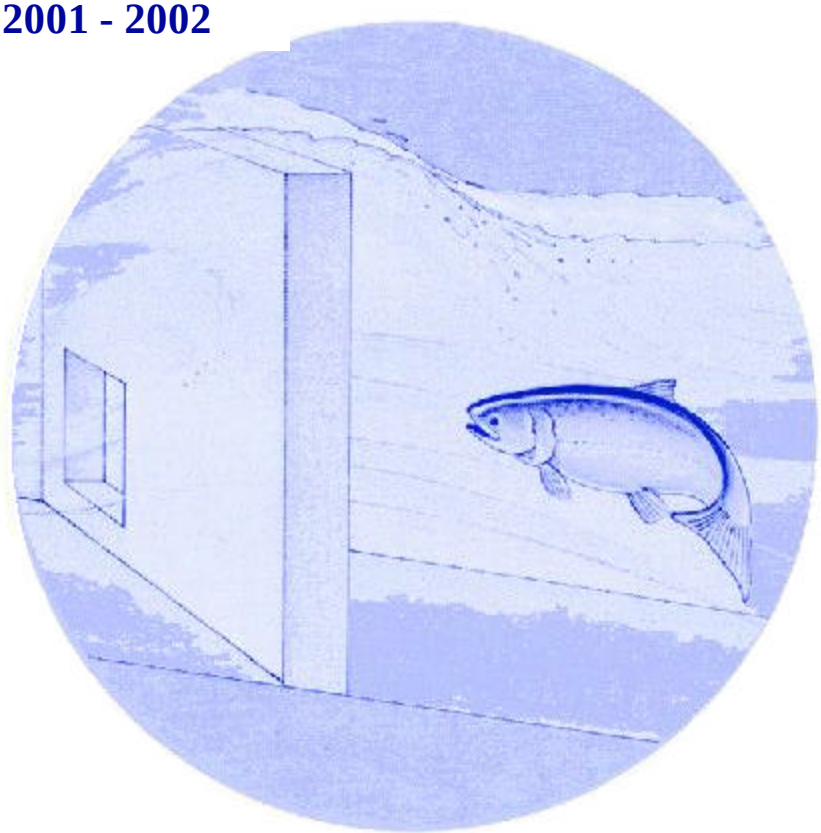
Yakima/Klickitat Fisheries Project

Management, Data and Habitat

Annual Report
2001 - 2002



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Management, Data and Habitat

Project # 1988-120-25

Contract # 4822

Annual

April 1, 2001 – March 31, 2002

The Confederated Tribes and Bands of

The Yakama Nation

Prepared For:

David Byrnes
COTR

Bonneville Power Administration

Portland, Oregon

Submitted on behalf of all Project Personnel

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INTRODUCTION

The Yakima/Klickitat Fisheries Project (YKFP or Project) is an all stock initiative that is responding to the need for scientific knowledge for rebuilding and maintaining naturally spawning anadromous fish stocks in both basins.

The Yakama Nation, as the Lead Agency, in coordination with the co-managers, Washington Department of Fish and Wildlife and in cooperation with the Bonneville Power Administration, the funding agency, is pursuing this. We are testing the principles of supplementation as a means to rebuild fish populations through the use of locally adapted broodstock in an artificial production program. This concept is being utilized on the Spring Chinook within the Yakima River Basin.

The coho and fall chinook programs were approved and implemented in the Yakima Basin. The coho programs principle objective is to determine if naturally spawning coho populations can be reintroduced throughout their biological range in the basin.

The objective of the fall chinook program is to determine if supplementation is a viable strategy to increase fall chinook populations in the Yakima subbasin. The coho and fall chinook programs are under the three step process that was established by the Northwest Power Planning Council.

The Klickitat subbasin management program is combined with the Yakima subbasin program. This contract includes the Klickitat Basin Coordinator and operational costs for the basin. The Klickitat Subbasin has separate contracts for Monitoring & Evaluation, Construction, and ultimately, Operation and Maintenance. In the Klickitat subbasin, we propose to use supplementation to increase populations of spring chinook and steelhead. This program is still in the developmental stages consistent with the three step process.

REPORT FORMAT

This report is formulated in the format of the contract. There are three reference documents utilized: Table 1) A table with the chronological listing of the Objectives and Tasks with a brief description of each; Table 2) A table that lists the personnel involved with their respective title/responsibilities with a number being assigned to represent their position in Table 3 report form i.e., if Joe Works is number 1 on Table 2, the report will reference #1 in lieu of spelling his name under the Personnel column of Table 3; Table 3) A table that shows the per cent level of progress of each Task per quarter and the personnel involved. Any specific reference or comment specific to a Task will be done as a footnote on Table 3 or by an attachment. Attachments: Attachment A- Information System Management Plan (ISMP); Attachment B- Legal/Policy Analysis Summary report; Attachment C- Activities of Judith Woodward (Crossing Borders Communications) for Yakama Nation during period of April 1, 2001 through March 31, 2002; Attachment D- YKFP Organizational Charts; Attachment E- Project Photographs; and Attachment F- Financial and Capital Inventory Reports.

Table 1. List of Objectives and Tasks for the Management, Data, and Habitat activities for Contract #4822 for the period of April 1, 2001- March 31, 2002.

Objective #	Objective/Task Title
Obj. 1.	**Yakima/Klickitat Fisheries Project Management and Oversight.**
TASK 1.1	Produce and maintain the Project Management Flow Chart for the YKFP.
TASK 1.2	Policy Advisor/Project Coordinator (PAPC). Lead management and oversight person for YKFP. Implements, coordinates oversees YKFP and its' personnel..
TASK 1.3	Program Coordinator (PC).Under supervision of PAPC. Responsible for oversight on all financial matters, including all accounting and bookkeeping functions. Coordinates contractual financial matters including producing all financial invoices and compliance. Supervises support personnel.
TASK 1.4	Research Manager (RM). Under supervision of PAPC. Does oversight for all YKFP science and technical matters including research experiments and Science Technical Advisory Committee. (STAC) Develops, oversees and coordinates all monitoring and evaluation activities of the Project. Reviews and develops appropriate reports.
TASK 1.5	Klickitat Subbasin Coordinator (KSC) Under supervision of PAPC. Oversees, implements and coordinates all Project activities in the Klickitat subbasin consistent with the 3 step process and subbasin plan. Coordinates M&E activities with RM and produces appropriate reports. Supervises field crews.
TASK 1.6	Habitat Coordinator (HC). Under supervision of PAPC. Plans and implements habitat, water quality and passage improvement projects within the Yakima subbasin. Actively functions as the lead person in the acquisition of key habitat tracts within the basin.
TASK 1.7	Data Base Manager. (DBM) Under supervision of PAPC. Designs, installs and coordinates the YKFP's data management and transfer system. Coordinates the compilation of all the monitoring and evaluation data that is generated by the Project. Develops 5-year data management plan.

Table 1 Cont.'. List of Objectives and Tasks for the Management, Data, and Habitat activities for Contract #4822 for the period of April 1, 2001- March 31, 2002.

Objective #	Objective/Task Title
Obj. # 2	**Policy and Planning**
TASK 2.1	YKFP Policy Group. PAPC will lead all Policy Group meetings and will develop the agenda and coordinate the monthly meetings. Arranges for accurate minutes/records to be kept for meetings. Coordinates scheduling with WDFW, BPA, and other Project personnel and agencies.
TASK 2.2	Intergovernmental and Internal Relations. PAPC represents the YKFP in all intergovernmental relations with BPA, NPPC, WDFW and other agencies. Will coordinate internally with administration and elected officials.
TASK 2.3	Lead Agency. PAPC coordinates with participants to assure that Lead Agency responsibilities are met.
TASK 2.4	Project Funding. PAPC and key Project personnel develop annual Project funding proposals.
TASK 2.5	Project Contracts. PAPC will coordinate the development and execution of all Project contracts and manage them.
TASK 2.6	Reports. Provide quarterly reports (and monthly) for all contracts. Provide annual reports for contracts where applicable.
TASK 2.7	NEPA AND ESA Compliance. PAPC will coordinate all NEPA related activities for the Project with Project personnel, BPA, and WDFW.
TASK 2.8	Subcontracts. PAPC, in coordination with PC, will develop, execute and manage all subcontracts.
TASK 2.9	Planning. PAPC, in coordination with RM, will involve key management personnel in developing all the respective plans (documents) for the Project.
Objective 3. Provide Project Financial and Administrative Support	
TASK 3.1	Annual Budgets. PAPC will coordinate respective Project personnel to develop annual proposals and budgets for BPA funding.
TASK 3.2	Contract Financial Monitoring and Compliance. PC coordinates with PAPC in assuring financial compliance with all contracts including Project sub contracts.

Table 1 Cont.'. List of Objectives and Tasks for the Management, Data, and Habitat activities for Contract #4822 for the period of April 1, 2001- March 31, 2002.

Objective #	Objective/Task Title
TASK 3.3	Payroll Report. PC will coordinate with support personnel and develop the Payroll Report which will be submitted with quarterly reports.
TASK 3.4	Equipment Inventory. PC coordinates with Project personnel in maintaining a current equipment Inventory list and assurance on proper insurance coverage.
TASK 3.5	Internal Relations: PAPC and PC coordinates all operational aspects of the Project with YN Department of Natural Resources and other departments, including the Tribal Council Fish and Wildlife Committee.
TASK 3.6	Quarterly and Annual Reports. PAPC coordinates with appropriate Project personnel in developing monthly, quarterly and annual reports for all contracts as a deliverable to BPA.
TASK 3.7	Administrative Support. Provide appropriate Project contract support through the coordination of Project personnel and the employment of adequate personnel to meet these requirements.
Objective 4.	**Compile, Standardize and Consolidate and Maintain Project Data and Information System**
TASK 4.1	Data Management System and Personnel. The Project Programmer/Database Manager (PDM) will continue to design and maintain the Project data management system. Will update and maintain the Information System Resources Plan .
TASK 4.2	Consultation and Coordination. PDM will coordinate with Project scientists, personnel and agencies to assure that needs are being met.
TASK 4.3	Information System Resources Plan (ISRP). PDM will coordinate the process of peer reviewing the ISRP and updating it.
TASK 4.4.	Quality Control, Standardization and Storage. PDM will coordinate the development of a standardized system, supervise the collection process and coordinate with respective agencies it's compatibility.
TASK 4.5	Information Management and Transmission. PDM will coordinate the design of an adequate transmission system accessible to appropriate researchers.

Table 1 Cont.'. List of Objectives and Tasks for the Management, Data, and Habitat activities for Contract #4822 for the period of April 1, 2001- March 31, 2002.

Objective #	Objective/Task Title

TASK 4.6 YKFP Internet Home Page. PDM will coordinate the development of a home page in consultation with PSMFC and other BPA fund projects. They will also maintain it once developed.

TASK 4.7 Equipment Analysis. PDM will coordinate the assessment of the computer equipment needs and assist in the process to fulfill the equipment needs.

TASK 4.8. Monitoring Yakima Subbasin Activities. PDM will coordinate with Project personnel on monitoring the data collection systems with the ability to develop efficient methods of data collection.

TASK 4.9 Monitoring Klickitat Subbasin Activities. PDM will coordinate the development of an efficient method to access and archive all data and information for the Klickitat subbasin Project activities.

TASK 4.10 Reports. PDM will coordinate with PAPC in fulfilling all report requirements for this activity.

Objective 5. Schedule and Produce a Project Annual Review

TASK 5.1 Schedule. PAPC, in coordination with Policy Group and RM, will select an appropriate date and place.

TASK 5.2 Peer Review and Planning. RM will coordinate with Policy Group in settling up PAR, including selection of Peer Reviewers. Formal agenda of presenters will be established and a formal record will be recorded for future planning purposes.

TASK 5.3 Cataloging PAR Results. All PAR documents will be entered into the library with a copy being submitted to BPA.

Objective 6. Scientific Oversight by Science Technical Advisory Committee (STAC)

TASK 6.1 Research Planning. The Research Manager (RM) will serve as YN's STAC representative and the lead person for STAC. STAC will plan, review and recommend all research activities for the Project.

TASK 6.2 Project Annual Review (PAR) The RM will coordinate with PAPC in planning and facilitation of the PAR.

Table 1 Cont.'. List of Objectives and Tasks for the Management, Data, and Habitat activities for Contract #4822 for the period of April 1, 2001- March 31, 2002.

Objective #	Objective/Task Title
TASK 6.3	Intergovernmental and Other Relations. The RM will meet and coordinate with all appropriate agencies and entities on the scientific aspect(s) of the Project.
TASK 6.4	Project Science Documents. The RM will coordinate the development of the various scientific documents for the Project.
TASK 6.5	Research Objectives. RM will direct all research objectives of the Project in coordination with PAPC.
TASK 6.6	Subbasin Planning. RM will participate in the NPPC Provincial Rolling Review and Subbasin Summary and Planning development process.
Objective 7.	**Improve, Protect Habitat/Water Resources and Enhance Passage Matters**
TASK 7.1	Yakima Basin Technical Advisory Group. Habitat Coordinator (HC) will coordinate with YN representative on implementation of Title Xl, P.L. 103-434.
TASK 7.2	HC will provide/coordinate the biological input for the design and construction of fish passage and protective facilities for the YKFP. Will also coordinate 'Safe Access' passage projects.
TASK 7.3	Fish Screens. HC will provide representation and coordination on Phase 1 and 2 screens in the Yakima subbasin.
TASK 7.4	Fish Passage Technical Work Group. HC will participate in or serve on the Yakima Basin Fish Passage Work Group.
TASK 7.5	Intergovernmental and Other Relations. HC will coordinate with all agencies on matters affecting fish habitat and passage in the Yakima subbasin.
TASK 7.6	Projects and Laws Affecting the YKFP. HC will monitor, review and provide comment on projects that may affect fish habitat and passage in the Yakima subbasin.
TASK 7.7	Watershed Restoration Forums. HC will monitor and provide input to appropriate watershed restoration forums to ensure that decisions reflect the goals of the YKFP.

Table 1 Cont.'. List of Objectives and Tasks for the Management, Data, and Habitat activities for Contract #4822 for the period of April 1, 2001- March 31, 2002.

Objective #	Objective/Task Title

TASK 7.8 Coordination With Funding Agencies. HC will coordinate with appropriate funding agencies regarding habitat-related projects in Yakima subbasin.

TASK 7.9 Habitat Improvement Projects. HC will plan and implement habitat improvement projects consistent with the Yakima Subbasin Summary.

TASK 7.10 Endangered Species Act. HC will monitor activities relative to the Endangered Species Act.

Objective 8. Develop/Implement Sub-Contracts for Needed Services.

SUB-CONTRACT 8.1.

Policy/Legal Analyst. (PLA) Develop/Implement a contract with PLA to provide needed services in the areas of management, labor, NEPA/SEPA, local/state permitting requirements, document review and general contract law.

SUB-CONTRACT 8.2

Science Technical Advisory Committee. (STAC) Core representation on STAC is YN Research Manager and a representative from WDFW..STAC coordinates, recommends all technical/scientific matters for the YKFP. They also coordinate all the Monitoring and Evaluations activities of the YKFP. Make recommendations to the PG for decisions and can recommend/request to contract essential personnel or services for STAC requirements.

SUB-CONTRACT 8.3

YKFP Policy Group Consultant Support Services. Develop/Implement a contract for technical assistance with Lloyd Phinney to provide these services in the areas of accurate record keeping, document maintenance and assistance with PAR.

