
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Ykfp - Wdfw Policy And Technical Involvement In The Ykfp

BPA project number: 9506425

Contract renewal date (mm/yyyy): 2/1999 **Multiple actions?**

Business name of agency, institution or organization requesting funding

Washington Department of Fish and Wildlife

Business acronym (if appropriate) WDFW

Proposal contact person or principal investigator:

Name	<u>Bill Hopley</u>
Mailing Address	<u>600 Capitol Way N.</u>
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NPPC Program Measure Number(s) which this project addresses

7.4K; 2.2A, 2.2H, 7.2D

FWS/NMFS Biological Opinion Number(s) which this project addresses

N.A.

Other planning document references

Wy Kan Ush Me Wa Kush Wit, Volume II, p. 59 and Table SP4; Columbia River Fish Management Plan, Appendix B; Columbia Basin System Planning Salmon and Steelhead Production Plan, Yakima River Subbasin, p. 104

Short description

Manage policy and technical oversight of the Yakima/Klickitat Fisheries Project through participation on the project's Policy Group and Scientific and Technical Advisory Group as delineated in the agreed-upon project management structure.

Target species

spring chinook, fall chinook, coho, steelhead

Section 2. Sorting and evaluation

Subbasin

Yakima, Klickitat

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input checked="" type="checkbox"/> Anadromous fish <input type="checkbox"/> Resident fish <input type="checkbox"/> Wildlife	<input type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20510	Yakima/Klickitat Fisheries Project
8811525	YKFP-Design and Construction
8812025	YKFP-Management, Data, and Habitat
9506325	YKFP-Monitoring and Evaluation
9701725	YKFP-Operations and Maintenance

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1987	Draft Master Plan for YKFP	na
1987	PPC approves master plan	na

1990	Preliminary Design Report to PPC	na
1990	PPC approval to proceed to final design	na
1992	Draft EIS issued with 7-stock project	na
1992	Conducted first Project Annual Review and repeated annually thereafter	na
1993	Completion of first Project Status Report and amended annually thereafter	na
1993	Completion of first Uncertainty Resolution Plan	na
1995	Revised draft EIS with 3-stock project	na
1995	Experimental treatment definitions and biological specifications completed for use in design of Cle Elum Hatchery	na
1995	Procedures Manual for operations at Cle Elum Hatchery	na
1996	Final EIS issued	na
1996	Construction contract for Cle Elum Hatchery	na
1997	First spring chinook broodstock delivered to Cle Elum Hatchery	Brood collection successfully followed brood collection protocols described in the biological specifications. Broodstock equalling two thirds of hatchery design capacity were collected as per pre-season modelling and agreed-upon collection protocols.
1997	Monitoring Implementation Planning Team completed the Yakima Fisheries Project Spring Chinook Supplementation Monitoring Plan under the guidance of the YIN and WDFW Policy Group and the Scientific and Technical Advisory Committee	na
1998	YKFP Policy Group adopted a refined project management structure	na

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Provide effective Policy coordination of the Yakima/Klickitat Fisheries Project in cooperation with the Yakama Indian Nation	a	Within the YKFP Policy Group manage the YKFP Adaptive Management cycle which includes participation in the Project Annual Review and review of the Project

			Status reports, the Uncertainty Resolution Plan, and recommendations brought forward by STAC.
		b	Within the YKFP Policy Group, facilitate refinement and maintenance of a YKFP project management structure
		c	Participate in and attend Policy Group meetings to develop Project policy and ensure implementation
		d	Within the YKFP Policy Group, participate in developing budget allotments and contracting directions.
		e	Within the YKFP Policy Group, assist in developing decisions and providing input to BPA to the extent those directions and decisions affect the implementation and outcome of the Project.
		f	Within the YKFP Policy Group, assist in developing and presenting information to the PPC as appropriate
		g	Within the YKFP Policy Group, coordinate all environmental compliance (NEPA) activities related to the Project with BPA and YIN
	Provide effective Technical Coordination of the Yakima/Klickitat Fisheries Project in cooperation with the Yakama Indian Nation	a	Within the Scientific and Technical Advisory Committee (STAC) coordinate the adaptive management cycle: review and develop proposed amendments to the Project Status Report, and Uncertainty Resolution Plan and present to the Policy Group
		b	Attend Policy Group meetings and present technical recommendations, budget proposals, adaptive management amendments, or advice to the Policy Group as appropriate
		c	Attend Scientific and Technical Advisory Committee meetings and participate in review and

