

Bonneville Power Administration Fish and Wildlife Program FY99 Proposal Form

How this form is structured

There are ten major sections to this form. Sections 1 through 5 are database-style fields in which specific information is being sought, so your input is restricted to the gray boxes below. *The boxes are pointers to indicate where to type; they will grow as you type more text, and they won't print as gray boxes.* These sections include: General Administrative Information; Key Words; Objectives, Tasks and Schedules; Relationship to Other Bonneville Projects; and Budget.

In Sections 1 through 5, each field is briefly described on the form itself, and for some fields more tips are shown in the status bar (bottom of the screen). For tables where more rows may be needed than are provided, press Alt-R from within the table to add a row at the end.

Sections 6 through 10 accept a narrative format in which more open-ended questions are asked and you may respond at length in paragraph form. Descriptions are provided on the form. These sections include: Abstract, Description, Relationships to Other Projects, Personnel, Information/Technology Transfer.

Steps to complete the form

1. First, read the Guidelines to Proposals.
2. Second, save this form. For ongoing projects, use your project number.DOC (example: 8909900.DOC). For new proposals, use a filename other than BLANK.DOC, preferably, your agency acronym and your initials (example: NMFSWS1.DOC).
3. Press Tab to move to the first field (Title of Project), and start typing.
NOTE: When you exit the Project Title or Project Number fields, your screen may display a "Header" box briefly. The form is updating itself, and will continue normally.
4. Fill in all fields (gray boxes) pressing Tab to advance from one field to the next. Then fill in narrative input areas, pressing down arrow to advance.
5. Print the completed document.
6. Save the document to diskette and mail both paper and diskette to:
Bonneville Power Administration - EW
ATTN: Connie Little
FY99 Proposals
P.O. Box 3621
Portland OR 97208-3621

Call Jim Middaugh at the Northwest Power Planning Council (503) 222-5161 or (800) 222-3355 or email middaugh@nwppc.org if you have additional questions.

Proposals must be received to Bonneville by 5pm PST on Friday, January 23, 1998. Late proposals will not be reviewed for FY99 funding. This information will be the only material submitted for independent scientific review. It is essential that the relevant information be provided completely but concisely.

Section 1. General administrative information

Title of project. 75 characters or less; do not include the contractor name or acronym; use abbreviations if appropriate; start with action verbs, i.e., "Evaluate Coho...", not "Evaluation of Coho".

Klickitat Passage/Habitat Improvement Construction And O&M

Bonneville project number, if an ongoing project 9506800

Business name of agency, institution or organization requesting funding

Yakama Indian Nation - Fisheries

Business acronym (if appropriate) YKFP

Proposal contact person or principal investigator:

Name Mel Sampson
Mailing Address P.O.Box 151
City, ST Zip Toppenish, Wa., 98948
Phone 509-865-6262
Fax 509-865-6293
Email address yinmel@wolfenet.com

Subcontractors. List other agencies or entities that will receive funding under this project, either through sub-contracts managed by the project sponsor or, where multiple agencies are involved as joint sponsors, through primary contracts managed by Bonneville. If another entity will be responsible for the long term maintenance of the project, identify them here.

List one subcontractor per row; to add more rows, press Alt-R from within this table

Organization	Mailing Address	City, ST Zip	Contact Name
Summit Technology	615 Second St.	Seattle, Wa. 98104	John Hutchins

NPPC Program Measure Number(s) which this project addresses. Refer to 1994 Fish and Wildlife Program as amended in 1995; NPPC staff will proof this field and correct if necessary; separate multiple measure numbers with commas.

7.10A.6, 7.10K.1

NMFS Biological Opinion Number(s) which this project addresses. If the project relates to the Kootenai Sturgeon Biological Opinion, the NMFS Hydrosystem Operations

Biological Opinion, or other Endangered Species Act requirements, enter the Action Number and Biological Opinion Title.

Other planning document references. If the project is called for in the National Marine Fisheries Service *Snake River Salmon Recovery Plan*, or in *Wy Kan Ush Me Wa Kush Wit*, the Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs and Yakama tribes, in U.S. Forest Service or Bureau of Reclamation land management plans, or in local area subbasin or watershed plans, or in other planning documents, provide the name of the plan and reference citation where the need is identified.