SUB-CONTRACT 8.4

YKFP Technical Writer. Develop/Implement a contract to employ the continued services of Crossing The Borders, a technical writer, to assist in the annual revision and long-term maintenance of various YKFP documents, including the PSR's for the preferred species.

Table 2. List by number of Project personnel/title/responsibilities under this contract.

Number/Name	Position Title/Responsibility Summary
1. Melvin R. Sampson	Policy Analyst/Project Coordinator: Responsible for Overall Project oversight/implementation/coordination.
2. Dr. Dave Fast	Research Manager: Responsible for immediate oversight/development of all technical/scientific matters for the Project. Takes lead with STAC.
3. Scott Nicolai	Habitat Coordinator: Plans and implements habitat and water quality improvement projects within basin, including land purchases. Monitors other agencies/entities related activities within basin and represents YN in related forums/meetings.
4. William Sharp	Klickitat Basin Coordinator. Responsible for the immediate planning, development, implementation of all species and habitat restoration within basin consistent with the NPPC three step process.
5. William Bosch	YKFP Data Manager: Designing, installing and managing a data management and transfer system for all of the YKFP data, including the Klickitat basin.
6. David Lind	YKFP Co-Data Manager, Part Time: Design, install and assist in managing a data management and transfer system for all of the YKFP data, including the Klickitat basin.
7. Paul Huffman	Data Systems Specialist (GIS); Creates geographic information systems (GIS) to analyze and manage fish habitat and populations. Develops GIS as a management and decision-support system for the Project.
8. Irene James	Data Management Technician: Assists in the development of Geographic Information System (GIS). Enters geographic data via keyboard, downloads data from GPS units, data loggers and the Internet Prepares plots, illustrations and other types of output. Assists Project staff members in using the GIS.

Table 2 Cont'. List by number of Project personnel/title/responsibilities under this contract.

Number/Name	Position Title/Responsibility Summary
9. Adrienne Wilson	Project Coordinator: Responsible for all accounting, bookkeeping, budget, invoicing and reporting duties for the YKFP, including budget(s) development and modification. Supervises all Project financial and clerical support personnel.
10. Vacant	Bookkeeper lV: **Need Position Description**
11. Ida Sohappy-Ike	Bookkeeper ll: Responsible for monitoring several accounts for: payroll, report developing/reconciliation; employee timesheet verification; Payroll Action processing; maintain sensitive/capital equipment inventory w/assurance of proper insurance; coordinates with Project Biologists/personnel; and assists in coordinating Project Annual Review.
12. Deanna Lamebull	Bookkeeper ll: Responsibilities same as number **11.**
13. Rachel L. Castilleja	Accounts Payable/Librarian: Responsible for librarian, secretarial, receptionist, accounts payable, accounts receivable and related tasks. Primarily assigned to the Nelson Springs office.
14. Carol S. Speedis	Office Assistant V: Responsible for varied bookkeeping tasks; cuff accounts, preparing financial documents, purchase orders, journal entries, travel authorizations, quarterly reports; responsible for processing sensitive documents and records. Coordinates with YN administration, the formal processing of Project/Fisheries documents in a timely manner. Other duties as assigned
15. All Personnel	Number **15** will be used in **Chart # 3** when all Project personnel are involved in that respective Task.
Sub-Contracts:	
16. Pat Spurgin	Policy/Legal Analyst, (PLA): Provides technical assistance in areas of management, labor, NEPA/SEPA, permitting, document review and general contract law.

Table 2 Cont'. List by number of Project personnel/title/responsibilities under this contract.

Number/Name	Position Title/Responsibility Summary
17. YN&WDFW Representatives	Science Technical Advisory Committee: Responsible for all Project technical and scientific activities including the monitoring and evaluation. May contract for special needed services and personnel for given situations as they may determine.
18. Lloyd Phinney, FISH Consultants	YKFP Policy Group Consultant Support Services: Provides technical assistance in maintaining accurate records of all Policy Group/special meeting minutes including PAR. Assists in coordinating PAR and Internal PAR.
19. Judith L Woodward	YKFP Technical Writer: Provides the technical writing skills in the development, revision and long-term maintenance of YKFP documents that track the evolution of the Project

Table 3. Percent and status of completion for the Objectives/Tasks of the YKFP Management, Data, and Habitat, Project 1995-064-24, with the performance period of April 1, 2001 through March 31, 2002. Where necessary, footnotes will be utilized to address specific circumstances. F=field or lab work, O=Office Work; See Table #2 for correlation of numbers for Personnel. The respective aggregate % of completion per Task is in parenthesis. Where there is both Field and Office activity, the aggregates need to be combined to determine full % of completion.

Obj./Task	1st Quarter April - June		2nd Quarter Jul – Sept		3rd Quarter Oct - Dec		4th Quarter Jan - Mar		Personnel
	%F.	%O.	%F.	%O.	%F.	%O.	%F.	%O.	
Obj. 1									
Task 1.1		25		15 (40)		35 (75)		0(75)	15
1.2	10	15	10 (20)	15 (30)	10 (30)	15 (45)	10(40)	15(60)	1,2
1.3[1]		25		25(50)		25(75)		25(100)	9,1
1.4	10	15	10 (20)	15 (30)	10 (30)	15 (45)	10(40)	15(60)	1,2,
1.5	10	15	10 (20)	15 (30)	10 (30)	15 (45)	10(40)	15(60)	4,1,2,16
1.6	15	10	15 (30)	10 (20)	15 (45)	10 (30)	15(60)	10(40)	3,1,2
1.7	3	22	3(6)	22(44)	3(9)	22(66)			5,6,7,1,2
Obj. 2									
Task 2.1		25		25 (50)		25 (75)		25(100)	1,2,18
2.2		25		25 (50)		25 (75)		25(100)	1
2.3		25		25 (50)		25 (75)		25(100)	1,2,16
2.4		0		0		0		100(100)	15
2.5	10	15	10 (20)	15 (30)	10 (30)	15 (45)	10(40)	15(60)	15
2.6[2]		10		10 (20)		30 (50)		30(80)	15
2.7		25		25 (50)		25 (75)		25(100)	1,2,3,4,16
2.8		2		25 (50)		25 (75)		25(100)	1,2,9
2.9		25		25 (50)		25 (75)		25(100)	15,16

[1] Position 10 was vacant until 9/10/01, this was a transfer from Position 13. Position 12 has been vacant since 9/10/02, selection to fill is in process. Position 13 (NS) has been vacant since 9/10/01, selection to fill is in process at this time.

[2] Final report is being completed after performance period ending 3/31/02 (will then be 100%)

Table 3 Cont.'. Percent and status of completion for the Objectives/Tasks of the YKFP Management, Data, and Habitat, Project 1995-064-24, with the performance period of April 1, 2001 through March 31, 2002.

Obj./Task	1st Quarter April - June		2nd Quarter July - Sept		3rd Quarter Oct - Dec		4th Quarter Jan - Mar		Personnel
	%F.	%O.	%F.	%O.	%F.	%O.	%F.	%O.	
Obj. 3									
Task 3.1		0		0		25(25)		75(100)	1,2,9,15
3.2		25		25(50)		25(75)		25(100)	9,12,13,14,11
3.3		25		25(50)		25(75)		25(100)	11,9
3.4		25		25(50)		25(75)		25(100)	11,15
3.5		25		25(50)		25(75)		25(100)	1,9
3.6 [2]		10		10(20)		30(50)		50(80)	15
3.7[3]		25		25(50)		25(75)		20(95)	1,9,11,12,13,14
Obj. 4									
Task 4.1[1]		25		25(50)		25(75)		25(100)	5,6,7
4.2		25		25(50)		25(75)		25(100)	5,6,7
4.3[4]		0		0		25(25)		75(100)	5,6,7
4.4		25		25(50)		25(75)		25(100)	5,6,7,8
4.5		25		25(50)		25(75)		25(100)	5,6,7
4.6		30		30(60)		25(85)		15(100)	5,6,7
4.7	5	20	5 (10)	20(40)	5 (15)	20(60)	5(20)	20(80)	5,6,7
4.8	5	20	5 (10)	20(40)	5 (15)	20(60)	5(20)	20(80)	5,6,7,8
4.9		25		25(50)		25(75)		25(100)	5,7,8
4.10		25		25(50)		25(75)		25(100)	5,6,7

[2] Final Reports are completed after performance period, March 31, 01. (then will be 100%)
[3] Didn't maintain all scheduled bookkeepers as per need.
[1] While personnel 7, Data systems specialist (GIS) is not referenced directly in any of the task descriptions relative to this objective, the individual in this position has broad experience and plays a key support role in: network and systems administration and maintenance; web site design, development, administration and maintenance; data backup, storage, and PC anti-virus maintenance; and in development of decision support GIS tools and maps for the Yakima and Klickitat basins. The data management technician provides GIS and technical support for tasks 4.4, 4.8, and 4.9.
[4] The updated ISMP is enclosed as Appendix 4A. The PDM will coordinate a peer review during the next fiscal cycle.

Table 3 Cont.'. Percent and status of completion for the Objectives/Tasks of the YKFP Management, Data, and Habitat, Project 1995-064-24, with the performance period of April 1, 2001 through March 31, 2002.

Obj./Task	1st Quarter April - June		2nd Quarter Jul - Sept		3rd Quarter Oct – Dec		4th Quarter Jan-March		Personnel
	%F.	%O.	%F.	%O.	%F.	%O.	%F.	%O.	
Obj. 5									
Task 5.1		0		0		20		80(100)	1,2,3,4,5,
5.2		0		0		0		100	15
5.3		0		0		0		100	15
Obj. 6									
Task 6.1		40		10(50)		20(70)		30(100)	2,1,4,5,6
6.2		0		0		0		100	
6.3		30		10(40)		20(60)		40(100)	2,1,4,5,6
6.4		50		10(60)		10(70)		30(100)	2,1,4,5,6
6.5		30		20(50)		30(80)		20(100)	2,1,4
6.6		80		5(85)		5(90)		10(100)	2,1,4
Obj. 7									
Task 7.1		25		25(50)		25(75)		25(100)	3
7.2		25		25(50)		10(60)		40(100)	3
7.3		25		25(50)		0(50)		50(100)	3
7.4		25		25(50)		0(50)		25(100)	3
7.5[1]		25		25(50)		25(75)		35(100)	3,1
7.6[2]		25		25(50)		15(65)			3
7.7[3]		0		0		0			3
7.8[4]		25		25(50)		20(70)			3
7.9		25		15(40)		10(50)			3,2
7.10[5]		10		10(20)		5(25)			3
Obj. 8									
SC 8.1		25		25 (50)		25 (75)		25(100)	16,1,2
SC 8.2		0		0		0		100(100)	2
SC 8.3		25		15 (40)		15 (55)		0(55)	1
SC 8.4 [6]		0		0		0		15(15)	19,1,2

Obj.7

[1] This is an ongoing effort with no start or end point.

[2] Ibid.

[3] Ibid.

[4] Ibid.

[5] It is impossible to know when planning and implementation work under the Endangered Species Act will be completed.

Obj.8

[6] It is anticipated that the Technical Writer will be utilized measurably, starting in the 4th quarter.

ATTACHMENT A

Yakima Klickitat Fisheries Project

Information System Management Plan (ISMP)

Draft, March 15, 2002

Bill Bosch, David Lind, and Paul Huffman
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Nelson Springs Office
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Yakima, WA 98902

Updated March 2002

YKFP Information System Management Plan (ISMP)

1. Overview

The Yakima Klickitat Fisheries Project (YKFP) was originally conceived by the Northwest Power Planning Council in 1982 to enhance fisheries in the Yakima and Klickitat River Basins. YKFP personnel include employees of the Yakama Nation (YN), the Washington Department of Fish and Wildlife (WDFW), and the Bonneville Power Administration (BPA). Some project work is also contracted out to agencies such as the National Marine Fisheries Service (NMFS) and the University of Washington. Project work sites are located throughout the state of Washington, including the Roza/Chandler trapping facility near Prosser, the Cle Elum fish hatchery, YN project offices in Toppenish and at Nelson Springs, and WDFW offices in Olympia, Yakima, and Ellensburg.

Since the beginning of the YKFP, vast amounts of data and reports have been generated covering all aspects of the project. Different project personnel have assumed responsibility for maintaining and updating data corresponding to the aspect(s) of the project they are focusing on. The data are currently stored in a variety of formats at the various project offices and work sites. Data have been shared via disk and electronic mail transfers.

Given the volume of data generated by this project, there has long been a vital need to organize and consolidate all of the project data into a cohesive network. At a minimum, such a network will allow:

- standardization of data input and storage,
- rigorous data validity and error checking,
- access by appropriate project personnel for data entry, edit, and analysis purposes to all appropriate data in the YKFP database,
- assurance that all project personnel are working with the same data, and
- consistent and regular backups of all vital project data.

The Yakama Nation, as the lead agency for the YKFP and pursuant to the project contract, has developed this Information System Management Plan (ISMP) to guide the YKFP's efforts to organize, consolidate, and make accessible all of the project's data. This plan will be updated on a regular basis to incorporate changing project needs and is subject to ongoing review and approval by the Policy Group.

2. YKFP Information System Objective

The main objective of the project database is to facilitate the assessment of the YKFP's progress towards achieving its stated purpose, which is "to test the assumption that new artificial production can be used to increase harvest and natural production while maintaining genetic resources" (NPPC 1990). To accomplish this objective, the database must:

- incorporate all of the data necessary to test the project assumption,
- ensure that the data are accurate,
- provide access to a fairly lengthy time series of data,
- allow analysis of related variables, and
- allow the data to be shared.

3. Project Data Summary and Current Status

3.1 Hatchery Operations: River, well, and rearing/adult-holding pond temperature and flow data.

3.1.1. Cle Elum Supplementation and Research Facility (CESRF)

Background: Hardware and software engineers from the consulting firm CH2M HILL were contracted to build a system to track temperature and flow data from: river water, well water, juvenile rearing ponds, and adult holding ponds at the Cle Elum Supplementation and Research Facility (CESRF) and/or at the acclimation sites. This system was implemented on two mirrored Windows NT systems using a third party software system called "Wonderware Factory Suite". The system maintains data in a series of log files. In 2000, this system was upgraded to copy data from the Wonderware log files to a series of tables in Microsoft Access.

Data Status: The system was implemented when the CESRF went on-line in the fall of 1997. CESRF data from September of 1997 through August of 2000 are available in Wonderware log file format on a series of backup "Jaz" cassette tapes. CESRF data from September of 2000 to present are available in a series of tables within a Microsoft Access database on the mirrored Windows NT machines at the CESRF. Data management staff have developed an interface to the CESRF hatchery operation data in this Access database and have used it to report monthly minimum, maximum, and average CESRF rearing pond temperatures for the 2000 brood since April of 2001. Data management staff are uncertain as to the status of hatchery operations data for the acclimation sites from 1997 to present.

Recommendation: The data management team recommends that the hatchery operations data collection system be maintained under sub-contract with CH2M HILL or another capable vendor. The sub-contractor should be responsible for maintaining the system all the way up to where the data are stored in a Microsoft Access database or another format that can be easily transferred to other computers and applications for analysis. In other words if there is a problem with the outside equipment (e.g., well and pond temperature and flow monitoring hardware), or with communications between this equipment and the computers that log the data from these outside systems, or with the data logging system properly storing the data into Access (or other agreed upon format), it should be a sub-contractor problem. Once the data are properly stored in an agreed upon format on these systems, they then would become the responsibility of the YKFP data management team. The data management team also recommends that a meeting (or series of meetings) be held with appropriate staff at the CESRF and CH2M HILL to: 1) gain an overview of the hatchery operations data collection system and Wonderware software system, 2) review available documentation for these systems, 3) review the status of 1997-present hatchery operations data for the CESRF and the acclimation sites, and 4) develop a plan for getting all (1997 to present) available hatchery operations data for the CESRF and acclimation sites loaded into an historical Microsoft Access database (or other agreed upon format).

