreamNet GIS layers for internal use and as downloadable data on the web site with complete documentation (metadata).	We obtained 5th and 6th field HUC information from REO. This information will be used to allow querying the StreamNet database by HUC at these scales. Current capability is only for 4th field HUC.
Region	4	Obtain and refine layers such as ESUs, ecoregions, or elevations, and create cross tables for use by the query system.	Some discussion took place this quarter regarding the acquisition of better location coding in RMIS data that can be mapped using StreamNet's geo- referencing scheme. RMIS is in the process of migrating to a new database engine and server, but when that is completed, the RMIS project will be increasingly interested in developing better location coding for mapping fish production data.
Region	5	Revise the way hatchery release data are handled. Since it is not currently possible to georeference the RMIS hatchery release data to the 100K hydrography and the data can't be updated without such georeferencing, send data users to the RMIS site for current release information. Work with RMIS and the StreamNet partners to develop a means of georeferencing release data.	The regional GIS Specialist assisted the database manager with the location of several spatial components relating to hatcheries and barriers.

| Region | 6 | Assist the database manager with the spatial component of data and its implementation online, as needed. | In order to help keep data compilers' lists of lookup codes up to date, an application was made that reads all lookup codes and outputs them to a text file on the StreamNet ftp site. This application was set to run regularly, thus providing a reliable source for up to date codes for compilers. In addition to the lookup codes, a system was created so that the current draft DEF is also made available on the StreamNet Internet site. Now both the most current DEF changes and the codes needed to implement the DEF are always available to StreamNet data compilers. |

PSMFC and WDFW staff discussed the meaning and use of the "Type" field of the Trend table. It was decided that this field has over the years overgrown its original intention, and is now a source of confusion and database error. A thorough review of how the codes for this field are used was conducted by the Regional Fisheries Biologist, and discussed with staff from WDFW and CRITFC. The findings of this analysis will be discussed at the January 2003 steering committee meeting. In general, it was determined that the Type field interacted with the Category field in an incomplete and inconsistent manner. A method to fix the current problems will be proposed at the January meeting. This proposed method will involve redefining the data categories, redefining the "types" in order to work better with the improved categories, and adding a field for the units of measure. It is hoped this approach, once evaluated and modified, will solve the current problems perceived in the "type" field.

During the discussions of the Type field of the Trend table, as described in 2.3.7, a "type" of "fish-days" was found to be especially troubling. After PSMFC staff examined the reference where "fish-days" is used and could not understand its purpose, and WDFW StreamNet staff spoke with people who use "fish-days" and could not get a good definition, it was decided to delete the records that use "fish-days" because they appear to have no objective meaning.

Several errors in the hydrography were found by PSMFC staff during the quarter. The errors were reported to the responsible agency for correction.

| Region | 7 | Assist data contributing agencies in development of data, including formatting, coding, data entry, error checking, and submitting to the regional database. | Quality control checks stimulated several database updates. Trend & Escapement data dates spanning unusually long periods were reviewed and were updated where necessary by WDFW, ODFW and CDFG. References previously compiled without a proper Year field value were updated by WDFW and IDFG. |

Several errors were found this quarter that were caused by the indicated upstream end of the reach being a higher value than the stream's length as recorded in the database. These errors were reported to the appropriate agencies for correction. Five that were the responsibility of PSMFC were corrected by PSMFC staff.

Objective   2   Data management and delivery

Task   4   Data exchange standards

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	All project participants will jointly work through the Steering Committee to revise the existing and develop new DEFs to assure regional data consistency and allow for inclusion of new data types.	All project participants worked on continued development and improvement of Data Exchange Formats (DEF). Ongoing work on the DEF for Hatchery Return data culminated in agreement on an improved DEF, which will be presented to the StreamNet Steering Committee next quarter for adoption. Additional work was directed toward improvements to the Hatchery Releases and Age Data DEFs. A new DEF for Screening and Passage data was developed by ODFW for review. A proposal to add latitude and longitude to the barriers information was reviewed by regional staff. Approaches for working with Hatchery Fraction data were discussed. Proposed changes to the Habitat Restoration Projects DEF were reviewed by all participants. A review of data fields in the DEF that were not being used was conducted, and the results will be used in the future to remove unneeded fields. The fall Steering Committee meeting was successful at resolving a number of outstanding DEF issues, including a new location coding approach for the entire DEF. A new 2003 version of the DEF will likely be presented for Steering Committee approval in the next quarter.
All	2	Develop a protocol / process for changing and making additions to the DEF	A draft process for revising or initiating new DEFs was written by MFWP and discussed in the fall FY-03 Steering Committee meeting. The suggestions were incorporated and a second draft was distributed at the end of the quarter. Further review and refinement will take place next quarter, and a revised draft will be submitted to the Steering Committee next quarter.
Region	3	Complete the white paper begun in FY02 that examines the implications of a major simplification of the StreamNet Data Exchange Format.	The white paper draft was completed this quarter. It was then posted to the StreamNet "forum" for dissemination to the other StreamNet agencies for their review and further discussion.
Region	4	Assist with development of XML schema based data exchange options for both incoming and outgoing data. Develop a written recommendation on how to utilize XML to maximize exchange of data for consideration by the StreamNet Steering Committee for future action.	We finished optional XML output for most data categories in the web query system.

