Independent Scientific Review Panel

for the Northwest Power Planning Council

Response Review of Fiscal Year 2000 Proposals

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Independent Scientific Review Panel FY2000 Response Review

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SECTION I: Programmatic Comments

Introduction

In late summer 1999, the Council asked the Independent Scientific Review Panel (ISRP) to review sponsor provided responses to the ISRP's original review comments on individual FY2000 proposals (ISRP 99-2, Volume II, 15 June 1999). This is a relatively unprecedented request, as previous ISRP (and ISAB) reviews, reports, and recommendations have not generally been opened for formal response by project sponsors and subjected to a re-review by the ISRP. In the long run, too frequent use of such an interactive review process might undermine the review role of independent review groups like the ISRP. However, recognizing the importance of the transition period from the annual review cycles of FY1998 through FY2000 to the new somewhat uncharted terrain of the three-year province-level rolling reviews, the ISRP willingly agreed to undertake this additional review step for resolution of funding status for FY2000 proposals where the ISRP recommended "fund in part," "delay funding" or "do not fund."

Sponsor responses were provided in a variety of formats. Responses for Columbia Fish and Wildlife Authority members were provided in the CBFWA Draft Annual Implementation Work Plan (DAIWP) of August 20, 1999. Anticipating additional review by the ISRP, Council also solicited sponsor responses for proposals. Sponsors were given the choice of using the CBFWA DAIWP response, revising and resubmitting the CBFWA response, providing their own response directly to Council, or submitting a response through the public comment process.

Responses were received for 100 proposals and distributed to the ISRP and Peer Review Group (PRG) members in early October. ISRP and PRG members that had reviewed the proposal originally reviewed the sponsor-provided response and determined whether the response adequately addressed the ISRP's concerns that led to the qualified or negative recommendation. The ISRP's review criteria are specified in the 1996 amendment to the Northwest Power Act, which states that project recommendations shall be based on a determination that projects:

1. *are based on sound science principles;*
2. *benefit fish and wildlife;*
3. *have a clearly defined objective and outcome*
4. *with provisions for monitoring and evaluation of results, and*
5. *are consistent with the Council's fish and wildlife program.*

The ISRP met for three days to review and discuss the 100 proposal responses. Responses were read carefully by at least three reviewers and presented to the larger ISRP and PRG review group for discussion. Responses were discussed and a determination reached whether or not the response had adequately addressed the ISRP's review comments and concerns (Table 1).

Results of the Response Review

After considering the sponsor's responses, most proposals were found to satisfy the ISRP comments and 75 out of 100 were recommended for funding (Table 2A). An additional 10 proposals were recommended for funding in part (Table 2B). For some proposals, the response answered many, but not all of the ISRP's concerns. For four of these proposals where the review was generally positive, but a critical element was still judged to be missing or deficient, the ISRP recommended delaying funding until that element was corrected or provided (Table 2C). The responses of eleven proposals did not adequately address the ISRP's original review concerns. The ISRP recommended that these proposals not be funded (Table 2D).

Many of the responses addressed the ISRP's recommendations and comments directly and succinctly. A few, such as projects 9107300**: "**Idaho Natural Production Monitoring and Evaluation", and 9700100**:** "Captive Rearing Initiative for Salmon River Chinook Salmon" were exemplary and might serve as models should the region engage in this review and response strategy again in the future. In general, the ISRP also found the CBFWA responses to be very useful. The uniform presentation, point-by-point response structure, and the obvious attention to editing the response material contributed to the effectiveness of those responses.

In contrast to this group of responses, a number of the responses seemed to function more as a rebuttal of the ISRP's original review comments than as an attempt to address the review specifics. As one of the participating PRG members noted, "Many of the responses seemed to reflect some degree of a sense of entitlement regarding the funds requested and a lack of willingness to objectively address ISRP criticisms." Where the response was almost entirely a rebuttal and did not adequately address the ISRP's technical criticisms, the ISRP was forced to let the original qualified or negative funding recommendation stand.

Project-level Monitoring and Evaluation Still Problematic

The ISRP notes with some dismay, that in general, well described monitoring and evaluation (M&E) plans were absent from most proposals. This has been a chronic problem in the basin. Perhaps contributing to the problem, it appears that substantial confusion exists concerning the need for monitoring and evaluation and the identification of the appropriate scale of monitoring and evaluation for most projects

Many sponsors appear to believe that because they do not view their projects as "research" projects, that monitoring and evaluation are not needed. Monitoring and evaluation, in some form, are appropriate and needed for nearly all projects in the basin. This includes fencing projects, irrigation screening projects, and wildlife habitat acquisition projects, as well as the more obvious research-oriented projects. However, the scale, type, and cost of monitoring and evaluation needed will differ dramatically among project types.

Many responses did not directly address the central scientific concerns of reviewers. The primary argument the respondents offered was that the proposal was for evaluation, not

research. This is a meaningless distinction. Evaluation implies conclusions with some degree of confidence, and that is a form of research. For example in the response for project 9106700*:* Idaho Water Rental: Resident Fish And Wildlife Impacts - Phase III, the responders state that they are not designing an experiment with this project, but then go on to say that they are trying to identify when and how to release flow augmentation water in such a way as to either reduce negative impacts or improve habitat. This is an experiment. How would water management activities be evaluated without testing hypotheses about alternative treatments/effects? This is the crux of the issue. In the absence of clear design and procedures for testing hypotheses, the "conclusions" of the project would seem to be little more than, at best, descriptive natural history (which might generate some good hypotheses), or, at worst, unwarranted individual opinion that remains unchallenged by standards of statistical deduction. The responses suggest a fundamental misunderstanding of how sound, scientifically supported conclusions are drawn from data (observations). Inclusion of an idea in the Fish and Wildlife Program document does not address the question of scientific soundness of that idea or of any particular implementation of the idea.

In its simplest terms, monitoring is the collection of the data needed to determine (i.e., evaluate) whether a proposal has attained its objectives or not. For the project to be meaningful to the goals of the Fish and Wildlife Program, objectives need to include biological objectives as well as task objectives. For example, a fencing project might be aimed at rebuilding riparian habitat through construction of XX miles of fence. Monitoring and evaluation should determine if XX miles of fence was actually installed, as well as progress toward the goal of rebuilding riparian habitat features (described as specific objectives).

Scaling monitoring and evaluation appropriately to the goals and objectives of the project will also serve in many instances to contain the M&E costs to a reasonable fraction of the budget. A common (but unrealistic) complaint in many proposals was that M&E costs would exceed the cost of the actual project. Consequently, many proposals justified their lack of M&E on the basis of this perceived high cost of conducting M&E. While M&E costs can be very high on some projects, depending upon the project's goals and M&E needs, in many cases simpler and more streamlined M&E approaches may be adequate to assess the project's progress toward its goals. For example, many watershed and habitat restoration projects exist in the basin with the objective of improving ecological processes and functions needed by salmonids (i.e., increasing normative conditions) and increasing fish abundance. It is probably not necessary to rigorously conduct extensive surveys of macroinvertebrates in order to determine if progress is being made toward the goal. Instead a few key water temperature and water quality parameters, as well as counts of redds, adults, and juvenile fish should be adequate to assess project progress.

Perceived ISRP Bias Against Hatchery Projects

Several responses from sponsors of artificial production projects raised the suggestion that the ISRP is biased against funding hatchery projects. The ISRP does not believe this to be true. Indeed, several artificial production projects in the "Fix-It Loop" were recommended for funding after careful responses from the sponsors adequately addressed

the ISRP's original review comments. These include for example, projects 9004400 (Implement Fisheries Enhancement Opportunities: Coeur d'Alene Reservation); 9107300 **(**Idaho Natural Production Monitoring and Evaluation), and 9700100 (Captive Rearing Initiative for Salmon River Chinook Salmon).

Part of the perception that the ISRP is pre-disposed against artificial production projects may come from the fact that the ISRP shares the technical concerns of many other scientists and scientific groups over the uses and risks associated with artificial production (National Fish Hatchery Review Panel 1994; Busack and Currens 1995; Campton 1995; Schramm and Piper 1995; National Research Council (NRC) 1996; Scientific Review Team 1998; Independent Scientific Group (ISG) 1999). Within the Columbia River basin, great costs are proposed and great potential risks to native stocks exist for the suite of artificial production projects. The ISRP would be remiss in its duties under the Power Act amendment, if it did not approach these projects with some caution and the expectation of technically sound proposals.

The following *italicized* comment is taken directly from our review of project 9800703, Facility O&M And Program M&E For Grande Ronde Spring Chinook Salmon. The comment is important because it covers a point relevant to a number of artificial production proposals and is a central continuing reason that many hatchery programs continue to get negative scientific reviews, despite attempts for squeaky-clean internal operations.

> *Although it is obvious that the short-term costs of a captive broodstock program are acceptable compared to the long-term costs of extinctions, loss of genetic diversity, and reintroduction from other sources, the sponsors have not stated how they will address the factors that are causing the decline and extirpation of spring chinook salmon in the Grande Ronde River basin (e.g., passage mortality and harvest rates). Unless these factors are identified and rectified, it is doubtful that any type of hatchery program will have long-term success in the restoration of native anadromous fishes.*

Wildlife Monitoring and Evaluation: Linkages Needed between HEPs and Target Species

HEP evaluation makes sense as a method for defining losses of land and losses of habitat. It also makes sense as a conceptual approach to wildlife habitat acquisition and restoration. Indeed, the wildlife portion of the Council's FWP is based on the HEP concept and land acquisitions are pursued and accounted for using the HEP currency.

While the ISRP does not contest this approach or the policy decisions behind it, we continue to have concerns that the monitoring and evaluation of wildlife projects and programs should not rest solely on a HEP-based analysis. A fundamental premise in the HEP approach is that target wildlife species (and associated non-target species) will respond in a positive fashion (usually abundance) to species-specific habitat improvements. While there are strong theoretical reasons to expect a positive relationship between habitat improvements (usually brought about through acquisition

and subsequent land management), biological responses are variable and often complex. Therefore, a necessary complement to a HEP-based management project or program, should be a monitoring and evaluation component that routinely assesses the expected versus actual response of both target and non-target wildlife species.

Justification for Proposal Actions

Scientific viability and justification for a proposed project are not necessarily provided by language in the FWP or in BPA documents, regardless of what previous review process they have been through. Documents such as the Fish and Wildlife Program, CBFWA's AIWP, BPA planning documents are primarily planning and policy documents. Review of proposed actions is appropriate in these arenas for the purposes of planning and policy development, however, review for these purposes does not constitute bona fide scientific peer-review within the scientific community as the ISRP is directed to conduct by the 1996 NW Power Act amendment.

While it is important that proposed projects be linked to policy measures or directives in the Council's Fish and Wildlife Program, such linkages even when directly and explicitly stated, do not constitute scientific or technical justification for the proposed work. The sponsor's proposal needs to clearly describe the scientific or technical background, foundation, and justification for the proposed work.

Subcontractors and Proposal Review

In general, where project proposals included subcontractors, inadequate information was provided on the subcontractor (if already identified) or on the qualifications needed in a subcontractor. Proposers' responses were generally uninformative in the instances where the ISRP had commented that the proposal was handicapped by the lack of information on the subcontractor. Several sponsors suggested that it was inappropriate for the ISRP to request information on the subcontractor.

For many projects, the use of subcontractors is an integral part of the project. Indeed, for some, such as genetic inventories, success or failure of the project may ride on the qualifications and performance of the subcontractor. Therefore, inclusion of pertinent information on subcontractors is essential for the ISRP to be able to adequately review the proposed project. Selection of qualified subcontractors is a task for the sponsor and BPA to address after the ISRP's technical review. Selection or even recommendation of qualified subcontractors is not an appropriate action for the ISRP.

For projects where the subcontractor has already been identified, relevant information should be supplied for purposes of review. This includes the objectives, tasks, methods, experimental design, monitoring and evaluation, etc. for the subcontracted portion of the study. The subcontractors' qualifications should also be presented. For proposals where the subcontractor has not been identified yet, the sponsor should provide qualification and performance criteria that will be used to select the subcontractor. Additionally, the sponsor should provide as much information as possible concerning the objectives, tasks, methods, experimental design, monitoring and evaluation, etc. of proposed subcontractor portion of the project.

Resident Fish Substitutions

The ISRPs scientific misgivings with respect to the use of non-native species, particularly in the resident fish substitution program, has been an area of some concern for the resident fish managers. In previous reports, the ISRP has recommended focusing on and using native species and stocks wherever possible, rather than non-native species. However, this recommendation has not been for a total prohibition on non-native species as some have interpreted it.

The ISRP would like to specifically acknowledge project 9004400 (Implement Fisheries Enhancement Opportunities: Coeur d'Alene Reservation) as a good example of careful use of off-site mitigation using non-native species that adequately safeguards against interactions with natives species.

Rolling Review Protocols and Review Criteria Being Developed

Logistics and review protocols are currently being developed for the rolling three-year reviews of ecological provinces and their subbasins. These are expected to start in January 2000. This is an ambitious and innovative approach to project review that should provide substantially increased context for individual projects and proposals. While planning is not yet completed for the mechanics of the rolling reviews, the ISRP and Council staff intend to include a mechanism for dialogue and interaction between proposal sponsors and the ISRP that includes sponsor review and comment on the draft ISRP final report. This should help clarify any points of misunderstanding or misinformation prior to release of the final report and in turn, eliminate the need for any subsequent re-evaluations.

Council staff has requested that the ISRP propose a preferred order for the rolling review. In order to initiate the rolling review process soon and to test and fine-tune the review, the ISRP proposes to review the Columbia Gorge ecological province first. This province includes the Wind, Hood, Fifteenmile and White Salmon river subbasins. Each province-level review is expected to take six months to complete. We propose to start a second review in April 2000 focusing on the Columbia Cascade ecological province, which includes the Wenatchee, Entiat, Lake Chelan, Methow, Okanogan subbasins. After these initial reviews, the ISRP expects to revise the review protocol if needed, for application to the review of the remaining ecological provinces and subbasins. Although a specific review schedule for the remaining provinces has not yet been determined, the ISRP recognizes the complexity and controversial nature of many proposals in the Clearwater, Salmon, Grande Ronde, Umatilla, and Yakima subbasins. Therefore, it is likely that the ISRP will give scheduling priority to the Blue Mountain, Mountain Snake, and Columbia Plateau ecological provinces. We anticipate starting review of at least one of these during Year 1 (calendar year 2000) of the rolling review process and the others in Year 2 (calendar year 2001).