			coordination of all biologic aspects of the YKFP and the activities within the basin which affect the YKFP
		e	Within the STAC assist in developing budget recommendations including allotments to accomplish tasks as approved by the Policy Group
		d	Manage and direct all WDFW management, administrative, science and technical personnel participating in Project activities
		e	Within STAC, assist in management of standing and temporary committees assigned to STAC including the Monitoring Implementation Planning Team and the Bio-Engineering Work Group
		f	Manage and direct all sub-contractors providing services to WDFW in support of the Project

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	3/2000	3/2001			40.00%
2	3/2000	3/2001			60.00%
				Total	100.00%

Schedule constraints

none anticipated

Completion date

2005

Section 5. Budget

FY99 project budget (BPA obligated): \$275,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		%44	120,000
Fringe benefits		%10	28,800
Supplies, materials, non-expendable property		%6	16,650
Operations & maintenance		%0	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%0	
NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags:	%0	
Travel		%5	13,750
Indirect costs		%17	45,800
Subcontractor	Hatchery Operations Consulting - Robert C. Hager	%18	50,000
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			\$275,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
		%0	
		%0	
		%0	
		%0	
Total project cost (including BPA portion)			\$275,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$275,000	\$275,000	\$275,000	\$275,000

Section 6. References

Watershed?	Reference
<input type="checkbox"/>	Northwest Power Planning Council, 1994, Columbia River Basin Fish and Wildlife Program, Portland, OR.
<input type="checkbox"/>	Bonneville Power Administration, 1996, Yakima Fisheries Project Final

	Environmental Impact Statement, Portland, OR
<input type="checkbox"/>	Yakima/Klickitat Fisheries Project, 1995, Yakima/Klickitat Fisheries Project Planning Status Report, Volume 3, Spring Chinook Salmon.
<input type="checkbox"/>	Brusett (NPPC) letter to Jura (BPA), attachment 2, Task 8, 1987
<input type="checkbox"/>	Trulove (PPC) letter to Blum (WDF), 1990.
<input type="checkbox"/>	Busack, et al., 1997, Yakima Fisheries Project Spring Chinook Supplementation Monitoring Plan, BPA Project No. 95-065. Portland, OR
<input type="checkbox"/>	Biological Specifications Work Group. 1995. Upper Yakima Spring Chinook Cle Elum Hatchery Procedures Manual. BPA Project No. 95-06404
<input type="checkbox"/>	Biological Specifications Work Group. 1995. Optimal Conventional and New Innovative Treatments for the Upper Yakima Spring Chinook Salmon Supplementation Project: Treatment Definitions and Biological Specifications. BPA Project No. 95-06404