Task   5   StreamNet Internet site

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All Cooperators	1	Provide ongoing review of the StreamNet Internet site, as time permits. Identify problems or needed improvements, and critique new features and functions.	Review of the StreamNet web site continued as an ongoing activity. No major issues or problems were raised.
ODFW	2	Manage and maintain Oregon's web-based data integration, communication, and transfer system site and their links to StreamNet.	Two new users were granted access to ODFW's FTP server to enable them more functional access to the FTP directories. Staff also provided technical support to these users in the setup process, and to other users throughout the quarter. The NRIMP web site received 21,905 hits on all pages during the quarter. The most frequently viewed pages were the Data Resources page, the Home page, the Fish Distribution Data page, the ODFW Maps, the 24K Main page, the Fish Photos page, and the Fish Images page. Oregon StreamNet's Webmaster verified all 2,263 hyperlinks (1,316 external, 947 internal) within the NRIMP web site. Many modifications and improvements were made to the NRIMP website during the quarter. Examples include: a) We updated the FAQ page and the 24K Main page b) A new "Tables" column was added on the Fish Distribution Data page. c) We converted the "Salmonid Distribution Update, Standardization and Validation project" report from Word to PDF, posted it on our site, and put a link to it on our Fish Reports page. d) A copy of Oregon's reference table was converted to html format and posted on a new page titled "Reference Information". e) We posted the 2002 Smolt Trapping Project report.
Region	1	Maintain and upgrade the StreamNet web server and software, including programming, tool development, system security, etc.	The Apache web server was updated with new security patches. The latest version of ColdFusion was installed on the test server and we began testing with new ArcIMS & Apache.

| Region | 2 | Maintain and enhance the functionality, look and usability of the StreamNet web-based query system. | We updated output reports and downloadable data for most data categories. Updates focused on surfacing existing field data that had never been included in the outputs. Various changes and fixes to the query system were made as requested. |

| Region | 3 | Maintain the GIS Data, Map, and PNW Reach File Internet pages. | Several links in the GIS data page were fixed. |

| Region | 5 | Guide development and enhancement of the StreamNet web query system from the perspective of data users. Review changes to the web query system to ensure they are implemented appropriately and do not create unforeseen problems. | Further edits were made to the white paper that describes the habitat restoration projects data contained in the StreamNet database. After one more edit, this paper will be used as a help file in the on-line query system to help users understand the data available in the habitat restoration projects portion of the database. |

During discussions this quarter it was decided that we are currently unable to update the Hatchery Releases data set due to problems in converting location codes to StreamNet format and dealing with 'rolled' data, where releases from multiple locations are recorded as a single release by PSC convention. For this reason, and because we have been unable to update these data, and because an alternative data source exists, we decided to temporarily remove our hatchery release information from the web query system. We now direct people to the Regional Mark Information System for hatchery release data. We also intend to work with RMIS on improved ways to georeference release locations so that we can return hatchery release data to the StreamNet database and on-line query system in the future. This may involve obtaining and posting the data for releases by individual locations, not rolled up into the PSC codes.