3.1.2 Prosser Hatchery Facilities

There presently are no automated systems for collecting these types of data at the Prosser Hatchery. Some of these data may be collected manually and recorded on paper and/or electronically. Data management staff need to assess the status of these data at the Prosser facilities, and if available, develop a plan for managing these data. This will be considered a lower priority task.

3.1.3 Klickitat Hatchery

The Klickitat Hatchery is in the process of being transitioned to the YKFP. The data management team needs to be involved in the transition process to ensure that plans are in place for the collection and management of hatchery operations (temperature and flow) data.

3.2 Gravel-to-Gravel Accounting: Adults collected, eggs spawned, egg survival, fry survival, marking groups, releases, juvenile outmigration survival, adult harvest, adult dam counts, and natural spawners.

3.2.1 Yakima River Spring Chinook

The data management team has developed a comprehensive system for collecting and warehousing all of the data relating to CESRF and naturally produced spring chinook in the Yakima River. Figure 1 shows the life cycle diagram from a data management perspective. The process begins at Roza Dam with adult returns in the spring of Year 1. A representative subsample of returning natural (unmarked) fish are collected for broodstock and these fish are PIT tagged for tracking through the spawning process. Returning CESRF fish are sampled for marks and biological data. All of these data are entered into an Access database (RozaCollect.mdb) at Roza. This database is backed up weekly and transferred to Nelson Spring for further processing. At the end of the collection season, data from returning CESRF fish are transferred to the recapture database (RozaRecap.mdb). Broodstock fish are transferred from Roza into the adult holding ponds. Mortality data from adult holding is recorded in the spawning database at Cle Elum (CleElumEntry.mdb). The Cle Elum spawning database is linked to Roza collection data via the PIT tag inserted into these fish at collection time. Data from the spawning and early rearing process (adult spawners and egg-to-fry stage) at Cle Elum in the late fall of Year 1 and winter of Year 1-2 are entered into CleElumEntry.mdb as well. A link is created between female spawner identifiers and egg incubation troughs and trays. Fish are generally ponded in April of Year 2 and a link is created between egg/fry incubation trays and rearing ponds. Juvenile growth and survival history data are recorded by pond in a rearing database (Rearing.mdb) from ponding through release from the acclimation sites. This database includes marking data entered in the late fall of Year 2, quality control data in the winter of Year 2-3, and transfer to the acclimation sites in the early part of Year 3. Once fish are released from the acclimation sites, coded-wire tag data for these releases are transferred to the Regional Mark Information System (RMIS) database maintained by the Pacific States Marine Fisheries Commission (PSMFC). Juvenile PIT tag detections from release at the acclimation sites through outmigration through the Yakima and Columbia hydrosystem projects are captured and transmitted to the regional PIT tag database (PTAGIS) at the PSMFC. At the Chandler smolt facility data from PIT detections are combined with Bureau of Reclamation (BOR) flow data and trapping rates to estimate total juvenile smolt passage at Chandler. Fish then enter the ocean phase of their life cycle. Upon adult return to the Columbia and Yakima River systems, harvest data are collected and any marked (CWT or PIT) recaptures are submitted to RMIS and PTAGIS. Harvest monitoring data are sufficient to estimate total harvest by fishery (sport and tribal) and type (marked/CESRF or unmarked/natural). CESRF mark/recapture data from the fisheries can be used to estimate CESRF harvest by pond of release and these data are stored in the RozaRecap database. Adult PIT detections at Columbia hydrosystem projects and at the Roza Dam sampling facility are also captured and submitted to PTAGIS. Once at Roza, the process begins all over except for the naturally spawning escapement. Data from spawning ground surveys (redd counts, marks, and bio-sample data) are recorded in a SpawnTiming (redd count by reach and date) database and a SpawnSurveyMaster (mark and bio-sample data) database. Since these data include data from Geographic Position Sensing (GPS) equipment, Geographic Information System (GIS) maps of spawning locations and densities can be produced.

Figure 2 shows the steps involved in moving these data from the on-site data capture systems to the project's data warehouse on the internet web site. Appendix A gives a description of all the files and data maintained in the spring chinook data warehouse (http://www.ykfp.org/datawh/). It is the intent of the data management team to transition the data warehouse to a more easily maintained database that is accessible via a query-interface on the project website. The team is still consulting with other regional data managers and researching the tools necessary to implement such a system. This is viewed as a high-priority, but long-term task.

3.2.2 Yakima River Coho

The data management team has developed and is maintaining Microsoft Access applications to document: adult returns to Prosser, Roza, and Cowiche dams (in conjunction with the video monitoring team); adult broodstock collections at the Prosser Denil trap; adult broodstock holding mortalities at the Prosser hatchery; and radio telemetry data tracking adult returns to their spawning destinations. The team has begun to assemble a database of historical release data from existing paper and electronic records giving: date of release, location of release, number of fish released, CWT code(s), number of PITs in release, source of fish released, external marks, and comments about the release. The team will also assemble historical redd count data from available records. The collection of these data will allow a complete gravel-to-gravel (release to adult return) accounting of hatchery and natural coho in the Yakima system and will provide a more easily accessed and reliable data source for additional analyses on Yakima River coho. This is considered a high-priority task for FY2002.

3.2.3 Yakima River Fall Chinook

The data management team has developed and is maintaining Microsoft Access applications to document adult returns to Prosser dam (in conjunction with the video monitoring team). The team is also maintaining a tally of annual releases, Chandler smolt counts, adult and jack returns to Prosser, and Marion Drain redd counts. These data are available for the years 1983 to present. The team recommends that a more comprehensive system for tracking data relating to Yakima River fall chinook be developed in conjunction with the update of the fall chinook master plan and/or planning status report (PSR) which is planned for FY2002.

3.2.4 Yakima River Steelhead

The data management team has developed and is maintaining Microsoft Access applications to document: adult returns to Prosser, Roza, and Cowiche dams (in conjunction with the video monitoring team); adult collections and releases at the Prosser Denil trap; adult reconditioning mortalities and releases at the Prosser hatchery (in conjunction with the kelt reconditioning program); and radio telemetry data tracking adult returns to their spawning destinations. The team is also maintaining a tally of annual Chandler smolt counts, adult returns to Prosser, adult harvest, and available redd count data. These data are available for the steelhead return years 1983-84 to present. The team recommends that a more comprehensive system for tracking data relating to Yakima River steelhead be developed in conjunction with the update of the steelhead master plan and/or planning status report (PSR), which is planned for FY2002.

Figure 1. Yakima River Spring Chinook Data Flow.

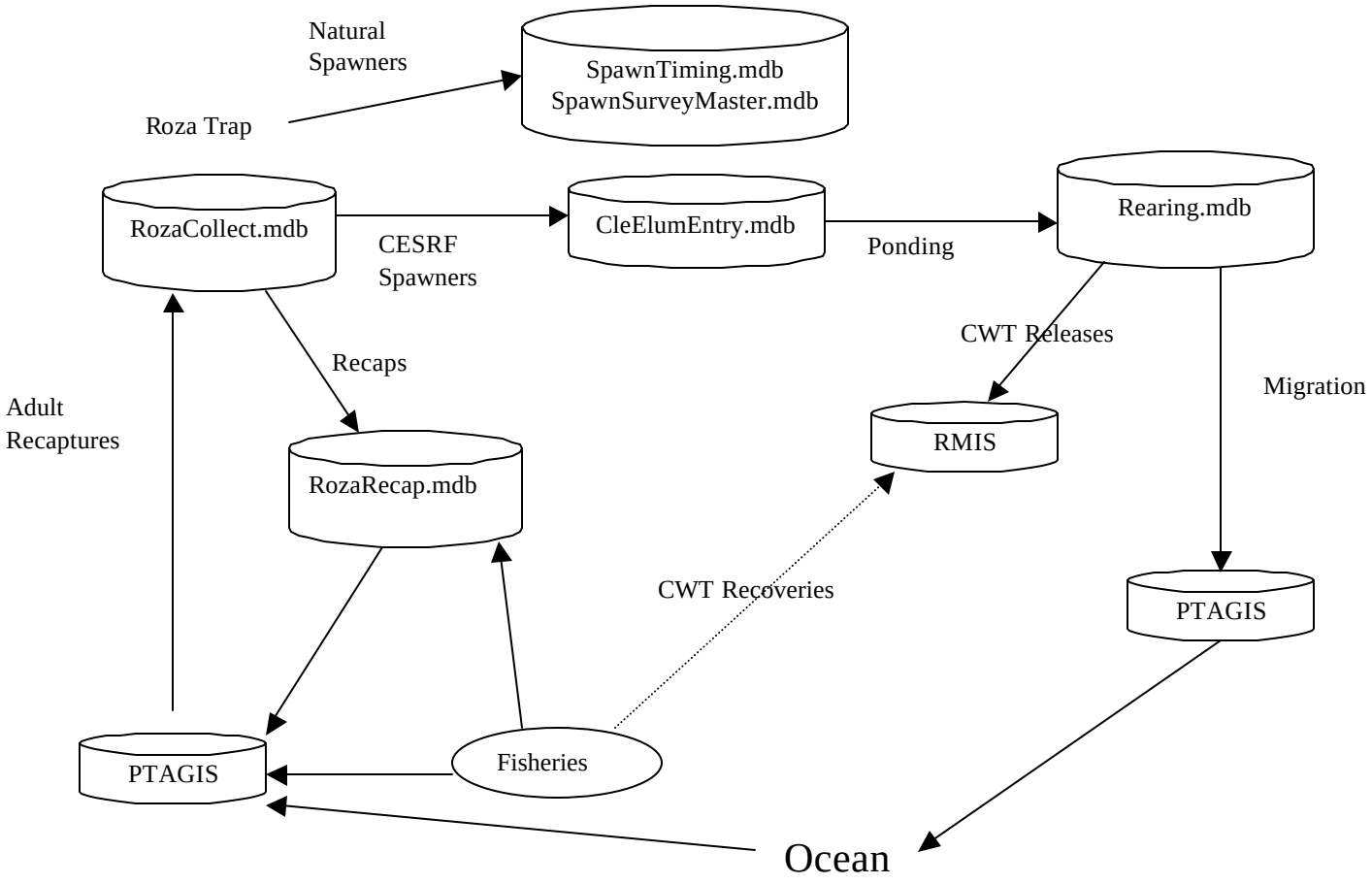
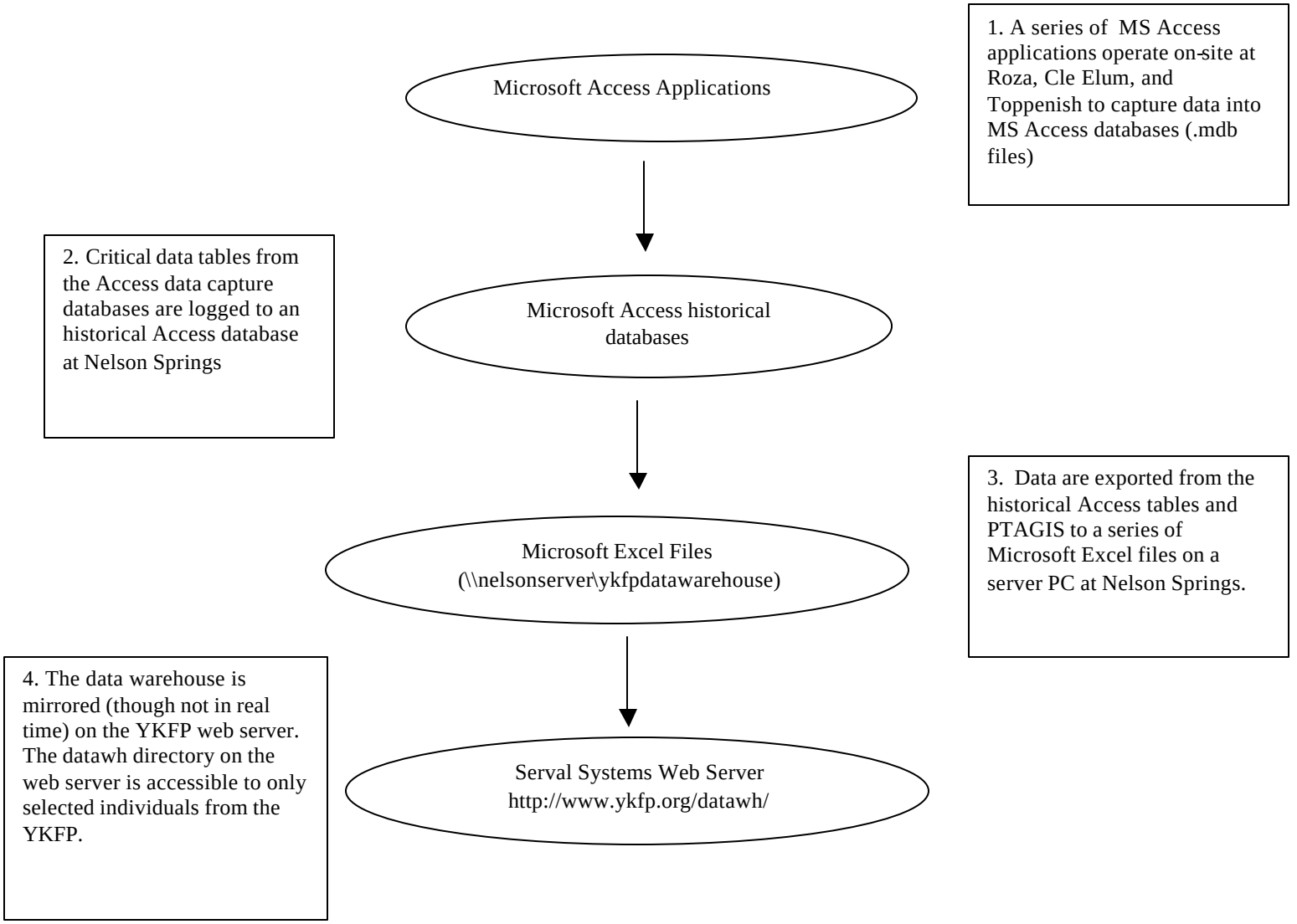


Figure 2. Yakima River Spring Chinook Data Capture and Archiving.



3.2.5 Klickitat River Spring Chinook

A comprehensive database of gravel-to-gravel accounting data (hatchery juvenile releases; harvest; estimated total adult returns; hatchery brood and natural spawning escapement; and brood-cohort relationships) is currently being maintained by WDFW staff out of Vancouver Washington. The Yakama Nation conducts annual harvest and spawning survey sampling/monitoring activities for spring chinook in the Klickitat Basin and these data are communicated to the WDFW for incorporation into this database. The data management team recommends that the YKFP begin to assume responsibility for the further development and maintenance of this database as part of the Klickitat Hatchery transition process.