If the project type is “Watershed” (see Section 2), reference any demonstrable support from affected agencies, tribes, local watershed groups, and public and/or private landowners, and cite available documentation.

Wy Kan Ush Me Wa Kush Wit, 1990 Klickitat Subbasin Plan

Subbasin. List subbasin(s) where work is performed. Use commas to separate multiple subbasins. Coordination projects or those not affecting particular subbasins may omit this field.

Klickitat

Short description. Describe the project in a short phrase (less than 250 characters). Give information that is not in the title. If possible start this field with an action verb (protect, modify, develop, enhance, etc.) rather than a noun (this project protects). There is room for a more detailed project abstract later in the narrative section, so please keep this answer short.

Completion of final design drawings for improvements to Lyle Falls, augment Mitchell Act Funds for construction, development of final design for Castile Falls improvements.

Section 2. Key words

For identifying and sorting, mark key words below that most specifically describe this project. Under each heading (Programmatic Categories, Activities, Project Types), find the **one** item that most applies to your project, and mark it with an X in the Mark column. If other items in the same heading also apply, mark them with a plus sign or asterisk.

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish	X	Construction	X	Watershed
	Resident fish	*	O & M		Biodiversity/genetics
	Wildlife	*	Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate	*	Monitoring/eval.		Flow/survival
	Other		Resource mgmt		Fish disease
			Planning/admin.	*	Supplementation

Enforcement
 Wildlife habitat en-
 Acquisitions
 hancement/restoration

Other keywords. If there are other key words that would help identify your project, enter them below, separated by commas; example key words: DNA, stock identification, life history, sampling, modeling, nutrient dynamics, predation, hydrodynamics, gas bubble disease, disease names, hatchery-wild interactions, ecological interactions. Passage improvements, run monitoring, broodstock collection, opening up nearly pristine spawning/rearing habitat.

Section 3. Relationships to other Bonneville projects

Describe any interdependencies with other projects funded under the Fish and Wildlife Program. Don't include general relationships to other projects, but target those that depend on this project being funded, or vice versa. There is room in Section 7 below to comment on other relationships or to describe these more fully.

If you need more rows, press Alt-R from within this table.

Project #	Project title/description	Nature of relationship
9506800	Klickitat Passage/Habitat Preliminary Design Study - M&E	This portion of the project is an integrated watershed analysis, providing baseline information to guide supplementation and habitat improvement activities. This activity will function as the M&E portion of the entire project.

Section 4. Objectives, tasks and schedules

This section has three parts: a) Objectives and tasks table, b) Objective schedules and costs table, c) other schedule fields. Instructions for each part follow the headings.

Objectives and tasks

Briefly describe measurable objectives and the tasks needed to complete each objective. Use Column 1 to assign numbers to objectives (for reference in the next table), and Column 3 to assign letters to tasks. Use Columns 2 and 4 for the descriptive text. Objectives do not need to be listed in any particular order, and need only be listed once, even if there are multiple tasks for a single objective. List only one task per row; if you need more rows, press Alt-R from within this table.

Obj 1,2,3	Objective	Task a,b,c	Task

1	Improve passage at Lyle Falls	a	Develop suite of passage improvement options at Lyle Falls
		b	Develop adult monitoring capability at Lyle Falls
		c	Develop adult broodstock collection capability at Lyle Falls. For development of locally adapted broodstock to reduce straying into other basins.
		d	Develop costs estimates for selected option
		e	Completion of final design drawings for passage improvement
		f	Augment 2 million dollars available for Klickitat through Mitchell Act funds.
2	Improve passage at Castile Falls	a	Develop suite of passage improvement options at Castile Falls
		b	Develop costs estimates for selected option
		c	Completion of final design drawings for passage improvement
3	Completion of tributary passage improvement investigation and development of options	a	Completion of tributary passage problem investigation
		b	Rank and prioritize identified tributary passage problems
		c	Selection of top priority tributary sites and develop actions.

