

StreamNet Quarterly Progress Report

(January - March 1997)



**Submitted to:
Bonneville Power Administration**

**Submitted by:
Pacific States Marine Fisheries Commission**

April 1997

Contents

- I. Columbia River Inter-Tribal Fish Commission**
- II. Idaho Department of Fish and Game**
- III. Montana Department of Fish, Wildlife & Parks**
- IV. Oregon Department of Fish and Wildlife**
- V. Pacific States Marine Fisheries Commission**
- VI. Shoshone-Bannock Tribes**
- VII. U.S. Fish and Wildlife Service**
- VIII. Washington Department of Fish and Wildlife**

I. Columbia River Inter-Tribal Fish Commission

PERIOD HIGHLIGHTS

Administration:

Advertised for Database Programmer/analyst position. Initial responses were disappointing.

Included StreamNet as an integral element in description of regional programmatic framework and conceptual foundation under the federal/tribal MOA.

Cataloging:

StreamNet Library References Module:

Cataloged 66 documents from Idaho, Washington and BPA into the References database. BPA reports are being entered as they are received.

Papyrus project:

USFWS Recovery Plans (43) and academic theses (16) were added to this database; a total of 19 reprints were added.

OCLC cataloging:

912 titles added. A total of 314 titles were cataloged in January and 235 in February. Of the 363 titles cataloged in March, 94 were original input (a hit rate of 74.1%). (This data is unavailable for January and February at this time).

Collection Management

IAMSLIC duplicate exchange program: received 90 needed journal issues and 135 IDFG fisheries reports.

Cataloged over 100 maps and physically organized them (not yet on electronic database). Developed ideas for permanent organization scheme.

Operationalized online public access catalog. Loaded InMagic library catalog, Papyrus reprint database, StreamNet web site, NMFS Index to Administrative Record, GPO Access, and Aquatic Biology and Fisheries CD-Rom onto public access terminal.

Learned how to use DBTextworks and DBSearchworks software (InMagic), the online library catalog. Created lender database and protocol for importing new catalog records from MARC format.

Inventoried ODFW Progress Reports and Information Reports collections and requested missing documents from ODFW to fill gaps. A portion of these have been received to date.

Continued to improve the physical durability of StreamNet documents by binding with covers the documents that were sent to us as unbound copies.

Processed OCLC cataloged documents to make shelf-ready.

Continued to clear up problems with journal subscriptions and renewals.

Library organization and space development:

Moved journal collection, OCLC cataloged materials, StreamNet documents and newsletters from old library to new library space.

Created shelving arrangement for duplicate documents in old library space.

Enhanced organization, functionality and appearance of new library with addition of study tables and chairs, supplies and artwork.

Services:

Continued to provide reference, online search, and interlibrary loan services (see statistics).

Miscellaneous:

Attended Oregon Library Association Board meeting.

Attended Online Northwest '97 meeting.

Attended PORTALS workshop.

Edited author pick-list in StreamNet references database for duplicate names and incorrect formats.

PLANS FOR NEXT QUARTER

Create and implement StreamNet library training workshop for users.

Give Internet training to staff at USGS, Biological Resources Division (formerly NBS), Cook, WA.

Continue to meet with NMFS and NPPC staff to facilitate library materials donations and management.

Add journal collection to serials database in library catalog.

Continue to catalog collection onto OCLC and catalog Streamnet documents, as received.

Catalog videos onto InMagic database.

Fill in documents missing from StreamNet collection.

Order map cabinets and formally organize collection.

Attend Steering Committee meeting April 15-16.

Attend InMagic User's Group meeting.

Attend OCLC training workshop in Eugene.

Continue to provide reference, online search and interlibrary loan services.

Continue to write and revise proposals for staffing, hours of operation, use, circulation policies, etc. for library.

Work with PAC committee to design useful reports for them.

Readvertise database position, if necessary

Continue to describe StreamNet as part of the regional management framework

Assist in redesigning the salmon and steelhead status report to make it more relevant to regional decision making.

DATA REQUESTS / RESPONSE LOG

LIBRARY STATISTICS

Reference requests: 32

Interlibrary loan requests: 21

Circulation: approximately 15 journals, 52 books and technical reports

Requestor	Affiliation	Nature of Request	Action
Fitzpatrick, D.	YIN/YKFP	11 documents	some in CRITFC collection, 6 requested from WDF
Mundy, P.	consultant	NMFS/BPA documents	located and made available in library
Newsome, M.	NMFS	journal articles	photocopied 58 pages
Newsome, M.	NMFS	journal articles	photocopied 41 pages
Fischer, M.	U.C. Berkeley Law School	subject search, documents	photocopied and sent two documents, loaned one
Collis, K.	CRITFC	locate address	found on internet
Hans, K.	USGS/NBS	subject search	searched NISC CD-Rom
Shelley, C.	Portland State University	documents (BPA)	referred to StreamNet web page
Shelley, C.	PSU	internal memos (BPA)	sent to BPA F&W Prog. office
Hatch, K.	CRITFC	document from Wisconsin DNR	citation verification, offered to get, declined
Szerlong, G.	CRITFC	subject search	searched StreamNet, referred to BPA, NPPC libraries
Tiffan, K.	USGS/NBS	document	referred to other CRITFC staff
Bosch, B.	YIN/YKFP	document	delivered by other staff
McKenna, J.	Warm Springs	subject search	sent search results
Christine	OR Graduate Institute	document	searched for, offered ILL service, declined
Bourne, G.	ODFW	documents, journal	photocopied 16 pages and sent
Bourne, G.	ODFW	journal article	referred to state library
Wold, S.	CBFWA	document	OCLC search, referred to other staff

Pritchard, L.	Colorado State Univ.	list of CRITFC tech reports	sent via e-mail
Watson, B.	YIN/YKFP	documents	requested from WDFW, sent, referred
Rose, L.	OR State Health Div.	document	gave extra copy
Roger, P.	CRITFC	document (BPA)	got from BPA
Bourne, G.	ODFW	document (CRITFC)	sent
Farr, R.	ODFW	journal article	photocopied four pages & sent
Rowe, M.	ID DEQ	subject search	referred to U of ID library
Hanks, M.	USGS/NBS	2 documents	found another relevant document, photocopied 45 pages and sent
Cuenco, M.	CRITFC	journal article	photocopied
Berkson, J.	CRITFC	citation verification	done on catalog
Lindland, R.	NMFS	journal article	lent journal for one hour
Hopkins, I.	BioAnalysts	publisher of document	searched library, referred
Hanks, M.	USGS/NBS	books	searched library, declined ILL
Schaller	ODFW	document (CRITFC)	referred to other staff

II. Idaho Department of Fish and Game

PERIOD HIGHLIGHTS

- Updated redd count, carcass, and harvest data sets with 1996 information.
- Completed age composition and hatchery return data sets, sent to Regional Data Manager.
- Compiled resident fish distribution information from dam/weir spread sheets.
- Completed draft 1996 Spawning Ground Report.
- Updated library references/hard copies to regional StreamNet librarian.
- Compiled 1954-56 historic redd counts.
- Compiled historic Weiser River redd counts.
- Compiled 1939-67 historic planting records.
- Coordinated Dworshak/Kooskia return information with USFWS.
- Coordinated release data/coded wire tag data issues with Regional Data Manager and IDFG Fisheries Bureau.
- Developed a data model for connecting all current and future fish distribution data to a 1/100k layer using dynamic segmentation. Data structures were developed and created on the department's Oracle server to validate the model.
- Enhanced existing data entry forms for weir counts and age composition, to provide better automation, and to comply with the 97.1 data exchange format.
- Worked with personnel in and outside of IDFG to develop a data exchange format for a projects database. A prototype interface was developed and given to department personnel to illustrate the data structure, and to provide an option for data flow.
- Technical support was provided to key fisheries managers in the department to assist them in updating survey data needed by StreamNet.
- Updated Bull Trout distribution database and created maps for use by IDFG, DEQ, and the Governor's office in the implementation of the state's Bull Trout Plan.
- Collected statewide barrier information as part of Bull Trout update.
- Evaluated multiple platform options for the StreamNet regional web site.
- Received Map Objects training.
- Prototyped the StreamNet web site on an NT server using Delphi and MS Access.
- Built a preliminary front-end to the IDFG fish stocking database.

PLANS FOR NEXT QUARTER

- Complete state-wide layer of stream name based routes with all connections and coding conflicts repaired. Transform our current distribution data into event tables based on the stream name based routes.
- Staff plans to have a functional interface for updating fish distribution using the 1/100k dynamic segmentation layer. This interface will be installed on the computers of key fisheries personnel throughout the department.
- Staff also plans to finish a standard stream survey interface for centralized data entry. This will also use the 1/100k layer, and will resolve previous problems regarding juvenile abundance data.
- Staff will begin development a comprehensive biological database on the department's Oracle server. This will provide access to all biological data in an integrated manner.
- Assist in updating the current DS with the most recent data.
- Begin looking into using an Access database as the data source for the DS.
- Provide juvenile abundance data to regional Data Manager.
- Begin developing with map objects.
- Begin compiling "projects" data.
- Continue coordination with USFWS on Dworshak/Kooskia hatchery data.
- Continue coordination with regional data manager and IDFG fisheries bureau on release data issue.
- Coordinate with Shoshone-Bannock Tribes on inclusion of sockeye salmon into regional StreamNet database.