The text descriptions used by StreamNet for the 4th-code HUCs are not standard, and are also not an improvement on the standard names in all cases. During the quarter the names used were examined and better descriptions were created for nearly all. This job should be finished in the second quarter, with the improved names being implemented in the database shortly after.

| Region | 6 | Incorporate 5th and 6th field HUC GIS coverages into the web-based data query system and Internet mapping applications so data can be provided by HUC 5 and/or 6 | We developed a routine to derive cross reference information for the 5th and 6th field HUCs. |

| Region | 7 | Convert the core data query system to an open ColdFusion environment | Core ColdFusion components were developed for several data categories and we began experimenting with interface options based on XML/Flash/ColdFusion. We plan to have many or most categories completed in Q2 with a test interface. |

Region 9 Maintain logs of web query history and error events. Track and report Internet site usage by month and investigate web query system errors encountered.

We saw a steady increase in use of the StreamNet web site toward the end of the year. As usual, several thousand unique IP addresses accessed the site from search engines using general terms like "salmon" and "northwest". Of the more frequent repeat addresses, NOAA (NMFS), BLM, U. Washington, Oregon DOT, Idaho state agencies, USGS, and the Army were some of the largest users of the StreamNet web site. The ISP addresses represent users working from home or remote offices that don't use the web through agency networks. The web query system was the most common single entry point on the web site. Page requests for the first quarter (PSMFC requests excluded) were 30,955 (Oct.), 32,921 (Nov.), and 37,301 (Dec.). The ftp logs were backed up at the beginning and end of the quarter. Web site use for the quarter is summarized in Table 1.

Table 1. Summary of use statistics for the StreamNet web site for the first Quarter, FY-03, with all PSMFC, robot, and search engine cataloging usage excluded.

	Oct-02	Nov-02	Dec-02
Overall Page Requests	30,955	32,921	37,301
Data Query Page Requests	*12,330*	10,717	8,584
Unique Sessions	*1,375*	1,391	1,148
Data Reports Viewed	*3,202*	2,138	2,077
Top 10 individual requesters	attbi.com, noaa.gov, aol.com, 165.235, uswest.net, 159.121, blm.gov, odot.state.or.us, army.mil, usgs.gov	attbi.com, noaa.gov, aol.com, 169.204, washington.edu, uswest.net, 165.235, pacbell.net, 164.159, charter.com	noaa.gov, aol.com, attbi.com, uswest.net, 159.121, 164.159, qwest.net, phx.com, state.id.us, 192.94.25

Objective   2   Data management and delivery

Task   6   Respond to data / information requests

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	Respond to requests for data, maps, technical assistance, source materials, or custom data products, within the capabilities provided by the base funding level. All requests will be logged and reported	All components of the project responded to a variety of data, map and assistance requests. Details of request types can be made available on request. CRITFC identified data sets and GIS coverages to support subbasin planning, and will produce prototypes next quarter. IDFG technical assistance to numerous IDFG bureaus and regional offices, and filled numerous requests for project specific species lists and GIS data layers MFWP processed 20 GIS map and data requests with 1/2 of those being related to Fisheries. Data requests have decreased substantially since the data layers have been posted on the FWP web site. ODFW filled a total of 17 data, 4 document, 4 map, and 16 'other' requests, and 4,193 data downloads were made from the ODFW FTP site. Interestingly, far more users downloaded the fish distribution information than the observation information that supports the fish distribution. WDFW responded to approximately 30 data requests during the first quarter. The Regional StreamNet office at PSMFC received a total of 35 direct data/information requests. These did not include data, maps or other information downloaded directly from the StreamNet web site.
Region	2	Develop a standard format for reporting requests in the quarterly reports	Each StreamNet agency receives and responds to requests for information and data. At this time each agency tracks these requests in a different manner. At the Steering Committee meeting held this quarter, the possibility of using the same recording and reporting mechanism was discussed in order to make StreamNet's quarterly and annual reports more consistent and easier to compile. To assist this effort, regional staff shared the database they use to track requests for data and information. The other StreamNet agencies will examine this database to see how it fits with their own. At a future meeting we will discuss if a single database structure for this purpose would be helpful.