Objective schedules and costs

Partition overhead, administrative, support, and any other common costs shared among objectives. The percentages for all objectives should total 100%. Enter just the objective numbers from Column 1 in the above table. Enter start and end dates for each objective using the mm/yyyy format (e.g. 05/2002 for May, 2002).

If you need more rows, press Alt-R. **Press Alt-C to calculate total.**

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	7/1996	4/1998	80.00%
2	7/1996	5/1999	15.00%
3	7/1996	10/1998	5.00%

			TOTAL 100.00%

Schedule constraints. Identify any constraints that may cause schedule changes.

Describe major milestones if necessary.

No break in funding in order to complete final design drawings so construction project can be put to bid, so recently made available Mitchell Act monies can be used in a timely manner. SEPA , NEPA

Completion date. Enter the last year that the project is expected to require funding.

2003

Section 5. Budget

This section has two tables: 1) FY99 budget by line item, and 2) Outyear costs.

Instructions for each part follow the heading.

FY99 budget by line item

List FY99 budget amounts for each category. If an item needs more explanation, provide it in the Note column. If the project uses PIT tags, include the cost (\$2.90/tag). **Press**

Alt-C to calculate total.

Item	Note	FY99
Personnel		\$0
Fringe benefits		\$0
Supplies, materials, non-expendable property		\$0
Operations & maintenance		\$0
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		\$0
PIT tags	# of tags:	\$0
Travel		\$0
Indirect costs		\$0
Subcontracts	Funds to be carried over for no-cost extension to complete design work for Castile, and trib. work.	\$238,000
Other		\$0
TOTAL		\$238,000

Outyear costs

List budget amounts for the next four years, and the estimated percentage of those costs for operations and maintenance (O&M).

Outyear costs	FY2000	FY01	FY02	FY03
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Total budget	\$100,000	\$925,000	\$75,000	\$10,000
O&M as % of total				

Section 6. Abstract

A condensed description to briefly convey to other fish and wildlife scientists, managers and non-specialists the background, objectives, approach and expected results. **In under 250 words**, include the following:

- a. Specific items in any solicitation being addressed
- b. Overall project goals and objectives
- c. Relevance to the 1994 Columbia Basin Fish and Wildlife Program (benefit to fish and wildlife)
- d. Methods or approach based on sound scientific principles
- e. Expected outcome and time frame
- f. How results will be monitored and evaluated

This portion of the overall Klickitat Passage/Habitat Preliminary Design study is to determine the causes of limited adult passage at Lyle (RM 1.0) and Castile (RM64.0) Falls. Included in the assessment is the definition of the passage problem, presentation of conceptual solutions, development of construction cost estimates. Project goals include: bringing Lyle Fishway up to generally accepted design and operational criteria, develop adult broodstock collection and monitoring capabilities for future supplementation activities. Redesign and/or improve existing fishways at Castile Falls to increase passage for salmonids into approximately 60 miles of near pristine habitat. Identify tributary passage problems, prioritize and develop solutions. All passage activities are aimed at increasing adult returns to the basin and increasing overall survival through exploitation of available habitat. Relevance to the 1994 CBFW Program is identified in items 7.10A.6 and 7.10K.1. Industry accepted design criteria are being employed through all phases of project design and construction. It is expected that increased passage into and through the basin will result in increased natural production, and allow for locally adapted Klickitat stocks to be used as broodstock. Results will be monitored through standardized fisheries inventory/assessment techniques.

Section 7. Project description

This full description of the project should be in sufficient detail to include the following information under headings a through g (**maximum of 10 pages for entire project description**):

- a. **Technical and/or scientific background.** The overall problem should be clearly identified with background history and scientific literature review, if a research project. Location should be specific, if relevant. Goals and objectives of the 1994 Fish and Wildlife Program (FWP), NMFS Biological Opinion, or other plans in relation to the proposed project should be stated and described in some detail. Indicate whether the project mitigates losses in place, in kind, or if out-of-kind mitigation is being proposed.

Show how the proposed work is a logical component of an overall conceptual framework or model that integrated knowledge of the problem. The most significant previous work history related to the project, including work of key project personnel on any past or current work similar to the proposal, should be reviewed. All work should be adequately referenced and listed at the end of this field.