DATA REQUESTS / RESPONSE LOG

<u>end_date</u>	<u>user_org</u>	<u>user_rep</u>	<u>supplier</u>	<u>comment</u>
1/6/97	Payette NF		Butterfield	
1/6/97	Payette Nat. For.		Butterfield	Posted on StreamNet ftp site
1/7/97	U.S. Bureau Reclamation	Rich Rieber	Reece/Hansen	
1/8/97	Bosie Nat. For.	Wayne Owen	Butterfield	8 mm tape
1/9/97	PSMFC/ODFW	Anderson, Duane	Elms	Duane need 1996 Idaho anadromous redd counts to fill a data request from an Oregon Congresswoman. As these are not available on the StreamNet page yet, I faxed him hard copies from the DRAFT 1996 Spawning Ground Report.
1/10/97	IDFG:Fisheries	Petrosky, Charli	Elms	Charlie needed all available summer steelhead trapping counts for the Lewiston Dam. I was able to query the StreamNet Home Page on the Internet and provided and hard copy to him.
1/10/97	IDFG:Fisheries	Petrosky, Charli	Elms	Charlie came down with a request for length frequency files on Rapid River steelhead for all the years available. He wanted this for individual fish. I provided him with a dBase file for each year available from StreamNet which was then imported to Excel for spreadsheet use.
1/23/97	Univ. of Tampa	Carrie Cozen	Hansen	
1/30/97	Wash Water Power	via Stacey Stova	Butterfield	8mm tape
2/3/97	BLM	House, Bob	King/Petrosky	Bob wants to look at the parr densities for chinook and steelhead in the upper salmon, to try to correlate information to Herd Creek. Per Charlie's request , I sent him densities for 1986 - 1987. I faxed an MS/Access report to him-- no electronic data was sent.
2/5/97	Clearwater NF	Roy, Johnna	Elms/Brown S./B.B.	On 2/6/97 we sent Johnna a hard copy of the Stock Summary Report for Idaho, the 1995 Spawning Ground Report, a News Release dated June 17, 1991 showing fish distribution for anadromous fish in Idaho and an Access query for redd counts throughout the state (including historic counts: 1956-1995). Bart provided distribution maps for both chinook and steelhead (historic and present).

2/7/97	Morrison Knudsen	Walo, Matt	Butterfield	streamnet ftp site
2/19/97	IDFG:Fisheries Bureau	Cannamella, Dave	King	Dave wanted to see parr densities and carrying capacity for chinook on Hazard Creek and Boulder Creek. I generated a hardcopy report for him.
2/21/97	DEQ	Stair,Curtis	King/Butterfield	Curtis is collecting data to see if DEQ should BURP the Middle Fork of the Salmon. Bart gave him some fish distribution data from GIS, and Daniel gave him som general parr monitoring and physical habitat data for the same area.
2/25/97	NRCS	Hoover, Dave	Butterfield	StreamNet ftp site
2/28/97	Spokesman Review	Rich Landers	Hartpence/Hansen	
2/28/97	IDFG:Region 4	Dave Parrish	Reece/Hansen	
2/28/97	IDFG:Wildlife Bureau	Saxton, Chris	Butterfield	for Idaho Atlas
3/7/97	IDFG:I & E	Thompson, Terry	Butterfield	map and EPS file
3/12/97	Plum Creek Timber	Woods, John	Butterfield	StreamNet ftp site
3/22/97	Wash Water Power	Vore, John	Butterfield	ftp to his site
3/25/97	DEQ	Schuld,Bruce	King/Elms/Apperson	Kim Apperson got a data request from Bruce Schuld for length frequency data from our general parr monitoring surveys for Monumental Cr, and Marble Creek. Kim referred it to Terry who referred it to Daniel, who performed a query and submitted it back to Kim who gave it to Bruce.
3/26/97	IDFG:Wildlife Bureau	Beecham, John	Butterfield	included sum of area

3/28/97	IDFG:Fisheries Bureau	VanVooren, Al	Butterfield	8 regional, 2 state
3/31/97	IDFG:Fisheries Bureau	Kiefer, Sharon	Brown, S.	Sharon Kiefer was provided with all historic and current information StreamNet has for Pahsimeroi Hatchery Steelhead: hatchery returns and age composition data. This was printed out in a query from Access files.
3/31/97	IDFG:Fisheries Bureau	Kiefer, Sharon	Elms	Sharon Kiefer was provided with redd count information (historic and current) for Big Creek, Loon Creek, and Sulphur Creek. These were provided as both a dBase IV file and a hard copy query was printed from Access files.
3/31/97	IDFG:Fisheries Bureau	Cannamella, Dave	Elms/Brown, S.	Investigative work was done using 7.5 minute topo maps to pinpoint where Goat Creek drains into the S. Fk. Salmon River; and mileage then calculated to determine proximity to the South Fork Trap. This was then added to a Harvard Graphics map of the drainage for future reference to spawning activity by summer chinook.
3/31/97	IDFG:Fisheries Bur.	Sharon Keifer	Butterfield	hardcopy maps to go to NMFS
3/31/97	Clearwater Hatchery	Jerry McGhee	Hansen	

III. Montana Department of Fish, Wildlife & Parks

PERIOD HIGHLIGHTS

Project Management

Received Map Catalog program from Duane Anderson and reviewed with Jeff Hutten. Provided comments/modifications to Duane and changed several lookup tables to better suit Montana's data; entered map/plot data through February.

Corresponded with Cindy McKay concerning eastern Montana's RF3 files; discussed Montana's stream name field and what we have done. Cleaned up cross-reference table between 1:100 000 hydrography and master tabular Stream database. Discussed western Montana hydrography in a conference call with Duane, Drew, Bruce Fisher, and Jeff Hutten; verified needs and sent new file to Bruce.

Provided Stan Allen with information concerning MFWP hatchery release database which is maintained in Bozeman at the Information Services Unit supervised by Bob McFarland.

Attended a meeting in Denver with a group of land managers from the Rocky Mountain States and the Nature Conservancy to discuss and provide information to the Nature Conservancy's Biodiversity Assessment, which is similar to the original PNWS Fisheries Assessment. States involved included Montana, Colorado, Wyoming, Arizona, New Mexico and Utah.

Discussed water rights and diversion white paper with Jim Stimson, NRIS; he made inquiries at Montana Department of Natural Resources and Conservation and provided to StreamNet a summary of their system and the type of data they store.

Montana office of the Northwest Power Planning Council requested a resident fish distribution analysis for the Columbia Basin in Montana. The request was part of a package being provided to the NWPPC Scientific Review Board review of Montana's resident fisheries and the impact of various downstream flow scenarios on that fishery. Base maps of hydrography and land ownership and topography were created; mylar overlays of species of special concern and game fish species were plotted to use over the base maps. Product was provided in an 11 x17 binder organized by hydrounit. Copies were sent to NWPPC, Review Board and FWP Fisheries Division Headquarters in Helena.

Provided USFWS with mylar overlays displaying westslope cutthroat genetic purity to be used with a base map displaying bull trout distribution, core habitat areas, and land ownership. This product included all hydrounits in western Montana. Sent copy to FWP Fisheries Division Headquarters in Helena.

Reviewed various StreamNet products on the Internet including brochure, data management page, and several white papers.

Created a GIS Highlights for a FWP supervisors and administrators; this document reviewed the major GIS requests for a two month period and this along with the quarterly StreamNet reports will replace the monthly narratives.

Fisheries

Imported the MRIS genetic register database containing electrophoretic analysis into an Access entry and reporting program for tracking reference documents (usually in the form of a letter to the biologist who collected the fish) from the University of Montana's genetics lab. Organized all documents with

sample references by hydrounit and entered into new Access format. Determined 73 letters from the 1000+ samples collected in Montana were still missing.

Verified MRIS fish distribution against the new published version of Fishes of Montana by George Holton; sent a set of maps of Class B and C Species of Special Concern to Bill Gould, retired ichthyology professor from Montana State University, to verify distribution against his collection. Also discussed historic fish distribution in Montana and discussed several strategies for that project.

Data input and verification in resident fish databases included consultant collected data on Big Hole River mainstem; planting data from Bob McFarland to verify artificial fisheries; incorporated new fishing pressure data from Bob McFarland; received new habitat information on species of special concern from biologists and updated fish species genetic codes from MRIS Genetics Registry database.

Completed rating program for species and habitat category of Fisheries data; ran and debugged. Provided Jeff with needed files and structure to begin programming for sport fisheries category.

NRIS

Internet development included converting and quality checking all MRIS atlas maps to Adobe Reader PDF format. When converting the ArcInfo compositions to encapsulated postscript files, ArcInfo does not convert the page size correctly. Each postscript file page size had to be corrected using a perl script (psfix). At present, a PDF file has been made for each MRIS Atlas map. Deleted trend data files (spawning counts and population estimates) from InterNet version of MRIS.

Reviewed all NRIS Water Information System web pages, to insure all links are working correctly. NRIS staff reviewed Webbase software that facilitates access to a variety of data base files via the Internet and mapping software applications that will soon be available. The software may prove useful for accessing MRIS data interactively on the Internet. Several web-based data base packages and the new ArcView map server were discussed as possible candidates.

The MRIS project and data base will be included in presentations to be made by Water Information System staff at the Watershed Symposium scheduled for late Fall 1997. The symposium is intended to expose citizens and land owners to resources and tools available for watershed planning and management.