Need for an Annual Review Process in FY2001 and beyond?

ISRP notes that FY2001 and beyond are likely to require a limited annual review of innovative projects and critical need projects. We look forward to discussions with

Council and Council staff on this issue and offer our assistance in developing programs and protocols to address this need.

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SECTION II: Tables of ISRP Recommendations

Table 1. Proposals Sorted by Subbasin

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
Ocean and Estuary						
9702600	Ecology Of Marine Predatory Fishes: Influence On Salmonid Ocean Survival	NMFS/ NWFSC	**Fund**	Delay Funding	$0	$200,000
9801400	Ocean Survival Of Juvenile Salmonids In The Columbia River Plume	NMFS/ NWFSC	**Fund in Part**	Fund in Part	$0	$826,000
Smolt and Adult Monitoring						
8740100	Assessment Of Smolt Condition: Biological And Environmental Interactions	USGS-BRD, CRRL	**Fund**	Delay Funding	$199,046	$199,046
8331900	New Fish tagging System	NMFS	**Fund**	DNF	$1,388,800	$1,388,800
PATH and PATH related						
9600600	Facilitation, Technical Assistance And Peer Review Of Path	ESSA	**Fund for Transition**	DNF	$450,000	$450,000
9600800	Stufa Participation In A Plan For Analyzing And Testing Hypotheses (Path)	ODFW	**Fund for Transition**	DNF	$745,131	$745,131
9600801	Technical Support For Path	NMFS	**Fund for Transition**	DNF	$75,000	$75,000
9601700	Provide Technical Support For Path	BioAnalysts, Inc.	**Fund for Transition**	DNF	$27,221	$109,000
9800100	Analytical Support-Path And Esa Biological Assessments	Hinrichsen Enviro Services	**Fund for Transition**	DNF	$119,900	$125,000
9303701	Stochastic Life Cycle Model Technical Assistance	PER Ltd.	**Fund for Transition**	DNF	$70,000	$180,000
9700200	Path - Uw Technical Support	UW	**Fund for Transition**	DNF	$182,389	$301,081
Systemwide Predator and Competitor Research						
9007800	Evaluate Predator Removal: Large-Scale Patterns	USGS	**Fund**	DNF	$117,880	$117,880
9702400	Avian Predation on Juvenile Salmonids in the Lower Columbia River	OSU/ CRITFC	**Fund**	Fund in Part	$642,600	$642,600
Systemwide Life History Studies						
9102900	Life History And Survival Of Fall Chinook Salmon In Columbia River Basin	USGS	**Fund**	Fund in Part	$743,558	$799,525

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
Pacific Lamprey Projects						
9402600	Pacific Lamprey Research And Restoration	CTUIR	**Fund**	Fund in Part	$381,190	$381,190
20019	Evaluate Status Of Pacific Lamprey In Clearwater River Drainage, Idaho	IDFG	**Fund**	*Fund*	$73,000	$119,039
20065	Identification of larval Pacific lampreys (Lampetra tridentata), river lamp	USGS-BRD, CRRL	**Fund**	*Fund*	$78,700	$78,700
20121	Evaluate Habitat Use And Population Dynamics Of Lampreys In Cedar Creek	USFWS	**Fund**	*Fund*	$134,790	$138,790
20064	Upstream migration of Pacific lampreys in the John Day R: behavior, timing	USGS-BRD, CRRL	**CBFWA Tier 2 - Ranked by ISRP**	*Fund*		$298,700
Systemwide Coordination						
9800800	Regional Forum Facilitation Services		**Fund**	DNF	$75,000	$183,500
Lower Mid-Columbia Mainstem and Multi-subbasin						
9900300	Evaluate Spawning Of Salmon Below The Four Lowermost Columbia River Dams	WDFW, ODFW, USFWS, PNNL	**Fund**	Fund in Part	$355,838	$385,788
9801900	Wind River Watershed Restoration	UCD, USFS, USGS, WDFW	**Fund**	Fund in Part	$553,717	$1,146,412
Hood, Fifteenmile and Deschutes						
9802400	Monitor Watershed Conditions On The Warm Springs Reservation	CTWSRO	**Fund in Part**	Fund in Part	$35,402	$160,917
9802800	Trout Creek Watershed Improvement Project Multi Year Funding Proposal	JCSWCD	**Fund**	DNF	$231,126	$483,795
John Day						
9801600	Monitor Natural Escapement & Productivity Of John Day Basin Spring Chinook	ODFW	**Fund**	Delay Funding	$159,800	$179,800
9605300	Upper Clear Creek Dredge Tailings Restoration	USFS/CTUIR	**Fund**	Delay Funding	$85,000	$85,000
20131	Enhance North Fork John Day River Subbasin Anadromous Fish Habitat	CTUIR	**Fund**	Delay Funding	$205,544	$205,544
9801700	Eliminate Gravel Push-Up Dams On Lower North Fork John Day	NFJDWC	**Fund**	Delay Funding	$90,250	$90,250
9801800	John Day Watershed Restoration	CTWSRO	**Fund**	Delay Funding	$424,575	$459,918

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
Umatilla, Walla Walla, and Rock Creek						
8903500	Umatilla Hatchery Operation and Maintenance	ODFW	**Fund existing activities**	Delay Funding	$850,000	$895,346
9000500	Umatilla Hatchery Monitoring And Evaluation	ODFW	**Fund existing activities**	Fund in Part	$650,000	$721,588
8343500	Operate And Maintain Umatilla Hatchery Satellite Facilities	CTUIR	**Fund existing activities**	Delay Funding	$775,000	$822,161
8805302	Plan, Site, Design And Construct Neoh Hatchery - Umatilla/Walla Walla Compo	CTUIR	**Do Not Fund**	DNF	$2,800,000	$6,400,000
20138	Design And Construct Neoh Walla Walla Hatchery	CTUIR	**Do Not Fund**	DNF	$250,000	$1,380,000
8802200	Umatilla River Fish Passage Operations	CTUIR	**Fund existing activities**	Delay Funding	$360,000	$379,000
8343600	Umatilla Passage Facilities O & M	Westland Irrigation District	**Fund existing activities**	Delay Funding	$502,000	$703,106
8902700	Power Repay Umatilla Basin Project	BPA	**Fund existing activities**	Delay Funding	$550,000	$650,000
20139	Walla Walla River Fish Passage Operations	CTUIR	**Fund**	Delay Funding	$73,000	$83,400
9000501	Umatilla River Basin Natural Production Monitoring And Evaluation	CTUIR	**Fund existing activities**	Fund in Part	$480,000	$609,191
8710001	Enhance Umatilla River Basin Anadromous Fish Habitat	CTUIR	**Fund existing activities**	Fund in Part	$260,000	$305,000
9901100	Assess Fish Habitat & Salmonids in the Walla Walla Watershed in Washington	WDFW	**Fund existing activities**	Delay Funding	$169,723	$184,723
20127	Walla Walla River Basin Monitoring and Evaluation Project	CTUIR	**Fund**	Delay Funding	$134,000	$156,931

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
Yakima and Klickitat						
8811525	Yakima/Klickitat Fisheries Project Design And Construction	YIN	**Fund existing activities**	Delay Funding	$1,565,000	$1,565,000
8812025	Ykfp Management, Data And Habitat	YIN	**Fund existing activities**	Delay Funding	$750,000	$750,000
9506325	Yakima/Klickitat Fisheries Project Monitoring And Evaluation	YIN	**Fund existing activities**	Delay Funding	$4,309,934	$4,639,934
9506425	Ykfp - Wdfw Policy And Technical Involvement In The Ykfp	WDFW	**Fund existing activities**	Delay Funding	$275,000	$275,000
9701325	Yakima/Klickitat Fisheries Project Operations And Maintenance	YIN	**Fund existing activities**	Delay Funding	$2,260,160	$2,260,160
9901200	Coordinate/Facilitate Watershed Project Planning/Implementation	Ki-Yak	**Fund**	Delay Funding	$70,496	$70,496
9705100	Yakima Basin Side Channels	YIN	**Fund**	Delay Funding	$601,673	$801,673
9803400	Reestablish Safe Access Into Tributaries Of The Yakima Subbasin.	YIN	**Fund**	Fund in Part	$771,918	$771,918
Upper Mid-Columbia						
9502800	Restore Moses Lake Recreational Fishery	WDFW	**Fund**	Delay Funding	$234,890	$234,890
9604000	Evaluate The Feasibility And Risks Of Coho Reintroduction In Mid-Columbia	YIN	**Fund in Part**	Fund in Part	$100,000	$1,418,000
Upper Columbia Mainstem, Lake Roosevelt, Lake Pend Oreille and Coeur d'Alene						
8503800	Colville Tribal Fish Hatchery	CCT	**Fund**	DNF	$360,973	$360,973
9001800	Evaluate Rainbow Trout/Habitat Improvements Of Tribs. To Lake Roosevelt	CCT	**Fund**	DNF	$189,636	$189,636
9501100	Chief Joseph Kokanee Enhancement Project	CCT	**Do Not Fund**	DNF	$396,753	$596,753
9800300	O&M Funding Of Wildlife Habitat On Stoi Reservation For Grand Coulee Dam	STOI	**Delay Funding**	Delay Funding	$97,187	$97,187
9106100	Swanson Lakes Wildlife Area	WDFW	**Fund**	Delay Funding	$247,500	$247,500
9204800	Hellsgate Big Game Winter Range Operation And Maintenance Project	CCT	**Delay Funding**	DNF	$350,000	$383,225
9506700	Colville Tribes Performance Contract For Continuing Acquisition	CCT	**Fund**	DNF	$400,000	$1,500,000

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
9004400	Implement Fisheries Enhancement Opportunities: Coeur D'alene Reservation	CDA Tribe	**Fund**	Fund in Part	$685,254	$685,254
9500100	Kalispel Tribe Resident Fish	KNRD	**Fund**	Fund in Part	$297,000	$297,000
Upper Columbia Flathead and Kootenai						
9101901	Flathead Lake Monitoring And Habitat Enhancement	CSKT	**Fund**	Fund in Part	$95,000	$95,000
9101904	Hungry Horse Mitigation - Nonnative Fish Removal / Hatchery Production	USFWS	**Fund**	Fund in Part	$428,950	$428,950
8346700	Mitigation For The Construction And Operation Of Libby Dam	MFWP	**Fund existing scope**	Fund in Part	$500,000	$500,000
9401001	Mitigation For Excessive Drawdowns At Libby Reservoir	MFWP and CSKT	**Fund existing scope**	DNF	$377,971	$377,971
9404900	Improve The Kootenai River Ecosystem	KTOI	**Fund**	Fund in Part	$270,000	$300,000
8806400	Kootenai River White Sturgeon Studies And Conservation Aquaculture	KTOI	**Fund in Part**	Fund in Part	$1,150,202	$2,750,202
8806500	Kootenai River Fisheries Recovery Investigations	IDFG	**Fund in Part**	Fund in Part	$616,596	$616,596
Lower Snake Mainstem and Multi-subbasin						
9801003	Spawning distribution of Snake River fall chinook salmon	USFWS	**Fund**	Fund in Part	$177,666	$182,666
9700900	Evaluate Rebuilding The White Sturgeon Population In The Lower Snake Basin	NPT	**Fund**	Fund in Part	$409,494	$419,494
Idaho Supplementation Studies and Related Proposals						
9005500	Steelhead Supplementation Studies in Idaho Rivers	IDFG	**Fund**	Fund in Part	$407,744	$560,744
9107300	Idaho Natural Production Monitoring And Evaluation	IDFG	**Fund**	Delay Funding	$767,512	$767,512
Lower Snake Captive Broodstock Proposals						
9703800	Preserve Listed Salmonid Stocks Gametes	NPT	**Fund in Part**	Fund in Part	$185,122	$185,122
Clearwater						
20157	Gas Bubble Trauma Monitoring in the Clearwater River	IDFG	**Fund**	Not Reviewed	$59,000	$45,117
8335000	Nez Perce Tribal Hatchery	NPT	**Do Not Fund**	DNF	$14,590,000	$20,188,949
8335003	Nez Perce Tribal Hatchery Monitoring And Evaluation	NPT	**Fund in Part**	DNF	$992,847	$992,847

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
9501300	Nez Perce Tribe Resident Fish Substitution Program	NPT	**Do Not Fund**	DNF	$750,000	$850,000
9608600	Clearwater Subbasin Focus Watershed Program - Iscc	ISCC	**Fund at base level**	Delay Funding	$89,450	$89,450
9706000	Clearwater Subbasin Focus Watershed Program - Npt	NPT	**Fund at base level**	Delay Funding	$98,737	$98,737
9901400	Restore Anadromous Fish Habitat In The Little Canyon Creek Subwatershed	ISCC	**Fund**	Delay Funding	$196,855	$217,855
9901500	Restore Anadromous Fish Habitat In The Nichols Canyon Subwatershed	ISCC	**Fund**	Delay Funding	$186,237	$211,237
9303501	Enhance Fish, Riparian, And Wildlife Habitat Within The Red River Watershed	ISWCD	**Fund**	DNF	$450,000	$550,000
20084	Protect And Restore The North Lochsa Face Analysis Area Watersheds	NPT	**Fund**	Delay Funding	$154,782	$204,782
20086	Rehabilitate Newsome Creek - S.F. Clearwater River	NPT	**Fund**	Delay Funding	$301,689	$364,725
20087	Protect And Restore Mill Creek Watershed	NPT	**Fund**	Delay Funding	$63,036	$63,036
9607708	Protect And Restore The Lolo Creek Watershed	NPT	**Fund**	Delay Funding	$203,750	$203,750
9607709	Protect And Restore The Squaw To Papoose Creeks Watersheds	NPT	**Fund**	Delay Funding	$303,607	$353,607
9607711	Restore Mccomas Meadow/ Meadow Creek Watershed	NPT	**Fund**	Delay Funding	$166,622	$166,622
9901600	Protect & Restore Big Canyon Creek Watershed	NPT	**Fund**	Delay Funding	$61,276	$61,276
9901700	Protect & Restore Lapwai Creek	NPT	**Fund**	Delay Funding	$61,276	$61,276
8740700	Dworshak Impacts/M&E And Biological/Integrated Rule Curves	NPT	**Do Not Fund**	Delay Funding	$199,485	$199,485
9501600	Genetic Inventory Of Westslope Cuttthroat Trout In The N F Clearwater Basin	NPT	**Do Not Fund**	DNF	$180,000	$200,000
Salmon River Subbasin						
9700100	Captive Rearing Initiative for Salmon River Chinook Salmon	IDFG	**Fund**	Fund in Part	$546,385	$546,385
9705700	Salmon River Production Program	SBT	**Do Not Fund**	DNF	$931,376	$931,376
9604300	Johnson Creek Artificial Propagation Enhancement Project	NPT	**Fund**	Delay Funding	$2,800,000	$2,800,000
9107100	Snake River Sockeye Salmon Habitat And Limnological Research	SBT	**Fund**	Delay Funding	$427,000	$438,461