As identified in the 1990 Klickitat Subbasin Plan and Wy Kan Ush Me Wa Kush Wit passage problems are the limiting factors to increased production in the Klickitat River. It has been identified in all YKFP planning documents that broodstock collection and monitoring facilities are required to conduct an adequate supplementation experiment.

b. Proposal objectives. Specific, measurable objectives or outcomes for the project should be presented concisely in a numbered list. Research proposals must concisely state the hypotheses and assumptions necessary to test these. Non-scientific projects must also state their objectives. Clearly identify any products (reports, structures, etc.) that would result from this project. For example, an artificial production program may state the species composition and numbers to be produced, their expected survival rates, and projected benefits to the FWP. A land acquisition proposal may state the conservation objectives and value of the property, the expected benefits to the FWP, and a measurable goal in terms of production. Methods and tasks (in heading e, below) are to be linked to these objectives and outcomes (by number).

Proposal Objectives

Lyle Falls:

- Create a fishway that passes adult fish over a wide range of flows. To increase escapement for natural production of coho, and make passage more efficient for all other stocks of salmonids.
- Develop an adult trapping facility to collect broodstock over the course of the run and maintain genetic variability. Create locally adapted broodstock from hatchery production to minimize straying in other basins (summer and fall chinook - summer and winter steelhead).
- Construct video counting station to monitor and evaluate supplementation and natural production from future habitat and tributary passage activities. Video monitoring will provide run-timing information to be used by project managers to guide supplementation activities under the YKFP.

Castile Falls:

- Increase passage over Castile Falls to make available approximately 35 miles of spawning and rearing habitat for spring chinook and approximately 60 miles for steelhead. The existing conditions at Castile Falls are described in detail in (Adult

Passage Improvements for Klickitat River at Lyle and Castile Falls 1996, prepared by Summit Technology).

Castile Falls Construction History:

- Two tunnels and an above ground fishway were constructed with Mitchell Act funds in the early 1960's in an attempt to tunnel around the series of 11 falls which drop 120 feet over 0.9 miles. An underground mudflow forced the single tunnel option to be abandoned. Currently, the three structures have been grossly inefficient, and have been poorly maintained since construction. In fact, the headwork dam, which feeds the upper tunnel, is a blockage to upstream migration if fish negotiate the series of falls.

Tributary Passage:

- Identify and prioritize passage improvement options in tributaries in the Klickitat basin. This being conducted through field investigation, with scheduled site visits by qualified engineers to develop actions and cost estimates.

c. Rationale and significance to Regional Programs. The rationale behind the proposed project should be presented and project objectives and hypotheses related as specifically as possible to the FWP objectives and measures or to other plans. You should make a convincing case for how the proposed work will further goals of the FWP. Relevant projects in progress in the Columbia Basin and elsewhere should be listed and discussed in relation to the proposed project. Arrangements should be identified and documented for cooperation and synergistic relationships among the proposed project, *other project proposals*, and existing projects. Any particularly novel ideas or contributions offered by the proposed project should be highlighted and discussed.

Klickitat Fisheries Project has been included in the Council's Fish and Wildlife Program. The Council's 1987 Fish and Wildlife Program presented measures specifically for the Klickitat River. This Project initiates the preliminary design work needed to complete a Preliminary Design Report for the Klickitat Subbasin passage improvements that will open habitat for production of salmon and steelhead.

- d. Project history** (for continuing projects). If the project is continuing from a previous year, the history must be provided. This includes projects that historically began as a different numbered projects (identify number *and short title*). For continuing projects, the proposal primarily will be an update of this section. List the following:
- project numbers (if changed)
 - project reports and technical papers
 - summary of major results achieved
 - adaptive management implications
 - years underway (see attached spreadsheet)
 - past costs (see attached spreadsheet)

Project number # 9506800 since inception in August 1995.

Documents:

Preliminary Design of Passage and Habitat improvement in the Klickitat River 1995, draft final report.