Items of Interest Not Funded by StreamNet

Completed update of all state fishing access site (FAS) locations using FWP Lands database; verified information with State Fishing Access Site Coordinator; provided regional maps of State FAS with land ownership, roads, towns and other geographic identifiers. Working with FWP Design and Construction section to create regional plots of accessibility to all state owned lands including FAS, state parks, wildlife management areas and all regional offices and buildings.

Provided several plots and testimony to department personnel for presentation to Legislature to acquire 2.0 FTE for GIS support for the department; bill killed in committee.

PLANS FOR NEXT QUARTER

Send all necessary documents and files to Cindy McKay for the National Hydrographic Database. Visit Olympia when HUCs from Montana are in the visual pass stage. Coordinate with Cindy McKay on other Montana Hydrography updates (GAP analysis). Attend StreamNet meeting in Portland; attend Montana and Idaho GIS Conference in Bozeman. Complete fisheries update and rate all streams in Montana based on their habitat and sport fisheries' values. Begin historic fish species distribution layer, beginning with Class A species of special concern and look at current fish barriers

database and what we need to do to update it. Produce new atlases for all HUCS in Montana and send to biologists before field season. Meet with PSMFC staff to discuss resident fish data exchange format and reporting program format for MRIS. Do a test of the GAP data as to how well it predicts fish habitat. Provide input to StreamNet Genetics adhoc committee. Complete discussions of how input of resident fish reference documents is to be handled with FWP Fisheries Division headquarters in Helena. Send out bull trout edit maps to state and federal biologists for update.

Test MRIS on a server using Windows NT to determine the feasibility of direct online access via the Internet and SUMMITNET.

DATA REQUESTS / RESPONSE LOG

REQUESTS FOR MONTANA RIVERS INFORMATION SYSTEM DATA

(Request codes; S=State, P=Private, PNP=Private Non-profit, PC=Private Consultant, A=Academic, F=Federal)

P	Request for population and spawning data from MRIS. ARCO project.
PNP	Requested information on Yellowstone R. and Sweet Grass Cr. Specifically for conservation easement.
P	Request for Ginger Thomas for MRIS info on Kootenai River between Pipe Cr and Libby Cr for evaluation on a proposal for MT Dept. of Transportation.
S-NRIS	Request for streams not listed on topo maps, but listed in the DEQ database.
A	Requested MRIS data for the Bull River and surrounding area (Bull Lake) for thesis work on Bull trout.
P	General MRIS report needed for East Red Lodge Creek.
P	Requested MRIS information on Stoner Creek near Flathead Lake.
PNP	Request for information on Sturgeon Chub and Sicklefin Chub, statewide.
PNP	Needs MRIS for the Upper Yellowstone River basin. Looking for native species work.
PNP	Requested information on fisheries and water quality on the Missouri R. between Great Falls and Fort Benton and the mouth of Highwood Cr.
PC	Information requested for fishery and water quality information on the Tongue River; T3N,R47E; T3N,R46E; T4N,R47E; T4N,R46E; Miller Cr. quad.; Garland School quad.
PC	Request for general METSNET contacts and MRIS data.
PC	Request for information on the Blackfoot River, concerning fisheries, wildlife, and recreation.
PC	Request for any information on the following streams adjacent to highway 2: Frazer Lake; Little Porcupine Cr.; Charlie Cr; East and West Fork of Charlie Cr. and Kintyre located on Ft. Peck Indian Reservation.
PC	EA for Burlington Northern fuel sites cleanup project. Looking for where to access water, climate and other data. MRIS data requested.
S-DHES	Performing an environmental assessment for the Big Sky vicinity. Fisheries data from MRIS needed.

Information Services Unit, Kalispell Office

Date	By	For	Agency	Hours
1/3/97	Jeff Hutten	Cindy McKay Plot of changes to HUCs 17010201 & 17010202.	USGS Contractor	3
1/3/97	Lydia Bailey	Carol Davies Wall size vegetation/riparian maps of the Kalispell Planning Jurisdiction for mapping important wildlife, recreation, and fisheries habitats by FWP personnel.	Flathead Regional Development Office	6
1/6/97	Angie Schmidt	Fred Nelson Produced Six maps of the Upper Yellowstone Drainage: Instream Flow Reservations, Water Leases in Effect and Pending, and Future Fisheries Project. One set 8.5"x14" and another set in color 17"x28".	MFWP - Region 3	18
1/7/97	Angie Schmidt	Steve Jones 8.5"x11" color map of Region One. Public Land Ownership, roads, and cities.	MFWP - Region 1	1.5
1/9/97	Angie Schmidt	Sandra DeBruin MRIS report on the Stillwater River short_rrn PJ01400.00.	Montana Land Reliance	1
1/9/97	Jeff Hutten	Ladd Knotek Map indicating the locations of Lion, Rogers, and Bootjack Lakes for a report.	MFWP - Region 1	1.5
1/13/97	Lydia Bailey	Doug Monger Printed and sent two copies of 11 x 17 statewide maps depicting public land ownership, highways, cities, and hydrography.	MFWP - Helena	0.5
1/14/97	Lydia Bailey	Ken Soderberg Sent 11x17 maps for each FWP Region with public land ownership, highways, cities, hydrography, and FWP lands depicted as points. Total of 7 maps.	MFWP - Helena	6
1/15/97	Angie Schmidt	Ladd Knotek Produced three 8.5"x11" black and white maps for a report. One Elliott Spring Creek map and two Flathead drainage maps.	MFWP - Region 1	2
1/15/97	Angie Schmidt	Mike Conner Region One color map displaying Public Land Ownership, roads, cities. 36"x24"	State Lands	1
1/15/97	Lydia Bailey	Rick Mace 8.5 x 11 vicinity map with shaded relief, Glacier NP, South Fork Flathead Grizzly Bear Study Area, major hydrography, Kalispell, Whitefish, Columbia Falls city boundaries, and grizzly bear telemetry locations.	MFWP - Region 1	4

Date	By	For	Agency	Hours
1/17/97	Angie Schmidt	Clint Muhlfeld	MFWP - Region 1	30
	Produced 8.5"x11" and 33"x21" color maps of the Callahan Drainage: North Fork Callahan, South Fork Callahan, Mainstem Callahan, and Callahan Drainage. The maps were created in ArcView 3.0.			
1/20/97	Angie Schmidt	Jerry Sawyer	MFWP - Region 1	4
	Created a draft wall-size color map of Flathead Lake, surrounding Public Land Ownership, State Parks, Fishing Access Sites, cities, and roads.			
1/21/97	Jeff Hutten	Don Hair	USDA Forest Service	4
	Maps of bull trout core areas for Swan, South Fork Flathead, and Main Flathead. UTM Zone 12. Hardcopy and .gra files.			
1/23/97	Lydia Bailey	Chris Lorentz	MFWP - Region 7	15
	Visibility analysis maps of Makoshika State Park as viewed from four vistas within park. Maps included shaded relief, park roads, vista points, and areas visible from vista points. Total of 5 maps. Calculated total acres visible in T15NR56ES16.			
1/23/97	Jeff Hutten	Steve Glutting	MFWP - Region 1	1.5
	Total are (in acres) and percent of ownership for National Park, Forest Service, State Lands, Indian Reservations, BLM, and Plum Creek Timber Company, L.P. HUCs 17010206, 17010207, 17010208, and 17010210.			
1/23/97	Lydia Bailey	Donna Leeper	DNRC	1.5
	Sent Arc/Info export files (no compression option) of elk, mountain goat, mule deer, moose, white-tailed deer(densities). Also sent all documentation.			
1/23/97	Lydia Bailey	Kurt Teuber	USDA Forest Service	1.5
	Sent Arc/Info export files of all Smith River Weed Infestation and biocontrol release site data. Also sent existing documentation from MSU, print out of biocontrol data, Montana Noxious Weed Survey and Mapping System document, and hard copy of map.			
1/24/97	Lydia Bailey	Gary Dusek	MFWP - Bozeman Research & Technical Bureau	1
	Calculated total acres for each ownership classification of state and federal lands in Montana. Used BLM's 1:100,000 public land ownership layer for acreage calculations.			
1/27/97	Jeff Hutten	Liane Taylor	MFWP - Helena	0.25
	Illegal Fish Introductions Map.			
1/29/97	Jeff Hutten	Brenda Sepansky	NRIS	1
	Montana hydrography and documentation.			
1/30/97	Angie Schmidt	Rick Hunt	MFWP - Region 1	0.1
	Plotted a copy of the 33"x21" statewide fisheries regions in black and white.			