ISRP FY2000 Response Review: Table 1

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
9901900	Restore the Salmon River, in the Challis, ID area, to a healthy condition	Custer Co	**Do Not Fund**	DNF	$50,000	$50,000
9600700	Irrigation Diversion Consolidations & Water Conservation; Upper Salmon R	LS&WCD	**Fund**	Delay Funding	$293,113	$753,816
Grande Ronde and Imnaha						
9800703	Facility O&M And Program M&E For Grande Ronde Spring Chinook Salmon	CTUIR	**Delay Funding**	Delay Funding	$489,000	$597,516
8805301	Northeast Oregon Hatchery Master Plan	NPT	**Fund in Part**	DNF	$1,217,017	$1,217,017
8805305	Northeast Oregon Hatcheries Planning And Implementation - Odfw	ODFW	**Fund in Part**	DNF	$226,000	$660,422
Upper Snake above Hell's Canyon, Malheur, Owyhee						
20135	Consumptive Sturgeon Fishery-Hells Canyon And Oxbow Reservoirs	NPT	**Do Not Fund**	DNF	$250,000	$250,000
9500600	Shoshone-Bannock/Shoshone Paiute Joint Culture Facility	SBT	**Fund in Part**	Fund in Part	$282,621	$282,621
9106700	Idaho Water Rental: Resident Fish And Wildlife Impacts - Phase III	IDFG	**Do Not Fund**	DNF	$119,465	$119,465
9501500	Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)	SPT - DVIR	**Delay Funding**	DNF	$221,550	$221,550

Table 2. Proposals Sorted by ISRP Recommendation and Project ID

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
2.A.1. Fund						
20084	Protect And Restore The North Lochsa Face Analysis Area Watersheds	NPT	**Fund**	Delay Funding	$154,782	$204,782
20086	Rehabilitate Newsome Creek - S.F. Clearwater River	NPT	**Fund**	Delay Funding	$301,689	$364,725
20087	Protect And Restore Mill Creek Watershed	NPT	**Fund**	Delay Funding	$63,036	$63,036
20127	Walla Walla River Basin Monitoring and Evaluation Project	CTUIR	**Fund**	Delay Funding	$134,000	$156,931
20131	Enhance North Fork John Day River Subbasin Anadromous Fish Habitat	CTUIR	**Fund**	Delay Funding	$205,544	$205,544
20139	Walla Walla River Fish Passage Operations	CTUIR	**Fund**	Delay Funding	$73,000	$83,400
20157	Gas Bubble Trauma Monitoring in the Clearwater River	IDFG	**Fund**	Not Reviewed	$59,000	$45,117
8331900	New Fish tagging System	NMFS	**Fund**	DNF	$1,388,800	$1,388,800
8346700	Mitigation For The Construction And Operation Of Libby Dam	MFWP	**Fund existing scope**	Fund in Part	$500,000	$500,000
8503800	Colville Tribal Fish Hatchery	CCT	**Fund**	DNF	$360,973	$360,973
8740100	Assessment Of Smolt Condition: Biological And Environmental Interactions	USGS-BRD, CRRL	**Fund**	Delay Funding	$199,046	$199,046
9001800	Evaluate Rainbow Trout/Habitat Improvements Of Tribs. To Lake Roosevelt	CCT	**Fund**	DNF	$189,636	$189,636
9004400	Implement Fisheries Enhancement Opportunities: Coeur D'alene Reservation	CDA Tribe	**Fund**	Fund in Part	$685,254	$685,254
9005500	Steelhead Supplementation Studies in Idaho Rivers	IDFG	**Fund**	Fund in Part	$407,744	$560,744
9007800	Evaluate Predator Removal: Large-Scale Patterns	USGS	**Fund**	DNF	$117,880	$117,880
9101901	Flathead Lake Monitoring And Habitat Enhancement	CSKT	**Fund**	Fund in Part	$95,000	$95,000
9101904	Hungry Horse Mitigation - Nonnative Fish Removal / Hatchery Production	USFWS	**Fund**	Fund in Part	$428,950	$428,950

ISRP FY2000 Response Review: Table 2

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
9102900	Life History And Survival Of Fall Chinook Salmon In Columbia River Basin	USGS	**Fund**	Fund in Part	$743,558	$799,525
9106100	Swanson Lakes Wildlife Area	WDFW	**Fund**	Delay Funding	$247,500	$247,500
9107100	Snake River Sockeye Salmon Habitat And Limnological Research	SBT	**Fund**	Delay Funding	$427,000	$438,461
9107300	Idaho Natural Production Monitoring And Evaluation	IDFG	**Fund**	Delay Funding	$767,512	$767,512
9303501	Enhance Fish, Riparian, And Wildlife Habitat Within The Red River Watershed	ISWCD	**Fund**	DNF	$450,000	$550,000
9401001	Mitigation For Excessive Drawdowns At Libby Reservoir	MFWP and CSKT	**Fund existing scope**	DNF	$377,971	$377,971
9404900	Improve The Kootenai River Ecosystem	KTOI	**Fund**	Fund in Part	$270,000	$300,000
9500100	Kalispel Tribe Resident Fish	KNRD	**Fund**	Fund in Part	$297,000	$297,000
9502800	Restore Moses Lake Recreational Fishery	WDFW	**Fund**	Delay Funding	$234,890	$234,890
9506700	Colville Tribes Performance Contract For Continuing Acquisition	CCT	**Fund**	DNF	$400,000	$1,500,000
9600700	Irrigation Diversion Consolidations & Water Conservation; Upper Salmon R	LS&WCD	**Fund**	Delay Funding	$293,113	$753,816
9604300	Johnson Creek Artificial Propagation Enhancement Project	NPT	**Fund**	Delay Funding	$2,800,000	$2,800,000
9605300	Upper Clear Creek Dredge Tailings Restoration	USFS/ CTUIR	**Fund**	Delay Funding	$85,000	$85,000
9607708	Protect And Restore The Lolo Creek Watershed	NPT	**Fund**	Delay Funding	$203,750	$203,750
9607709	Protect And Restore The Squaw To Papoose Creeks Watersheds	NPT	**Fund**	Delay Funding	$303,607	$353,607
9607711	Restore Mccomas Meadow/ Meadow Creek Watershed	NPT	**Fund**	Delay Funding	$166,622	$166,622
9608600	Clearwater Subbasin Focus Watershed Program - Iscc	ISCC	**Fund at base level**	Delay Funding	$89,450	$89,450
9700100	Captive Rearing Initiative for Salmon River Chinook Salmon	IDFG	**Fund**	Fund in Part	$546,385	$546,385
9700900	Evaluate Rebuilding The White Sturgeon Population In The Lower Snake Basin	NPT	**Fund**	Fund in Part	$409,494	$419,494
9702400	Avian Predation on Juvenile Salmonids in the Lower Columbia River	OSU/ CRITFC	**Fund**	Fund in Part	$642,600	$642,600

ISRP FY2000 Response Review: Table 2

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
9702600	Ecology Of Marine Predatory Fishes: Influence On Salmonid Ocean Survival	NMFS/ NWFSC	**Fund**	Delay Funding	$0	$200,000
9705100	Yakima Basin Side Channels	YIN	**Fund**	Delay Funding	$601,673	$801,673
9706000	Clearwater Subbasin Focus Watershed Program - Npt	NPT	**Fund at base level**	Delay Funding	$98,737	$98,737
9800800	Regional Forum Facilitation Services		**Fund**	DNF	$75,000	$183,500
9801003	Spawning distribution of Snake River fall chinook salmon	USFWS	**Fund**	Fund in Part	$177,666	$182,666
9801600	Monitor Natural Escapement & Productivity Of John Day Basin Spring Chinook	ODFW	**Fund**	Delay Funding	$159,800	$179,800
9801700	Eliminate Gravel Push-Up Dams On Lower North Fork John Day	NFJDWC	**Fund**	Delay Funding	$90,250	$90,250
9801800	John Day Watershed Restoration	CTWSRO	**Fund**	Delay Funding	$424,575	$459,918
9801900	Wind River Watershed Restoration	UCD, USFS, USGS, WDFW	**Fund**	Fund in Part	$553,717	$1,146,412
9802800	Trout Creek Watershed Improvement Project Multi Year Funding Proposal	JCSWCD	**Fund**	DNF	$231,126	$483,795
9803400	Reestablish Safe Access Into Tributaries Of The Yakima Subbasin.	YIN	**Fund**	Fund in Part	$771,918	$771,918
9900300	Evaluate Spawning Of Salmon Below The Four Lowermost Columbia River Dams	WDFW, ODFW, USFWS, PNNL	**Fund**	Fund in Part	$355,838	$385,788
9901200	Coordinate/Facilitate Watershed Project Planning/Implementation	Ki-Yak	**Fund**	Delay Funding	$70,496	$70,496
9901400	Restore Anadromous Fish Habitat In The Little Canyon Creek Subwatershed	ISCC	**Fund**	Delay Funding	$196,855	$217,855
9901500	Restore Anadromous Fish Habitat In The Nichols Canyon Subwatershed	ISCC	**Fund**	Delay Funding	$186,237	$211,237
9901600	Protect & Restore Big Canyon Creek Watershed	NPT	**Fund**	Delay Funding	$61,276	$61,276
9901700	Protect & Restore Lapwai Creek	NPT	**Fund**	Delay Funding	$61,276	$61,276

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
2.A.2. Pacific Lamprey Projects						
9402600	Pacific Lamprey Research And Restoration	CTUIR	**Fund**	Fund in Part	$381,190	$381,190
20019	Evaluate Status Of Pacific Lamprey In Clearwater River Drainage, Idaho	IDFG	**Fund**	*Fund*	$73,000	$119,039
20065	Identification of larval Pacific lampreys (Lampetra tridentata), river lamp	USGS-BRD, CRRL	**Fund**	*Fund*	$78,700	$78,700
20121	Evaluate Habitat Use And Population Dynamics Of Lampreys In Cedar Creek	USFWS	**Fund**	*Fund*	$134,790	$138,790
20064	Upstream migration of Pacific lampreys in the John Day R: behavior, timing	USGS-BRD, CRRL	**CBFWA Tier 2 - Ranked by ISRP**	*Fund*		$298,700
2.A.3. Fund Existing Activities - Umatilla, Walla Walla, and Rock Creek						
8343500	Operate And Maintain Umatilla Hatchery Satellite Facilities	CTUIR	**Fund existing activities**	Delay Funding	$775,000	$822,161
8343600	Umatilla Passage Facilities O & M	Westland Irrigation District	**Fund existing activities**	Delay Funding	$502,000	$703,106
8710001	Enhance Umatilla River Basin Anadromous Fish Habitat	CTUIR	**Fund existing activities**	Fund in Part	$260,000	$305,000
8802200	Umatilla River Fish Passage Operations	CTUIR	**Fund existing activities**	Delay Funding	$360,000	$379,000
8902700	Power Repay Umatilla Basin Project	BPA	**Fund existing activities**	Delay Funding	$550,000	$650,000
8903500	Umatilla Hatchery Operation and Maintenance	ODFW	**Fund existing activities**	Delay Funding	$850,000	$895,346
9000500	Umatilla Hatchery Monitoring And Evaluation	ODFW	**Fund existing activities**	Fund in Part	$650,000	$721,588
9000501	Umatilla River Basin Natural Production Monitoring And Evaluation	CTUIR	**Fund existing activities**	Fund in Part	$480,000	$609,191

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
9901100	Assess Fish Habitat & Salmonids in the Walla Walla Watershed in Washington	WDFW	**Fund existing activities**	Delay Funding	$169,723	$184,723
2.A.4 Fund Existing Activities - Yakima and Klickitat						
8811525	Yakima/Klickitat Fisheries Project Design And Construction	YIN	**Fund existing activities**	Delay Funding	$1,565,000	$1,565,000
8812025	Ykfp Management, Data And Habitat	YIN	**Fund existing activities**	Delay Funding	$750,000	$750,000
9506325	Yakima/Klickitat Fisheries Project Monitoring And Evaluation	YIN	**Fund existing activities**	Delay Funding	$4,309,934	$4,639,934
9506425	Ykfp - Wdfw Policy And Technical Involvement In The Ykfp	WDFW	**Fund existing activities**	Delay Funding	$275,000	$275,000
9701325	Yakima/Klickitat Fisheries Project Operations And Maintenance	YIN	**Fund existing activities**	Delay Funding	$2,260,160	$2,260,160
2.A.5. Fund for Transition - PATH and PATH related						
9303701	Stochastic Life Cycle Model Technical Assistance	PER Ltd.	**Fund for Transition**	DNF	$70,000	$180,000
9600600	Facilitation, Technical Assistance And Peer Review Of Path	ESSA	**Fund for Transition**	DNF	$450,000	$450,000
9600800	Stufa Participation In A Plan For Analyzing And Testing Hypotheses (Path)	ODFW	**Fund for Transition**	DNF	$745,131	$745,131
9600801	Technical Support For Path	NMFS	**Fund for Transition**	DNF	$75,000	$75,000
9601700	Provide Technical Support For Path	BioAnalysts	**Fund for Transition**	DNF	$27,221	$109,000
9700200	Path - Uw Technical Support	UW	**Fund for Transition**	DNF	$182,389	$301,081
9800100	Analytical Support-Path And Esa Biological Assessments	Hinrichsen Enviro Services	**Fund for Transition**	DNF	$119,900	$125,000
Total in Fund Categories					**$35,330,364**	**$40,591,838**