3.2.6 Klickitat River Coho

Data on harvest, release, and redd counts are available for Klickitat River coho although the data management team is not sure how comprehensive these data sets are. The team recommends that a more comprehensive system for tracking and managing data relating to Klickitat River coho be developed in conjunction with the update of the master plan and/or planning status report (PSR), which is planned for FY2002.

3.2.7 Klickitat River Fall Chinook

Data on harvest, release, redd counts, and spawning ground survey/sampling are available for Klickitat River fall chinook although the data management team is not sure how comprehensive these data sets are. The team recommends that a more comprehensive system for tracking and managing data relating to Klickitat River fall chinook be developed in conjunction with the update of the master plan and/or planning status report (PSR), which is planned for FY2002.

3.2.8 Klickitat River Steelhead

The data management team believes that WDFW staff out of Vancouver Washington are currently maintaining data relating to Klickitat River steelhead, but we are not sure how comprehensive this data set is. The Yakama Nation conducts annual harvest and spawning survey sampling/monitoring activities for steelhead in the Klickitat Basin but the spawning survey data are not comprehensive. The data management team recommends that the YKFP begin to assume responsibility for the further development and maintenance of this database as part of the update of the master plan and/or planning status report (PSR), which is planned for FY2002.

3.3 Genetics: DNA samples (results of electrophoretic analyses).

These data are maintained by other agencies (mainly the WDFW and to some extent, the National Marine Fisheries Service [NMFS]). For the Yakima, these data sets include several years worth of data on spring chinook and some limited steelhead information. A DNA sample database for Yakima River coho is being developed from samples taken in recent years. For the Klickitat these data sets include eletrophporetic analysis data for steelhead, spring chinook (hatchery and natural production), and summer/fall chinook (natural production). The YN has also contracted with the Columbia River Inter-Tribal Fish Commission (CRITFC) to run 320 DNA samples of steelhead smolts and a few wild adults in the Klickitat River. These data were collected in 2000-2002. These data are in the process of being worked up and are expected to be available within 6 months, hopefully. There is a need in the long-term to integrate these data sets into the data that eventually will be, or should be, accessible via the YKFP website.

3.4 Habitat parameters: ecosystem diagnosis and treatment (EDT) data.

3.4.1 Yakima River

The YKFP contends that EDT computer modeling accurately integrates habitat quantity, quality, and life history data and can be used to evaluate alternative enhancement strategies. It is the present intent of the YKFP to continue to use EDT modeling throughout the project to: model the statistical power of reproductive success study designs, domestication study designs, treatment/control experimental designs, etc.; design complementary supplementation and/or habitat enhancement programs for targeted stocks; diagnose the fundamental environmental factors limiting natural production; and to estimate relative improvements in production attributable to alternative enhancement strategies. These data and associated models will be maintained under a project sub-contract with Mobrand Biometrics. The data management team recommends that the policy group give guidance as to whether there is a need in the long-term to integrate EDT modeling data into the data that eventually will be, or should be, accessible via the YKFP website.

A database of field habitat survey data for some of the smaller creeks in the lower Yakima River watershed was also produced from existing Quattro data files as described in 3.4.2 below.

3.4.2 Klickitat River

Data from field habitat surveys conducted in the Klickitat River Basin from 1996 to present were originally stored in Quattro spreadsheet forms. This format does not allow automated queries of the historical data. The MS Access habitat survey system developed by the Northwest Indian Fish Commission was reviewed and determined not to be flexible enough to meet long-term requirements for YKFP habitat survey data storage and retrieval. The existing Quattro data were reviewed and a MS Access database was designed and developed to store existing habitat survey data and to input new data. Routines were developed to load data from the existing Quattro files into this database.

The habitat survey data in this database will feed directly into EDT modeling efforts for the Klickitat Basin. The MS Access database of Klickitat habitat survey information has also been successfully integrated as a front-end to a Geographic Information System (GIS) database. It is now possible for project personnel to produce maps showing, for example, all of the stream segments in the Klickitat Basin having a canopy cover measurement less than a certain value. These kinds of maps can be extremely valuable in making decisions regarding priorities for habitat improvement projects. They also have many other valuable uses.

The data management team will continue to work with field biologists on the Klickitat to maintain and upgrade this database.

3.5 Ecological interactions: predator/prey relationships, capacity issues, etc.

Predation and ecological interactions data are being collected cooperatively by both of the YKFP's co-management agencies, the WDFW and the YN. Both data sets are being stored primarily in Microsoft Access databases, but each agency is maintaining a separate database. The data management team has reviewed these databases for consistency and compatibility.

For the YN Access database, the data management team has developed data entry forms and tables to standardize and warehouse data from Yakima River predation studies. The YN database now contains all of the data for the 1999-2001 monitoring seasons. A more flexible query system

was also developed within this database, and the database framework is being expanded to include analysis and reporting functions.

It is probable that the project could benefit by merging the WDFW and YN databases in the future. This would promote data and software sharing, data compatibility, comprehensive data analyses, etc. However, a process has not yet been identified for doing so. This will continue to be pursued as a lower-priority data management task.

Downstream detections of PIT-tagged coho used in 1999 and 2000 predator avoidance tests were submitted to PTAGIS and queries were developed to assist in the analyses of these data.

3.6 Digital photographs

The YKFP's CESRF spring chinook program is generating gigabytes of digital photographs of fish both as they are sampled and/or collected at Roza Dam and again when the broodstock fish are spawned at the CESRF. The project is also generating digital photographs for other purposes. The data management team is researching ways to meet the long-term storage and dissemination requirements for these digital photographs. The team tried posting the 2001 brood photographs on our public website, but found that data storage costs though our site provider would be too high for this kind of infrequently retrieved data. The team is evaluating some third-party photo compression software (MrSid Photo and MrSid Server) to reduce the storage requirements or improve availability of these compressed images by making them available to a web browser. A test batch of photographs in JPEG format reduced storage requirements by 80%, with no apparent loss of data. The data management team will continue to pursue this need as a lower-priority task.

3.7 Technical reports and publications

The WDFW has provided the data management team with a CD of technical reports and papers published by the WDFW Ecological Interactions team. The data management team is in the process of developing an area on the project web site, available to the general public, where project reports and publications can be posted for others to view and download. Other reports and publications (either historical or future) will be posted to this portion of the website as they become available.

3.8 Accounting/Administrative data

A Microsoft Access accounting system for managing YKFP accounting and administrative data was built and updated for 2000 using the new system for numbering tasks. The system remains in parallel with the J.D. Edwards system to ensure that all accounting information in the two systems is identical. The payroll portion of the system has been enhanced with new reports, and a more flexible query system has been developed. The data management team will continue to pursue this project as a lower-priority task.

4. Hardware/Software Platform

Based on a review of available options, the data management team determined that Microsoft Windows-based PCs, Microsoft network software, and Microsoft Access database management (in combination with Visual Basic programming modules) software should be used in the first phase of implementing a YKFP information system to transition from existing data structures to a system of networked relational database structures. Microsoft Access has allowed the data management team to begin implementation of this ISMP in the most timely fashion. This has been critical to developing and maintaining the integrity of project data. Other factors supporting this recommendation are:

- consistency with YKFP / BPA use of other MS products (Word, Excel, etc.),
- ease of integration with existing data (primarily Excel), and
- familiarity of the data management team and other project scientists with Microsoft products and Access.

Given the large volume of users working with Microsoft products and the fact that a product already exists to extend the functional capacity of Access (MS SQL Server), the data management team is confident that Access can meet the needs of the YKFP at least for the foreseeable future. This determination to use Microsoft Access should be evaluated on a regular basis to ensure that it continues to meet long-term project needs. Alternative products should be investigated and implemented as required.

5. Project Network Overview

Figure 3 presents an overview of YKFP data management networking requirements. Project data will be stored in a number of host/server databases and at a number of locations. For example, ecological interaction and habitat data might be stored in Ellensburg, with adult survival and return, adult spawning, and cohort monitoring data stored at project headquarters (currently Nelson Springs), and genetics data stored in Olympia. Historic data on the host/server databases will be updated on a regular basis with in-season data collected from satellite facilities (e.g., Cle Elum, Roza, Prosser/Chandler, Toppenish, etc.). Data will be retrieved from the host/server databases via a query interface on the project web site. Web site users would, of course, have read-only access to project data and access to certain data may be limited to subsets of users.

6. Project Web Site

The data management team is currently contracting with Serval Studios, Inc. to host the YKFP web site (www.ykfp.org). As noted previously, the efforts of the data management team to date have focused on building and maintaining a series of Access database systems for capturing project data. The team has not made progress on the development of an automated web-based data retrieval system tied directly to the data in these Access databases due to the amount of time required for the current data management team to fulfill existing duties and to learn and develop these tools. Because of this lack of progress, the team developed an organized system of Microsoft Excel files as an interim data warehousing strategy. These Excel files, for the most part, contain raw data dumps of data maintained in existing Access databases (see Appendix A). Figure 4 is a graphical display of the data management processes for serving these and other project related data via the YKFP web site.

For the long-term, the data management team is continuing to consult with other regional data managers regarding, and to research options for implementing, a web-based data retrieval system that will be interfaced directly to existing Access databases. This is likely to be a 3-to-5-year project and may require hiring additional staff with expertise in the tools necessary to accomplish this task.

7. Geographic Information Systems

The long-term vision is that a lot of key project data will be integrated into a GIS system and will be available for viewing spatially, e.g., on a map. Some examples might include: Yakima River Basin spring chinook redds overlaid with high-impact predator densities and locations, Klickitat

River all stock spawning reaches, Klickitat River EDT Spring chinook "high priority" Restoration/Preservation reaches, etc.

Figure 3. Draft YKFP Data Network Diagram.

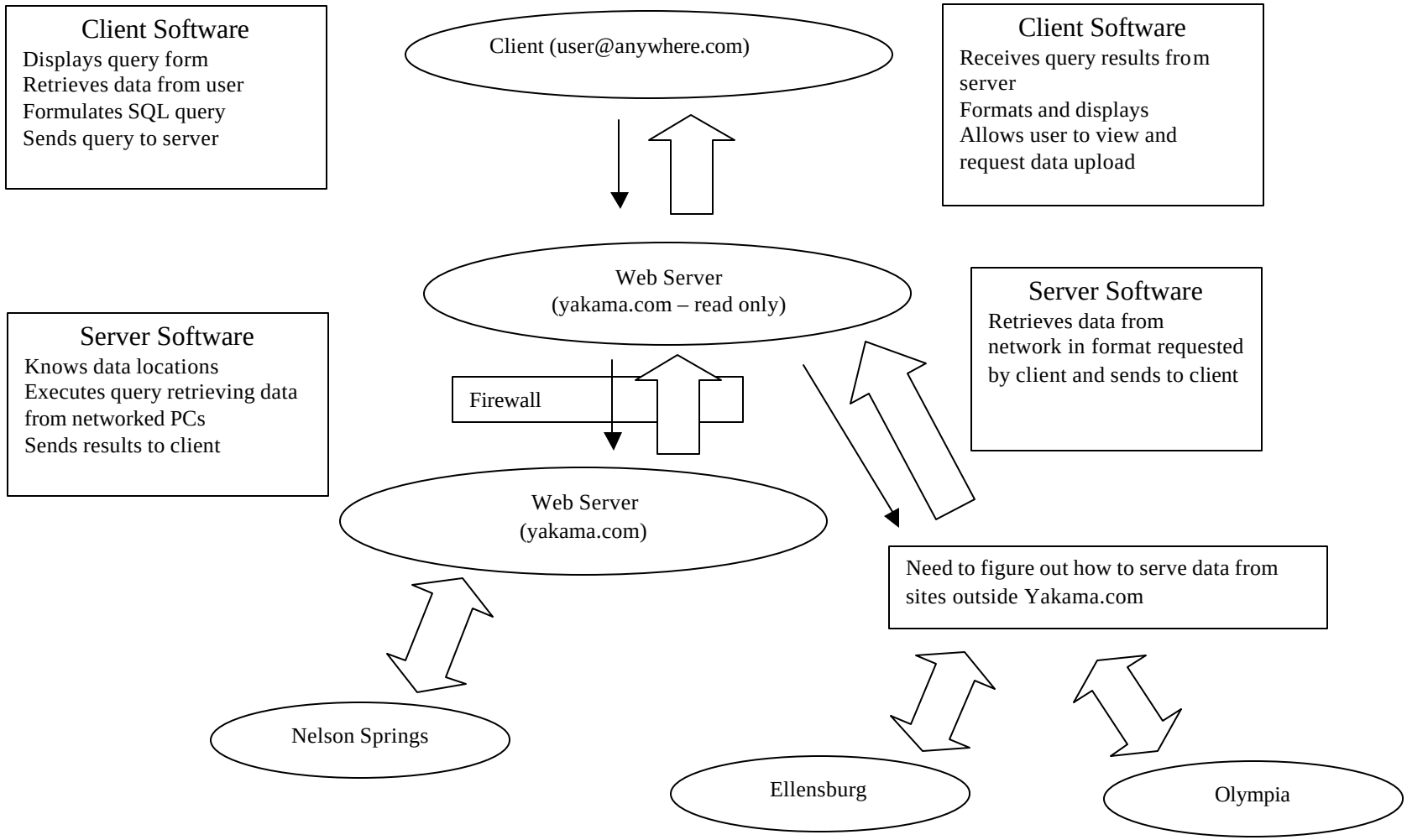
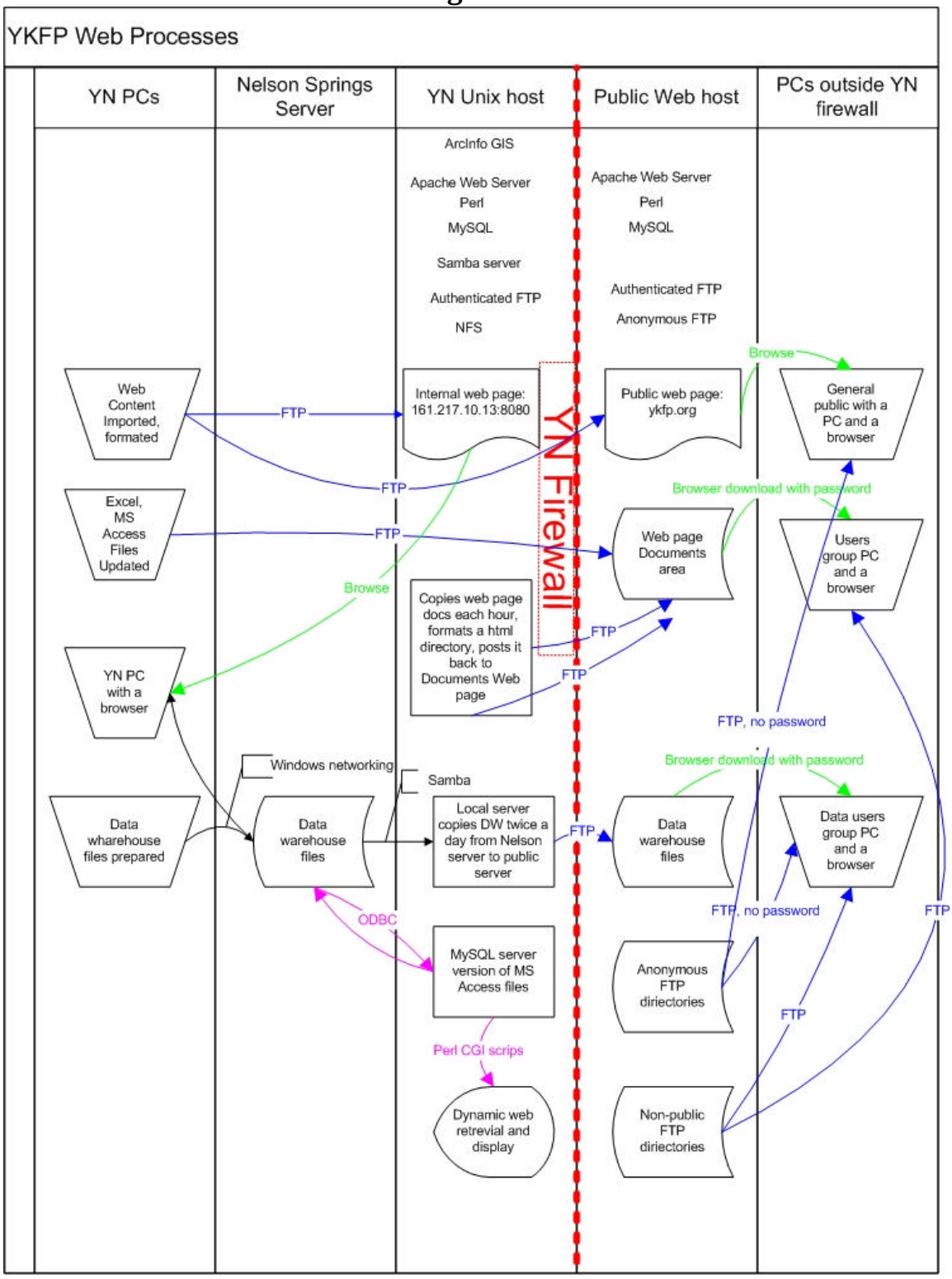


Figure 4.