Date	By	For	Agency	Hours
1/31/97	Lydia Bailey	Tom Stivers	MFWP - Region 4	4
		Map of elk distribution with calculated acres by hd of Elk distribution in 1996 deer/elk hd's 410, 417, 621, 622, 623, 631, 632, 700 . Also sent calculated acres of elk distribution and total hunting district area for 1995 hd's 410, 417.		
2/2/97	Lydia Bailey	Rick Mace	MFWP - Region 1	1
		Created .tiff file of grizzly telemetry location map.		
2/4/97	Lydia Bailey	Fay Moore	MFWP - Helena	4
		Modified the previous map of SW Mule Deer Areas. Also created 4 separate maps of specified layers.		
2/4/97	Angie Schmidt	Larry Peterman	MFWP - Helena	0.5
		Sent MADRIVER.EPS to Kris Larson at the State Library to be plotted for Larry Peterman. Madriver.eps is a wall size map of the Upper Madison River Drainage.		
2/4/97	Lydia Bailey	Ken Wall	Geodata Services, Inc	4
		Provided digital data and aml code for update of elk GIS layer contracted by Rocky Mountain Elk Foundation. Data included elk distribution/winter range, calving areas, critical winter, cities, hydrography, hunting districts.		
2/4/97	Lydia Bailey	Fay Moore	MFWP - Helena	5
		8.5 x 11 map of SW MT Mule Deer areas with 1996 hds, cities, highways, hydrography. Total of four maps.		
2/4/97	Lydia Bailey	Ken Wall	Geodata Services, Inc	4
		Sent Arc/Info export files of 1996 deer/elk hds, MRIS hydrography, Census Cities, elk calving areas, elk severe winter ranges. Also sent aml code for generating 1:250K FWP Regional maps, lookup table for cities based on population, documentation.		
2/5/97	Lydia Bailey	Rick Mace	MFWP - Region 1	1
		.tif file of map logged on 01/15/97.		
2/7/97	Jeff Hutten	Mark Reller	Northwest Power Planning Council	50
		Base maps: land ownership and DEMs. Overlays: native species distribution. Kootenai, South Fork Flathead, and Flathead Lake. For Independent Science Advisory Board..		
2/7/97	Lydia Bailey	Tam Black	USGS	1.5
		Sent Arc/Info export files of State Fishing Access Site point data with site name, county name, latitude, longitude in GEOGRAPHIC projection. Also sent documentation. Data current as of 11/14/96.		
2/10/97	Lydia Bailey	Chris Lorentz	MFWP - Region 7	2
		8.5x11 map of Makoshika State Park depicting visibility analysis from view points within park - map includes contour lines, Park roads, view points, section lines.		

Date	By	For	Agency	Hours
2/10/97	Jeff Hutten	Wade Fredenberg	USFWS	8
		Westslope Cutthroat Trout genetic distribution mylars to be laid over bull trout core area maps. For the Bull Trout Scientific Committee.		
2/11/97	Lydia Bailey	Dan Vincent	MFWP - Region 1	0.5
		Plotted two copies of 11 x 17 Region 1 Public Land Ownership map..		
2/12/97	Lydia Bailey	Ladd Knotek	MFWP - Region 1	1
		Created vegetation coverage for map of Dayton Creek.		
2/12/97	Lydia Bailey	Richard Peterson	MFWP - Region 1	0.5
		Enlarged SW Mule Deer Area map created for Fay Moore/Glenn Erickson.		
2/13/97	Jeff Hutten	Ladd Knotek	MFWP - Region 1	5
		Vegetation map of Dayton Creek.		
2/13/97	Lydia Bailey	Darlene Edge	MFWP - Lands	3
		Wall sized map of FWP lands point data within the Smith River Recreation Corridor with public land ownership, hydrography, highways, cities.		
2/14/97	Jeff Hutten	Duane Anderson	PSMFC	6
		Map Catalog database changes and entries.		
2/17/97	Jeff Hutten	Stuart Brittain	MFWP - Region 3	1.5
		10020001.e00, basinsmt.e00, plss_rr.e00 own_rr.e00, reach.doc		
2/21/97	Jeff Hutten	John Woods	Plum Creek Timber Company L.P.	2
		Bull trout core areas coverage and documentation. ASCII DXF format.		
2/25/97	Jeff Hutten	Bruce Fisher	USGS	2
		Updated Pacific Northwest Reach files for export to USGS.		
2/27/97	Jeff Hutten	Tom Ostrowski	MFWP - Region 1	8
		Converted GPS files for Bootjack Lake to Arc/Info TIN. Calculated area, perimeter, volume, and plotted contour map.		
2/28/97	Jeff Hutten	Cindy McKay	USGS Contractor	27
		Eastern Montana hydrography: ungenerated arcs and ASCII attributes.		
2/28/97	Jeff Hutten	Kim Foiles	USDA Forest Service	5
		Statewide hydrography, genetic sample sites, bull trout core areas, fishspec.dbf, and barriers.		

Date	By	For	Agency	Hours
3/1/97	Angie Schmidt	Joe Huston	MFWP - Region 1	6
	Requested an 8.5"x11" black and white map of the Redband Trout distribution in the Kootenai Drainage. The map will be used in a report and possibly Montana Outdoors.			
3/3/97	Jeff Hutten	Stuart Brittain	MFWP - Region 3	0.75
	Montana hydrounit boundaries coverage in DLG format.			
3/4/97	Angie Schmidt	Mike Ruggles	MFWP - Region 6	1
	Sent a wall size map of the Big Muddy Creek Drainage displaying land ownership, streams, cities, roads, MRIS segment number annotation.			
3/6/97	Jeff Hutten	Janet Decker-Hess	MRIS	13
	Raw data from stream hydrography: plss, lat-long, length, MFWP Region, county, and tourism region.			
3/6/97	Jeff Hutten	Cindy McKay	Horizon System Corp.	2
	Stream hydrography and stream names for inclusion into the National Hydrographic Dataset.			
3/7/97	Angie Schmidt	Tom Reilly	MFWP - Helena	94
	Hours spent is the total hours from Angie (43 hrs), Lisa (31 hrs), and Lydia (20 hrs). Time was spent querying the lands database, identifying and solving problems, updating and digitizing the fwplnds GIS layer, producing FAS maps.			
3/7/97	Angie Schmidt	Bruce May	USDA Forest Service	10
	Produced maps of each drainage in Gallatin and Custer National Forests displaying Westslope and Yellowstone Cutthroat Trout distribution.			
3/10/97	Lydia Bailey	Carol Davies	Flathead Regional Development Office	9
	DXF formatted files of wildlife distribution, important wildlife riparian areas, recommended trail corridors for the Kalispell Planning Jurisdiction. Also provided 8.5x11 map representing each data set and GIS documentation.			
3/11/97	Angie Schmidt	Jeff Erickson	MFWP - Helena	3
	I called all the National Forests in the state and noted there progress on hiking trail GIS coverages. I sent Jeff a memo stating what I had found. The document is named "AS01697.wpd"			
3/11/97	Angie Schmidt	Beth Gardner	USDA Forest Service	5
	Produced a total of four wall size maps of the Swan Drainage: One base map displaying bull trout distribution, and three mylar overlays showing rainbow trout, brook trout, and westslope trout distribution.			
3/11/97	Angie Schmidt	Anne Tews	MFWP - Region 4	3
	Map of the Big Spring Watershed for a report.			
3/14/97	Jeff Hutten	Jim Stimson	NRIS	0.3
	StreamNet and Information Services Unit logos.			

Date	By	For	Agency	Hours
3/17/97	Jeff Hutten	Scott Rumsey 2 maps for the Swan Lake Angler Creel Survey 1995.	MFWP - Region 1	2.5
3/18/97	Jeff Hutten	Lydia Bailey Updates to GIS Log Data Edit/Entry Program.	MRIS	1
3/19/97	Jeff Hutten	Rick Malta Add Church and Egan Sloughs to Flathead River Map and plot 3 copies.	MFWP - Region 1	1.5
3/19/97	Jeff Hutten	Connie Mills Fishing Regulation map for Bighorn River as an example of the quality of work that we can produce.	MFWP - Helena	9
3/20/97	Jeff Hutten	Peter Feigley Data definitions for MRIS database.	NRIS	0.3
3/24/97	Jeff Hutten	Duane Anderson GIF images of maps sent for display on the StreamNet Web Page	PSMFC	4
3/27/97	Jeff Hutten	Stan Allen Information Services Unit logo as GIF file.	PSMFC	0.3
3/28/97	Angie Schmidt	Tom Weaver Requested maps of the North Fork, Middle Fork, and South Fork Flathead River, Stillwater River, and Swan River Drainages; displayed the MRIS numbered streams, and annotation of segment numbers.	MFWP - Region 1	2
3/28/97	Angie Schmidt	Scott Rumsey Plotted additional copies of maps of Swan drainage which were done for Beth Gardner.	MFWP - Region 1	0.15
3/28/97	Angie Schmidt	Bruce Rich Requested One wall size FAS map for Region Three, maps of each drainage in Region Three displaying the genetic purity of Westslope Cutthroat Trout and Yellowstone Cutthroat Trout, and One wall size map of Region Three displaying shaded relief.	MFWP - Region 3	8
3/31/97	Angie Schmidt	Dave Browning Requested maps of each drainage in the Beaverhead National Forest displaying Westslope Cutthroat Trout.	USDA Forest Service	5
3/31/97	Angie Schmidt	Jim Darling 6 wall size region Five FAS maps and 16 - 11"x17" maps.	MFWP - Region 5	0.15
3/31/97	Angie Schmidt	Dave Todd six 11"x17" FAS maps and four wall size maps.	MFWP - Region 4	0.15

IV. Oregon Department of Fish and Wildlife

PERIOD HIGHLIGHTS

1. Work continued to describe anadromous fish distribution data at 100k, completing final verification of coho spawning and rearing distributions with field sample and barrier data for 5 coastal subbasins. In addition, we began assembling or digitizing historic and present spawning and rearing distributions and core areas for spring chinook salmon throughout the Columbia basin (Task 1.1)
2. Completed GIS coverage for stream "barriers" in Oregon (Task 1.1).
3. Continued review, update, and addition of historic data for tributary sport harvest of salmon and steelhead in Oregon (Task 1.1)
4. Reconstructed historic spawner-recruit run numbers for an additional 7 Oregon spring chinook populations in the Grande Ronde and Imnaha basins (Task 1.1).
5. Provided 178 photo files to PSMFC for inclusion on web site (Task 5.4).
6. Provided 35 map files of salmon core production areas and bull trout distribution to PSMFC for posting on Internet site (Task 5.7).
7. Scheduled interviews of 10 candidates for ODFW StreamNet Project Leader.
8. A total of 18 data, 63 document, 6 map, and 8 other requests were answered during this quarter. (Task 5.1)