Objective 3 Library and reference services

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

Objective 3 Library and reference services

Task 1 Collection development

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	Obtain reference documents for all data developed under Objective 1 and submit them to the StreamNet Library for inclusion in the collection and catalog.	The StreamNet Library at CRITFC received reference documents for data submissions from all project participants and scheduled them for cataloging. IDFG submitted reference materials for redd count and hatchery return data. MFWP continued to add references to the FWP system, although most data in MFISH do not have a formal document associated with them. ODFW created reference memoranda and populated the RefID field for all distribution records (24K and 100K) that were added during the 24K Project. The distribution reference information contains a short synopsis of the data collection process for the Project, plus the name, agency, and jurisdiction for each data contributor.
CRITFC	2	Coordinate source material submissions for data compiled by participants.	Several sets of documents were collected from contributing agencies. Other agencies also contributed documents to the collection.
CRITFC	3	Develop a collection of materials related to the Columbia Basin, including reports from other Fish and Wildlife Program projects, other agency documents as they relate to the Basin, and other published and unpublished materials as requested by clients.	We located several series of documents and are working to fill in gaps.
CRITFC	4	Maintain and develop a collection of journals related to fisheries and aquatic sciences as well as other related scientific topics.	We reviewed journal subscriptions and identified several titles we need to pursue through duplicate exchange. We also discussed how to best spend our journals budget to meet the needs of Columbia Basin researchers.
CRITFC	5	Format the library reference table of StreamNet documents for inclusion in the StreamNet database. New updates will be sent to the regional database monthly after that.	The StreamNet Librarian briefly spoke with StreamNet's Data Manager about the reference table and formatting needs.

Objective   3   Library and reference services
Task   2   Provide access to collection
Provide user access to the materials described in Task 3.1 by providing facilities for storage of paper and electronic copies of documents, an online catalog of all documents in collections, and staff to answer location questions and respond to requests.

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Provide and maintain an appropriate facility for the storage and public use of the StreamNet Library collections.	A lease for expanded space for the library was signed, and we began designing for remodeling.
CRITFC	2	Catalog and organize the materials for ease of use by clients and staff.	552 documents were added to the collection. Over 300 records were updated.
CRITFC	3	Provide access to the catalog of materials via the Internet and update the online catalog on at least a monthly basis.	The catalog was updated regularly.
CRITFC	4	Develop and execute a plan to place electronic documents in the catalog and on the library website.	We resumed planning for electronic access to documents.
CRITFC	5	Develop and keep a schedule of open times and reference desk staff hours.	Staff are scheduled and the reference desk is handled during posted hours.

Objective   3   Library and reference services
Task   3   Library services
Manage the StreamNet Library and provide library services to the StreamNet user community, Fish and Wildlife Program, and the general public.

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Provide information and reference services to library clients	Library usage is increasing, with more patrons coming in to the library in addition to telephoning requests in.
CRITFC	2	Provide information about services and hours to library clients via print and Internet	The Library webpage was updated regularly for holidays and open hours.
CRITFC	3	Provide interlibrary borrowing services for library patrons to access materials not yet owned by the StreamNet Library.	We received over 310 requests to borrow material for patrons in the first quarter.
CRITFC	4	Provide access to hardcopy and electronic files of draft and final documents related to subbasin planning and the NPPC amendment process.	We maintained access to the 1990 subbasin plans and have begun looking at the bibliographies included in those documents to provide access to those materials.

Objective 3 Library and reference services

Task 4 Inter-library coordination

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
CRITFC	1	Provide interlibrary lending services for other libraries to access the library's unique collection	We lent over 76 items to other libraries. According to OCLC, we have become a net lender, since we lent more items to other libraries than we borrowed from other libraries.
CRITFC	2	Maintenance of memberships in appropriate library and subject-related associations. Ex. IAMSLIC, NRIC, OFWIM, etc.	We began reviewing our memberships to make sure that we are covering the important library organizations.
CRITFC	4	Coordinate with other StreamNet libraries, library clients and other libraries to improve service to clients and limit duplication of effort.	Metro Regional Government hired a new Records Manager who came over to visit and tour the StreamNet Library. We had a previous relationship with the person, and this will make coordination easier.

Objective 4 Services to the Fish and Wildlife Program

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

Objective 4 Services to the Fish and Wildlife Program

Task 1 Data and services to support the Fish and Wildlife Program (Base project level only)

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	Support Fish and Wildlife activities, such as subbasin planning and monitoring, by providing data and maps of existing StreamNet data and technical information management advice, as requested, and only within available time and budget under base level funding	All project components provided a degree of support to the FWP this quarter. CRITFC reported its activities for this task under Objective 1, Task 13. IDFG coordinated with the IDFG Subbasin Planning coordinator to develop a plan for development of subbasin assessment in Idaho.

MFWP discussed posting the Kootenai and Flathead Subbasin Planning websites on the FWP website; and will post them next quarter.