YKFP Web Processes
YN PCs
Nelson Springs Server
YN Unix host
Public Web host
PCs outside YN firewall
ArcInfo GIS
Apache Web Server
Perl
MySQL
Samba server
Authenticated FTP
NFS
Apache Web Server
Perl
MySQL
Authenticated FTP
Anonymous FTP
Web Content Imported, formated
FTP
Internal web page: 161.217.10.13:8080
YN Firewall
Public web page: ykfp.org
Browse
General public with a PC and a browser
FTP
Excel, MS Access Files Updated
FTP
Web page Documents area
Browser download with password
Users group PC and a browser
Browse
Copies web page docs each hour, formats a html directory, posts it back to Documents Web page
FTP
FTP
YN PC with a browser
FTP, no password
Windows networking
Samba
Browser download with password
Data wharehouse files prepared
Data warehouse files
Local server copies DW twice a day from Nelson server to public server
FTP
Data warehouse files
Data users group PC and a browser
FTP, no password
FTP
ODBC
MySQL server version of MS Access files
Anonymous FTP diriectories
FTP
Perl CGI scrips
Dynamic web retrevial and display
Non-public FTP diriectories

Appendix A. Layout for Interim Data Warehouse, Version 1.0

Bosch, 2/8/02
Directory / File / Field

\YKFPDataWarehouse\CESRFBroodYearAccounting

Brood Collection and Spawning

RozaCollectionData (Brood fish collected at Roza; from qryDWRozaCollect in \history\broodstock.mdb)

RozaDate, date of collection at Roza
RozaId, unique id given to fish at Roza
Carcassno, carcass number given at spawn time at CE Hatchery if fish used for brood
PITTag, PIT tag id inserted into brood fish at Roza
JVPITTag, Pit Tag number of tag inserted into this fish when it was a juvenile (if recap)
Status, information about the disposition of this fish, e.g. BRD=collected and used for brood unless a mortality or used in spawning channel, RLS=released and there should be an entry in ReleaseData, etc.
HWFlag, hatchery or wild indicator
Age, age of fish based on scale sample taken at Roza
Sex, sex of fish as guessed by Roza personnel at time of collection
Forklength, fork length at collection time in centimeters
POHlength, Post-eye to hyperal length at collection time in centimeters
Weight, body wt at collection time in kilograms
Scalesmpl, scale card and slot number for scale samples taken from this fish
Injection, Injection data about this fish - type and amount (mls)
Comments, other collection remarks about this fish
PhotoID, name of file given to photo image of this fish (as stored on CD)
Mort, flag indicating whether fish was a mortality or not, if so entry in MortalityData
Channel, flag indicating whether fish was used in spawning channel or not, if so entry in ChannelData

SpawnerData (Production spawners at Cle Elum; from tblSpawner in \history\broodstock.mdb)

Carcassno, carcass number given at spawn time (true sex is first character of carcassno)
PITTag, PIT tag id inserted into brood fish at Roza
Bodywt, body weight at spawn time in kilograms
Forklgth, fork length at spawn time in centimeters
POHlgth, Post-eye to hyperal length at spawn time in centimeters
MEHlgth, mid-eye to hyperal length at spawn time in centimeters
Comments, other spawn remarks about this fish
DNASample, DNA sample id assigned to this fish
CWT, CWT code found in this fish (if dug and known)
Radio, Radio tag channel and code (if any) found in this fish (format xx-xx or xxx-xxx)
Photo, File name of spawner photograph of this fish (as stored on CD)

ChannelData (Channel spawners at Cle Elum; from tblChannelData in \history\broodstock.mdb)

SpawnDate, date this fish was placed in spawning channel
DNASample, DNA sample id assigned to this fish
HorW, Hatchery or Wild Indicator

Sex, true sex of this fish
Length, fork length in mm/cm (at time of transfer to channel)
Wt, weight in kilograms (at time of transfer to channel)
PITTag, PIT tag id inserted into brood fish at Roza
PETTag, Peterson disk tag id given to this fish prior to transfer to channel
TransportTime, approximate time fish was transported from holding pond to channel
Condition, Condition of fish prior to placement in the channel
ChannelSection, Channel section identifier
TimeofCollection, Approximate time this fish was sampled, peterson tagged, and transferred to the channel
EggsLost, Number of eggs lost during sampling and transfer of fish?
EggsRetained, Number of eggs retained after fish spawned in channel
DeadBodyWt, Body weight of carcass after spawning
DeadForkLength, Fork length of carcass after spawning
DeadDate, Date carcass sampled
RetainedTestes, Weight (?) of retained testes after spawning
TestesColor, Color of testes from carcass sample
CWTPlacement, Comments regarding tag location and type found in carcasses of hatchery channel fish
Comments, other channel remarks about this fish

MortalityData (Prespawn/sort mortalities at Cle Elum; from qryDWMortality in \history\broodstock.mdb)

RozaDate, date of collection at Roza
RozaId, unique id given to fish at Roza
PITTag, PIT tag id inserted into brood fish at Roza
Sex, true sex of this fish
MortDate, date mortality was recorded (fish may have died before this date)
MortCause, cause of death
Comment, other mortality remarks about this fish

ReleaseData (Brood fish not used and released from Cle Elum near spawn time; from tblRelease in \history\broodstock.mdb)

RozaDate, date of collection at Roza
RozaId, unique id given to fish at Roza
PITTag, PIT tag id inserted into brood fish at Roza
ReleaseDate, date fish was released back to the Yakima River from CESRF
RadioTag, true/false, if true a radio tag was in fish at time of release

FemaleData (production brood females at Cle Elum; from qryDWFemales in \history\broodstock.mdb)

Carcassno, carcass number given at spawn time
HWFlag, hatchery or wild indicator
SpawnDate, date this fish was spawned
Totaleggmass, Weight of all the eggs taken from this female (in grams)
Samplewt, Weight of a sample number of eggs taken from this female (in grams)
Samplenoeggs, Number of eggs in sample from this female
Nocrosses, Number of full crosses (number of aliquots) for this female
Egglossskein, Number of eggs left in the skein
Egglosssmpl, Number of eggs taken for bio-sampling
Egglossbad, Number of eggs discarded as "bad"
Egglossspill, Number of eggs spilled and unusable for spawning
BKDFlag, Was female flagged as BKD positive?
BKDRank, ELISA rank denoting BKD risk based on USFWS analysis of ovarian fluid samples
Comment, other remarks specific to spawning/egg take of this female

CrossData (production brood at Cle Elum; from tblCrosses in \history\broodstock.mdb)

FemaleCarcassno, carcass number of female in cross
MaleCarcassno, carcass number of male in cross
Crosspercent, percent of aliquot fertilized by this male
ExperimentalFlag, Was this an experimental cross? If so, 200 eggs in this cross

MaleMotility (1998 brood data only as analyzed by K. Hatch; from tblMotility in \history\broodstock.mdb)

Carcassno, carcass number of male
Motility, Percentage of sperm observed to be motile

GeneralMetaData (general meta data about this brood; from tblComment in \history\broodstock.mdb)

SpawnDate
Comment

Eggs to Ponding

FemaleEggCounts (production brood females at Cle Elum; from qryDWEggCounts in \history\broodstock.mdb)

Carcassno, carcass number given at spawn time
HWFlag, hatchery or wild indicator
UnfertilizedEggs, Number of unfertilized (dead) eggs at eyed-egg shock
TroughID, Incubation trough id for this female's egg ISO-bucket in format yyyyTnnn, where yyyy is brood year
HeathTrayID1, Incubation heath tray id for this female's live eggs in format yyyyHnnnnn, where yyyy is brood year
HtId1Eggs, Number of live eggs in tray 1
HeathTrayID2, Incubation heath tray id for this female's live eggs in format yyyyHnnnnn, where yyyy is brood year
HtId2Eggs, Number of live eggs in tray 2
ShockTempUnits, Temperature units at shock time
Comment, other remarks specific to spawning/egg take of this female

Egg Count Correction Data (Hand Count vs. Machine Count data)
<to be developed>

HeathTrayData (production fish at Cle Elum; from qryDWHeathTrayData in \history\rearing.mdb)

HeathID, Incubation heath tray id
LiveEggs, Number of live eggs in this tray
FryLoss, Total number of fry lost in this tray prior to ponding
PondId, Cle Elum Raceway pond these fish were placed into
FishperPound, Average (for several trays) of fish per pound at ponding
TempUnits, Average (for several trays) temp. units at ponding
Comment, Shock/Fry picking comments

Ponding to Release (includes marking of brood)

BroodTransferandReleaseSummary (pond by pond transfer and release accounting; from tblSiteBYXref in \history\rearing.mdb)

BroodYear,
SiteID, Cle Elum Pond Id
Species, "sck" = spring chinook
Treatment, OCT or SNT
SiteXref, Acclimation Site/Pond Id
PondIn, estimated number of fish transferred from Heath Trays into Cle Elum pond
PondDate, Date fish were placed into Cle Elum pond
AcclIn, estimated number of fish transferred from Cle Elum pond into Acclimation site raceway
AcclDate, Date fish were placed into Acclimation site pond
AcclOut, Number of fish estimated to be alive in Acclimation site raceway available for release (total tagged less total morts)
PITOut, Number of PIT tagged fish estimated to be alive in Acclimation site raceway available for release (Original number PIT tagged less known PIT morts, NOT exit detection counts)
FirstVRDate, Date screens were pulled at acclimation site (date of 1st volitional release)
LastVRDate, Date fish were forced out of acclimation site (date of last volitional release)

GrowthandSurvival (monthly fish on hand, mortality, and weight data; from qryDWGrowthandSurvival in \history\rearing.mdb)

BroodYear,
SiteID, Cle Elum Pond Id
Treatment, OCT or SNT
InvDate, Month end inventory date
OnHand, Number of fish estimated to be on hand in this pond as of InvDate
Pounds, Estimated total weight of fish on hand in this pond as of InvDate
Morts, Number of documented mortalities for this pond for month ending on InvDate
FoodFed, Total Pounds of food fed for this pond for month ending on InvDate
AvgWt, Average number of fish per pound for this pond for month ending on InvDate
GainPounds, Estimated total pounds of weight gained by all fish in pond since previous InvDate
SiteXref, Acclimation transfer site and pond Id for these fish

PondLgthSamples (Length histograms for monthly sample data; not yet available)
SiteID, Cle Elum or Acclimation site and pond id
SampleDate, Date of length samples
SamplerID, Initials of head sampler or data entry person
FishLength, Fish length in centimeters
FishNumber, Number of fish in this length strata

PondTemperatures (Monthly average, min, max pond temperature data as reported by CH2M Hill monitoring equipment and software; not yet available)

SiteID, Cle Elum or Acclimation site and pond id
MEDate, Month-end date
AvgTemp, average pond temperature for the month
MinTemp, minimum pond temperature for the month
MaxTemp, maximum pond temperature for the month

PITTagFileData (from JM/Ptagis query)
H_header_Name, Name of file containing PIT tag data submitted to PTAGIS
H_brood_year, last two digits of brood year
H_raceway_transect, Cle Elum Pond Id
NumberTagged, Number of fish in this pond which were PIT tagged
Dotouts, Number of fish in this pond which morted at some point prior to release

EstimatedNumberReleased, Estimated number of PIT-tagged fish in this pond released from accl. sites
H_message, additional tagging and ponding data regarding this release

PondMarkData (pond tagging data; from the table DWPondMarkData created by modLoadDWPondMarkData in \history\rearing.mdb)

SiteID, Cle Elum Pond Id
StartDate, Date that marking started in this pond
EndDate, Date that marking ended in this pond
CWTCode, Coded-wire tag code used for fish in this pond
TagType, Type of CWT used for fish in this pond
NumberTagged, Number of fish in this pond which were CWT tagged
NumberSorted, Number of sorts/culls from this pond
OCTSNT, denotes left or right Cheek or elastomer eye for Oct/Snt designation
BodyLocation, CWT body location
ElastomerColor, color of elastomer eye tag
Comments, remarks related to marking

QCData (BY97-99 data from CK/SS;BY00 data from tblQCData in BY2000_Rearing.mdb)

ChronoId, Chronological id, e.g., order in which this fish was QC sampled
SiteID, Cle Elum Pond Id
SampleDate, Date of QC samples
SamplerInitials, Initials of head of QC sample team
PITTag, PIT tag id of fish if detected
Length, fork length (millimeters) of this fish if sampled
Weight, Weight (grams) of this fish if sampled
CWTSnout, True/False to denote whether a CWT was found in the snout
ElastomerTag, True/False to denote whether an elastomer eye tag was present
BodyTag, True/False to denote whether a body CWT tag was present
AdClip, True/False to denote whether the adipose fin was clipped
Comments, other remarks about this fish

QCSummary (BY97-99 data from CK/SS;BY00 data from tblQCSumm in BY2000 Rearing.mdb)

SiteID, Cle Elum Pond Id
ElastomerEye, denotes left or right Cheek or elastomer eye for Oct/Snt designation
ElastomerColor, color of elastomer eye tag for this pond
BodyLocation, CWT body location
TagEndDate, Date that marking ended in this pond
QCDate, Date that pond was sampled for quality control
Ntot, the total number of fish in this pond sampled for quality control
Nphys, the number of QC'd fish in this pond sub-sampled for length and weight
AvgLen, the average fork length (mm) of QC fish sub-sample
AvgWt, the average weight (g) of QC fish sub-sample
PITTagCount, the count of fish in this QC sample which had PIT tags detected
CWTSnoutCount, the count of fish in this QC sample which had CWT detections in the snout
AdiposeClipCount, the count of fish in this QC sample which had an adipose fin clip
ElastomerTagCount, the count of fish in this QC sample which had elastomer eye tags present
BodyTagCount, the count of fish in this QC sample which had CWT tags detected in a body location

Juvenile Outmigration (from acclimation sites to Bonneville)

Available via migration year on existing web site, see Graphs, Tabular Details, and OCT/SNT Juvenile Releases in:
\Juvenile Counts\Chandler Juvenile Passage

Chandler and Roza length/weight sample database (data need to be compiled into single database by migration year). Need these data for hatchery/wild length at release comparisons.