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
2.B. Fund in Part						
8335003	Nez Perce Tribal Hatchery Monitoring And Evaluation	NPT	**Fund in Part**	DNF	$992,847	$992,847
8805301	Northeast Oregon Hatchery Master Plan	NPT	**Fund in Part**	DNF	$1,217,017	$1,217,017
8805305	Northeast Oregon Hatcheries Planning And Implementation - Odfw	ODFW	**Fund in Part**	DNF	$226,000	$660,422
8806400	Kootenai River White Sturgeon Studies And Conservation Aquaculture	KTOI	**Fund in Part**	Fund in Part	$1,150,202	$2,750,202
8806500	Kootenai River Fisheries Recovery Investigations	IDFG	**Fund in Part**	Fund in Part	$616,596	$616,596
9500600	Shoshone-Bannock/Shoshone Paiute Joint Culture Facility	SBT	**Fund in Part**	Fund in Part	$282,621	$282,621
9604000	Evaluate The Feasibility And Risks Of Coho Reintroduction In Mid-Columbia	YIN	**Fund in Part**	Fund in Part	$100,000	$1,418,000
9703800	Preserve Listed Salmonid Stocks Gametes	NPT	**Fund in Part**	Fund in Part	$185,122	$185,122
9801400	Ocean Survival Of Juvenile Salmonids In The Columbia River Plume	NMFS/ NWFSC	**Fund in Part**	Fund in Part	$0	$826,000
9802400	Monitor Watershed Conditions On The Warm Springs Reservation	CTWSRO	**Fund in Part**	Fund in Part	$35,402	$160,917
Total Fund in Part					**$4,805,807**	**$9,109,744**
2.C. Delay Funding						
9204800	Hellsgate Big Game Winter Range Operation And Maintenance Project	CCT	**Delay Funding**	DNF	$350,000	$383,225
9501500	Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)	SPT - DVIR	**Delay Funding**	DNF	$221,550	$221,550
9800300	O&M Funding Of Wildlife Habitat On Stoi Reservation For Grand Coulee Dam	STOI	**Delay Funding**	Delay Funding	$97,187	$97,187
9800703	Facility O&M And Program M&E For Grande Ronde Spring Chinook Salmon	CTUIR	**Delay Funding**	Delay Funding	$489,000	$597,516
Total Delay Funding					**$1,157,737**	**$1,299,478**

Project ID	Title	Sponsor	ISRP response review rec.	ISRP June 15 Rec.	FY00 CBFWA Rec.	FY00 Sponsor Request
2.D. Do Not Fund						
20135	Consumptive Sturgeon Fishery-Hells Canyon And Oxbow Reservoirs	NPT	**Do Not Fund**	DNF	$250,000	$250,000
20138	Design And Construct Neoh Walla Walla Hatchery	CTUIR	**Do Not Fund**	DNF	$250,000	$1,380,000
8335000	Nez Perce Tribal Hatchery	NPT	**Do Not Fund**	DNF	$14,590,000	$20,188,949
8740700	Dworshak Impacts/M&E And Biological/Integrated Rule Curves	NPT	**Do Not Fund**	Delay Funding	$199,485	$199,485
8805302	Plan, Site, Design And Construct Neoh Hatchery - Umatilla/Walla Walla Compo	CTUIR	**Do Not Fund**	DNF	$2,800,000	$6,400,000
9106700	Idaho Water Rental: Resident Fish And Wildlife Impacts - Phase III	IDFG	**Do Not Fund**	DNF	$119,465	$119,465
9501100	Chief Joseph Kokanee Enhancement Project	CCT	**Do Not Fund**	DNF	$396,753	$596,753
9501300	Nez Perce Tribe Resident Fish Substitution Program	NPT	**Do Not Fund**	DNF	$750,000	$850,000
9501600	Genetic Inventory Of Westslope Cuttthroat Trout In The N F Clearwater Basin	NPT	**Do Not Fund**	DNF	$180,000	$200,000
9705700	Salmon River Production Program	SBT	**Do Not Fund**	DNF	$931,376	$931,376
9901900	Restore the Salmon River, in the Challis, ID area, to a healthy condition	Custer Co	**Do Not Fund**	DNF	$50,000	$50,000
Total Do Not Fund					**$20,517,079**	**$31,166,028**
Total in Response Review					**$61,810,987**	**$82,167,088**

SECTION III: Recommendations and Comments on each FY2000 Proposal in the Response Review

Ocean and Estuary

ProjectID: 9702600

Ecology Of Marine Predatory Fishes: Influence On Salmonid Ocean Survival
National Marine Fisheries Service, Northwest Fisheries Science Center
Short Description: This study will identify and document the relationships between the distribution, abundance, and food habits of marine fish predators and forage fishes off the Columbia River and salmonid ocean survival.
CBFWA Funding Rec.: $0 Sponsor Request: $200,000
ISRP Response Evaluation:
Fund. The proposal justifies funding through 2002, but reduce funding to $180,000 in FY2000 to account for the acknowledged lack of a need for an additional trawl net. In 2002, there will have been five years of research and a comprehensive peer review should be conducted before any further support. The objectives of the study are more qualitative than the ISRP would have expected, but at the levels of funding requested it is an adequate first step.

The authors have attempted to respond to each comment in the ISRP review. Their comments clarify that this project is largely developmental, directed to yearling smolts, and not intended to "quantify total predation rates on salmonids" (1st para. of response). The project seeks to identify relations between the timing, distribution, and abundance of predators and available prey, including salmonids. Impacts on salmonid survival would be inferred from these relationships and estimates of consumption rates by predators. These rates would be empirically based but would be expressed, for example, as salmonids consumed per unit measure of the predator species (e.g., numbers of salmon per tonne of mackerel, etc.). Any estimate of total predator abundance would be derived from NMFS triennial surveys.

However, there continues to be some confusion due terminology used. Given the above objectives, the proponents' responses to other ISRP comments are certainly more quantitative in nature. For example, in response to utility of the information the respondents refer to "prediction of overall salmonid ocean survival" and "prediction of ocean survival of particular groups of salmonids". Regarding the population size and distribution of predator species, the respondents describe contour mapping, swept trawl expansions, and trawl efficiencies. How would depth of predator biomass be accounted for, and why does trawl efficiency have to be accounted for … as opposed to just assuming equal catchability between trawls. Concerning how predation rates would be calculated; the response involves density of predators in a specified area (and presumably time period), invokes information on digestion rates, etc. (without citing a source), and linear expansion to some total number of days. We continue to question that the objectives of this proposal can actually be addressed by relative or qualitative measures, or whether it will naturally evolve into the need for quantitative measures in order to

study the marine survival of salmonids. In this regard, population abundance estimated from the triennial surveys may also not be informative of the abundance in one area in one specific time period. Possibly, hydroacoustic methods could be a more direct means to determine predator abundance during survey periods? However, more quantitative surveys would require investigation of trawl efficiencies by species and size classes.

There also seems to be confusion regarding the ISRP suggestion of a two-stage sampling procedure. One reviewer offered this suggestion as a means to increase the sample size of predators when the predation rate is low and predator abundance large. In this case, the estimate of predation rate is subject to large random error particularly when sample sizes are as small as stated in this proposal. The authors suggest that the "sampling rates are adequate" but acknowledge that the adequacy of their sampling rates "could be considered one of the questions for this research project". If so, how would this be assessed? The two-stage sampling suggested by the ISRP involves sampling large numbers of predators on-board to determine presence-absence of salmonids in the diet, and then sub-sampling a much smaller number of predators to examine the species composition in the diet. The authors state that they are using a two-stage process but we were unable to identify this in the methods. The methods do refer to stratified sampling but our interpretation is that the stratification occurs within the random samples collected during the surveys.

Concerning ISRP comments regarding integration of this project with 9810400 and responding to comments in the ISRP FY99 report, the authors suggest: (a) that the two ocean projects have different sampling protocols but that the primary investigators are working closely together already; and (b) that they have responded to the FY99 comments. Concerning integration of projects, close collaboration and cooperation is an adequate response. The issues identified in the FY99 report are addressed in the above discussions.

Further, one ISRP reviewer questioned the benefits of this project to the FWP (i.e., "questioned the payoff from such research"). The authors suggest that such research and associated monitoring will be needed to account for changes in salmon production that may be attributed ocean and/or freshwater environments. While we endorse studies of marine processes to understand variation in marine survivals (to determine what we may or may not manage in that environment), the partitioning of survivals between freshwater and marine environments will likely be most accurately determined via PIT evaluation and monitoring.

ProjectID: 9801400

Ocean Survival Of Juvenile Salmonids In The Columbia River Plume
National Marine Fisheries Service, Northwest Fisheries Science Center
Short Description: Measure the effects of time of entry, smolt quality, food habits, growth, and health status of juvenile coho and chinook salmon on survival in relation to oceanographic features of the ocean environment associated with the Columbia River plume.
CBFWA Funding Rec.: $0 Sponsor Request: $826,000
ISRP Response Evaluation:
Fund in part. Do not fund objective 4. Other than objective 4, fund for 3 years followed by a comprehensive review of objectives 1,2 (objective 5 terminate before this); objective 3 will require more time to complete adult returns. The ISRP remains unconvinced that the methods and experimental design for objective 4 are scientifically sound. If applied, we are concerned that there is real risk that the results will be misinterpreted. The ISRP strongly recommends that NMFS carefully review these and alternative methods before providing further resources for this portion of the proposal.

While the ISRP was strongly supportive of this area of research, we clearly failed to communicate the basis for our concerns about the methods proposed to assess the importance of the plume to salmon production. This is a large complex research proposal in which the proponents suggest that the reviewers applied several key misconceptions, ignored "standard ecological" approaches, and simply erred. Consequently, we have carefully re-reviewed the full proposal and considered the proponents' response. Unfortunately, we again draw the same conclusions.

Objectives 1 & 2 are strongly supported as important research to understand the dynamics of the plume, its biological processes, and inter-relation with Columbia River discharge. Objective 5 could be support independent of the other objectives since it relates to the utilisation of this environment. However, we continue to have serious concerns about inferences to be drawn from the methods applied to objectives 3 and 4 (in particular objective 4). Fundamentally, our difference of opinion involves what constitutes evidence of the importance of the plume to salmon survival and growth.

If we follow the proponents' argument, periodic sampling of salmonids in and near the plume will tell us about the importance of these habitats to the growth and health of juvenile salmonids (survival of salmonids would be inferred). Further, comparisons between sampling periods (months apart) will allow assessment of these habitats' importance to salmonid growth rates, bioenergetic health, and incidence of disease. Our concerns, for example, are these:

a) What would differences in length and weight sampled in different populations tell us about "growth rate" between sampling periods or habitats?
b) The proponents assume that these will be the "same" populations, and that the comparisons are meaningful and follow a "well accepted basis for an experimental

design". Further, that stock composition of the samples can be determined. (ISRP comment … but this does not ensure/suggest that you are re-sampling the same population as before.)
c) The project will begin my sampling yearling chinook and coho salmon, but what evidence is there that these large emigrants remain in these coastal waters for extended periods?

Surely, these issues generate questions about residency of the smolts in coastal waters, habitat utilisation, and selective mortality between sampling periods. These were the types of concerns that the reviewers originally intended to relay. These are difficult questions to address but ones that the ISRP felt were necessary to demonstrate the importance of the plume to salmon survival and growth. Just because we can measure or evaluate something does not mean we have actually learned anything.

In terms of the response from the proponents, we remain totally unconvinced by the simple declaration that objective 4 is being addressed through methods used in ecological field research. A more thoughtful response and consideration of assumptions seems appropriate for a proposal requesting almost one million dollars a year.

Two specific aspects of the response also require further clarification. The ISRP identified an inconsistency in the numbers of cruises identified in various objectives. Contrary to the respondents' statement that the May cruise was explained in the proposal, we can not find any such reference. A related concern is whether that cruise has been included in the budget requested? Secondly, the ISRP questioned the ten-year time period for the investigation. This question was generated by the stated application of regression analyses to examine the relationship between salmon survival and variables measured during this study. If the ten-year duration was suggested to allow for natural contrast in the measures, the ISRP simply wanted to flag that such studies are subject to the vagaries of the natural environment, particularly when studying such a complex and dynamic environment. More direct test or studies are preferable when practical.

Addressed ISRP review: The response provided clarified aspects of the study but certainly failed to consider the major concern expressed by the ISRP. In several responses, the respondents requested that the ISRP provide more justification for our comments … this seems a strange shift in the "Burden of Proof" since the ISRP is not the agency requesting these funds! If the ISRP erred, correct our error; but there is a responsibility to consider what peer reviewers offer to assist their program.

Smolt Monitoring

ProjectID: 8740100

Assessment Of Smolt Condition: Biological And Environmental Interactions
U.S. Geological Survey, Biological Resources Division, Columbia River Research Laboratory
Short Description: Evaluate the biology of wild and hatchery salmonids by determining the effects of rearing and river conditions on smolt quality; assist hatchery managers in producing fish with wild-like characteristics and thereby increase smolt-to-adult returns.
CBFWA Funding Rec.: $199,046 Sponsor Request: $199,046 Umbrella: 20542*
ISRP Response Evaluation:
Fund. The response did an acceptable job of addressing gaps identified in the ISRP comments. The statistical analysis protocol for this project is clearer now. The proposed methods of analysis are appropriate for the purposes of the project. The fact that the initial analyses are exploratory indicates that establishment of correlation between specific rearing and river conditions on smolt quality may not be possible. This problem is a consequence of the relatively few years of data of outmigration performance. The proposed methods of statistical analysis are clear but it is not clear whether the anticipated data will be sufficient in quantity or quality to support meaningful conclusions.

The ISRP continues to emphasize that the entire smolt monitoring program needs a programmatic review: there are many outstanding questions about overall design, priorities, coordination, data management, and information synthesis from the results.

ProjectID: 8331900

New Fish tagging System
National Marine Fisheries Service
Short Description: Determine the biological and technical feasibility of using PIT-tag technology to obtain information on juvenile and adult salmonids. Develop ancillary equipment to expand the PIT-tag system's capabilities to meet CRB resource stakeholder needs.
CBFWA Funding Rec.: $1,388,800 Sponsor Request: $1,388,800
ISRP Response Evaluation:
Fund, but the project needs to develop an implementation plan. In addition, the project needs to be included in a programmatic review of smolt and adult monitoring.

The ISRP wants to emphasize that it is a better strategy for the region to implement adult detection, as quickly as possible, even with the use of devices that have substantial inefficiencies rather than continuing research and development until 90% detection efficiencies are achieved. Our concern is that extremely valuable adult detection opportunities are being lost, and the need to monitor adults with PIT Tag detection is so important that they should proceed before the detection devices are “perfected.”