PART II - NARRATIVE

Section 7. Abstract

The Policy/Technical Involvement *sub-umbrella* (WDFW portion) describes the WDFW management and administrative requirements to support YKFP Project management and planning activities in the Yakima and Klickitat River basins. **This project has been renumbered: New number = 9506425, old number = 9506404** Management and administrative support responsibilities are shared by the YIN and WDFW. The YKFP's Policy Group (comprised of YIN and WDFW representatives) and YIN/WDFW scientists are responsible for policy development and planning. The Policy Group is also responsible for ensuring that all Project activities are implemented efficiently and effectively. The goal of this proposal is to provide for Washington Department of Fish and Wildlife (WDFW) participation in all aspects of Yakima/Klickitat Fisheries Project (YKFP) management in terms of policy and the impact of technical matters on policy. Participation in management of the YKFP is consistent with direction of the Northwest Power Planning Council (letter Brusett to Jura, 1987, Attachment 2, task 8). The Project Policy Group manages the YKFP within an adaptive management framework supported by an annual planning cycle. The annual cycle includes a Project Annual Review wherein results from ongoing studies are used to update the Project Status Report and the Uncertainty Resolution Plan. The process results in an annual work plan which produces scientifically robust results to feed back into the annual adaptive management cycle. WDFW will, in accord with the Yakama Indian Nation (YIN) and Bonneville Power Administration (BPA), foster policy development and coordination with tribal, state and federal fisheries agencies having a vested interest in the Yakima/Klickitat Fisheries Project; coordinate efforts specifically addressing fishery management policies; and assist in development, oversight and review of technical issues involved in experimental design, monitoring, evaluation, facility design, operations, and project implementation.

Section 8. Project description

a. Technical and/or scientific background

The Yakima/Klickitat Fisheries Project is a supplementation project sponsored by the Northwest Power Planning Council (Columbia River Basin Fish and Wildlife Program 1994, Measure 7.4K). The objectives of the YKFP are: 1- to test the hypothesis that new supplementation techniques can be used in the Yakima River Basin to increase natural production and to improve harvest opportunities while maintaining the long-term genetic fitness of the wild and native salmonid populations and keeping adverse ecological interactions within acceptable limits (Yakima Fisheries Project Final Environmental Impact Statement, 1996); 2 – provide knowledge about the use of supplementation, so that it may be used to mitigate effects on anadromous fisheries throughout the Columbia River Basin; 3 – to maintain and improve the quantity and productivity of salmon and steelhead habitat, including those areas made accessible by habitat improvements; 4 – to ensure that Project implementation remains consistent with the Council’s Fish and Wildlife Program; and 5 – to implement the Project in a prudent and environmentally sound manner. Current YKFP operations have been designed to test the principles of supplementation. The Project’s experimental design has focused on the following critical uncertainties affecting supplementation:

1. the survival and reproductive success of hatchery fish after release from the hatchery;
2. the impacts of hatchery fish as they interact with non-target species and stocks; and,
3. the effects of supplementation on the long-term genetic fitness of fish stocks

The YKFP endorses an adaptive management policy applied through a project management framework as described in the Yakima/Klickitat Fisheries Project Planning Status Report (1995). The project is managed by a Policy Group consisting of a representative of the Yakama Indian Nation (the lead agency) and a representative of the Washington Department of Fish and Wildlife. The functions of the parties are described in an MOU between the YIN and the WDFW. A Scientific and Technical Advisory Committee (STAC) consisting of one representative from each management entity reports to the Policy Group and provides technical input on policy and other issues. The Policy Group and STAC meet periodically (usually at two- to three-week intervals) to conduct the business of the YKFP.

b. Rationale and significance to Regional Programs

The WDFW policy/technical participation in the YKFP reflects the agency’s resource management interests in the sub-basin and in the region and responds to the PPC direction to BPA, agency, and tribal policy makers to “complete and adopt a long-term management structure for the project” (letter Trulove to Blum, August, 1990).

The long-term management structure was adopted by MOU between the YIN and WDFW in 1994. The YKFP is co-managed by the Yakama Indian Nation and the State of Washington. Government representatives form the Policy Group which is responsible for overall Project management. The YIN is the Project’s Lead Agency, which is responsible for implementing all Project activities. Project science is directed by the

Scientific and Technical Advisory Committee (STAC), which is charged with developing the supplementation strategies employed by the Project. WDFW, in its role as a regional resource management agency is in a key position to bring both technical and policy expertise to the YKFP.

c. Relationships to other projects

This project is one among a suite of integrated projects that, collectively, constitute the Yakima/Klickitat Fisheries Project. There are five sub-umbrella projects integrated under the Yakima/Klickitat Fisheries Project Umbrella, each of which is critical to success of the Project at large and to success of the other sub-umbrella projects. The project proposed herein, along with YIN project 8812025 support policy and technical planning and coordination by the Washington Department of Fish and Wildlife and the Yakama Indian Nation, respectively. The activities of the Policy Group and the Scientific and Technical Advisory Committee direct the efforts of the remaining three projects.