ChandlerYYSamples (Chandler juvenile length and weight samples; from tblIndividual in DL ChandlerDataYYYYFinal mdb files)

WaterYear, juvenile outmigration year
CatchDate, date this fish was sampled at Chandler
SpeciesCode, species designator (hatchery/wild indicator is first character of this code)
ForkLength, fork length (millimeters) of this fish
Weight, Weight (grams) of this fish
Remarks, other remarks about this fish

Adult Detections

RecapSumYY (Roza recapture summary tables where YY=brood year; from \AdultSurvival\BYyyyy\RecapSum.xls files)

Large excel file(s) containing summaries of adult recapture data for a given CESRF brood by age, treatment type, acclimation site, and pond. This file summarizes data in RozaYYRecap files for all age-class returns for a given brood year.

(by Age)

ReportedCWTRecoveries (includes reported CWT recoveries from ocean, lower Col. R. and Yak. R. fisheries; from RMIS CWT Recovery queries)

… (dump of entire PSC format into comma-separated value **text** (.txt) file, can be linked by CWT to brood year, pond, and treatment using PondMarkData file above)

BonnPITRYyyyy (Bonneville PIT detections from PTAGIS adult return query where RYyyyy = return year; from qryDWBonnPITRYyyyy in BroodYearyyyy\Roza\RozaRecap.mdb)

Tag ID, PIT tag code
Fish Type, species description
Tag Site, PTAGIS code for site where fish was tagged
Release Site, PTAGIS code for site where fish was released
Date Released, date the fish was released as entered into PTAGIS
Date Detected, date of detection at Bonneville Dam
AcclID, Acclimation site and pond ID
Treatment, OCT or SNT

GraPITRYyyyy (Lower Granite PIT detections (Snake R. strays) from PTAGIS adult return query where RYyyyy = return year; from qryGRAYakimaR in BroodYearyyyy\Roza\RozaRecap.mdb)

Tag ID, PIT tag code

Fish Type, species description
Tag Site, PTAGIS code for site where fish was tagged
Release Site, PTAGIS code for site where fish was released
Date Released, date the fish was released as entered into PTAGIS
Date Detected, date of detection at Bonneville Dam
AcclID, Acclimation site and pond ID
Treatment, OCT or SNT

RozaYYRecap (Roza spring chinook adult recapture data for return year YY; from qryDWRozaRcp4 in \history\AdultRecaps.mdb)

RozaDate, date of recapture at Roza
RozaId, unique id given to fish at Roza
JVPITTag, Pit Tag number of tag inserted into this fish when it was a juvenile
Status, should generally be RCP for recapture, if BRD denotes wild PIT recap
Age, age of fish based on scale sample taken at Roza
Sex, sex of fish as guessed by Roza personnel at time of recapture (P=precocial, J=Jack)
Forklength, fork length at recapture time in centimeters
POHlength, POH length at recapture time in centimeters
Weight, body weight at recapture time in kilograms
Scalesmpl, scale card and slot number for scale samples taken from this fish
DNASample, DNA Sample ID for this fish if DNA sample taken
Comments, other remarks about this fish
PhotoID, name of file given to photo image of this fish (as stored on CD)
CWTSnout, Was a CWT found in the snout?
Treatment, denotes left or right Cheek or elastomer eye for Oct/Snt designation if detected/present
BodyLocation, CWT body location if tag detected
ElastomerColor, color of elastomer eye tag if present

YakRYYHarvestRecap (Yakima River sport and tribal harvest samples for return year YY; from qryDWHarvRcp4 in \history\AdultRecaps.mdb)

HarvestDate, Date of harvest
Fishery, S=sport or T=tribal
Age, age of fish from scale sample if taken
Sex, sex of fish if known (J=jack)
JvPITTag, PIT tag code from fish if a recapture and tag was detected/recorded
Forklgth, fork length in centimeters if measured
Weight, weight of fish in pounds as guessed by tribal monitors
WDFWCard Code, Scale card id and slot number from WDFW scale cards
Comments, other remarks
CWTSnout, Was a CWT found in the snout?
OCTSNT, denotes left or right Cheek or elastomer eye for Oct/Snt designation if detected/present
BodyLocation, CWT body location if tag detected
ElastomerColor, color of elastomer eye tag if present

YakRYYSpawnerRecap (Yakima River spawning ground recaptures for return year YY; return year 2000 data from table '2000SpawnCWTRecovs' in \AdultSurvival\SpringChinook\YakimaSpawnSurveyMaster.mdb, other years not yet available)

Date, Date of spawning ground recovery
River, River (Yakima)
Reach, River reach description

CWT, CWT code(s) of fish recovered
Comments, other remarks about this fish
NewCWT, CWT code in 6-digit format matching other parts of database
CLEId, Cle Elum pond number which this fish is from
AcclId, Acclimation site and pond number which this fish is from
Treatment, OCT or SNT

\YKFPDataWarehouse\Yakima River Data Syntheses

SpCkDataBase (Run reconstruction, brood tables, and forecasting data; from \AdultSurvival\SpringChinook\SpCkDataBase.xls)

Summary of historical Yakima river spring chinook returns in several tables contained within a large Excel file. Some meta-data included as comments by cell within these tables. Needs to have additional historical meta-data added and a documentation table added which describes where all the data come from.

Harvest

HarvesttoColRMth (Summary of harvest by wild, hatchery, Oct, and Snt Col. R. mth to Escapement; from \AdultSurvival\SpringChinook\HarvesttoColRMth.xls)

Return Year

Col. R. Mth Run Size (estimated by backing estimated Yak. R. mth run size down river using U.S. v Oregon TAC estimates for Bonn. Through McNary passage rates and Col. R. mth to McNary harvest rates)

ColRMthtoBONHarvest, estimated using TAC harvest rate (assumes Yak. R. fish harvested at same rate as all upriver spring chinook)

PassageLossBONtoYakRMth, estimated using TAC passage loss rates

BONtoMcNaryHarvest, estimated using TAC harvest rate (assumes Yak. R. fish harvested at same rate as all upriver spring chinook)

YakimaRiverMthRunSize, from Yakima River run reconstruction

Harvest of YakR fish from ColRMth to YakRMth
- Total
- Wild
- CESRF (estimated using YakRMth proportions from Yak. R. run reconstruction)
  - OCT (estimated using Roza detection data for all age classes combined)
  - SNT (estimated using Roza detection data for all age classes combined)

Harvest of YakR fish from YakRMth to Esc
- Total
- Wild
- CESRF (from inriver sampling data)
  - OCT (estimated using inriver sample data proportions)
  - SNT (estimated using inriver sample data proportions)

Sample Percentages
- OCT (total number of OCT fish in YakR harvest samples)
- SNT (total number of SNT fish in YakR harvest samples)

Sample Rate (number of fish in YakR harvest samples as a percent of total CESRF harvest)

YakRHarvestEstimates (Weekly harvest estimates for Yakima R. tribal [and sport?] fisheries; deferred – necessary??)

Location, location of monitor sample

WeekOf, starting date for week of monitoring data
Hasck, estimated harvest of hatchery adult spring chinook for this week
Hjsck, estimated harvest of hatchery jack spring chinook for this week
Wasck, estimated harvest of wild adult spring chinook for this week
Wjsck, estimated harvest of wild jack spring chinook for this week
Hsth, estimated harvest of hatchery steelhead for this week
Wsth, estimated harvest of wild steelhead for this week

Daily Dam Counts by Return Year

ProsserYYSpCk (Prosser spring chinook counts for return year YY; from tblSpringCounts in \damcounts\ProsserAdult.mdb)

Date, passage date
Dam, currently blank
<>, column assigned by access for invalid species code count
hasck, daily count of hatchery adult spring chinook
hjsck, daily count of hatchery jack spring chinook
wasck, daily count of wild adult spring chinook
wjsck, daily count of wild jack spring chinook
uasck, daily count of unknown adult spring chinook
ujsck, daily count of unknown jack spring chinook

RozaYYSpCk (Roza spring chinook counts for return year YY; from tblSpringCounts in \history\broodstock.mdb)

Date, passage date
Dam, currently blank
<>, column assigned by access for invalid species code count
hasck, daily count of hatchery adult spring chinook
hjsck, daily count of hatchery jack spring chinook
wasck, daily count of wild adult spring chinook
wjsck, daily count of wild jack spring chinook
brdwasck, daily count of wild adult spring chinook collected for brood stock
brdwjsck, daily count of wild jack spring chinook collected for brood stock
brdhasck, daily count of hatchery adult spring chinook collected for brood stock
brdhjsck, daily count of hatchery jack spring chinook collected for brood stock

Adult Counts (historical, to be constructed)

Dam code, PROsser, ROZa, or COWiche
Passage date, date of passage
Ladder, ladder
Species, denotes spring chinook, fall chinook, steelhead, coho, etc.
HWFlag, hatchery or wild
AJFlag, Adult or jack
Count, daily count for this date, dam, and ladder
Count method, video, trap, window counter, etc.
Count type, raw or expanded

Spawning Ground Surveys

ReddCountTiming (spawning ground survey redd count data for all years 1981-present; from qryDWReddCountTiming2 in \SpawnTiming\YakRSpChin\SpawnTiming.mdb)

River (Yakima, Naches, American, etc.)

SurveyDate, date of spawner survey
SurveyReach (reach description, e.g., rm X to rm Y or X bridge to Y campground, etc.)
SurveySubReach (sub-reach description, if designated)
ReddCount, redd count for this reach for this date
Comments, remarks about survey

SpawnerSamplesYY (spawning ground survey physiological data, YY=return year; from \AdultSurvival\SpringChinook\YakimaSpawnSurveyMaster.mdb)

SurveyDate, date of spawner survey
Species, species designator (hatchery/wild indicator is first character of this code)
River (Yakima, Naches, American, etc.)
Reach (reach description, e.g., rm X to rm Y or X bridge to Y campground, etc.)
Forklength, fork length at recapture time in centimeters
POHlength, Post-eye to hyperal length at recapture time in centimeters
Sex, sex of fish
Age, age of fish based on scale sample
DNASample, DNA Sample ID for this fish if DNA sample taken
Comments, other remarks about this fish

ATTACHMENT B

Legal/Policy Analysis Summary Report

The Legal/Policy Analyst responsibilities are to advise management on the benefits and risks associated with actions considered by the decision-makers. Through this contract performance period, the L/PA maintained a close working relationship by attending/participating in meetings that pertain to the Project, reviewing laws and regulations that affect the YKFP and participated in the planning/development process for the Project. His services have proven to be very beneficial to the YKFP.

In summary, during this contract period for FY2001, the Legal/Policy Analyst (L/PA) provided the following services to the YKFP:

1. Assisted the PAPC and the YKFP Policy Group in project administration and management.
2. Analyzed applicable laws, rules and regulations pertaining to Project funding, water rights, NEPA, SEPA, ESA, and other environmental compliance requirements.
3. Advised PAPC and Policy Group as to the matters identified above.
4. Assisted in the preparation of NEPA and SEPA and other compliance documents.
5. Assisted in the development of regulatory permit applications.
6. Supported the development and maintenance of intergovernmental relationships between the Yakama Nation, BPA, WDFW, NPPC, and local governments.
7. Reviewed, negotiated and prepared project contracts and agreements.
8. Attended Policy Group meetings and other key YKFP meetings, as requested, and advised PAPC and Policy Group regarding issues discussed.
9. Attended regional meetings wherein the topics discussed could affect YKFP activities.
10. Advised and assisted the PAPC with regard to issues of concern related to YKFP.

Specifically, the L/PA performed tasks in the following major areas:

1. Cle Elum Supplementation and Research Facility (CESRF) Surface and Ground Water Permits.

The CESRF requires the appropriations of surface and ground water for fish research and production activities. Initial facility design was based on assumptions regarding availability of adequate supplies of water from the nearby reach of the Yakima River and the underlying aquifer complex. Subsequently to applications to the State of Washington for permits to use those sources for hatchery purposes, it became clear that the availability of the waters was limited by biological impact questions and hydrogeological uncertainties. As a result, Washington issued temporary preliminary surface and ground water permits in 1998 to allow for the demonstration of ground water

availability and the collection of data and analysis of biological effects from surface water use. The preliminary permits were extended to April 2002. The L/PA performed water right permitting analysis and coordinated compilation of necessary data and analysis to support affirmative water rights decisions by the state for the CESRF prior to the expiration of the preliminary permits.

2. Local and state permit development and SEPA compliance for the Prosser Hatchery wastewater treatment pond.

As a result of planned increases in fish production at the Prosser Hatchery, the YKFP was obliged to obtain a National Pollution Discharge Elimination System (NPDES) wastewater discharge permit for discharges from the hatchery facility to the Yakima River. The L/PA assisted the Project staff in the preparation of a request for coverage under the State of Washington Upland Finfish Hatchery Facility general NPDES permit, and the supporting SEPA environmental review documentation. The L/PA coordinated with state agency staff to resolve issues regarding monitoring and SEPA compliance, and consulted with local governments regarding local regulatory issues.

3. Local, state and federal permitting of acclimation facilities in the Klickitat and Yakima Sub-basins.

In accordance with YKFP coho restoration objectives, the Project has sought to identify locations for engineered and natural water body coho acclimation sites. A proposed facility at the confluence of Swale Creek and the Klickitat river requires planning for compliance with regulatory programs administered by the Corps of Engineers, the WDFW, the WDOE, and Klickitat County. Potential natural water body-based acclimation sites present questions regarding the protection of surface and ground water quality. The L/PA assisted Project staff with identification of permitting requirements, development of compliance strategies and advocacy of policy approaches to addressing the issues raised by acclimation facility plans, and coordinated with WDOE staff on development of a state-wide strategy for dealing with water quality implications of side-channel acclimation approaches.

4. Project planning and development for the Klickitat Sub-basin.

Fish passage and artificial production facilities have been constructed and operated in the Klickitat Basin for 50 years to provide tribal and non-tribal fisheries. The YKFP is planning for the implementation of supplementation and other means of enhancing Klickitat anadromous fish stocks in a manner that incorporates the existing passage and production facilities or replacements for the facilities. A sub-basin summary has been prepared for the Klickitat Basin in accordance with the NPPC Fish and Wildlife Plan. Master plans have not yet been developed for the artificial production initiatives currently being anticipated. This has complicated budget development and planning activities. The L/PA assisted the Project in developing strategies for artificial production planning in accordance with master planning requirements and work plan preparation.

5. Yakima Basin fish habitat and passage restoration.

YKFP supplementation and fish stock restoration objectives depend on the availability of carrying capacity of spawning and rearing habitat in the Yakima River Basin. The YKFP is pursuing strategies of habitat protection and restoration and removal of tributary fish passage barriers in accordance with those objectives. Those restoration and barrier removal activities require dealings with private landowners and federal, state, and local government agencies. The L/PA has assisted the Project in negotiations with private and governmental entities toward the ultimate goal of obtaining title to habitat-rich properties, conservation easements and fish barrier removal agreements. Assistance included consultation, drafting of contract and other agreement documents, and development of program policies to guide acquisition efforts.