Adult Passage Improvements for Klickitat River at Lyle and Castile Falls 1996, prepared by Summit Technology.

Major results:

Near completion of final design drawing for modification to Lyle Falls, which include geotechnical, hydraulic, engineering surveys as well as blueprints for construction. Consultation with NMFS for majority of proposed construction costs through Mitchell Act funds. Conceptual design and cost estimates for passage improvements at Castile Falls. Field investigation of tributary passage problems and initial prioritization.

Adaptive Management Implication:

The YKFP has formally adopted adaptive management through the Policy Group. It has been stated that adaptive management is essential as the principals of supplementation are tested and explored. Information collected from tasks in this project will allow the managers to utilize adaptive management in the design process used to determine priorities of subsequent habitat/passage and supplementation projects in the Klickitat basin.

Years underway:

Summit Technology Engineering Consultants were contracted 11/96 and are under contract at this time. Since project inception (08/95) YIN field crews and professional staff have compiled information about tributary passage improvement opportunities in the Klickitat basin.

Past Costs:

Since subcontract inception between YIN and Summit Technology, \$83,395.31 has been spent for purposes outlined in this document.

e. Methods. How the project is to be carried out based on sound scientific principles should be described (this is applicable to all types of projects). Include scope, approach, and detailed methodology. If methods are described in detail in another document, summarize here and cite reference. The methods should include, as appropriate, but not be limited to such items as:

- tasks associated specifically with objectives
- critical assumptions
- description of proposed studies, experiments, treatments or operations in the sequence that they are to be carried out

- any special animal care or environmental protection requirements
- any risks to habitats, other organisms, or humans
- justification of the sample size
- methods by which the data will be analyzed
- methods for monitoring and evaluating results
- kinds of results expected

Each proposer should complete the methods section with an objective assessment of factors that may limit success of the project and/or critical linkages of the proposal with other work (e.g., a smolt monitoring program, etc.).

Methods:

Construction at mainstem and tributary passage actions will use industry standard design and operational criteria. Specific actions for Lyle and Castile Falls are identified in “Adult Passage Improvements for Klickitat River at Lyle and Castile Falls 1996, prepared by Summit Technology”.

A construction summary for Lyle and Castile Falls includes:

Lyle Falls:

- Modification of lower end of ladder to provide a lower floor and additional baffles, to accommodate lower tailwaters. Increase baffles from original 13 to 16.
- Modify opening to allow for adjustability in operation at appropriate head differentials (1.0 - 1.5 ft.)
- Construction of adequate attraction water supply to augment inadequate existing attraction water. Recommended to be a total 150 cfs.
- Construct exit channel that can pass fish effectively through a wide range of flows.
- Current conditions preclude or delay fish from exiting ladder during low flow periods.
- Construct adequate rock and debris sluice, to allow periodic sluicing to maintain interior channel.
- Construct off-ladder broomstick trapping facility for future YKFP purposes.
- Construct counting station to allow adequate fish management

Castile Falls:

The most promising passage improvement options identified at Castile Falls include the following:

- Improvement to existing tunnels through modification of entrance geometry, augmentation of attraction flow, and lighting.
- Direct river modification through corrective blasting at key sites. Construction of in-river sills to lower the height of existing falls.
- Further hydraulic and geotechnical engineering studies will be completed to identify the action or combination of actions that will produce the greatest success.

Tributary Passage:

- Methods to increase passage at tributary barriers and blockages will be evaluated and prioritized to determine the most cost-effective action to be implemented.

f. Facilities and equipment. All major facilities and equipment to be used in the project should be described in sufficient detail to show adequacy for the job. The proposal should indicate whether there are suitable (based on contemporary standards) field equipment, vehicles, laboratory and office space and equipment, life support systems for organisms, and computers, for example. Any special or high-cost equipment to be purchased with project funds should be identified and justified. Reference to other proposals is allowed but note that limitations of those proposals could effect the evaluation of the ones citing them.