Specifically, NMFS is seeking efficiencies of 90%, but this high of a goal is not necessary; they could begin implementation with much lower detection and still obtain meaningful monitoring estimates using Jolly-Seber.

In addition, more thought should be given to innovative uses of the existing technologies outside the confines of the fish ladder geometry, rather than directing all research and development at developing new technology that will work efficiently in the very unfavorable geometry of the ladders. For example: a collection device (such as a fyke net) with a standard PIT tag detector in the cod end might be located in the pool at the upstream end of the ladder where the flow environment is less physically demanding and short distances from a conventional detector can be assured; alternatively a counting chamber using the same strategy might be built into the ladder.

Generally, the response addressed many of the questions and concerns posed. Nevertheless, it is not clear how the results will be evaluated other than "pass/fail." What standards will be used to choose between competing systems that work in part? It is still not clear that the proposed work can be completed in a timely manner if delays occur in any stage of the development and implementation.

PATH and PATH related

ProjectID: 9600600

Facilitation, Technical Assistance And Peer Review Of PATH
ESSA Technologies Ltd.
Short Description: Test hypotheses underlying key salmon recovery management decisions, develop decision analysis to evaluate alternative management strategies, and assist in designing research, monitoring and adaptive management experiments.
CBFWA Funding Rec.: $450,000 Sponsor Request: $450,000 Umbrella: 20515*
ISRP Response Evaluation:
Fund for the transition period. The responses did not satisfactorily address the ISRP comments . The main concerns of the ISRP have to do with institutional commitments to implementation of data collection design and experimental management regimes. PATH does not have the authority to make such commitments. We believe that the region would be better served if there were a stronger linkage between the analytical component of planning (where PATH is at present the de facto center of gravity) and the institutions that do have implementation powers.

The responses show that PATH is fully aware of the need to reinvent the region's processes for planning data collection design and experimental management. The ISRP agrees that objective 3 "experimental management" is the direction the region should pursue. Until the management structure for the region also reinvents itself to better deal with these planning and implementation tasks, there seems to be no alternative to continuing interim funding for PATH to function in its analytical role.

ProjectID: 9600800

Stufa Participation In A Plan For Analyzing And Testing Hypotheses (PATH)
Oregon Department of Fish and Wildlife
Short Description: Test hypotheses underlying key salmon recovery management decisions, develop decision analysis to evaluate alternative management strategies, and assist in designing research, monitoring and adaptive management experiments.
CBFWA Funding Rec.: $745,131 Sponsor Request: $745,131 Umbrella: 20515*
ISRP Response Evaluation:
Fund for transition period. See programmatic recommendation and comment in project 9600600.

ProjectID: 9600801

Technical Support For Path
National Marine Fisheries Service
Short Description: Test hypotheses underlying key salmon recovery management decisions, develop decision analysis to evaluate alternative management strategies, and assist in designing research, monitoring and adaptive management experiments.
CBFWA Funding Rec.: $75,000 Sponsor Request: $75,000 Umbrella: 20515*
ISRP Response Evaluation:
Fund for transition period. See the programmatic recommendation in project 9600600.

ProjectID: 9601700

Provide Technical Support For Path
BioAnalysts, Inc.
Short Description: BioAnalyst, Inc. staff provide technical support for modeling analyses in PATH. We assemble data and estimates for use in construction, calibration and validation of models used in PATH. We work with modelers and review their analyses and output.
CBFWA Funding Rec.: $27,221 Sponsor Request: $109,000 Umbrella: 20515*, 20537
ISRP Response Evaluation:
Fund for transition period. See the programmatic recommendation in project 9600600.

ProjectID: 9800100

Analytical Support-PATH And ESA Biological Assessments
Hinrichsen Environmental Services
Short Description: Participate in PATH. Provide biological rationale for hypotheses, and develop and test model structures that identify key uncertainties in salmon life-cycle survival processes. Design alternative adaptive management experiments that maximize learning.
CBFWA Funding Rec.: $119,900 Sponsor Request: $125,000 Umbrella: 20515*, 20537
ISRP Response Evaluation:
Fund for transition period. See the programmatic recommendation in project 9600600.

ProjectID: 9303701

Stochastic Life Cycle Model Technical Assistance
Paulsen Environmental Research Ltd
Short Description: Provide technical assistance to PATH participants in statistical analyses of hypotheses regarding past declines of ESA-listed stocks, design of adaptive management actions, and the future effects of salmonid management actions.
CBFWA Funding Rec.: $70,000 Sponsor Request: $180,000 Umbrella: 20537
ISRP Response Evaluation:
Fund for transition period. See the programmatic recommendation in project 9600600.

ProjectID: 9700200

Path - Uw Technical Support
University of Washington
Short Description: Test hypotheses underlying key salmon recovery management decisions, develop decision analyses to evaluate alternative management strategies, and assist in designing research monitoring and adaptive management experiments…
CBFWA Funding Rec.: $182,389 Sponsor Request: $301,081 Umbrella: 20537*
ISRP Response Evaluation:
Fund for transition period. See the programmatic recommendation in project 9600600.

Systemwide Predator and Competitor Research

ProjectID: 9007800

Evaluate Predator Removal: Large-Scale Patterns
U.S. Geological Survey
Short Description: Evaluate causes of large-scale geographic patterns in predation on juvenile salmon by northern pikeminnow. Examine complex interactions of temperature, juvenile salmon, and juvenile American shad on predation patterns in mainstem rivers.
CBFWA Funding Rec.: $117,880 Sponsor Request: $117,880 Umbrella: 20515*
ISRP Response Evaluation:
Fund for the one year requested. The Northern Pikeminnow Management Program, project 9007700, should incorporate the results of this project. An examination of this proposal should be included in the Council's review of the Northern Pikeminnow Management Program. In addition, The ISRP recommends that there be close coordination of this project with project 9007700, but agree that the cost of including the project as a subcontract under project 9007700 would probably increase the cost. Perhaps a better way to express our recommendation is that project 9007700 might be reduced by an appropriate amount to allow funding of project 9007800.

ProjectID: 9702400

Avian Predation on Juvenile Salmonids in the Lower Columbia River
Oregon State University/Columbia River Inter-Tribal Fish Commission
Short Description: Monitor and evaluate the efficacy of management initiatives to reduce predation by colonial waterbirds on juvenile salmonids in the lower Columbia River. Assist resource managers in the development of a long-term avian predation management plan…
CBFWA Funding Rec.: $642,600 Sponsor Request: $642,600
ISRP Response Evaluation:
Fund. The proposal and response justify 3 years of funding to complete the proposal. In 2002, there should be a comprehensive review of the management actions taken.

This was originally a strong proposal but the ISRP expressed concerns about the rate of expansion of management actions and studies proposed. This response is again well presented, objective, and continues to demonstrate strong administration and a focused scientific basis for this work. The authors argue that studies and actions on multiple species is appropriate due to the linkages between these species (i.e., controlling one species may simply provide increased predation opportunities for another). The ISRP acknowledges this and can support the proposal as presented so long as the scope of the work remains achievable. The project, however, is well integrated within the Basin and the Inter-Agency workgroup should be responsible to monitor the progress of this work.

Systemwide Life History Studies

ProjectID: 9102900

Life History And Survival Of Fall Chinook Salmon In Columbia River Basin
U.S. Geological Survey, Biological Resources Division
Short Description: Facilitate implementation of federal and tribal fall chinook salmon recovery plans by monitoring and evaluating post-release attributes and survival of natural and hatchery juvenile fall chinook in the Snake River and Hanford Reach of the Columbia River.
CBFWA Funding Rec.: $743,558 Sponsor Request: $799,525 Umbrella: 20533, 20541*
ISRP Response Evaluation:
Fund. The scope of this work and the variety of publications argue for a full programmatic review of this project. The new "province" review approach suggested for future ISRP reviews may be more effective in analyzing a wide scope project such as this.

The sponsors have adequately addressed the concerns of the ISRP. The need and ability to proceed with objectives 6 & 7 were addressed and the status of reporting to date clarified. The latter could be more fully clarified if the reports/papers were associated with the objectives that were investigated.

Without arguing whether the ISRP or the proponents "missed the mark …", the ISRP wishes to clarify the basis of our comments on assumptions stated in the proposal. The assumptions involved in an objective or an hypothesis are not a statement of what you expect to learn, or why an objective was investigated (e.g., see Objectives 1,5,6,7), but should be a statement necessary in order to test an hypothesis or to make inferences from results. Examples of these latter assumptions were also contained in the proposal, for example;

1. Objective #3 "surrogates for natural fish" … i.e., the size-survival relations estimated for hatchery fish are assumed to be representative of associated natural populations.
2. Objective #4 … this objective assumes equal catchability of hatchery and wild fish in order to sample representatively.

The distinction between these "types" of assumptions should be clearly differentiated in future proposals.

The out-year budgets in this proposal have not been reduced for the completion of Objectives 2 through 5 (15% of current budget) and should be adjusted accordingly. We further noted that 80% of this budget are for salaries, benefits, and administrative overhead. A detailed breakdown of the tasks and associated costs would seem advisable.

Pacific Lamprey Research Program

ProjectID: 9402600

Pacific Lamprey Research And Restoration
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Assess status and survival limitations of Pacific lamprey in the Umatilla, Walla Walla, John Day, Tucannon, Grande Ronde basins. Implement and monitor restoration plan developed for the Umatilla River.
CBFWA Funding Rec.: $381,190 Sponsor Request: $381,190
ISRP Response Evaluation:
Fund. The sponsors superficially, but adequately, addressed concerns of the ISRP with the exception that reporting of past results should be given higher priority.

The proposal is well written and describes objectives that are appropriate to the near-term goal of developing a restoration plan and the long-term objective of establishing naturally sustainable lamprey populations at levels that support tribal harvest opportunities. The proposed work seems to strike an admirable, but difficult balance between defining the information needed to restore lampreys specifically to the Umatilla and the information needed to guide much larger scale restoration efforts. The sponsor's response to ISRP comments was informative. Much work appears to have been done thus far; substantial

planning has occurred and valuable databases are being assembled that bear on the restoration project.

Nevertheless, a major concern remains for the ISRP that the project is moving ahead into restoration actions (starting in 1999) without completion of the comprehensive plan (one of the project's objectives) that should serve to guide and coordinate such activities. Neither the proposal, nor the response, make clear a completion date for the comprehensive plan, although the Pacific Lamprey Plan in Appendix F of the CBFWA Draft Annual Implementation Work Plan (August 20, 1999) indicates that completion of the comprehensive plan is expected in 1999. The ISRP urges that this task be given highest priority among the present objectives and that it be completed as soon as possible. The ISRP recognizes that some of the project's research and survey activities up to this point have been needed in order to provide critical information for development of the comprehensive plan. However it appears from the proposal and response that adequate information now exists for development of the comprehensive plan. Using an adaptive management framework, sponsors can address remaining information gaps and incorporate new information as it develops. The comprehensive plan can also be revised as needed within this framework.

The ISRP reviewed the lamprey projects in relation to the Pacific Lamprey Plan. The plan demonstrates the need for the suite of research projects to address critical uncertainties. In addition, the plan appears to provide the vehicle through which coordination among the existing and new lamprey projects can occur. As a package, the new proposals address critical needs in lamprey research. Project 20064 should address uncertainties in upriver stocks, Project 20121 should address uncertainties in downriver stocks, and project 20065 should provide base scientific information on lamprey. This package also could include Project 20064 Upstream Migration of Pacific Lampreys in the John Day River, which received a CBFWA tier 2, and subsequently was ranked by the ISRP at 14 of 36 (see ISRP 99-3, October 8, 1999). The proposed lamprey projects are listed below.

ProjectID: 20019

Evaluate Status Of Pacific Lamprey In Clearwater River Drainage, Idaho
Idaho Department of Fish and Game
Short Description: Determine the status and life history of Pacific lamprey in the Clearwater River drainage, Idaho, with emphasis in the South Fork Clearwater drainage.
CBFWA Funding Rec.: $73,000 Sponsor Request: $119,039

ProjectID: 20065

Identification of larval Pacific lampreys (Lampetra tridentata), river lamp
U.S. Geological Survey, Biological Resources Division, Columbia River Research Laboratory
Short Description: Determine characteristics that differentiate sympatric larval lamprey and evaluate thermal tolerances of larval lamprey by species
CBFWA Funding Rec.: $78,700 Sponsor Request: $78,700

ProjectID: 20121

Evaluate Habitat Use And Population Dynamics Of Lampreys In Cedar Creek
U.S. Fish and Wildlife Service
Short Description: With emphasis on Pacific lampreys, identify and quantitatively evaluate populations of lampreys and their habitats in a stream below Bonneville Dam
CBFWA Funding Rec.: $134,790 Sponsor Request: $138,790

ProjectID: 20064

Upstream Migration of Pacific Lampreys in the John Day River.
Sponsor: USGS-BRD, CRRL
Short Description: Using radiotelemetry and tagged lampreys, we will determine timing and movement patterns of upstream migrating Pacific lampreys. Physical characteristics of overwintering and spawning habitats of Pacific lampreys in the John Day River Basin will be measured.
CBFWA Funding Rec.: Tier 2, no funds. Sponsor Request: $298,700

Systemwide Coordination

ProjectID: 9800800

Regional Forum Facilitation Services
DS Consulting
Short Description: Facilitate discussions of Regional Forum teams to enable more active and effective participation of all team members. Mediate conflicts as they may arise in and out of meetings and provide "process guidance" to improve decision making.
CBFWA Funding Rec.: $75,000 Sponsor Request: $183,500
ISRP Response Evaluation:
Fund. This project does not fit a scientific review and should not be included in future ISRP reviews. It should receive appropriate administrative review and oversight. The response from the consultant includes a lot of information, such as evaluation of success or progress that should have been in the original proposal. The strong support for continuation of Facilitation Services by the Regional Forum's Implementation Team argues for funding. Apparently, the facilitation of consensus building and mediation of conflicts among team members contributes to the success of the Regional Forum. It is good that they use a consistent facilitator because the issues are complex and require a solid knowledge base.

Do the budgets of the participating entities reflect a reduction in the costs of participation because facilitation is being contracted outside the participating entities? Minutes, emails, meeting setup are probably not a cost-effective use of facilitation services at the facilitator's rates. It is not clear what is charged.