PLANS FOR NEXT QUARTER

1. Complete hiring process for ODFW StreamNet project leader. (Schmidt/Beamesderfer)
2. Provide updated spawner-recruit data for PATH spring chinook run reconstructions. (Beamesderfer)
3. Submit OR tributary sport harvest data for salmon and steelhead from punch card returns in 1953-95. (Tinus)
4. Complete final report documenting spring and summer chinook spawner and recruit data and methods of estimation for the PATH project and the escapement database. (Beamesderfer/Bourne)
5. Complete GIS datasets of coho distribution in OR at 100k. (Forsberg/Hupperts).
6. Prepare draft atlas of present and historic spawning and rearing distribution for spring chinook salmon in OR including maps of selected barriers, survey sites, and key production areas. (Hupperts)
7. Continue to answer information requests as received. (All)

DATA REQUESTS / RESPONSE LOG

<u>Date</u>	<u>Requester</u>	<u>Description of Request/Response</u>
1/2	ODFW (King)	Misc. agency reports (3)
1/3	Alsea Geospatial	Salmon core area maps
1/4	ADFG (Wallace)	OR stream route information

1/6	PGE	List of GIS data
1/6	NMFS	Salmon core area ArcInfo coverages
1/6	-- (Wilson)	ORIS data
1/6	ODFW (McCracken)	N. coast salmon core area maps
1/7	ODFW (Burner)	Misc. agency reports (1)
1/7	BPA (Lowrance)	OR stream route information
1/7	-- (Olds)	ORIS data
1/8	Parametrix (Wren)	Misc. agency reports (3)
1/10	PWB (Corles)	Misc. agency reports (1)
1/14	ODFW (Reed)	Misc. agency reports (1)
1/14	NAL (Stomal)	Misc. agency reports (1)
1/14	-- (Olds)	ORIS data
1/14	CRITFC (library)	Misc. agency reports (15)
1/14	ODFW (Hayes)	Misc. agency reports (3)
1/16	ODFW (Knutsen)	Misc. agency reports (3)
1/16	ODFW (Spangler)	Public access site maps
1/17	PSMFC (Christofferson)	Misc. agency reports (1)
1/17	NPT (Weigel)	Misc. agency reports (2)
1/20	ODFW (Jacobs)	ArcView assistance
1/21	France (Suzeau)	Misc. agency reports (6)
1/22	Sweden (Elmgren)	Article reprint (1)
1/22	ODFW (Bennett)	Misc. agency reports (1)
1/22	NatCons (Richter)	Article reprint (1)
1/22	ODFW (Krepps)	Misc. agency reports (9)
1/23	BPA (Witten)	Barriers data
1/28	-- (Klier)	Misc. salmon information
1/28	ODFW (Hayes)	Misc. agency reports (1)
1/29	Spain (Escos)	Article reprint (1)
1/29	ODFW (McPherson)	Subbasin plan information
1/30	ODFW (Keeley)	Misc. agency reports (3)
2/3	Cornell (Krueger)	Misc. agency reports (1)
2/3	Tigard (Roberts)	Fish distribution maps
2/5	-- (Emanuel)	Misc. agency reports (1)
2/7	Alesa Geospatial	OR stream route coverages
2/9	ODEQ (Harding)	Misc. agency reports (4)
2/10	USFWS (Ensign)	Misc. agency reports (1)
2/10	ADFG (Larocque)	Misc. agency reports (2)

2/10	CRAL (Montalvo)	Misc. agency reports (1)
2/12	OSU (Trambeau)	Meta Data
2/12	-- (Evans)	Misc. agency reports (1)
2/12	-- (Applegate)	Misc. Information
2/12	ODFW (Krepps)	Misc agency reports (7)
2/12	ADFRR (Josephson)	Misc. agency reports (1)
2/13	BPA (Zehntbauer)	Fish distribution information
2/13	Blackwell N Amer	Misc. agency reports (2)
2/14	CDFO (Hwang)	Misc. agency reports (1)
2/14	-- (Ellis)	Misc. agency reports (1)
2/18	ODFW (Yaskovic)	Hagg Lake map
2/18	ODFW (Krepps)	Misc. agency reports (14)
2/18	CRBC (Forrester)	Oregon Rivers Information system
2/20	OSU (Hall)	List of agency reports
2/20	ODFW (Bennett)	Misc. agency reports (1)
2/20	PSMFC (Christofferson)	Misc. agency reports (1)
2/21	ECD (Wilson)	Misc. agency reports (2)
2/25	ODFW (Hooten)	Misc. agency reports (1)
2/15	-- (Greenspan)	ORIS information
2/25	CDFO (Argue)	Misc. agency reports (16)
2/26	USACE (Toms)	OR Stream route information
2/26	ODFW (Flitcroft)	OR Stream route coverages
2/26	NWIFC (DeLong)	OR hydrologic unit definitions
2/27	ODFW (Farr)	Referred to CRITFC for non ODFW material
2/28	ADFG (Larocque)	Misc. agency reports (2)
2/28	ROSS (Doak)	Health advisory information
3/1	EPA (Bogue)	Salmon distribution coverages
3/3	ODNRA (Ries)	Misc. agency reports (1)
3/3	Student (Mayhew)	Misc. agency reports (1)
3/5	ODFW (Krepps)	Misc. agency reports (4)
3/7	UMinn	Misc. agency reports (2)
3/7	ODFW (Mirati)	Steelhead distribution maps
3/7	FC (Tappel)	Misc. agency reports (1)
3/7	-- (Ellis)	Misc. agency reports (1)
3/7	NMFS (Liverman)	Barrier data in GIS format
3/10	InterrainPac (Brownell)	Misc. agency reports (3)
3/10	USFS (Frisk)	Essential salmon habitat data GIS coverages

3/11	HTInc. (Morris)	Misc. agency reports (1)
3/12	-- (Sears)	Misc. agency reports (3)
3/12	-- (Oliver)	Misc. agency reports (1)
3/13	A&M (Law Firm)	Misc. agency reports (8)
3/13	ODFW (Krepps)	Misc. agency reports (6)
3/13	Will University	Misc. agency reports (3)
3/17	Beak (Pruess)	Misc. agency reports (1)
3/17	ODFW (Kennett)	Misc. agency reports (1)
3/19	A&M (Law Firm)	Misc. agency reports (2)
3/25	-- (Anderson)	Misc. GIS data
3/26	WDFW (Bonar)	Misc. agency reports (4)
3/26	IDFG (Petrosky)	Hatchery release data
3/27	USFWS (Ensign)	Misc. agency reports (2)
3/27	ODFW (Lynum)	Misc. agency reports (1)
3/27	ADFG (Larocque)	Misc. agency reports (1)
3/28	ODFW (Schaller)	Referred to CRITFC for non ODFW material
3/31	ISU (Koehler)	Hatchery release data
3/31	ODFW (Krepps)	Referred to CRITFC for non ODFW material

V. Pacific States Marine Fisheries Commission

PERIOD HIGHLIGHTS

Data Development

Reviewed the status of all data development tasks with project participants.

Prepared draft white papers on project tracking, resident fish hatcheries, and the Northwest Hydro Site Database.

Data Management

Prepared an updated description of StreamNet data holdings and an updated data dictionary.

Incorporated all data as delivered by participating agencies.

Acquired and installed necessary GIS equipment.

Acquired baseline GIS data layers and prepared a strategy for future data layer development. Prepared a request for assistance from BPA in securing additional data layers.

Completed the Technical Applications Strategy (Status Report #3), including a detailed description of recommended hardware and software acquisitions and cost estimate.

Prepared a white paper on strategies for incorporating NPPC VAX data.

Incorporated NPPC data (protected areas, final PNWRS values) into the StreamNet data system.

Ported data to the Ingres server for use on the StreamNet web site.

Library/Reference System

Assisted CRITFC in preparing for the opening of the new library facility.

Worked with CRITFC in the development of a draft “on-line” library white paper.

River Reach System

Assisted WDFW in the preparation of a draft white paper on inter-scale compatibility.

Began discussions on long-term RRF maintenance strategies.

Maintained frequent contact with the national NHD team.

Coordinated state activities to prepare RRFs for submittal to the NHD team; delivered necessary data files to the NHD team.

Developed a strategy for conducting the visual pass of the NHD product.

Data Delivery

Added approximately 40 maps to the online map library.

Added approximately 10 sites to the related links section of the home page.

Edited the text of the StreamNet home page.

Enhanced the education portion of the StreamNet home page, including additional color fish graphics and educational narratives (fish facts).

Added a comprehensive fish resource glossary to the home page.

Updated background information in the online database section of the home page (data exchange formats - v. 97-1, data holdings - v. 97-1, revised data dictionary).

Enhanced the online database section of the home page by adding new data on flow, updating fish production data (from participants), and enhancing query functions (geographic scope filter, short list option, summary format).

Added a project management section to the home page and a separate URL for an internal project management page (for draft documents and other materials not appropriate for posting to the public home page).

Monitored use of the StreamNet web site and responded to all “feedback” comments.

Prepared a list of StreamNet home page enhancement ideas and identified priorities for future home page improvements.