Sub-umbrella project 9506325, Monitoring and Evaluation, follows the model of the Yakima Fisheries Project Spring Chinook Supplementation Monitoring Plan (1997) which addresses critical uncertainties as represented in the Project Status Report, Vol. 3, Yakima Spring Chinook Salmon (1995). Experimental hypotheses and monitoring protocols are formulated by the Monitoring Implementation Planning Team under the direction of STAC. Plans are subsequently submitted to the Policy Group for approval.

Sub-umbrella project 9701725, Operations and Maintenance, includes operation of all in-basin facilities required to implement the research and production elements of the Yakima/Klickitat Fisheries Project.

Sub-umbrella project 8811525, Design and Construction, supports the engineering and design of Project facilities as specified by the Projects technical teams and approved by the Policy Group.

d. Project history (for ongoing projects)

The following responses address project history as it relates to achievements resulting specifically from WDFW contracts for policy and technical involvement as proposed herein. Numerous additional major results have been achieved within the umbrella of the YKFP which will be reported via the projects under which they were contracted.

Previous Project Numbers: 89-082 (WDFW prior to 1995)

**NOTE: BPA HAS ASSIGNED A NEW NUMBER TO THIS PROJECT: 9506425
THE CURRENT (FY 98) NUMBER IS 9506404**

Project Reports and Technical Papers:

Numerous reports and peer-reviewed articles have been published among the various sub-projects of the Yakima/Klickitat Fisheries Project. The following products

have come directly from the Policy/Technical portion of the YKFP being addressed in this proposal.

Yakima/Klickitat Fisheries Project Project Planning Status Report, Volumes 1 through 5, 1993 (spring chinook and coho revised 1995).

Optimal Conventional and New Innovative Treatments for the Upper Yakima Spring Chinook Salmon Supplementation Project: Treatment Definitions and Descriptions and Biological Specifications for Facility Design, 1995.

Upper Yakima Spring Chinook Cle Elum Hatchery Procedures Manual, 1995. (revised 1998).

Summary of Major Results Achieved:

Policy/Technical Planning Achievements

The initial meeting to begin planning for the Yakima/Klickitat Fisheries Project convened in Yakima, WA in August, 1985. In **1987**, policy and technical staff work by YIN, WDFW (then WDF and WDW) and project consultants produced the **draft Master Plan** as stipulated by the PPC in the 1984 Fish and Wildlife Program. The PPC approved the master plan “as a reasonable basis upon which the Bonneville Power Administration may proceed to fund predesign work.”

In response to the PPC directions of 1987, the managers submitted the **Preliminary Design Report** in **1990**. The PPC responded with “conditional approval to proceed with the final design phase of the Yakima Production Project”.

In **1995**, the **Biological Specifications Work Group** under direction of BPA and the Policy Group, completed two critical planning documents that would guide design and operation of the Cle Elum Hatchery. The **Optimal Conventional and New Innovative Treatments for the Upper Yakima Spring Chinook Salmon Supplementation Project: Treatment Definitions and Descriptions and Biological Specifications for Facility Design** provided the biological specifications and experimental design considerations that drove design of the supplementation research facility at Cle Elum and neighboring acclimation sites. A second document, **Upper Yakima Spring Chinook Cle Elum Hatchery Procedures Manual** provides the day-to-day facility operations instructions.

NEPA Participation

The WDFW, through the existing Policy/Technical Involvement contract as described herein, participated extensively in development of the various iterations of Environmental Impact Statements necessary for NEPA Project compliance.