WDFW's Region 5 StreamNet Data Manager and his assistant met with Sarah LaBorde of WDFW's Salmon Recovery Board and Ray Beamesderfer (Cramer and Associates). All anadromous data for the Lower Columbia River tributaries was requested. All data that were queried out for the consultant were sent to Sarah LaBorde who then sent them to the consultant.

At the Region, the Program Manager coordinated with Phil Roger, CRITFC, on means to cooperate with the Oregon subbasin planning effort. StreamNet remains ready to assist with data provision to subbasin planning efforts and to capture data generated during the planning process. We also agreed to work with Oregon planners to help post planning data for them via the StreamNet website. In addition, Regional staff reviewed an ArcIMS application created by BPA staff. Comments on functionality and usability were collated and provided to BPA.

CRITFC	2	Participate in various NWPPC planning and management work groups to improve and coordinate regional information management programs, such as serving as leader of the technical work group for Oregon's Subbasin Planning effort.	As chair of the Oregon technical assistance team for subbasin planning (TOAST), the project leader organized and oriented the team to the workload expected. We actively worked with the Hood River tech team to set up a reach system and corresponding databases. We will provide assistance to other Oregon subbasins in the second quarter. This work is supported under separate funding.
Region	2	Participate in regional discussions of Monitoring and Evaluation and/or Subbasin Planning to identify means of capturing information generated and making them available regionally.	StreamNet participated in several meetings with CBFWA regarding the proposed regional monitoring project. StreamNet will provide data management expertise and services as part of this project if it is funded.

Objective   4   Services to the Fish and Wildlife Program

Task   2   Archive and deliver independent data sets, as requested

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	On an opportunistic basis, obtain, warehouse and deliver data sets of non-StreamNet type fish and wildlife data from FWP participants or related entities. These data sets will be maintained in their original formats for posting 'as is' to make them available regionally through the regional StreamNet web site, but not through the StreamNet online data query system.	Archiving non-StreamNet data sets is a service provided to support others working the Fish and Wildlife Program. Although a lower priority, some initial efforts were made this quarter. CRITFC began design of a prototype data system for the Hood River planning effort using subbasin planning funds. ODFW StreamNet's webmaster contacted Steve George and Corey Heath and offered to post their wildlife data on the NRIMP web site in an effort to expand the scope of data that is available to StreamNet. At the end of the quarter, the offer has not yet been accepted. The Region added links to Montana Fish, Wildlife & Parks' "Natural Resources Information System" (http://nris.state.mt.us) and Oregon Department of Fish and Wildlife's "Natural Resource Information Management Program" (http://oregonstate.edu/dept/nrimp) to the StreamNet "Independent Data Sets" web page. Both of these web sites are related to StreamNet and provide data above and beyond what is available on the StreamNet web site.
CRITFC	2	Develop strategies for ESA recovery planning and NWPPC subbasin planning efforts to ensure data and technical literature are captured and made regionally accessible. This will be done 'as possible' under base level funding.	Base level funds are not available for this task. Requirements for data and literature archiving are being written into Oregon subbasin planning contracts. Other states will be handled on an opportunistic basis.

Objective   4   Services to the Fish and Wildlife Program

Task   3   Protected Areas

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
Region	1	Maintain the Protected Areas database within the StreamNet database.	The Protected Areas database remained available. These data were made available through an online mapping application as well as through the query system.

Objective 5 Project management and coordination

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

Objective   5   Project management and coordination

Task   1   Manage project activities

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	Project oversight and guidance. Participate cooperatively in the StreamNet Steering Committee to guide the direction of the project, coordinate within respective agencies, and resolve policy and technical issues for the project	All StreamNet cooperators participated in the quarterly Steering Committee meeting held in Portland at CRITFC Oct. 23-24 and participated in discussions and decisions involving hatchery release data on the StreamNet Web site, a new DEF process, re-organization of the Statement of Work for this fiscal year, and FY2003 work and meeting plans. CRITFC's administrative participation was accomplished outside the StreamNet contract. Because of the level funded bridge budget and increased costs of staff support and expanded library space, the Project Leader's salary was entirely supported by CRITFC as temporary cost share. Thus, all CRITFC StreamNet administrative tasks were performed outside of the StreamNet contract. Travel costs were covered by the StreamNet contract.
All	2	Supervision. Supervise project staff at the cooperating agency and regional levels to provide guidance and staff development.	All cooperating projects participated in routine supervision of their respective staff members. At CRITFC; supervision was provided by a temporary cost share by CRITFC. At IDFG, several staff members received promotions that had been in the works for some time, and an additional programmer was hired to work half time for StreamNet. At MFWP, performance appraisals were conducted for half of the staff, with the other half scheduled for next quarter. At ODFW, One staff member cross-trained with ODFW's Pathology staff for two days in order to learn more about the data generated from that Program and to gain professional development. WDFW was additionally challenged by re-current health issues due to repetitive PC work and physical space conflicts. Attention to these issues improved the problems.