6. Management of YKFP capital projects.

Various elements of the YKFP require capital project planning and design capabilities. Capital projects require expertise in accounting, competitive bidding process management and construction management expertise. The L/PA assisted the project managers in managing the refurbishment of the Castile Falls No. 10 Fishway on the Klickitat River. The fishway is part of the array of baseline considerations that bear on sub-basin planning in the Klickitat Basin. The design of the refurbishment has been funded through a BPA award, although the actual construction costs will be funded by an award from NOAA. The L/PA also advised the Project regarding resolution of title issued related to project construction authorization. Furthermore, the L/PA advised project staff regarding contracting practices for the fish habitat and barrier removal projects described in 5., above.

ATTACHMENT C

Activities of Judith Woodward (Crossing Borders Communications) for Yakama Nation during period of April 1, 2001 through March 31, 2002.

Coho PSR.

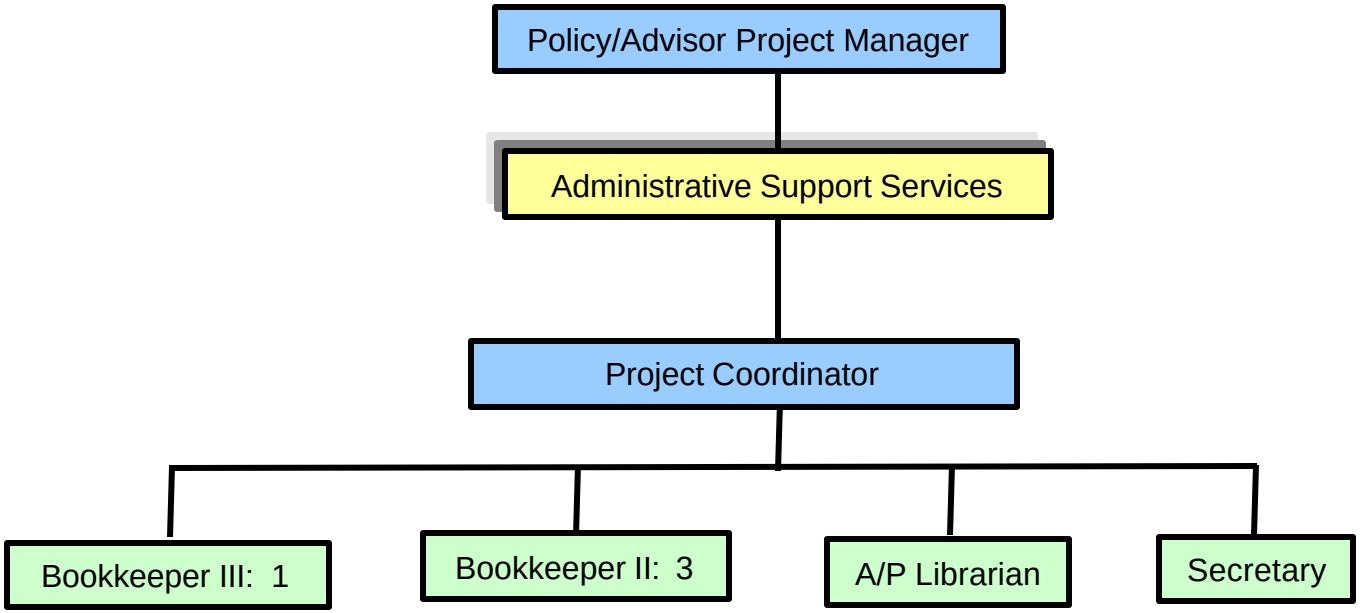
This document, compiled and edited by Woodward in winter 2001, was under review by Washington Department of Fish and Wildlife until late fall 2001. After WDFW's extensive comments were received, Woodward reviewed them, prepared responses to them, and edited the PSR in response to the comments.

Master plans.

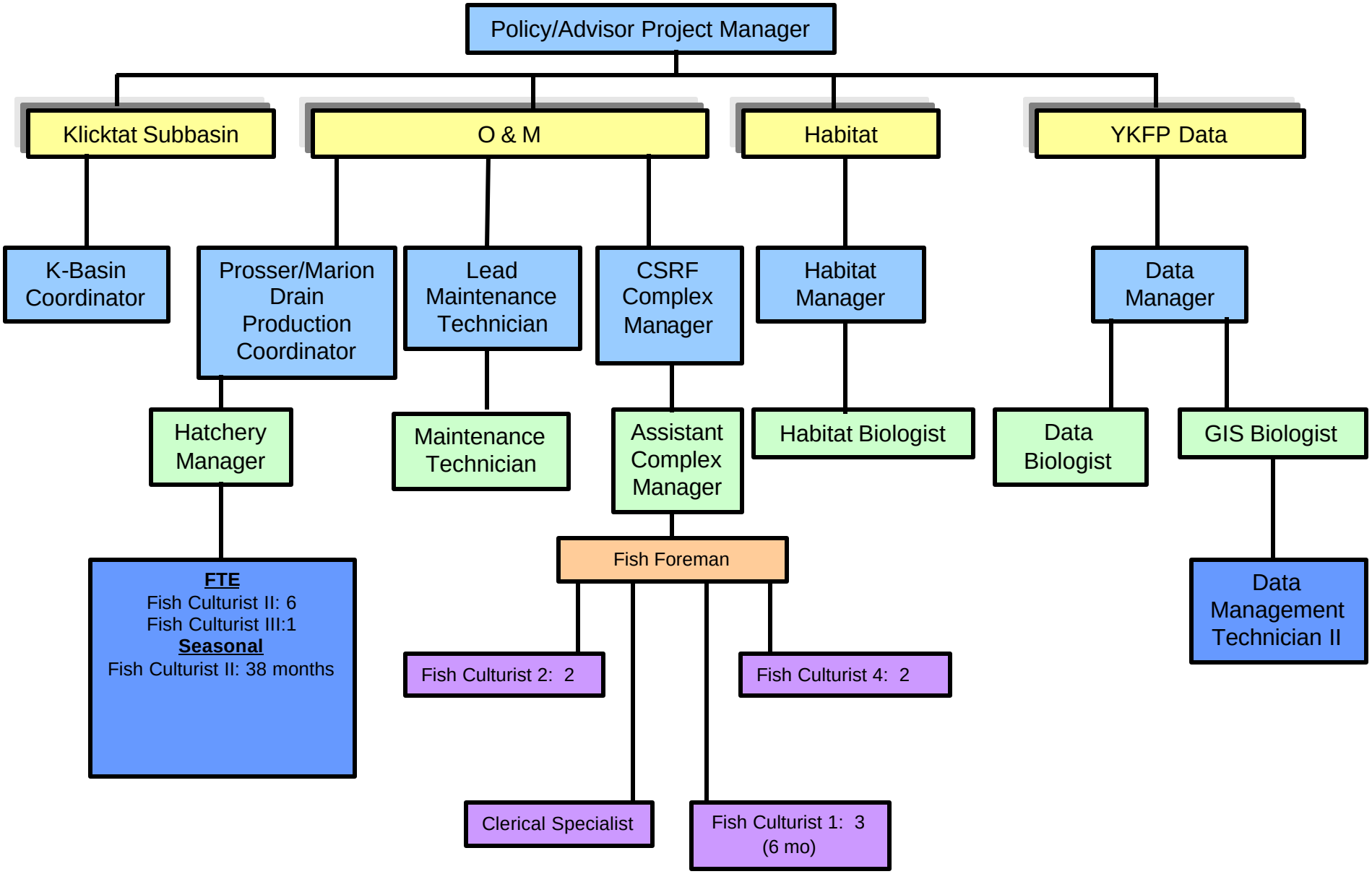
After conversations with YN and BPA managers and staff in early February 2002, it was agreed that future PSRs should follow the Northwest Power Planning Council's format for master plans. Until the end of the contract period, Woodward reviewed master plan requirements, samples of other plans, and existing YKFP documents (focusing on Yakima fall chinook and Klickitat steelhead); and began setting up an outline of master plans for those two species.

ATTACHMENT D

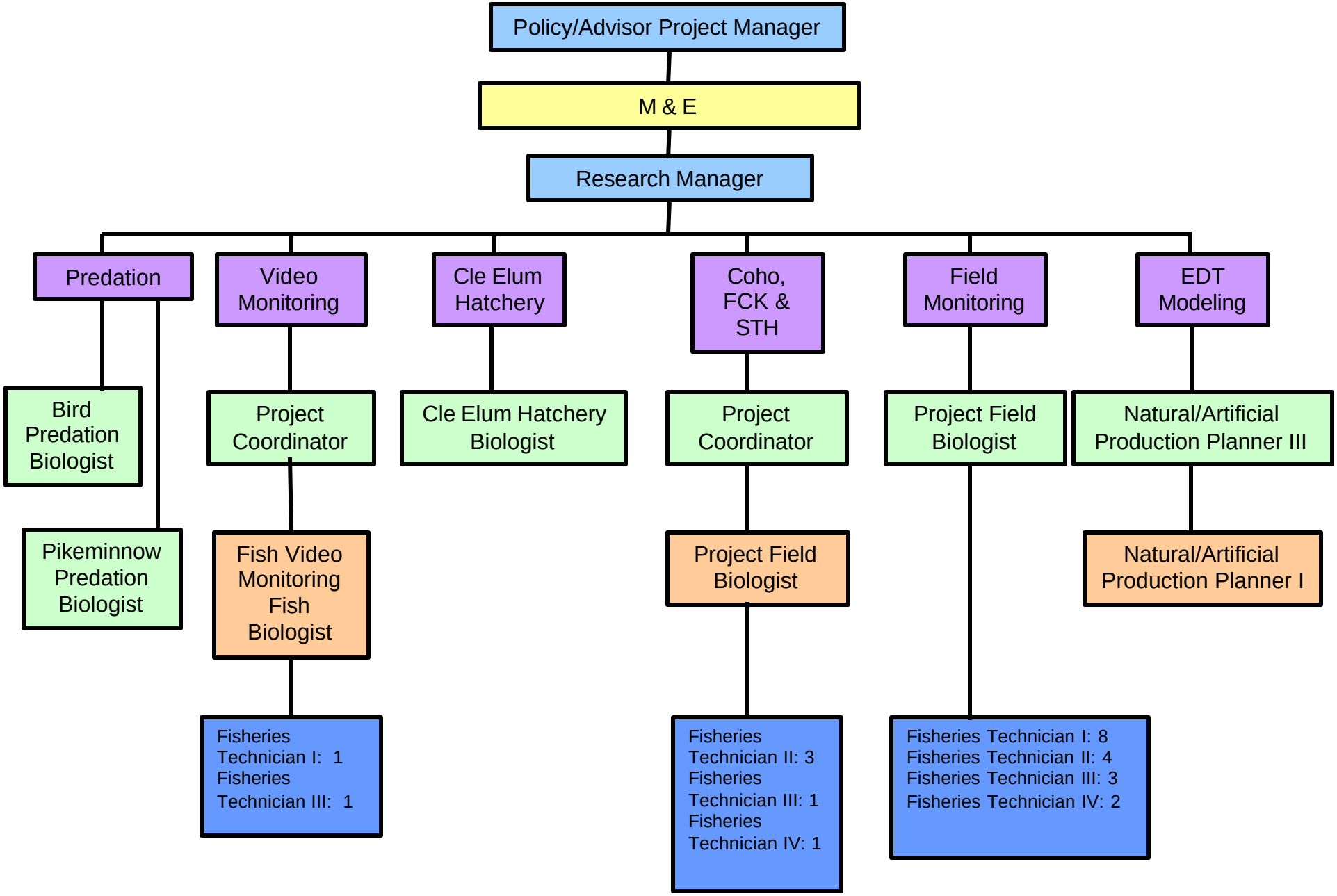
YKFP Organizational Charts



Draft YKFP Supervisor-Employee Structure For Administrative Support Services.



Draft YKFP Supervisor-Employee Structure For Klickitat Subbasin, O & M, Habitat and Data Management



Draft YKFP, M&E Supervisor-Employee Structure For M & E.

ATTACHMENT E

PROJECT PHOTOGRAPHS

PROJECT PHOTOGRAPHS Cont.'

Figure 1. This photograph shows one of the semi-natural treatment (SNT) raceways at the Cle Elum Hatchery. Each SNT raceway has camouflaged painted raceway walls, shade covers, instream cover (Christmas trees), and underwater feeders.

Figure 2. This photograph shows one of the SNT raceways at the Easton acclimation pond.

Figure 3. This shows an optimal conventional treatment (OCT) raceway at the Cle Elum Hatchery.

Figure 4. This photograph shows Cle Elum Hatchery culturists transferring spring chinook pre-smolts into a SNT raceway at the Clark Flat acclimation pond.

Figure 5. This photograph shows the Easton acclimation site discharge pipes and PIT-Tag detection system that are similar at all three acclimation sites.

Figure 6. Roza Dam where adult broodstock are collected and juvenile salmonid outmigrants are monitored.

Figure 7. Upper Yakima spring chinook being injected with antibiotics at the Roza Adult Broodstock Collection and Monitoring facility.

Figure 8. The post-eye-to-hypural plate length being taken on an upper Yakima spring chinook at the Roza Adult Broodstock Collection and Monitoring facility.

Figure 9. This photograph shows an aerial view of Cle Elum Supplementation and Research facilities.

Figure 10. This photograph shows the various body measurements and information being collected from an upper Yakima spring chinook carcass during spawning at the Cle Elum Hatchery.

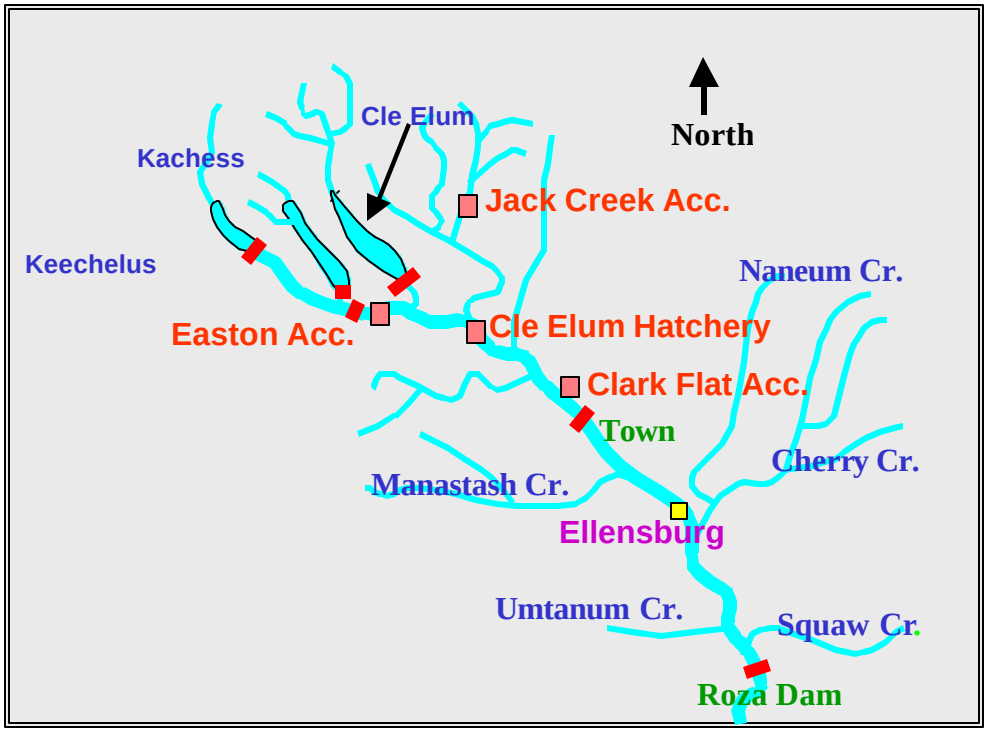


Figure 11. Map of the Cle Elum Hatchery facility and associated acclimation sites.