Responded to data requests as they arose.

Began content discussion on the annual salmon and steelhead report.

Project Management

Prepared and submitted a project description report as per the BPA outline.

Prepared a brochure for the StreamNet project.

Prepared a revised and updated version of the StreamNet power point show.

Delivered a presentation on StreamNet at the CBFWA project review conference.

Hired a GIS data manager and provided the new staff person with appropriate orientation on the project.

Met individually with the following sub-contractors to monitor progress in both data development and expenditure of funds: ODFW, IDFG, WDFW and CRITFC.

Held coordination meetings with NMFS, NPPC, USFS, and had individual discussions with anadromous fish managers.

Scheduled and prepared for an April Steering Committee meeting.

Made contact with project coordinators via telephone on at least a bi-weekly basis.

Reviewed sub-contractor invoices and prepare BPA invoices.

Prepared necessary documentation to assist BPA COR in tracking contract deliverables.

Coordinated with BPA on administrative matters relevant to StreamNet.

PLANS FOR NEXT QUARTER

Data Development

Coordinate data development by participating agencies.

Prepare final versions of the project tracking, resident fish hatchery, and Northwest Hydro Site Database white papers.

Prepare a strategy for StreamNet involvement in development of systems operations data.

Data Management

Incorporate new data as received from participating agencies.

Secure additional spatial data layers.

Cooperate with USFS in integrating summary data from the Eastside Assessment.

Library

Provide direction to library staff regarding library use policies and other appropriate issues.

Cooperate with library staff in updating source references.

Prepare a final version of the online library white paper.

River Reach System

Consolidate state PNW files, reconcile differences, and submit revised product to NHD.

Secure agreements from ODFW and WDFW regarding conducting the visual pass; coordinate visual pass activities.

Complete a long-term RRF maintenance strategy and initiate efforts to secure necessary funding.

Cooperate with WDFW in preparation of a final version of the white paper on inter-scale compatibility.

Data Delivery

Implement the Technical Applications Strategy including purchase and install equipment, initiate porting of data to the new environment.

Integrate new data into the DS and prepare a strategy on the future of the DS.

Prepare a 97 version of the Annual Salmon and Steelhead Report.

Prepare GIS products depicting FY 97 Fish and Wildlife funding for the Basin.

Prepare GIS products depicting ESA critical habitats.

Project Management

Prepare for a July steering committee meeting.

Participate in regional Fish and Wildlife Program briefings and conferences.

Prepare a presentation on StreamNet for the CBFWA project funding evaluation process.

Prepare for and participate in discussions regarding integrating information needs into the NPPC Framework document.

Prepare a draft FY 98 work statement and budget.

DATA REQUESTS / RESPONSE LOG

<u>Requestor</u>	<u>Request</u>	<u>Date</u>
Duncan, Angus	Escapement data for Grande Ronde	1/7/97
Edwards, Jean	Update of fig. 4&45 in Status Report	1/9/97
Godbout, Lyse	95 Columbia Basin S&S Status Report	1/16/97
Cox, Brodie	NMFS escapement data	2/11/97
Scott Forrester	StreamNet info and Status Report	2/16/97
Cannamela, Dave	All ID recoveries in .dbf format	2/26/97

StreamNet WIN DS Distribution

Higashi, Art	3/6/97
Clouston, Sidney	3/14/97
Strong, Jim	3/14/97

VI. Shoshone-Bannock Tribes

PERIOD HIGHLIGHTS

Taught new Fisheries Department personnel what the distributed system is and how to use it. The majority of my time was spent locating new sources of information concerning genetics of fish in the Columbia River basin. The most promising contact has been Ken Cullens with the Northwest Inter-Tribal Fish Commission. He is in the process of trying to compile a database similar to what we are pursuing. He is interested in what we are doing and would be willing to attend a Steering Committee meeting in the future. I also reviewed the StreamNet test page weekly and participated in the BPA conference call about the project.

PLANS FOR NEXT QUARTER

Continue pursuing genetic information. I will present different examples that show how genetic data are described at the April Steering Committee Meeting. This should give everyone a chance to comment on what direction we can take to include this information in the database. To help me use my time more efficiently I need a clear understanding from the Committee as to what exactly we wish to accomplish (i.e., interim and long range goals).

DATA REQUESTS / RESPONSE LOG

No requests were made for any assistance with StreamNet during this period. However, I was contacted by the computer lab at the new Sho-Ban high School and will give a presentation to their class sometime before the school year is over.

VII. U.S. Fish and Wildlife Service

PERIOD HIGHLIGHTS:

Information from the StreamNet DS was used in the preparation of the USFWS "Missing Production Groups Report". An attempt to download USFWS Idaho hatchery release information from the StreamNet web site was not successful. I participated in a BPA arranged conference call regarding StreamNet operations and the function of the Steering Committee.

StreamNet was sent record of "resident fish" raised and released by USFWS hatcheries in the Columbia River Basin. The USFWS Coleman NFH and Red Bluff fisheries office were contacted regarding releases of resident fish from Coleman NFH in California. No information has been received from this inquiry.

PLANS FOR NEXT QUARTER

Attend Steering Committee meeting in Gladstone.

DATA REQUESTS / RESPONSE LOG

There were no data requests filled by the USFWS during the quarter, other than what was described under highlights.

VIII. Washington Department of Fish and Wildlife

PERIOD HIGHLIGHTS

General

WDFW StreamNet staff started off this quarter by preparing for and staffing a booth at the two-day poster session of the first Annual Washington State Fish and Wildlife Congress sponsored by WDFW. Dick O'Connor also served as facilitator for the small group discussions on fish and fisheries issues. Several public contacts were made and all available copies of StreamNet: Report on the Status of Salmon and Steelhead in the Columbia River Basin - 1995 were eagerly snapped up. We also arranged for a demonstration of the StreamNet Distributed System for the RAD Division's new chief (Bob Gibbons) and requested a chance to demonstrate both this system and StreamNet Online (the Web page) at the next RAD Quarterly meeting.

Dick participated in the interviews which resulted in the Project hiring its first Spatial Data manager. We also invited US Forest Service spatial data expert Shaun McKinney to come to Olympia and address some of our Habitat Management and Fish Management biologists on regional spatial data sharing issues. Through that meeting, Shaun committed to helping us bridge the differences between the ways the Washington state Timber Fish and Wildlife initiative collects and stores core habitat data and the ways other regional entities use.

We continued to participate in developing many StreamNet products, including the 1996 version of the "Status" report, and volunteered time to test new features of the Web page ("StreamNet Online"). Some of our progress in cleaning up and converting hatchery release data was slowed when one of our data compilers (Dao Tran) transferred to another state agency. We hope to have her position filled in May and continue that cleanup.

Database Development

Tabular

The data compilers met with Duane Anderson, Regional Data Manager on January 22 to discuss assessment and review of adult abundance data provided by NMFS through an ESA-related contract let two years earlier. A series of data priorities were determined and a plan was developed to review and either incorporate or replace the data provided through the NMFS contract.

An updated hatchery facilities database was provided to Duane and various salmon harvest, age, and historical salmon and steelhead escapement data files were converted and exchanged. Compilation of hatchery returns data has been completed for the Columbia River system and is nearing completion for the coast and Puget Sound. When complete, that dataset will be exchanged as well. Steelhead harvest data will be held until next quarter so that 1995-96 updates (due end of April) can be added.

Spatial

Cindy Burns continued to follow-up on getting basin maps marked up and returned by field biologists, both state and tribal. Region 1 and Region 2 maps are in, but some of the other regions are sending their maps to additional tribal biologists for more comprehensive updates.

After assisting Martin Hudson with a long, involved series of iterative tests, the data entry programs and associated menu system were deemed complete enough for use. She began

entering data from Region 1 maps returned, and was able to complete those and begin Region 2 data. These maps contain anadromous fish data, including spawning areas, rearing areas, and locations of hatchery facilities, other passage (manmade) facilities, and migration blockages.

Cindy also met with Snohomish County surface water management, GIS division and discussed information exchange to prevent duplication of the anadromous fish layer. They will be sending us their 24K anadromous fish layer to enter into our database. She also met with Puyallup tribe staff biologists and discussed exchange of their GIS fish layer. Our data collection formats are not directly compatible, so this won't be pursued further in the immediate future.

Systems Development

Tabular

All of the affected internal coding tables for Washington's "B11" format data were revised to comply with the newly-released StreamNet Exchange Data Format Document (Version 97.1). Also, a data entry system and database (including compatible codes and formats) was developed by Larry Brown so Bob Woodard could enter Battle Ground office salmon and steelhead adult stream survey data into electronic format for the first time. These data will be entered, checked, converted to exchange formats, and sent along to the StreamNet exchange point.

Testing continued on learning how to program the Data Junction suite of conversion tools. Initial tests performed on ancient Washington hatchery spawning records met with remarkable success. This system will be able to save us a good deal of time in converting older format files to B11 and then StreamNet formats.

Spatial

Development and testing of the anadromous fish data entry system was completed. This software package consists of several menus linked to a master Arc/Info macro language (AML) program. It is designed to enter anadromous fish upper extent and blockage information into a point data layer. Included are tools for entering spawning and rearing information in a similar manner. A second program then transfers the information into tabular data files called event tables. The event tables are designed to be used as standard DBMS tables with relate capabilities using the 100K river reach code. The system is completely command level-independent and includes a mapping routine for verifying data entry.