All	3	Budget. Manage expenditures to accomplish the jobs in the Statement of Work within the approved budget.	Routine budget management and tracking was performed by all project cooperators. Budget management by CRITFC was done on CRITFC funding. At ODFW, the Project Leader and ODFW Habitat Division Director met with Pat Frazier and Guy Norman to determine whether the Columbia River Management Program would continue to receive a portion of StreamNet funding, given the StreamNet budget shortfall in FY-2003. They concluded that they will not, and that NRIMP/Oregon StreamNet would assume CRM's data responsibilities. At WDFW, some work was done to explore accessing small amounts of other funds in order to obtain additional staff expertise on cross-referencing Washington state locations (largely for hatchery-related data).
All	4	Develop the annual project proposal and budget within submission deadlines	All cooperators assisted in finalizing the FY-03 Statement of Work and budget, which was modified to comply with the BPA bridge funding stipulation that the project would only be funded at the FY-02 base level. Since actual personnel costs have increased and only 15% of the project is not salary related, cuts to staff time and planned work were made. These adjustments were made at the beginning of the fiscal year.
			The Project Proposal remained in the Council's ongoing Mainstem/Systemwide funding process, but it is unknown whether any of the new data types proposed will be approved for funding.
			During the Steering Committee meeting, a revised Statement of Work was proposed to eliminate reporting duplication for tasks where all cooperators have essentially similar tasks. A revised work statement was finalized and submitted to BPA for consideration. However, subsequent work on the first quarter report (this report) indicates that the planned approach may need revision before being formally submitted for adoption. None of the proposed adjustments change the content or work of the project.
All	5	Report accomplishment of the work outlined in the annual SOW through quarterly reports submitted to BPA within 30 days of the end of each quarter	The fourth quarter FY-02 quarterly report was prepared and submitted on schedule, with input from all project cooperators. The report is available at: http://www.streamnet.org/about- sn/project_management.html .
All	6	Submit the FY-02 annual progress report to BPA within 60 days of the end of the fiscal year.	All project cooperators contributed to the FY-02 Annual Performance Report. Workloads and the holidays delayed completion of the report. The draft report was distributed to the Steering Committee for final editing before the end of the year and will be formally submitted early in the second quarter.

Objective 5 Project management and coordination

Task 2 Participate in Fish and Wildlife Program development activities

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	Work with regional entities to contribute data management expertise toward development of activities within the scope of the Fish and Wildlife Program. Serve as a data management resource to the FWP.	Several project cooperators participated in various FWP development activities: The CRITFC project leader participated on the NWPPC/NMFS data management project team, and developed a data management strategy for subbasin planning. ODFW StreamNet staff members participated in an Oregon Subbasin Planning Coordination Group meeting, contributing data management related advice and expertise. Two staff members attended a meeting at CRITFC in Portland for the upcoming Technical Outreach and Assistance Team (TOAST) project and the Hood River Subbasin Planning meeting in Hood River, in support of Subbasin Planning. Regional staff attended several CBFWA meetings related to the proposed regional monitoring project being considered for Mainstem/Systemwide funding. StreamNet will assist the project with data management if the project is authorized.

Objective 5 Project management and coordination

Task 3 Coordinate with other related activities

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
All	1	On an opportunistic basis, coordinate with other state, federal, or tribal agencies and various regional inter agency planning and management work groups to enhance the collection and management of data related to management of fish and wildlife resources.	All cooperating projects participated in meetings and provided feedback to support the Council's regional data needs and data availability project, led by Science Applications International Corporation (SAIC), in preparation for developing a Columbia Basin Cooperative Information System (CBCIS).

The FWS project leader spoke to the assistant project leader in the Columbia River Project Office, and the individual who manages information collected on Hardy and Hamilton Creeks regarding obtaining that information for StreamNet.