The **draft EIS**, presenting a possibility of supplementing up to seven stocks in the Yakima and Klickitat basins was completed in **1992**. Following public comment, BPA, again with extensive involvement by the managers, completed a **revised draft EIS** in **1995**. This draft presented an option to supplement only 3 stocks in addition to a 'no action' option and the original seven-stock option. The **Final EIS** was completed by BPA in **1996**, resulting in a record of decision to implement a 2-stock option. Completion of the NEPA process led to **construction of the Cle Elum Supplementation Research Complex**.

Adaptive Management Implications:

The Project adaptive management scheme will be addressed in detail in the discussion of objectives to follow (Section 8 f). In general, under the adaptive management structure for the YKFP, project managers propose actions (strategies) in response to a set of agreed-upon objectives. These actions are designed as experiments to test whether the predicted result (or some other result) occurs. They also define operating assumptions needed to accept the strategies, associated uncertainties, and the risk of not meeting the stated objectives if the assumptions are incorrect or the strategy is not feasible. The experiments must be carefully designed to obtain valid (i.e., statistically reliable) results in a specified period of time. The experiments are conducted and carefully monitored to allow statistical evaluation of the results. The process includes a mechanism for review of the previous year's results, which may cause the objectives to be modified, in turn restarting the process.

Years Underway:

1995 to present with current project number. Prior to the merger of the Washington Department's of Wildlife and Fisheries, each agency had a technical and policy representative participating under contract with BPA, with roles similar to those proposed herein..

Past Costs:

\$850,884 (FY'96 + FY'97 + FY'98)

e. Proposal objectives

This project description is not amenable to quantifiable objectives or experimental protocols as would be the case for a production or research proposal. The objectives for this sub-umbrella are stated in terms of effective participation in an established project management arena. Detailed discussions of the tasks (methods) employed to achieve effective project management will be presented in section 8f.

Objective 1

Provide effective Policy coordination of the Yakima/Klickitat Fisheries Project in cooperation with the Yakama Indian Nation.

Objective 2

Provide effective Technical Coordination of the Yakima/Klickitat Fisheries Project in cooperation with the Yakama Indian Nation

f. Methods

Effective policy and technical involvement in Project management is manifested in numerous project activities undertaken by the Project Policy Group members and the members of the Scientific and Technical Advisory Committee (STAC). The following discussion describes the central tasks to be undertaken by the Project Policy Group and the STAC to meet the two central objectives.

Manage the Project Adaptive Management Cycle

YKFP managers have adopted an *adaptive management* policy in order to achieve project goals and protect the basin's fishery resources from unforeseen, adverse project impacts. In the implementation of the adaptive management policy, YKFP managers review the benefits and risks of continuing the preferred strategies to meet the project's objectives. Risk is managed and reduced over time through implementation of the *Uncertainty Resolution Plan (URP)*, the monitoring and evaluation plan, and the *Project Annual Review*.

Planning Status Report

Each year, the STAC prepares a Planning Status Report (PSR) for every supplemented species or stock. Proposed amendments to the current PSR are presented to the Policy Group for consideration and final adoption. The PSR documents the objectives, strategies, and operational assumptions for the Project. It reflects the state of knowledge and information available at that point in time. If necessary, new or revised options are developed to implement the objectives and strategies for supplementation in the upcoming year.

Uncertainty Resolution Plan

The URP identifies strategies to resolve uncertainties about operational assumptions. Resolvable uncertainties affect strategy implementation, and are given the highest near-term priority. The URP plays an integral role in preparing the Project's annual work plan. As needed, the STAC will revise the URP.

Project Annual Review

Each year the Policy Group and STAC conduct the Project Annual Review (PAR) which allows YKFP scientists to present and discuss with others the new knowledge gained during the year (1) relative to project objectives and assumptions stated in the PSR and (2) resulting from resolution work described and scheduled in the URP. The PAR and its ensuing analyses are the processes that provide the feedback loop from the current year's learning into the following year's PSR and work plans.