1. Menu System: A master menu provides options for entering or digitizing anadromous points and spawning and rearing points. Also are options for building the required tabular data files from the points. Other options include help information and for building check maps. Menus are provided for specifically for digitizing each set of points. Data (including barrier code values) are entered specific to each species. Each menu contains several editing options for moving and adding points.
2. Programs: Three programs drive the system; one for setting up the environment and selecting chosen options, one for driving the digitizing menus, and one for building files for presence, spawning and rearing. All tables meet IRICC coding requirements and use EPA River Reach Number (RRN) codes. All

tables include the information listed in the data dictionary except stock status and listing status.

3. Check Map: This is a simple map that displays all points entered and the data for presence, spawning and rearing. This checking is critical to maintain data quality.

The next stage is to complete development and testing of a system to allow user access and plot file generation from these data. In addition, documentation for the 24K to 100K data transfer concept and updated data dictionaries and documentation for the entire WARIS system were drafted during this time.

PLANS FOR NEXT QUARTER

We plan to hire a data assistant to replace Dao Tran and recruit for some additional spatial data entry staff to prepare for the Visual Pass work which should commence in May, after the next VP training session. Entry of fish distribution statewide will continue, as maps from Regions 3-7 arrive. Tabular data exchange of hatchery return data will likely be next, and cleanup of hatchery release data will continue in preparation for exchanging historical steelhead release data. New programs for user access to the new fish distribution data layers will be completed and tested, giving WDFW staff the ability to generate their own maps of desired basins and associated species data. Finally, StreamNet staff should get the opportunity to introduce many of their Fish Management Program colleagues to the data and services provided by the StreamNet project, in hopes of sharing the technologies developed and generating heightened interest in this project in Washington state.

DATA REQUEST / RESPONSE LOG

WDFW StreamNet staff record both spatial data and tabular data requests in a similar format. The cooperation of Wildlife Management Program and Habitat Management Program staff was instrumental to both compilation and standardization of information concerning spatial data requests, or "data releases". The table on the following pages (Appendix A) summarizes the people who requested data, the type of information they needed, and the date the information was delivered as part of the StreamNet project during the fourth quarter of the project reporting period. There were 133 data requests fulfilled during this time period, most of which were spatial data requests (generally maps).

Requestor	Organization	Data Requested	Date Delivered
Ron Vanbianchi		Wetland inventory for Kitsap County DCD	01/03/1997
Catherine Conolly	Adolfson And Associates Inc.	Biological survey for ferry terminal upgrades at Southwork and Bremerton	01/07/1997
Cynara Solberg	Applied Environmental Services	Environmental Assessment for land owner	01/07/1997
Derek W. Chambers	US Dept Of Health & Human Srv.	Port Gamble Indian Reservation project no po-97-894 and po-97-897	01/09/1997
Pat Borchers	King County Wastewater Trtmnt.	South 360th street embankment protection project	01/09/1997
Chad Stussy	Mason Conservation District	Proposed log weirs to be placed in a tributary of Mission Creek	01/09/1997

Requestor	Organization	Data Requested	Date Delivered
Wayne F Buck	Beak Consultants Inc.	Lummi Indian nation planned casino construction	01/13/1997
Catherine Conolly	Adolfson Associates Inc.	EIS for Edmonds crossing/multimodal project in Edmonds	01/13/1997
Michael E. Dalziel	City Of Renton Public Works	City of Renton comprehensive planning	01/16/1997
Jim Howe	Public Request	Island County map	01/22/1997
Karin Fusetti	Entranco	Mallard Bay proposed project 96057-10	01/22/1997
Peter Blansett	SA Newman Forest Engineers Inc.	Proposed DNR property purchase	01/22/1997
Ronda Little	ENSR Consulting And Eng.	Environmental review for Cascade Natural Gas Corp.	01/23/1997
Polly Harris	Adolfson Associates Inc.	Biological survey for road improvement projects in Pacific County	01/23/1997
Robert O'Neill Jr.	Hemphill-O'Neill Company	PHS maps for Hemphill-O'Neill lands	01/24/1997
Bertie Weddell	Draba	Environmental Assessment for T16 R45E Section 35	01/24/1997
Phil Struck	Parametrix Inc.	Critical/sensitive area inventory for land owner	01/24/1997
Chris Fairbanks	Cascades Environmental Service	Environmental Assessment for the possible expansion of Mt. Baker Hwy	01/24/1997
Mark C. Schulz	WA State Parks And Recreation	Camp Wooten State Park	01/24/1997
Mark Goldsmith	City Of Lynden	City of Lynden critical areas ordinance	01/24/1997
Ryan K. Young	Parametrix Inc.	SEPA checklist for the city of Dayton	01/28/1997
Jim Howe	Public Request	Freeland quad	01/28/1997
Lennie Rae Cooke	Paine Field	Proposed Snohomish County airport construction	01/29/1997
Christi Amrine	Shockey/Brent Inc	Lake Stevens sewer district wastewater sewer treatment plant	01/29/1997
Thomas R. Strong	Terra Associates Inc.	Redford and Hudson properties	01/29/1997

Requestor	Organization	Data Requested	Date Delivered
Ph.D.		proposed residential development	
Jory Oppenheimer	Entranco	Proposed Keys Road project no 96072-20	01/29/1997
Chad Armour	Hart Crowser Inc.	Wetland Assesment for landowner T14N R45E Section 8	01/29/1997
Michael J. Rickel	Parametrix Inc.	Port of Longview rail corridor construction/grain facility renovation	02/03/1997
Mark Everett	Raedeke Associates Inc.	Permits for US Coast Guard modification of a boat basin on Columbia River	02/03/1997
Bill Bogue	US Environmental Prot. Agency	Send updated resident fish info files	02/03/1997
Mark Everett	Raedeke Associates Inc.	EA for landowner	02/03/1997
Ben Klein	Wa Dept Of Transportation-Olympic	Park and Ride for proposed passenger-only ferry at Kingston ferry terminal	02/05/1997
Urania Perez-Freedma	King County Wastewater Trtmt.	SEPA checklist for silvigrow applications in Rattlesnake Mtn. area	02/05/1997
Kim M. Levesque	RW Beck	Comprehensive flood hazard and drainage management plan	02/05/1997
Alana Hess	WA State Parks And Recreation	Rasar State Park campground development	02/05/1997
Mark C. Schulz	WA State Parks And Recreation	Sun Lakes State Park water system project	02/05/1997
Roderick E. Matsuno	King County Road Services Div.	Fuel tank installation-Bog, Diamond, Fall City, Summit and Renton	02/05/1997
Kathryn Kostow	National Marine Fisheries Serv.	Spring/summer chinook WARIS maps for Tucannon and Asotin	02/05/1997
Karee Oliver	R2 Resource Consultants Inc.	Project area impacts	02/05/1997
Steven Yach	WA Dept Of Transportation-East	Scatter Cr. Bridge #21/324.25 and Granite Cr. Bridge #21/326.25	02/05/1997
Dale Morimoto	WA Dept Of Transportation-North	SR 525 Maxwelton Rd to Honeymoon Rd channelization (project# ol-2743)	02/10/1997
Brenda Mariani	Heartland Group	Maps for landowner T30 R04E Sections 16,9 and 21	02/10/1997

Requestor	Organization	Data Requested	Date Delivered
Karen Berndt	Bucher Willis & Ratliff	Review for city of Tumwater	02/10/1997
Bob Cannon	WA State Parks And Recreation	Reed Island State Park construction project T01N R04E Sections 20 and 21	02/11/1997
Michael W. Conaboy	Pacific Coast Coal Company	Updating federal mining permit for site T21N R06E Sections 11 and 12	02/11/1997
Nikolina Yonkow	Adolfson Associates Inc.	Biological survey as part of a wetland delineation project	02/13/1997
Paul S. Korsmo	Harding Lawson Associates	Riverside Bridge replacement project	02/13/1997
Susan Powell	WA Dept Of Transportation-North	SR 525 I5 to SR99 ol1610	02/13/1997
Dan Scamporlina	WA Dept Of Natural Resources	Transfer of DNR Long Lk site to WA State Parks	02/13/1997
Barb ?	WA Dept Of Natural Resources	Town maps for T16N R11W and T15N R11W	02/13/1997
Lisa Bauer Saban	Ch2M Hill	PHS maps for landowner	02/13/1997
Gretchen Piper	The Nature Conservancy Of Idaho	Research for potential trade lands	02/18/1997
Tom Deming	Watershed Dynamics Inc.	SEPA checklist for landowner	02/18/1997
Steve Hall	Jones & Stokes Associates Inc.	NEPA EA for US Army activities on Wenatchee NF and WA State Parks lands	02/20/1997
Richard S. Fleming Ph.D.	Raedeke Associates Inc.	Background investigation for private parcel for city of Seattle proj no 97006	02/20/1997
Mark C. Schulz	WA State Parks And Recreation	Lake Chelan State Park water system project	02/20/1997
Mark Everett	Raedeke Associates Inc.	SEPA review for landowner	02/20/1997
James D. Irish	Ch2M Hill	SEPA review for solid waste transfer station by King County	02/20/1997
John Gold	John Gold & Company Consulting	Management for Skagit County Park and Recreation lands	02/21/1997
Keith Hupperts	Oregon Department Of Fish and Wildlife	Digital WARIS rivers and anadromous information	02/21/1997
Bret Forrester	David Evans And Associates Inc.	Environmental analysis for proposed golf course expansion job# fair0006-31	02/25/1997