Figure 12. Weighting an upper Yakima spring chinook at Roza Adult Broodstock Collection and Monitoring facility.

Figure 13. This photograph shows Cle Elum Hatchery culturists crowding and capturing upper Yakima spring chinook broodstock in the adult holding pond at the Cle Elum Hatchery.

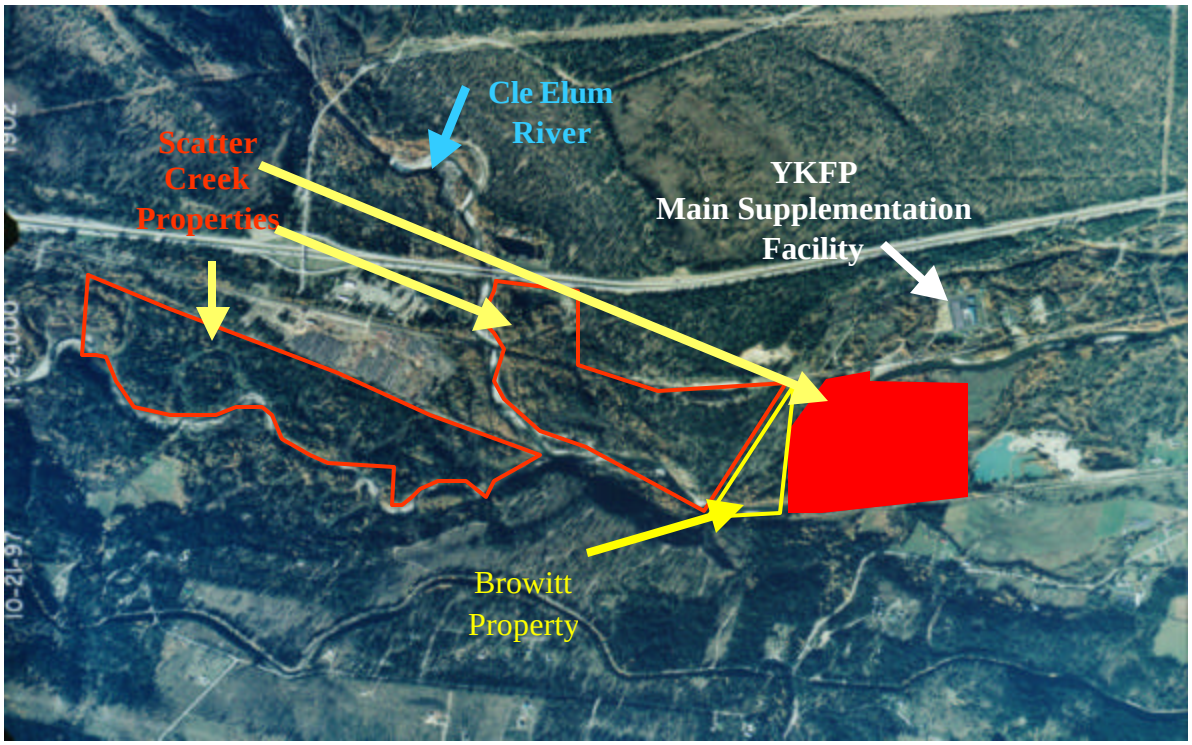


Figure 14. Potential land purchases in the Kittitas Valley to secure high quality riparian habitat for long term preservation.

Figure 15. Newly completed fishway on Wilson Creek (rivermile 8).

Figure 16. Bull Ditch Screen and Ladder at Wilson Creek. Constructed during the winter of 2000-01 at a cost of approximately $565,000.

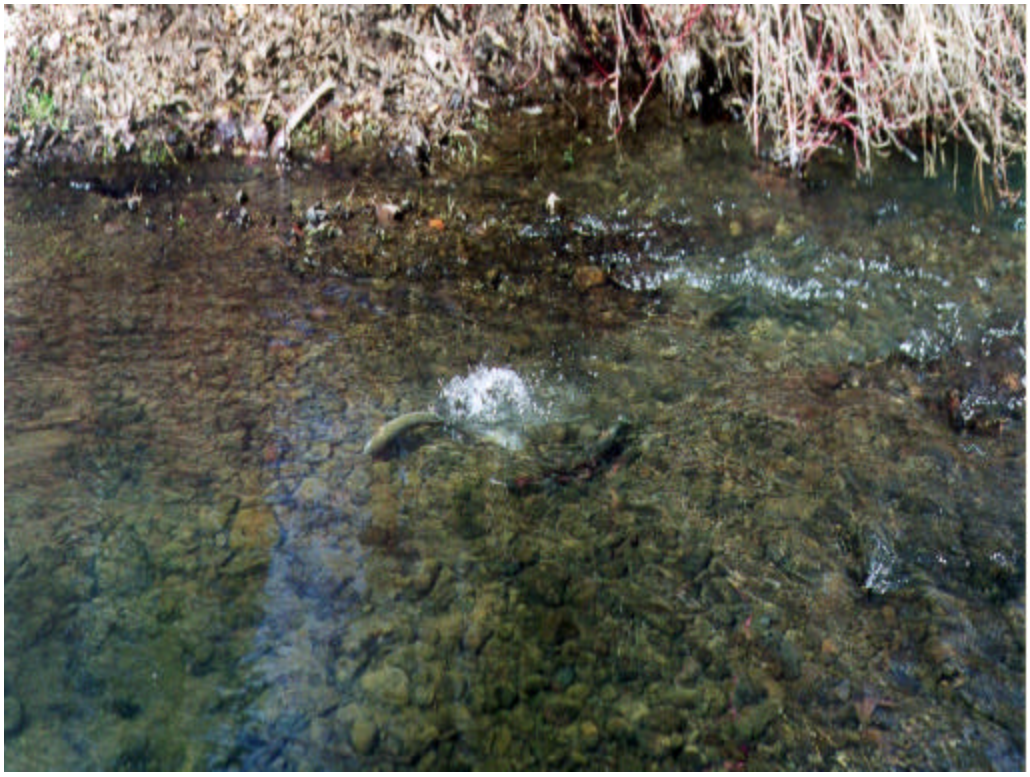


Figure 17. This photograph shows a steelhead spawning in Satus Creek in the spring of 2002 that was successfully reconditioned as a kelt from the 2001 brood year.

Figure 18. This photographs depicts the type of high value riparian habitat being purchased by the Yakama Nation and BPA to preserve existing habitat in the upper Yakima Basin.

Figure 19. These photographs show a steelhead kelt before and after being successfully reconditioned at the Prosser Hatchery.

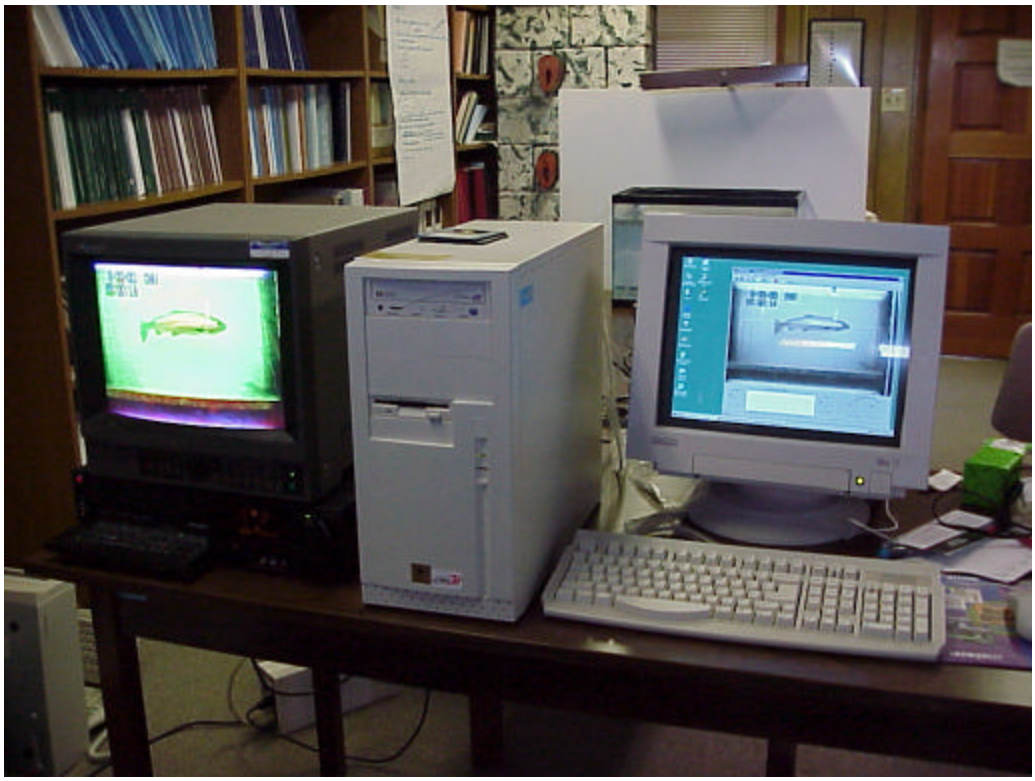


Figure 20. This photograph shows the fish video editor system used by the technicians to aid in the reading the fish passage video tapes.

ATTACHMENT F

Financial and Capital Inventory Reports

Yakama Nation-Fisheries Program

Project No. 98-120-25

Project Name: YKFP Management, Data & Habitat Project

Contract No. : 4822

Period Covered: APRIL 1, 2001 to MARCH 31, 2002

Prepared by: Rachel L. Castilleja

Contact Person: Rachel L. Castilleja @ (509) 865-6262 ext: 6654

Cost Code	Description	BUDGET	Total Spent YTD	Budget Spent	Budget Balance	% of Budget Balance Unspent
	Project Manager	74,698	72,716.76	97%	1,981.24	3%
	Research Manager	55,588	52,053.60	94%	3,534.40	6%
	Habitat Coordinator	46,920	37,525.67	80%	9,394.33	20%
	Bio III	55,588	54,208.37	98%	1,379.63	2%
	Data Base Development III	55,588	51,037.20	92%	4,550.80	8%
	Bio III	38,484	30,579.88	79%	7,904.12	21%
	GIS Bio	40,104	33,722.40	84%	6,381.60	16%
	Data Mgmt. Tech II	28,932	2,729.50	9%	26,202.50	91%
	Project Coordinator	45,828	42,512.55	117%	3,315.45	-17%
	Bookkeeper III	23,008	14,173.12	62%	8,834.88	38%
	Bookkeeper II	25,974	23,674.82	92%	2,299.18	8%
	Bookkeeper II	23,688	13,197.19	56%	10,490.81	44%
	A/P Librarian	23,688	10,100.14	43%	13,587.86	57%
	Secretary V	25,704	25,270.84	98%	433.16	2%
512111	WAGES	563,792	463,502.04	82%	100,289.96	18%
519111	Fringe	118,602	80,040.35	67%	38,561.65	33%
521121	Service Agreements	13,320	12,826.93	96%	493.07	4%
531161	Conference Expense	2,000	1,450.98	73%	549.02	27%
541111	Office Supplies	9,100	9,007.32	99%	92.68	1%
541122	Sensitive Equipment	31,791	30,646.04	96%	1,144.96	4%
541161	Operation & Maintenance	15,500	4,147.32	27%	11,352.68	73%
551111	Operating Supplies	16,500	15,784.53	96%	715.47	4%
551295	GSA	32,884	20,831.20	63%	12,052.80	37%
551373	Building Usage Fee	18,573	18,573.00	100%	-	0%
561111	Electricity	1,200	240.47	20%	959.53	80%
561131	Waste Disposal	384	13.94	4%	370.06	96%
561171	Telephone	16,200	13,134.52	81%	3,065.48	19%
571111	Insurance	5,863	1,578.14	27%	4,284.86	73%
581110	Travel Holding	-	-		-	100%
581111	Commercial Air	3,780	1,897.49	50%	1,882.51	50%
581115	Commercial Vehicle	611	247.06	40%	363.94	60%
581121	Per Diem	18,312	13,490.79	74%	4,821.21	26%
621251	Indirect Cost	97,946	134,045.36	137%	(36,099.36)	-37%
522251	Sub Contracts	163,507	66,840.31	41%	96,666.69	59%
	TOTAL:	**1,129,865**	**888,297.79**	**79%**	**241,567.21**	**21%**

Wage and Journal Entry Summary By Project
835.8109
Pay Periods Ending Between 04/01/01 and 03/31/02

Fund	Cost Center	Project	Hours/JE hrs.	Wages	JE Amt	Wage+JE's
835	8109	2	7,867.5	89,504.33	-89,504.33	-
835	8109	3	8,852.5	165,665.04	297,837.00	463,502.04
	835.8109 Subtotal		16,720.0	255,169.37	208,332.67	463,502.04
Fund 835 Subtotal			16,720.0	255,169.37	208,332.67	463,502.04
		Grand Total	**16,720.0**	**255,169.37**	**208,332.67**	**463,502.04**

Capitalized equipment list for BPA - Yakima/KlickitatHatchery Project for contract #4882, fund #8358109.3.

Management

No.	ITEM DESCRIPTION 04/01/01 - 03/31/02	VENDOR	MAKE/ MODEL	SERIAL NUMBER	YEAR	PROPERTY NUMBER	DOC. NUMBER	ITEM COST	LOCATION CONDITION CODE	PROJECT NUMBER
1	Office Furniture	Inside Oregon Enterprises	Santiam, Dakota	NA	2001	To be tagged	01-92050	2,231.00	5/4	1988-120-25
2	Projector	Pacific 1st Computers	NEC LT 155	1400134NF	2001	12966	01-93501	4,699.00	5/4	1988-120-25
3	Office Furniture	Inside Oregon Enterprises	Santiam, Dakota	NA	2001	To be tagged	01-109100	9,621.00	7/1	1988-120-25
4	Laptop Computer	Gateway 2000	Solo 5350	BQB02054344	2001	13711	01-109288	2,220.00	1/4	1988-120-25
5	Laptop Computer	Gateway 2000	Solo 5350	BQB02054345	2001	13712	01-109288	2,220.00	1/4	1988-120-25
6	Computer Tower	Gateway 2000	Tower	26225759	2001	13713	01-109288	2,374.00	5/1	1988-120-25
7	Computer Profile	Gateway 2000	Profile 3	V2101150	2001	13714	01-109288	2,060.05	1/4	1988-120-25
8	Computer Profile	Gateway 2000	Profile 3	V2101069	2001	13715	01-109288	2,060.05	1/4	1988-120-25
9	Computer Profile	Gateway 2000	Profile 3	V2100748	2001	13716	01-109288	2,060.05	5/4	1988-120-25
10	Panafax	Fisheries	UF 745	BTLJPN-75250	2001	8931			7/5	
						MANAGEMENT TOTAL		**29,545.15**		
						GRAND TOTAL		**29,545.15**		

Location: 1. Headquarters 2. Chandler 3. Prosser 4. Roza 5. Nelson Springs 6. Hatchery 7. Klickitat 8. Cle Elum 9. WDFW 10. Missing/Stolen
Condition: 4. Good 5. Fair 6. Poor 7. Salvageable 8. Missing/Stolen