Lower Mid-Columbia Mainstem and Multi-subbasin

ProjectID: 9900300

Evaluate Spawning Of Salmon Below The Four Lowermost Columbia River Dams
Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Pacific Northwest National Laboratory
Short Description: Monitor, protect, and enhance the spawning populations of fall chinook and chum below Bonneville Dam. Develop a habitat profile of the spawning and rearing area. Search for evidence of fall chinook spawning below The Dalles, John Day and McNary dams.
CBFWA Funding Rec.: $355,838 Sponsor Request: $385,788
ISRP Response Evaluation:
Fund. The authors responded to all the questions posed by the ISRP. The responses assisted in clarification of the review concerns and was convincing that useful comparative data may be generated which may be useful as standards for comparison with other wild fish rehabilitation efforts, and compared to hatchery alternatives. In addition, longer term monitoring may assist in assessment of population viability and perhaps a harvestable surplus.

The ISRP recognized that this is an important project, and commented that the proposal would benefit by inclusion of summaries of existing information on records of [spawning] chinook and chum salmon in the area. In the response, the project sponsor provides the information that spawning population estimates have been developed since 1997. Chinook spawning population estimates have ranged from 1,000 to 5,000. This is key information that puts a different complexion on questions that were raised by the ISRP.

The response satisfactorily answers the ISRP question “How will juveniles produced in the area be distinguished from juveniles that have emigrated into the area from upstream.” They are expected to be smaller in size. The response from the project sponsor provides the information that during FY 1999 they feel that they were able to differentiate the juveniles by size.

The ISRP asked the question “What is the likelihood that enough juveniles can be collected and marked to be able to expect enough recoveries to be able to estimate smolt to adult returns?” The response from the project sponsor clarifies the point that this is a question the project will address in FY 2000. Prior information needed was to be able to establish the identity of juveniles from this area, along with an idea of their numbers. During this winter season, the project sponsor will calculate the number that must be tagged in order to be able to effectively estimate smolt to adult survival rates. They note that 25,000 to 50,000 fish are typically tagged from hatcheries for this purpose, which provides a target number. It remains to be seen whether enough fish of a size large enough for tagging can be captured in the spring.

The ISRP also advised that a pilot study be conducted to document the general magnitude of spawning. The response makes it clear that such a study has been conducted and that suitable information is available to provide a basis for proceeding.

There remains some uncertainty of success but little more than in most research investigations. Also, the responses would have been more effective if actual data had been presented.

ProjectID: 9801900

Wind River Watershed Restoration
Underwood Conservation District (contact agency), U.S. Forest Service, U.S. Geological Survey, and Washington Department of Fish and Wildlife
Short Description: Restore habitat within the Wind River subbasin to support healthy populations of wild steelhead and salmon.
CBFWA Funding Rec.: $553,717 Sponsor Request: $1,146,412
ISRP Response Evaluation:
Fund. Overall, the project managers provided adequate responses to ISRP questions and concerns.

It would have been helpful to include, somewhere in the justification, more specific explanations of proposed actions, e.g., "we gave this activity a high priority because it would improve habitat in a reach of 'stream x' that is known to support approximately 'y %' of the adult summer steelhead spawning in the Wind River system, and this restoration project is estimated to improve survival to emergence of steelhead eggs by about 'z %'". Quantitative information of this type is usually lacking, but some justification will help us to see how the analytical process and priority ranking occurred. It was very helpful to see the Project Prioritization Checklist (A-4) and Project Proposal Form (Appendix B), but it would have been reassuring to see that projects were sited and prioritized based on best available information. The Project managers do not seem to want to deal with the prioritization question except to say they will handle it.

Since the USFS 1996 Wind River Watershed Analysis was apparently used extensively in the project selection process, it would have been useful to the ISRP to know what the main conclusions of this assessment were. If the highest priority areas were in lower Trout Creek, wouldn't this area have been off Forest Service land? If so, how was the Watershed Analysis used in them? Also, it was not fully clear from the response how the steelhead smolt data were used on the project identification process.

Progress in the future needs to be monitored closely and subsequent proposals need to document that progress and how the projects all fit together to meet watershed goals. The ISRP expects that these concerns be addressed in the Council's proposed ecological province review.

Hood, Fifteenmile, and Deschutes

ProjectID: 9802400

Monitor Watershed Conditions On The Warm Springs Reservation
The Confederated Tribes of the Warm Springs Reservation of Oregon
Short Description: Monitor stream conditions including macroinvertebrate populations and sediment; evaluate fish passage at culverts and stream crossings; and inventory fish habitat in streams on the Warm Springs Reservation.
CBFWA Funding Rec.: $35,402 Sponsor Request: $160,917
ISRP Response Evaluation:
Fund in part to cover culvert inventory, fish habitat survey, and sediment sampling. Response by the investigators was not detailed and failed to provide the information needed for the ISRP to understand how the macroinvertebrate portion of the proposed study would be of significant value.

The sediment sampling portion of the proposal is now adequately justified and this will likely reveal more than the proposed macroinvertebrate survey. However, the response does not state how the potential inaccuracies of the McNeil core sampling method will be addressed or what threshold(s) of the Fredle Index will be considered harmful. The ISRP would like to know how data from sediment samples will be interpreted.

The macroinvertebrate component of the proposal is still not adequate. Suitable reference sites should be given in the proposal. The ISRP needs to know that there are relatively pristine reference sites against which invertebrate samples from altered streams can be compared. These sites should be located in nearby watersheds with similar geological and topographic features.

With regard to the proposed habitat surveys, there will apparently be no attempt to calibrate habitat surveys to fish populations. Granted, populations may be depressed because of off-site influences resulting in low recruitment, but applying bull trout habitat suitability criteria developed in the Deschutes Basin to the Warm Springs River system without some local calibration is likely to result in reduced ability to interpret results of habitat surveys. The response states that data will be compared with habitat inventories on federal lands, but not what sites will be used for comparison.

With regard to the question of selecting sub-contractors, the ISRP was interested in the method used to assess the scientific qualifications of potential contractors.

The ISRP will expect that project managers address the above unanswered concerns in the Council's proposed ecological province review.

ProjectID: 9802800

Trout Creek Watershed Improvement Project Multi Year Funding Proposal
Jefferson County Soil & Water Conservation District
Short Description: Implementation of practices that will enhance smolt production and habitat recovery. A Coordinator to work with the watershed Council and local landowners to develop a Long Range Plan and strategies for implementation.
CBFWA Funding Rec.: $231,126 Sponsor Request: $483,795
ISRP Response Evaluation:
Fund. However, the response presents a substantially different proposal than the proposal originally submitted for FY 2000 funding. The response was written by a new watershed coordinator who came on board after the original proposal was reviewed by the ISRP. Details on what is known and what actually would be completed with the FY2000 and FY2001 funds are still sketchy, but that may be expected given the recent changes in this program; progress, however, seems quite promising.

The response is a step in the right direction in that it stresses the need for a comprehensive watershed assessment and long-term restoration plan; however, the current knowledge of limiting factors within the Trout Creek system appears to still be fairly incomplete. The general sequence of steps is good. But this proposal should be completely re-written from the ground up and re-submitted for complete evaluation in the Council's proposed ecological province review. For example, results of the EDT analysis should be summarized in order for the ISRP to make an informed judgment. It is not sufficient simply to say that an EDT analysis has been done. Likewise, it was not clear from the response how the results from the 1983 habitat survey will be used, or other surveys by other agencies.

John Day

ProjectID: 9801600

Monitor Natural Escapement & Productivity Of John Day Basin Spring Chinook
Oregon Department of Fish and Wildlife
Short Description: Monitor and assess natural escapement and productivity of John Day River Basin spring chinook salmon. This project is in direct response to recommendations and needs of the PATH project.
CBFWA Funding Rec.: $159,800 Sponsor Request: $179,800 Umbrella: 20514*
ISRP Response Evaluation:
Fund. However, it is the opinion of the ISRP that the sampling plan for monitoring natural escapement and productivity of John Day Basin Spring Chinook is short sighted. This project called for extensive spawning surveys for spring chinook. Surveys were expanded to include 54 miles of stream segments in 1998 contiguous to the traditional index areas (55 miles of stream segments). Given that the length of the John Day River from the mouth on the Columbia to the headwaters of the mainstem is approximately 280

miles, there are several hundreds or thousands of miles of stream reaches in the John Day Basin which have no possibility of being surveyed. In so far as the initial index areas were selected by ad hoc subjective judgement, the extensive surveys added are ad hoc and subjective. The current sampling plan may be adequate for the immediate future, if it is correct that current flow and temperature prevents spawning in all but the surveyed 109 miles and the main objective is to be able to document a decline in spawners.

The current sampling plan will not adequately monitor the effects of habitat improvement projects in the future. Experience with coho sampling on coastal streams by ODFW using the same methods proposed here greatly overestimated abundance and the experience should not be repeated in the John Day Basin or other basins. The project should also be improved by including steelhead. Wild steelhead populations in the John Day are very valuable and survey data on these fish is critically needed. The sponsors should develop a valid stratified random sampling plan or other basin wide sampling plan for both chinook and steelhead that selects survey reaches from all areas which are not blocked to spawners by natural features.

The ISRP is concerned that the project, as presently designed, cannot provide adequate monitoring information on anadromous fishes to other habitat improvement projects in the basin. If the project managers only survey where the fish are known to exist, the ISRP doubts that useful information can be provided to monitor effects of, for example, Project #9605300 (Upper Clear Creek Dredge Tailings Restoration), Project #20131 (Enhance North Fork John Day River Subbasin Anadromous Fish Habitat), Project #9801700 (Eliminate Gravel Push-Up Dams On Lower North Fork John Day), and Project #9801800 (John Day Watershed Restoration).

The project sponsors are depending on complete detection of PIT-tagged adults at downstream dams for estimation of smolt-to-adult return rates. Presently, only Bonneville Dam has adult detection facilities, and the detection rates at Bonneville Dam are quite low. Significant improvements are not expected in the immediate future. Even with perfect detection rates at Bonneville, the estimated numbers of PIT-tagged adults to the John Day River would be suspect because of straying and mortality of adults before they enter the mouth of the John Day River. Detection of PIT-tagged adults returning to the basin will be a challenge, but can potentially be improved by methods such as use of hand held scanners for PIT-tags on the spawning grounds.

Other concerns of the ISRP in the original review have been adequately addressed by the sponsors.

ProjectID: 9605300

Upper Clear Creek Dredge Tailings Restoration
USDA Forest Service, Umatilla National Forest; Confederated Tribes of the Umatilla Indian Reservation
Short Description: Restore floodplain function to dredge minded reaches of the North Fork John Day River tributaries by rehabilitating areas with tailing piles that restrict river flow.
CBFWA Funding Rec.: $85,000 Sponsor Request: $85,000 Umbrella: 20522
ISRP Response Evaluation:
Fund. The project has potential benefit to fish and wildlife but still lacks biological monitoring and evaluation or coordination with other projects to determine if the efforts are successful. The other concerns of the ISRP were adequately addressed by the sponsor. While a full-scale biological monitoring and evaluation program may not be necessary in addition to the physical monitoring, it is important to conduct biological monitoring such as an annual redd count of the entire project area. Granted this is not a "research project", but monitoring for effectiveness of the project is a necessary component called for in the 1996 Amendment to the Power Act.

The sponsor agreed that coordination with Project #9801600 (Natural Escapement & Productivity of John Day Basin Spring Chinook) and #9703400 (Monitor Fine Sediments and Sedimentation in John Day and Grande Ronde Rivers) would be helpful and we strongly encourage them to pursue this coordination as well as to continue to monitor the physical floodplain recovery.

ProjectID: 20131

Enhance North Fork John Day River Subbasin Anadromous Fish Habitat
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Increase production of indigenous wild stocks of spring chinook salmon and summer steelhead within the North Fork of the John Day River Subbasin.
CBFWA Funding Rec.: $205,544 Sponsor Request: $205,544
ISRP Response Evaluation:
Fund. The sponsor provided adequate responses to most of the specific ISRP comments, but the sponsor did not adequately address the ISRP recommendation: "Delay funding until a monitoring plan for anadromous fish is presented." The sponsor states that the project will coordinate with pertinent entities/projects to obtain assessment information regarding redd counts, larval, juvenile, and smolt salmonid counts. However, evidence of existence of these data is not provided, and they do not demonstrate how they will use this data to measure the success of their project. The ISRP strongly encourages coordination with Project #9801600 (Natural Escapement & Productivity of John Day Basin Spring Chinook) for an expanded survey for chinook and #9703400 (Monitor Fine Sediments and Sedimentation in John Day and Grande Ronde Rivers) for long term monitoring of project results.

Granted this is not a "research project", but monitoring for effectiveness of the project is a necessary component called for in the 1996 Amendment to the Power Act.

ProjectID: 9801700

Eliminate Gravel Push-Up Dams On Lower North Fork John Day
North Fork John Day Watershed Council
Short Description: Modify irrigation pumping stations by replacing above-ground suction screens with sub-surface collectors. Eliminate flow modification, migration impediments, and vegetation disruption and destruction inflicted during construction of gravel push-up dams.
CBFWA Funding Rec.: $90,250 Sponsor Request: $90,250
ISRP Response Evaluation:
Fund. The sponsor provided adequate responses to most of the specific ISRP comments, but the sponsor did not adequately address the ISRP recommendation to "Delay funding until biological monitoring questions beyond water quality are addressed." The sponsor did acknowledge that they would investigate coordination with Project No. 9801600 (Natural Escapement & Productivity of John Day Basin Spring Chinook). However, evidence of existence of adequate data is not provided, and they do not demonstrate how they will use this data to measure the success of their project. Similarly, we strongly suggest coordination with project #9703400 (Monitor Fine Sediments and Sedimentation in John Day and Grande Ronde Rivers).

Granted this is not a 'research project', but monitoring for effectiveness of the project is a necessary component called for in the 1996 Amendment to the Power Act.

ProjectID: 9801800

John Day Watershed Restoration
Confederated Tribes of the Warm Springs Reservation of Oregon
Short Description: Implement protection and restoration actions to improve water quality, water quantity, and fish habitat, and eliminate passage barriers for anadromous and resident fish.
CBFWA Funding Rec.: $424,575 Sponsor Request: $459,918
ISRP Response Evaluation:
Fund. The responses clearly and adequately addressed the ISRP concerns. Moreover, it was refreshing to read responses to the original ISRP review which were complete, detailed, and not defensive.