Requestor	Organization	Data Requested	Date Delivered
Dennis McLerran	City Of West Richland-Planning	Updated HRTG, PHS, NWI digital data and maps	02/25/1997
Bertie J. Weddell	Draba	Review for prospective buyer of land T15N R45E S31	02/25/1997
Bertie J. Weddell	Draba	Review for landowner T17N R45E S13	02/25/1997
Marti Louther	Adolfson Associates Inc.	Wetland study for potential landowner near Monroe, WA	02/25/1997
Mari Smultea	Foster Wheeler Environmental	Prairie Gas storage facility zone 9 expansion project	02/25/1997
Hugh Mortensen	The Watershed Company	Wetland delineation and mitigation plan for parcel in T30N R06E Section 8	02/25/1997
Dan Saul	WA Department Of Ecology	WARIS 1:100,000 hydrography updated version	02/27/1997
Jeffery S. Jones	J. S. Jones And Associates Inc.	Research of property located in T24N R05E S34 for prospective buyer	02/27/1997
Jack Kapp		PHS maps for landowner	02/27/1997
Mark Everett	Raedeke Associates Inc.	SEPA review for land developer project no 91032.6	02/27/1997
Mark Everett	Raedeke Associates Inc.	EIS for landowner Palmer Monroe project no 95036.4	02/27/1997
Peter Sparhawk	Herrera Environmental Conslts.	EIS for industrial area in Seattle	02/27/1997
John Altmann	Talasaesa Consultants	Review for potential impacts for proposed development for landowner	02/27/1997
Greg White	Ch2M Hill	EA for Methow irrigation district	02/27/1997
Joe Kelly	Us Bureau Of Land Management	WARIS maps for effects of timber sale and mine proposal	02/28/1997
Bill Ith	Ith Boydston And Associates	Land appraisal	02/28/1997
Phillip Jensen P.E.	Mason County-Public Works	Skokomish flood control	02/28/1997
Larry D. Burnstad	Watershed Dynamics Inc.	SEPA checklist for landowners	03/04/1997
Mark C. Schulz	WA State Parks And Recreation	Lake Chelan State Park	03/04/1997
David T. Hoopes Ph.D.	RW Beck	EA and SEPA review for City of Anacortes water treatment plant	03/04/1997

Requestor	Organization	Data Requested	Date Delivered
Tak Lee	WA Dept Of Transportation	Biological Assessment for State Route 18 widening project	03/04/1997
Marty Garman	WA Dept Of Transportation-Olympic	Riprap bank protection on Hoh River project no dm-1329	03/04/1997
Lil Herger	Weyerhaeuser	WARIS fish maps for watershed analysis lower North River	03/04/1997
Hugh Mortensen	The Watershed Company	Residential subdivision T23 R01E Section 23 for landowner	03/04/1997
Greg White	Ch2M Hill	Additional map for Methow Irrigation District EA	03/06/1997
Luke A. Korpi P.E.	King County - Road Services Div.	SEPA review for 154th Place SE (Orton Hill Rd) in King Co. - cip no 400296	03/06/1997
Gary R. Beeman	WA Dept Of Transportation-South	SR 970, Teanaway River, vicinity bridge 970/10	03/07/1997
Stephanie Steinwedel	Barr Engineering Company	Environmental Assessment for facility at T25N R43E Sec13 proj 4732002lck001	03/07/1997
Doug Swanson	Swan Resources	Land use planning for land owner	03/07/1997
Marty Garman	WA Dept Of Transportation-Olympic	Construct High Occupancy Vehicle lanes in the median of I5 proj no ol 1922	03/11/1997
Cynara Solberg	Applied Environmental Services	Wildlife assessment for land owner	03/11/1997
Donna Frosthalm	Dames & Moore	Cross-Cascade pipeline project Woodinville to Pasco	03/11/1997
Thomas R Strong Ph.D.	Terra Associates Inc.	Environmental documentation for proposed residential development	03/11/1997
Mike Haggerty	Makah Tribe-Fisheries Mgmt.	WARIS anadromous maps for HUC# 17110021 and 17100101	03/11/1997
Bill Munro	IES Associates	Assessment for development on American Lake for land owner	03/12/1997
Scott R. Sissons	Apex Engineering	Kendall preliminary plat - file #25013/1	03/13/1997
Marty Garman	WA Dept Of Transportation-Olympic	SR101 mp272 to mp273 Blyn vicinity passing lanes-proj no ol2749	03/13/1997
Marty Garman	WA Dept Of Transportation-Olympic	SR101 mp249.65 to mp251.32 Golf Course Rd to Myrtle St-proj no ol2521	03/17/1997

Requestor	Organization	Data Requested	Date Delivered
Jeff Heinlen	Us Forest Service-Tonasket R.D.	West fork Sanpoil watershed project	03/17/1997
Chad Armour	Hart Crowser	Identify sensitive habitats/species for land owner	03/17/1997
Gary Schimek	Gray & Osborne Inc.	SEPA checklist for City of Prosser wastewater facility plan	03/17/1997
Wendy Paulin	Port Of Centralia	Port of Centralia proposed office building	03/20/1997
Marty Garman	WA Dept Of Transportation-Olympic	SR 507 Vail Road to mp31 part ii - project no ol 2524	03/20/1997
Coowe Moss Kidd	Moss Environmental	South Ridge preliminary plat	03/20/1997
Coowe Moss Kidd	Moss Environmental	Yanasac short plat	03/20/1997
Marti Louther	Adolfson Associates Inc.	Report to King County	03/20/1997
Marty Garman	WA Dept Of Transportation-Olympic	Northbound truck climbing lane on SR 101 mp 276.2 to mp 277.6 proj ol2730	03/20/1997
Gary Beeman	WA Dept Of Transportation-South	Sr 90 Easton vicinity mp 71.26 to mp 76.61	03/20/1997
Peter C. Blansett	SA Newman Forest Engineers Inc.	WA DNR, Pensinsula School Dist, Samish Trust and Gallaher real est. projects	03/20/1997
Richard Blanchet	Klein Felder Inc.	Proposed development by City of Anacortes	03/20/1997
Mark Everett	Raedeke Associates Inc.	Salish Lodge wetlands project# 97011	03/20/1997
Daryn Brown	City Of Bothell DCD	City of Bothell planning purposes	03/21/1997
Dale Morimoto	WA Dept Of Transportation-North	SR 203 NE 124th/Novelty Hill Road intersection	03/24/1997
Crilly R. Ritz	Snohomish County Public Works	Bridge replacements for bridge #44 and bridge #23 in western Snohomish County	03/24/1997
Roque Nalley	Roque Nalley Consulting Forresters	Forest stewardship planning for land owners	03/24/1997
Deborah A. Howe	Kato & Warren Inc.	Park Central master plan and EIS for City of Lynnwood	03/24/1997
Bertie J. Weddell	Draba	To determine if building project complies with Whitman Co. crit. areas ord.	03/24/1997

Requestor	Organization	Data Requested	Date Delivered
Tim Haener	Thomas Dean & Hoskins In.	Latah Bridge replacement and Liberty School District water system projects	03/25/1997
Marty Garman	WA Dept Of Transportation Olympic	SR 101 map 269.60 to mp 270.50 Dawley Rd vicinity to Blyn Hwy proj no 012423	03/25/1997
Gary M. Schimek	Gray & Osborne Inc.	SEPA checklist for City of Mossyrock wastewater facility plan	03/25/1997
Mark Everett	Raedeke Associates Inc.	Assessment for Meadowview Park phase ii project no 97014	03/25/1997
Wayne F. Buck	Beak Consultants Inc.	Pleasant Harbor Marina	03/25/1997
Melissa Chaun	Michael P. Williams Consulting	Lake Stevens, Mill Creek and Swamp Creek planning	03/26/1997
Pat Borchers	King County Wastewater Trtmt.	Mirrormont erosion control project phase 2	03/26/1997
Stephanie Steinwedel	Barr Engineering Company	Environmental Aassessment for SE 1/4 NE 1/2 Section 14, T21N R06E	03/26/1997
Rudolph V. Edwards Jr.	USFS North Bend Ranger District	Plum Creek Timber Co. access rights to National Forest land	03/31/1997
Rowena Defato	Environmental Associates Inc.	Issaquah quad for land owner	03/31/1997
Peter C Blansett	SA Newman Forest Engineers Inc.	Consulting and appraisal services	03/31/1997
Ann Boeholt	Peninsula Heritage Land Trust	Potential purchase of land by Peninsula Heritage Land trust	03/31/1997
Steve Brown	Bureau Of Reclamation PNW Region	WARIS anadromous map for Nooksack basin	03/31/1997
Olaf Langness	WDFW	Cowlitz subbasin salmon and steelhead production plan	01/08/1997
Ron Roler	WDFW	Kalama River upriver bright fall chinook escapement, releases	01/08/1997
Joe Hymer	WDFW	Kalama coho straying rates (from CWT data)	01/15/1997
Olaf Langness	WDFW	Lewis River, Ringold, Priest, Lyons URB chinook adult return data	01/15/1997
Wolf Dammers	WDFW	Spring chinook CWT harvest rates above, below Bonneville Dam	01/27/1997
Public	[none]	History, purpose of ESA	01/29/1997

Requestor	Organization	Data Requested	Date Delivered
Mark Kaufman	WDFW	Database consulting	02/11/1997
Olaf Langness	WDFW	Priest, Bonneville Hatchery URB CWT recoveries	03/17/1997