Attend Scheduled Meeting of the Policy Group and STAC

The Policy Group meets on a regular basis; usually every three weeks. The STAC meets independently of the Policy Group and, in addition, STAC representatives attend all Policy Group meetings. Policy Group meetings follow a standard agenda including budget discussions and updates, briefings from the STAC, reports on construction progress, and reports on hatchery operations and rearing. Other topics are frequently added to the agenda on an as-needed basis. The Policy Group responds to agenda items with policy direction where appropriate.

Approve Project Expenditures

Numerous funding and expenditure issues are brought before the Policy Group for approval. The Policy Group routinely entertains recommendations from STAC concerning funding of high-priority monitoring and research tasks brought forward by the Monitoring Implementation Planning Team (MIPT).

Coordination with BPA

Within the YKFP Policy Group, assist in developing decisions and providing input to BPA to the extent those directions and decisions affect the implementation and outcome of the Project.

Coordination with the PPC

Within the YKFP Policy Group, assist in developing and presenting information to the PPC as appropriate.

Coordinate NEPA Compliance

BPA is the responsible agency for NEPA compliance for the YKFP. The WDFW, through the Policy Group, provides necessary support to enable BPA to fulfill NEPA requirements on behalf of the project. The adaptive management cycle could identify options that would require NEPA action. Environmental review of all project activities is ongoing.

Management of Standing and Temporary Committees

The STAC manages the activities of standing committees including the Monitoring Implementation Planning Team and the BioEngineering Work Group.

Manage and Direct all WDFW Project Personnel

In concert with the Policy Group and the STAC, the WDFW technical representative supervises all WDFW staff who participate in the YKFP. This includes, in addition to those personnel identified in this project, research biologists and geneticists involved primarily with Project # 9506325, YKFP Monitoring and Evaluation.

Manage and Direct all Sub-contractors Providing Services to the Project via WDFW

Hatchery Operations Consulting has been affiliated with the YKFP for a number of years. The WDFW manages this sub-contract within this Policy/Technical contract on behalf of the YKFP. The contractor serves as the fish culture expert on the YKFP and serves as the chairman of the BioEngineering Work Group, a standing committee of the

STAC. In addition, the contractor represents the Policy Group as an observer during construction of Project facilities. The WDFW technical representative from STAC meets weekly with the contractor, reviews work products, and provides direction and assignments. The Contractor provides weekly updates of construction progress and brings to the attention of the Policy Group any departures from facility design that might have implications to the integrity of the supplementation evaluation or fish culture success.

g. Facilities and equipment

No special equipment or facilities are necessary for the Policy/Technical involvement functions characterized herein. Facility needs are identified in the appropriate sub-umbrella proposals under the YKFP umbrella

h. Budget

Salaries

The key personnel are a WDFW policy representative to serve on the Policy Group (.5 FTE) and a technical representative (1.0 FTE) to serve on STAC, manage all WDFW employees, and manage all WDFW contracts. In addition, partial salaries are provided for intermittent technical analysis to support policy decisions. Benefits are caclulated as per agency standards at approximately 24%.

Goods and Services

Funds are requested to provide basic office space and minimal miscellaneous office supplies.

Travel

This budget item primarily covers travel costs for technical representatives (STAC) who must regularly travel from Olympia to Yakima to attend scheduled Policy Group, STAC, and sub-committee meetings.

Consulting

The Project has contracted with Hatchery Operations Consulting to provide specific expertise on fish culture issues and has tasked the consultant with chairing two sub-committees of STAC; the Biological Specifications Work Group and the BioEngineering Work Group. In addition, the consulting firm has represented the Policy Group during the construction phase of the project to assure that any change orders were consistent with the biological specifications and to advise the Policy Group if there are departures from expectations.