During FY98 and beyond the subcontractor will assume all facility rental and equipment purchase after authorization by Yakama Indian Nation Fisheries.

g. References. (Not included in 10-page limit for this section.) Provide complete citations to all publications referred to in Sections 6a-f. List in order: author(s), date, title, report number, publisher or agency, location. References will not be read by reviewers; the substance of any reference should be described in the text and the source cited. Sample citation:

Rondorf, D.W., and K.F. Tiffan. 1997. Identification of the spawning, rearing and migratory requirements of fall chinook salmon in the Columbia River Basin. Annual Report 1995. DOE/BP-21078-5, Bonneville Power Administration, Portland, Oregon.

Preliminary Design of Passage and Habitat improvement in the Klickitat River 1995, draft final report.

Adult Passage Improvements for Klickitat River at Lyle and Castile Falls 1996, prepared by Summit Technology.

Fast, D.E et al. 1989. Yakima/Klickitat Natural Production and Enhancement Program. Prepared for Bonneville Power Administration. Project No. 88-120 Grant DE-A179-88BP93203.

Hubble, J.D. et al. 1990. Yakima/Klickitat Natural Production and Enhancement Program. Prepared for Bonneville Power Administration. Project No. 88-120 Grant DE-A179-88BP93203.

Hubble, J.D. et al. 1991. Yakima/Klickitat Natural Production and Enhancement Program. Prepared for Bonneville Power Administration. Project No. 88-120 Grant DE-A179-88BP93203.

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Hubble, J.D. et al. 1993. Yakima/Klickitat Natural Production and Enhancement Program. Prepared for Bonneville Power Administration. Project No. 88-120 Grant DE-A179-88BP93203.

Section 8. Relationships to other projects

Indicate how the project complements or includes collaborative efforts with other projects; put the work into the context of other work funded under the FWP. If the proposed project requires or includes collaboration with other agencies, organizations or scientists, or any special permitting to accomplish the work, such arrangements should be fully explained. If the relationship with other proposals is unknown or is in conflict with another project, note this and explain why.

This is not intended to duplicate the Relationships table in Section 3. Instead, it allows for more detailed descriptions of relationships, includes non-interdependent relationships, and includes those not limited to specific Bonneville projects.

This project has direct links to all YKFP projects proposed and ongoing, as opportunities to incorporate project successes and learn from failures.

This project relates to the Lower Klickitat River In-Channel and Riparian Restoration Project # 5512800 currently under way in the Swale Creek drainage of the Klickitat Basin. Increased public awareness and involvement with this project will directly benefit acceptance of the passage improvements slated for the off-reservation portion of the project. Through local organizations and forums information will be disseminated about this project and highlight all parties involved. Continued collaboration with federal, state, local and tribal governments will show the local community that the depressed salmonid stocks, which represent considerable recreation income, are about to receive the much-needed attention they deserve.

Section 9. Key personnel

Include names, titles, FTE/hours, and one-page resumes for key personnel (i.e. principal investigator, project manager), and describe their duties on the project. Emphasize qualifications for the proposed work. Resumes should include name, degrees earned (with school and date), certification status, current employer, current responsibilities, list of recent previous employment, a paragraph describing expertise, and up to five recent or especially relevant publications or job completions.

All YIN personnel and subcontractors on the project will meet or exceed YIN qualifications.

Section 10. Information/technology transfer

How will technology or technical information obtained from the project be distributed or otherwise implemented? Methods can include publication, holding of workshops, incorporation in agency standards or facilities, and commercialization.

Through YKFP/BPA scheduled reports, uncertainty resolution plans, meetings, and Project Annual Review (PAR). Data will be analyzed through existing YKFP procedures.

Monitoring and evaluation of passage activities will use standardized fisheries inventory techniques such as spawner surveys and direct enumeration through video imagery. Spawner surveys will be intensified in areas opened upstream of Castile Falls, approximately 60 miles of spawning and rearing habitat. A radio telemetry study will be initiated upon construction completion to set operational criteria that pass fish most effectively over a wide range of flows at Lyle Falls.

Congratulations!

Thank you for completing the FY99 Proposal Form. Please print and save this file to diskette, and mail both to the address shown at the top of this document. To ensure a thorough review of your proposed work, this form will be screened for completeness. If it is not complete, it may be returned to you with a request for additional information.