Umatilla, Walla Walla, and Rock Creek

ProjectID: 8903500

Umatilla Hatchery Operation and Maintenance
Oregon Department of Fish and Wildlife
Short Description: Restore Umatilla River Chinook and steelhead fisheries and populations through release of subyearling and yearling smolts produced at Umatilla Hatchery
CBFWA Funding Rec.: $850,000 Sponsor Request: $895,346 Umbrella: 20516*, 20523
ISRP Response Evaluation:
Fund existing activities.

Programmatic Comments and Recommendation for Umatilla and Walla Walla project in Response Review:
Fund to maintain and monitor existing operations in the Umatilla and Walla Walla until a province level review. (8903500; 9000500; 8343500; 8802200; 8343600; 8902700; 9000501; 8710001; 20139; 9901100; 20127) Do not fund planning, construction or development of new facilities in the Umatilla or Walla Walla until the province level review is complete (8805302, 20138). Future funding must be contingent on the outcome of the review.

In its June 15 report, the ISRP recommended that the entire Umatilla Program should be reviewed by the Council to see whether it is time to shift its emphasis. In response, the co-managers stated "The co-managers agree that a thorough review of the Umatilla Program is warranted……..Given the investment of time and money into the fish currently being produced for FY 2000, it seems most prudent to conduct a Umatilla Program review while continuing to operate the hatchery as approved under the Master Plan." The ISRP concurs with this conclusion. A full-scale programmatic review should be scheduled within the first two years of the rolling province level reviews. A timetable for this review and subsequent decisions is highly recommended. There are overarching policy questions that must be addressed in such a process, such as at what point do you stop or shift emphasis at major facilities, and how?

Because the hatchery and its supporting programs are production facilities (with live fish on hand), funding for their operations and supporting programs should continued pending the results of comprehensive review. In this regard the ISRP questions the wisdom of initiating new programs or construction before the comprehensive review is carried out. We therefore recommend continuing funding at a base level, with no new construction.

Moreover, the responses to projects 8805302 " Plan, Site, Design and Construct NEOH Hatchery - Umatilla/Walla Walla Component" and 20138 "Design And Construct NEOH Walla Walla Hatchery" have not convinced the reviewers that these hatchery plans will successfully re-build the wild chinook population, particularly in light of harvests, which are likely underestimated, and the problems at Umatilla hatchery (extremely low survival and return). Perhaps the subsequent reviews which the response

indicates are to follow will provide the further study required, although the reviewers suspect these are mainly to address operational details and less directed at overall feasibility. If constructed, and not able to meet the intended purpose, what do you do with these facilities? Success is contingent upon better survival conditions. The question remains as to whether these funds are better directed at addressing methods to improve wild fish survival in natural habitat (counterbalance the poor marine survival conditions by improving the freshwater stage of the life history) or through release of hatchery fish to re-build the wild population, or both. If it is to be the latter, there is insufficient information in the proposal to justify funding these proposals. It is not clear in the proposal or the response to the review of this project that the goal of re-establishing wild chinook can be achieved. A model of population re-structuring, given current survivals, might assist, but evidence from reviews in nearby basins (Snake River, Mundy 1999) points to the serious constraints.

The level of concern evident here by the reviewers and the co-managers adds to the concerns for other existing and planned hatchery facilities. A more comprehensive review and evaluation of all basin facilities is required.

The reviewers specifically noted that many of the responses do not specifically address scientific concerns as is appropriate in an annual peer review of performance. Rather, the responses rely on references to planning documents to justify the program.

ProjectID: 9000500

Umatilla Hatchery Monitoring And Evaluation
Oregon Department of Fish and Wildlife
Short Description: Evaluate juvenile rearing, marking, tagging, survival, stock life history, fish health, mass marking, straying, sport fishing and catch contribution for salmon and steelhead reared in oxygen supplemented and standard raceways at Umatilla Hatchery.
CBFWA Funding Rec.: $650,000 Sponsor Request: $721,588 Umbrella: 20516*, 20523
ISRP Response Evaluation:
Fund existing activities. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. Reviewers noted that a thorough response was provided that added to the justification for this work. However, an ability to detect a difference in raceway performance with respect to improving survival remains doubtful due to the variable nature of returns and uncertainties in survival estimates. Differences would have to be very large to be detectable.

ProjectID: 8343500

Operate And Maintain Umatilla Hatchery Satellite Facilities
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Acclimate juvenile salmon and steelhead prior to release in the Umatilla Basin. Collect, hold and spawn broodstock and provide eggs to ODFW and other hatcheries for incubation, rearing and later release into the Umatilla Basin.
CBFWA Funding Rec.: $775,000 Sponsor Request: $822,161 Umbrella: 20516, 20523
ISRP Response Evaluation:
Fund existing activities. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. Most concerns were addressed in the review response, except the issue of whether or not smolt-to-adult survival has been increased.

ProjectID: 8805302

Plan, Site, Design And Construct Neoh Hatchery - Umatilla/Walla Walla Component
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Add incubation/juvenile rearing to the Walla Walla brood facility to rear summer steelhead and spring chinook salmon for acclimation/release in the Walla Walla and Umatilla Basins. Construct acclimation facilities to accommodate all juvenile salmon and st
CBFWA Funding Rec.: $2,800,000 Sponsor Request: $6,400,000 Umbrella: 20523
ISRP Response Evaluation:
Do not fund planning or development of new facilities in the Walla Walla until the province level review is complete. See programmatic recommendation for Umatilla and Walla Walla under project 8903500.

ProjectID: 20138

Design And Construct Neoh Walla Walla Hatchery
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Add incubation/juvenile rearing capabilities to the existing S. F. Walla Walla brood facility to produce 350,000 spring chinook salmon for release in the Walla Walla River and construct an adult broodstock collection facility.
CBFWA Funding Rec.: $250,000 Sponsor Request: $1,380,000
ISRP Response Evaluation:
Do not fund planning or development of new facilities in the Walla Walla until the province level review is complete. See programmatic recommendation for Umatilla and Walla Walla under project 8903500.

ProjectID: 8802200

Umatilla River Fish Passage Operations
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Increase survival of migrating juvenile and adult salmon and summer steelhead in the Umatilla Basin by operating passage facilities, flow enhancement measures, trap facilities, and transport equipment to provide adequate passage conditions.
CBFWA Funding Rec.: $360,000 Sponsor Request: $379,000 Umbrella: 20516
ISRP Response Evaluation:
Fund existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. The response agreed there should be a programmatic review of this project, along with projects 8343600 and 8902700. We believe it needs to be reviewed in a larger context than these three, including the 11 projects we listed under 8903500, Umatilla Hatchery Operation and Maintenance. The response observed that there have been several "evaluations" as part of program planning. This response fails to recognize the particular responsibility of the ISRP to carry out a review with specific criteria identified by congress. This project is tied to the others we listed in the Umatilla Program by the fact that a primary problem is a lack of water in the river.

ProjectID: 8343600

Umatilla Passage Facilities O & M
Westland Irrigation District
Short Description: Maximize the survival of migrating juvenile and adult salmon and summer steelhead in the Umatilla Basin by operating and maintaining passage facilities, trapping facilities, spawning facilities and acclimation facilities according to agency guidelines.
CBFWA Funding Rec.: $502,000 Sponsor Request: $703,106 Umbrella: 20516, 20523
ISRP Response Evaluation:
Fund existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500.

ProjectID: 8902700

Power Repay Umatilla Basin Project
Bonneville Power Administration
Short Description: Provide power or reimbursement for power costs for Bureau of Reclamation Umatilla Basin Project pumping plants that exchange Columbia River water for Umatilla River water.
CBFWA Funding Rec.: $550,000 Sponsor Request: $650,000 Umbrella: 20523, 20537
ISRP Response Evaluation:
Fund existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. The original ISRP comments included a statement that no

information is provided on the amount of water provided, or more particularly how much was left in the Umatilla River to benefit fish as a result of this project. The response provides rather general information on the amount of water pumped, "…..exchange for approximately 23,000 acre feet of stored water in McKay Reservoir.", and a "bucket for bucket" exchange with irrigators for amounts left in the river. It is unclear what the benefits to fish are from this project and why this project is funded through the FWP. The response notes that funding is mandated by Congress. We also observe that the ISRP review is mandated by Congress. If the project was sold to Congress with the understanding that it would benefit salmon, we believe it appropriate to carry forward a technical review to determine to what extent it might benefit salmon. If the project is not targeted on salmon restoration, then it does not belong in the Fish and Wildlife Program. On the assumption that its intention is to benefit salmon, we recommend that it be reviewed in the context of the larger Umatilla program review, as noted previously.

ProjectID: 20139

Walla Walla River Fish Passage Operations
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Increase survival of migrating juvenile and adult salmon and summer steelhead in the Walla Walla Basin by operating passage facilities, trapping facilities, and transport equipment, to provide adequate passage conditions.
CBFWA Funding Rec.: $73,000 Sponsor Request: $83,400
ISRP Response Evaluation:
Fund to maintain existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. Again, the problem in the Walla Walla River is lack of flow and the presence of physical structures that impede passage of fish. There is a need to continue this project until some other solution, if any, can be found.

ProjectID: 9000501

Umatilla River Basin Natural Production Monitoring And Evaluation
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Monitor and evaluate natural spawning, rearing, migration, survival, life histories, age and growth characteristics, and genetic characteristics of adult salmon and steelhead and their natural progeny in the Umatilla River Basins.
CBFWA Funding Rec.: $480,000 Sponsor Request: $609,191 Umbrella: 20516*, 20523
ISRP Response Evaluation:
Fund existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. A thorough response was provided that clarified the coordination of efforts, provided further justification for the approaches, identified uncertainties, and indicated how this work might help address the latter. Perhaps they will find survivals are very low (as found elsewhere) and below recruitment replacement. Would harvest then be eliminated?

ProjectID: 8710001

Enhance Umatilla River Basin Anadromous Fish Habitat
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Increase natural production potential of summer steelhead, chinook salmon and coho salmon in the Umatilla River Basin.
CBFWA Funding Rec.: $260,000 Sponsor Request: $305,000 Umbrella: 20516, 20523
ISRP Response Evaluation:
Fund existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. Justification for the work as provided in the response seems reasonable. Cost/ mile may be high, but perhaps that is what it takes. The reviewers are now persuaded that watershed assessment and habitat rehabilitation work in the basin is coordinated.

ProjectID: 9901100

Assess Fish Habitat & Salmonids in the Walla Walla Watershed in Washington
Washington State Department of Fish and Wildlife
Short Description: Determine fish passage, rearing, spawning conditions, and identify limiting factors for steelhead and for potential reintroduction of chinook salmon, and assess steelhead and bulltrout distribution, densities, and genetic composition in the Walla Walla.
CBFWA Funding Rec.: $169,723 Sponsor Request: $184,723
ISRP Response Evaluation:
Fund existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. The response clarifies justification for aspects of the work.

ProjectID: 20127

Walla Walla River Basin Monitoring and Evaluation Project
Confederated Tribes of the Umatilla Indian Reservation
Short Description:
CBFWA Funding Rec.: $134,000 Sponsor Request: $156,931
ISRP Response Evaluation:
Fund to maintain existing operations. See programmatic recommendation for Umatilla and Walla Walla under project 8903500. Coordination of activities and purpose for the work have been clarified. Such work will be critical to the decision process in the basin toward restoration efforts - fundamental.

Yakima and Klickitat

ProjectID: 8811525

Yakima/Klickitat Fisheries Project Design And Construction
Yakama Indian Nation
Short Description: Design/construction re:
1. Cle Elum: a) M&E Facility, b) Interpretative Center c) Employee Housing
2. Prosser: a) Rearing/Settling Ponds, b) Employee Housing c) Alternative Water Supply
3. Klickitat: Design of Lyle Trap
CBFWA Funding Rec.: $1,565,000 Sponsor Request: $1,565,000 Umbrella: 20510*
ISRP Response Evaluation:
Fund at an appropriate base level until a programmatic review can be completed. In the ISRP's June 15, 1999 report, the Panel recommended that the entire set of proposals included in the umbrella program (20510) should be reorganized so that the scientific approach to achieving the stated objectives could be evaluated. This recommendation applied to all proposals in the Umbrella (including projects 8811525, 8812025, 9506325, and 9701325, which are in this response review). In addition, the ISRP listed specific questions or concerns for each project. The Yakima/Klickitat Fisheries Project (YKFP) submitted a very detailed response that appears to address the concerns raised in the ISRP review. However, the document is 210 pages and is too long for the ISRP to review in the depth it deserves in the time allotted to the "fix it loop." The document submitted by the YKFP will serve as a starting point for a full scale programmatic review which should be initiated as soon as possible. Because this is a production program that must maintain adequate conditions for rearing fish, the ISRP recommends continued funding at an appropriate base level until the programmatic review can be completed. Project 9506425 should be included in this recommendation even though it was not part of the response submitted by the YKFP.

ProjectID: 8812025

Ykfp Management, Data And Habitat
Yakama Indian Nation
Short Description: This proposal describes the YKFP's management and administrative support requirements for Project operations in the Yakima and Klickitat River basins.
CBFWA Funding Rec.: $750,000 Sponsor Request: $750,000 Umbrella: 20510*
ISRP Response Evaluation:
Fund at appropriate interim level to maintain the basic program until province level review. See programmatic recommendation and comments in project 8811525.

ProjectID: 9506325

Yakima/Klickitat Fisheries Project Monitoring And Evaluation
Yakama Indian Nation
Short Description: Monitors YKFP in terms of natural production, harvest , ecological and genetic impacts, guides adaptive management within the project and provides detailed information on supplementation to the region.
CBFWA Funding Rec.: $4,309,934 Sponsor Request: $4,639,934 Umbrella: 20510*
ISRP Response Evaluation:
Fund at appropriate interim level to maintain the basic program until province level review. See programmatic recommendation and comments in project 8811525.

ProjectID: 9506425

Ykfp - Wdfw Policy And Technical Involvement In The Ykfp
Washington Department of Fish and Wildlife
Short Description: Manage policy and technical oversight of theYakima/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.
CBFWA Funding Rec.: $275,000 Sponsor Request: $275,000 Umbrella: 20510*
ISRP Response Evaluation:
Fund at appropriate interim level to maintain the basic program until province level review. See programmatic recommendation and comments in project 8811525.