Section 9. Key personnel

Keith Wolf (Policy Group Representative)	Fish Program Manager	.5 FTE
Bill Hopley (STAC technical rep)	Fisheris Research Scientist	1.0 FTE

KEITH WOLF

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EDUCATION

M.S. Marine Biology/Animal Behavior 1992
Columbia Pacific University

B.S. Marine Biology 1991
Pacific Lutheran University

Western Washington University 1988 – 1991

Whatcom Community College 1986 - 1988

BACKGROUND

1997 – Present Fish Program Manager/Yakima Klickitat Fisheries Project
Policy Representative. Washington Department of Fish and Wildlife

1996 – 1997 Fish Biologist 3, Western Washington Management Biologist.
Washington Department of Fish and Wildlife.

1993 –1996 Fish Biologist 3, Puget Sound Harvest Evaluation Coordinator.
Washington Department of Fish and Wildlife

03/93 – 10/93 Fish Biologist 1, Mid Columbia Predator Index Study
Washington Department of Wildlife

1989 – 1992 Marine Biologist/Staff Scientist.
Ardea Enterprises, Inc.

EXPERTISE

Project management, fish biology and behavior, harvest management. Computer applications, diverse and extensive experience with a variety of hardware and software programs, formats and languages. Familiar with many current versions of statistical and analytical software. Extensive use of word processing, spreadsheet, presentations, and application programs.

SELECTED PUBLICATIONS

Wolf, K.S. 1993. Finning and Other Destructive Modes of Ineffecient Development in the Shark Fishery. In: Chondros. Vol. 4: Number 3.

Wolf, K.S. et al. 1996. Seabird Mortality in Puget Sound Commercial Salmon Fisheries. In: Proceedings, Solving Bycatch, Solutions for Today and Tomorrow. Alaska Sea Grant Program.

Wolf, K.S. 1998 Under Puget Sound. Professional video documentary featuring comprehensive aspects of underwater ecosystem in Washington State. The Emerald Oceans Production Group Inc.

Wolf, K.S. 1998. Sharks of Puget Sound. In process.

CERTIFICATIONS

NAUI Divemaster #7989

NAUI SCUBA Instructor #14984

BILL HOPLEY

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EDUCATION

M.S. Fisheries Science 1975
University of Washington

B.S. Fisheries Science 1971
University of Washington

BACKGROUND

1997-present: Fisheries Research Scientist II. Unit Leader – Genetics and Hatchery/Wild Interactions. Technical representative for the Yakima/Klickitat Fisheries Project.
Washington Department of Fish and Wildlife

1991-1997: Fisheries Research Scientist I. Unit Leader – Hatchery/Wild Interactions. Technical representative for the Yakima/Klickitat Fisheries Project.

Washington Department of Fish and Wildlife (until 1994 Washington Department of Fisheries)

1979-1991: Resource Manager I. Hatchery Research and Development Unit Leader
Washington Department of Fisheries

1975-1979: Fish Biologist 3. Columbia River Hatchery Evaluations.
Washington Department of Fisheries

EXPERTISE

Salmon hatchery monitoring and research, production scheduling, facility design, supplementation research, genetics, project management.

SELECTED PUBLICATIONS

Pearsons, T. N., G. A. McMichael, E. L. Bartrand, A. L. Fritts, K. D. Ham, and C. W. Hopley. Yakima River Species Interactions Studies. Annual Report FY 1995-1996 submitted to Bonneville Power Administration, Portland, Oregon. 96AT65513. In Preparation.

Section 10. Information/technology transfer

Results from project management work are communicated primarily through the Project Annual Review. Results of work conducted through other contracts under the auspices of the Policy Group will be communicated in three ways; digitally, orally, and in writing. Information will be sent to the YKFP archive repository. Oral presentations will be made to resource groups and schools upon request, YKFP, BPA, and WDFW management meetings, and at scientific meetings. Annual reports will be submitted to BPA as required and manuscripts will be submitted to scientific journals for publication as appropriate.

Congratulations!