Montana staff worked with USFS, NPS and others on the region wide Westslope Cutthroat Assessment project.

The StreamNet Program Manager continued assisting USACE in evaluation of databases for use in managing Corps water quality data. The Corps made a final decision to utilize the SEDQUAL database. StreamNet will work with the Corps as needed in the future to advise on linking the water quality data to fish data in the StreamNet database.

PSMFC staff from the StreamNet and Regional Mark Information System (coded wire tag database) projects met to discuss improving data flow for hatchery releases between the two projects. We also discussed the possibility of adding GIS capabilities for the RMIS project.

Region	3	Coordinate with regional entities on habitat data needs and availability. Begin developing an approach toward capturing high priority data types. Development of habitat data may require additional resources.	StreamNet staff attended a State-Federal Partnership Meeting regarding environmental monitoring to determine how best to contribute to their broad habitat monitoring efforts. Participants included a variety of state and federal monitoring programs. We will remain involved and contribute data management expertise.
Region	4	Participate with regional entities in the development of effective regional data management programs and approaches, such as through SAIC and RPA 198.	We continued to participate on the Project Team with SAIC on development of recommendations for a Columbia Basin Cooperative Information System (CBCIS). During the quarter we assisted SAIC in identifying and contacting agencies and people for inclusion in a second round of focus groups intended to gather information on data needs and data availability in the basin. We also participated in meetings of the Program Team and the Coordinating Committee. An initial draft of the project report was prepared by SAIC in December, which was reviewed and comments were sent back in the first week of the second quarter.
Region	5	Broaden the scope and utility of the StreamNet database by developing proposals for use of staff time not covered under the StreamNet contract to develop data that would compliment the main StreamNet data holdings, such as macroinvertebrates, water temperature, new data types listed in the project proposal, or data beyond the Columbia Basin.	Discussions were held with PSMFC and PACFIN regarding their need to develop GIS capability for displaying groundfish distribution and harvest information based on ocean depth. Tentative agreement was reached to contract for four months of the StreamNet GIS Specialist's time to work on this project and prepare prototypes of how the data could be represented using GIS technology. This work will be accomplished using the time not covered under the StreamNet contract at the bridge funding level.

Objective   5   Project management and coordination

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

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

Project	Job	Planned work elements	Accomplishments, First Quarter 2003
MFWP	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	The Project Leader participated in the annual meeting of the Organization of Fish and Wildlife .Information Managers, on non-StreamNet funding. In addition to attending technical sessions, she participated in discussions of agency data management program needs as part of developing a consensus recommendation.
ODFW	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	An Adobe Acrobat computer tip was submitted to ODFW's Inside Tracks publication. The 24K Project GIS Coordinator created a large poster for display at the Organization of Fish and Wildlife Information Manager's Conference, along with a demonstration version of ODFW's Data Capture Tool. The information provided on the poster was compiled from the Barrier database, the Documentation database, and pertinent 24K Project issues and challenges. It also included a locator map, showing Oregon, anadromous zones, major cities and highways, a methods section, and summarized results from the 24K Project. The Project Leader attended the Organization of Fish and Wildlife Information Managers National Data Summit in Baltimore Maryland from Oct. 31 - Nov. 5 on financial support from outside the StreamNet contract. The poster he presented at the Conference shared the Best Poster Award with another StreamNet affiliated project. The GIS Analyst developed and contributed a poster of Oregon fish distribution to Oregon State University's GIS Day festivities. At the request of regional StreamNet staff, we drafted and submitted a write up about the NRIMP web site for the second StreamNet newsletter.
Region	1	Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project.	The Program Manager attended the annual Organization of Fish and Wildlife Information Manager's meeting and gave a presentation describing the value of using regionally agreed to data exchange formats for acquiring and managing data from multiple entities across a large area. A primary product of the meeting will be a report outlining the basic needs of any fish and wildlife information management program, and the Program Manager served as a reviewer of the draft report.

| Region | 2 | Develop materials to support the project. Improve public materials such as the StreamNet brochure, data inventories, etc. as needed. Maintain and update explanatory materials such as the Query System User Guide and documents that explain data categories and structures. Prepare and deliver StreamNet E-Newsletter at least twice as information becomes available. | The StreamNet Librarian (CRITFC) and the Regional Fisheries Biologist (PSMFC) reviewed the existing StreamNet poster presentation materials. It was found that these items were very outdated and need replacement. An initial attempt at creating new materials was begun, but the attempt did not result in production of new materials due to unforeseen formatting and printing needs. This effort will resume in future quarters in order to produce up to date presentation materials for use by all StreamNet partner agencies.

A draft of the second StreamNet Newsletter was nearly completed. When completed, which should be in the second quarter, the Newsletter will be sent out to those signed up to receive it. At the end of the quarter there were approximately 900 people signed up to receive the newsletter. |
| WDFW | 1 | Prepare and deliver presentations to scientific and professional meetings to demonstrate project capabilities, services and accomplishments and to solicit additional data and involvement or coordination with the project. | The Project Manager attended the annual meeting of the Organization of Fish and Wildlife Managers (Baltimore: November, 2002) on non- StreamNet funding to provide a presentation on a WDFW culvert database system and to share experiences on data sharing, Web/XML focus, and intentions to work more closely with NBII initiatives in the Northwest. |

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

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

Project	Accomplishments, First Quarter 2003
CRITFC	See the reports for previous Objectives and Tasks. Many of those tasks, especially those performed by the Project Leader were performed under funding provided from CRITFC, not the StreamNet contract.
MFWP	Staff continued to work on the State Comprehensive Fish and Wildlife Conservation Plan as part of a federal requirement including writing the AFA and 3 job profiles for needed staff. We worked on the agency's IT Plan and moved the process forward, which included hiring a consultant to help obtain goals. The FWP website continued to improve with additional features including a Field Guide, automatically posted press releases, and GIS data on line.
ODFW	The Assistant Database Developer searched the Internet for photos of Oregon barriers and dams. She found and downloaded 50 photos, recorded the sources, and matched the photos with Oregon barrier and dam records. From this effort, 42 new records were added to the ODFW Image database. Thirty-four additional records were added through other sources.

The GIS Analyst reconciled the State of Oregon's existing draft Timing Unit GIS data set with the new REO 6th field watersheds dataset, and completed draft Timing Unit delineations for all of Eastern Oregon, the Lower Columbia, the Willamette basin, and the rest of Oregon's anadromous zone. Some areas will require biologists' input to clarify and finalize the boundary delineations. A thorough review will also be necessary before this data layer can be considered final. |

The GIS Analyst created a 24K coastal cutthroat observation point data layer, based on the Fish Presence Survey data. This data set could potentially be appended to the existing 24K coastal cutthroat point layer that we are making available to StreamNet and the public in order to make it more comprehensive.

The Database Analyst spent some time looking for more hatchery fraction data to submit to StreamNet. A small amount was found in Mid-Columbia monthly reports that were provided from ODFW's The Dalles office. She also created a couple of monthly feature write-ups for our NRIMP web site. These features are used to keep the site fresh, so users continue to check the site for new information.

Region   Agreement was reached with PSMFC and PACFIN to utilize the StreamNet GIS Specialist to assist them with GIS depiction of groundfish distribution. This work is made possible and necessitated by the fact that only 8 months of the GIS specialist's time is covered by the StreamNet contract. Four months of the StreamNet Programmer's and Fish Biologist's time also need to be covered by outside contracts, and initial contacts with PSMFC regarding potential work for the California database project (CalFish) were made.

It was found in the past several months that there is now a Streamnet.com web site run by a private company. PSMFC staff contacted COTR John Piccininni to discuss this potential conflict, who in turn will contact BPA lawyers to determine if copyright or trademark infringement could become an issue for the StreamNet project.

WDFW   The Project Manager (O'Connor) reviewed a new fish and habitat data store/Web retrieval system designed as a pilot project by Paladin, Inc. The work was done at the urging of the Walla Walla Conservation District, and WDFW regional fish biologists have been asked to experience the system and contribute data to it. The manager recommended that the system as designed is not conducive to storing and presenting fish and habitat data in the way our users need it. It may have some application from a Conservation District perspective.

The Last Fish Habitat modeling initiative in Washington has contacted us for help in completing a geo-referenced lakes layer in order to standardize spatial display of their results. We also need a lakes layer for other work, so we will explore collaborative work in this area, if they can contribute funding. The Project Manager has been asked to assist in describing the differences in products like the bull trout fish distribution data, the Ecology Department's "char protected waters", and USFWS critical bull trout habitat designations. While these products have different intentions, the public may need help in interpreting the information when it is presented on Web sites.