ProjectID: 9701325

Yakima/Klickitat Fisheries Project Operations And Maintenance
Yakama Indian Nation
Short Description: This proposal provides for the operation and maintenance of the YKFP's fish production facilities. These facilities are:
1. Cle Elum Supplementation and Research Facility;
2, Prosser Fish Facility; and ,
3. Marion Drain Fish Facility.
CBFWA Funding Rec.: $2,260,160 Sponsor Request: $2,260,160 Umbrella: 20510*
ISRP Response Evaluation:
Fund at appropriate interim level to maintain the basic program until province level review. See programmatic recommendation and comments in project 8811525.

ProjectID: 9901200

Coordinate/Facilitate Watershed Project Planning/Implementation
Kittitas-Yakima Resource Conservation and Development District
Short Description: Enhance Yakima River Watershed Interagency Council's cooperative efforts to implement Yakima River Watershed projects and activities which are compatible with biological needs of salmon, steelhead and other fish and wildlife.
CBFWA Funding Rec.: $70,496 Sponsor Request: $70,496 Umbrella: 20526*
ISRP Response Evaluation:
Fund. Most of the ISRP questions were addressed. Long-term funding should be based on clear presentation of concrete results. For example, the proposal states that YRWIC has developed a limiting factor analysis. Some indication of what those factors are would have been helpful. Some examples of projects that were directed toward priorities in the basin will help establish the value of YRWIC's coordination.

ProjectID: 9705100

Yakima Basin Side Channels
Yakama Indian Nation - Fisheries
Short Description: Protect, restore and reestablish access to productive off-channel rearing habitats, and protect and reconnect floodplains associated with the mainstem Yakima and Naches Rivers.
CBFWA Funding Rec.: $601,673 Sponsor Request: $801,673 Umbrella: 20526, $20547*
ISRP Response Evaluation:
Fund. The responses adequately addressed the ISRP comments.

ProjectID: 9803400

Reestablish Safe Access Into Tributaries Of The Yakima Subbasin.
Yakama Indian Nation - Fisheries
Short Description: Reconnect over 100 miles of habitat in ten tributaries that have adequate flow, by building fishways and screens at human-made barriers. Protect reaccessed habitat through fencing and property purchase.
CBFWA Funding Rec.: $771,918 Sponsor Request: $771,918 Umbrella: 20547*
ISRP Response Evaluation:
Fund. The questions raised by the ISRP were adequately addressed. The response clarifies some issues that led to confusion in interpreting the proposal.

Upper Mid-Columbia

ProjectID: 9502800

Restore Moses Lake Recreational Fishery
Washington Department of Fish and Wildlife
Short Description: Restore/enhance the failed recreational fishery for resident species in Moses Lake, once the premier fishery for resident game fish in the Columbia Basin, in lieu of lost recreational fishery opportunities for anadromous game fish species in the upper Col
CBFWA Funding Rec.: $234,890 Sponsor Request: $234,890
ISRP Response Evaluation:
Fund. The project managers have gone to some length to justify the recreational warm-water fishery in Moses Lake and to explain how this is related to the Fish and Wildlife Plan. Overall, they did an adequate job of describing the problem and justifying the approach. Of particular interest are the testable hypotheses for explaining the fishery decline, e.g., the apparent proliferation of carp in the lake.

Some detailed explanation of how much, and what type of, data analyses are really needed to complete Phase I would have been helpful. For example, are there long-term measurements of turbidity or Secchi depth over time to determine if Moses Lake has become progressively more turbid? The reference to harvest being a constant was not adequately substantiated.

ProjectID: 9604000

Evaluate The Feasibility And Risks Of Coho Reintroduction In Mid-Columbia
Yakama Indian Nation
Short Description: Determine the feasibility of re-establishing a naturally spawning coho population within the mid-Columbia tributaries, while keeping adverse ecological impacts on other salmonid species of concern within acceptable limits.
CBFWA Funding Rec.: $100,000 Sponsor Request: $1,418,000 Umbrella: 20527, 20528
ISRP Response Evaluation:
Fund in part to continue monitoring in the Methow River Basin. Apparently they are abandoning efforts in the Methow River Basin and pursuing reintroduction in the Wenatchee River Basin. They need to develop a proposal with better justification for that effort.

Even though returns to the Methow River Basin have been low, the study of coho reintroduction feasibility should be continued there until a complete, comprehensive justification for switching the focus to the Wenatchee River Basin has been completed. This is too important a decision to change sub-basins without development of a detailed study plan and testable hypotheses beforehand.

Upper Columbia Mainstem, Lake Roosevelt, Lake Pend Oreille and Coeur d'Alene

ProjectID: 8503800

Colville Tribal Fish Hatchery
Colville Confederated Tribes
Short Description: Produce 22,679 kg (50,000 lbs) of resident salmonids for distribution to reservation waters in an effort to provide a successful subsistence/ recreational fishery as partial mitigation for anadromous fish losses above Chief Joseph and Grand Coulee Dams.
CBFWA Funding Rec.: $360,973 Sponsor Request: $360,973 Umbrella: 20537
ISRP Response Evaluation:
Fund. However, some emphasis of the project should immediately be used for: 1) survey and gather more complete data regarding native salmonid presence/distribution and status and their potential utilization for native species recovery and tribal subsistence/recreational fishery potential (assuming that there are no known local redband or cutthroat trout populations within the bounds of the reservation), and 2) survey of natural production for tribal subsistence/recreational fishery potential within the reservation. Surveys of small headwater tributaries in Idaho and Nevada have frequently found remnant populations of redband and cutthroat trout.

The response adequately answers the ISRP's reservations. Although not clearly listed in the proposal, the project does match FWP objectives and regional goals for introducing replacement fish to blocked areas as expressed in the FWP, even though regional attitudes about using non-native species are changing.

The proposers responded with an informative discussion of availability (lack) of native species on the reservation, the long history of stocking, and an overall discussion of the species substitution questions facing the Council and resource managers. The primary concern of the reviewers, that the emphasis of the hatchery program appears to be on non-native fishes is satisfactorily dealt with. Project managers explain what was not apparent to the reviewers, that waters in the Colville Tribal Reservation have been stocked with non-native species of fish since at least 1913. Because the U.S. Department of Interior has a duty in regard to the trust responsibility of the U. S. to Indian Tribes, the Fish and Wildlife Service for many years assumed responsibility for fish enhancement on the reservation (along with Washington Department of Fish and Wildlife, who asserted some authority, up until 1974). The end result is that native salmonids are no longer present in significant numbers, other than possibly in the upper reaches of some tributaries, which have not been surveyed. There is no source of brood stock for native species (which the tribe would prefer to use).

It is commendable that performance objectives in terms of catch are used rather than simply production objectives, and the project should not be penalized for incomplete

evaluations in this direction. More ecosystem-oriented evaluations, including natural reproduction, are beginning, but may be difficult considering the long history of stocking. The response about the similar stocking practices of the tribe and WDFW regionally is the sort of project linkage information that the ISRP sought. We agree with the proposers' comment that change of the resident fish program toward more emphasis on locally native stocks is appropriately carried out as an adaptive process within the project rather than project termination. This hatchery should, however, remain part of the Council's overall evaluation of artificial production in the basin and abide by the eventual recommendations of that review.

ProjectID: 9001800

Evaluate Rainbow Trout/Habitat Improvements Of Tribs. To Lake Roosevelt
Colville Confederated Tribes
Short Description: Increase the quality and quantity of spawning and rearing habitat in selected streams that drain into Lake Roosevelt by eliminating migration barriers, improving riparian conditions, improving instream habitat, and protracted late summer flow conditions.
CBFWA Funding Rec.: $189,636 Sponsor Request: $189,636
ISRP Response Evaluation:
Fund.
The response adequately answers the ISRP questions. Space limitations should not eliminate the need to provide a concise summary of methods and results (it is not necessary to restate whole methodology books or data reports, but to give the essence of why choices of methods were made and how the results matched expectations). The proposal must make the case that the methods are appropriate and that worthwhile results are being obtained for the public's money. This proposal originally did neither, but the additional information was helpful (although sometimes too detailed). The time-line of phases and presentation of results was useful for obtaining perspective on the overall project.

The primary concern of the ISRP was the lack of any report on past accomplishments. The project managers have provided some preliminary results in their response, and cite some annual reports and quarterly reports that have been submitted since the proposal was prepared. In addition, some thought has been given to the ISRP comment that a statistical analysis procedure was not yet developed. Statistical advice is being sought from the Northwest Indian Fisheries Commission. Further efforts to provide concise summaries of methods and results would be helpful to future reviewers.

ProjectID: 9501100

Chief Joseph Kokanee Enhancement Project
Colville Confederated Tribes
Short Description: This is a stock assessment project, specifically to determine the stock status, strength, genetics, and local fishery contribution by natural production kokanee. High entrainment rates are suspected through Grand Coulee Dam. An hydroacoustic assessment
CBFWA Funding Rec.: $396,753 Sponsor Request: $596,753
ISRP Response Evaluation:
Do not fund.
The proposal continues to be inadequate with respect to plans for meeting those objectives that have not been met or have only partly been met. However, the work is important and plans should be made for development of a scientifically sound study. The response was helpful, but the proposers still do not seem to understand that the description of their work in their proposal, not their understanding of it, determines whether the ISRP recommends funding. Defense of incompleteness of the proposal and continuing statements that no biological conclusions (even interim) need to be presented are still unacceptable. Clearly, interim conclusions have been drawn because, for example, focus of the entrainment study has shifted to the third powerhouse. The response amplifies the ISRP's statement that the work is important. Information is presented in the response that shows that there is, indeed, more work to be done to accomplish the stated objectives. The subcontracts are explained (although it was not necessary to reproduce the genetics reports). More information in the response would have been helpful to demonstrate progress at establishing a relationship between entrainment and the annual drawdown cycle and its timing. The discussion of potential strobe light application at Grand Coulee was helpful and indicative of the thinking that the ISRP was suggesting, but the comparisons among reservoirs was not germane unless the authors believe that reservoir size is important to fish behavior at the outlets (more explanation is then needed).

The present study design makes no mention of how they will assess the significance of entrainment relative to the total population. Is there a creel survey? Suppose the hydroacoustic methods were successful in estimating the total number of kokanee entrained. What portion of the total population does that represent? Is it a large percentage or small? We understand there may be some marked kokanee present in the fishery, resulting from releases of fish reared in net pens. Would it not be possible to develop a total population estimate, knowing the number of kokanee released and the percentage they make up of the catch (in a sample of the catch)?

ProjectID: 9800300

O&M Funding Of Wildlife Habitat On STOI Reservation For Grand Coulee Dam
Spokane Tribe of Indians
Short Description: Operations and maintenance of lands acquired for wildlife protection of SIR
CBFWA Funding Rec.: $97,187 Sponsor Request: $97,187 Umbrella: na
ISRP Response Evaluation:
Delay funding until the sponsors address the original ISRP concerns. Although additional information was provided, the response still did not provide the summary of procedures and biological benefits that the ISRP was expecting in the proposal. The response again simply referred to published HEP procedures and CBFWA guidelines without any attempt to describe what these are or what was done using them. Simple summaries would have been helpful to reviewers and could have helped make an otherwise good proposal better and more intelligible. The proposal (and the response) should stand alone without the reader having to look up other documents. In addition, the response did not improve the description of objectives.

ProjectID: 9106100

Swanson Lakes Wildlife Area
Washington Department of Fish and Wildlife
Short Description: This project request is for the third year operation and maintenance funding for the Swanson Lakes Wildlife Area covering over 19,000 acres in Lincoln County.
CBFWA Funding Rec.: $247,500 Sponsor Request: $247,500
ISRP Response Evaluation:
Fund. The responses adequately addressed the ISRP's concerns. The proposers describe the WDFW's management plans, the status of sharptailed grouse populations, and the role of the Swanson Lakes Wildlife Area in the biological requirements of the species. Species-specific objectives are given. Questions of fire protection were addressed adequately. The reasoning for Grand Coulee mitigation is provided. The objectives were expanded, although still were largely task statements. The responses made clear what was actually being done and what was projected for the future. Questions about the reliability of population estimates remain. Although the responses assured the ISRP that the staff are qualified, no resumes were provided as required in the initial request for proposals.

ProjectID: 9204800

Hellsgate Big Game Winter Range Operation And Maintenance Project
Colville Confederated Tribes, Fish & Wildlife Department
Short Description: To protect, enhance and evaluate wildlife habitats and species for partial mitigation for losses to wildlife resulting from Grand Coulee and Chief Joseph Dams.
CBFWA Funding Rec.: $350,000 Sponsor Request: $383,225 Umbrella: 20509*
ISRP Response Evaluation:
Delay funding until the proposers supply a management plan that includes protocols for monitoring and evaluation, including at least some well-chosen direct biological measures (e.g., censuses or indexes of condition of animals for some target populations, measures of diversity and abundance of wildlife). The proposers should be able to provide the needed information from their draft management plan and by developing some appropriate monitoring and evaluation protocols to support it.

The responses adequately address many of the ISRP's concerns. However, several key elements remain unavailable for scientific review. The response states existence of a draft site-specific management plan, but its key elements (target management units, management goals, methods, and evaluation procedures for each) are not provided. This is the central information needed for scientific evaluation of a proposal for management and operations of land to benefit wildlife. Further, the responses do not provide a scientifically sound monitoring and evaluation plan. The ISRP accepts that goals of land management to benefit wildlife are long-term and may be realized only over many years; they accept that active enhancement need not be a part of effective land management. Nevertheless, monitoring for benefits to wildlife, measured at the level of at least some well-chosen species, is a necessary element of evaluation of this sort of project. HEP alone is an indirect measure of habitat attributes, does not necessarily generalize from site-to-site well or translate into wildlife abundance, and thus does not meet scientific standards for evaluation of benefit to wildlife. The respondents greatly overstate the information provided by HEP. Also, they seem to rely on habitat-typing for assessment of site potential to determine management goals; this approach has many scientific shortcomings and can result in management goals that are poorly suited to a site and difficult or expensive to attain. The project managers should at least be aware of the potential shortcomings of this method of habitat evaluation.

The responses adequately described what was meant by increasing biodiversity by letting agricultural and grazing lands revert to natural conditions. The "letting nature heal itself" approach is a good strategy that should often be cost-effective. The responses adequately described the species intended to be supported. Linkages among projects by way of coordination are fine. The summarization of the site-specific management plan was helpful, though too limited for full evaluation. Ideally, the respondents could supply a summary of the management plan that more fully developed their management goals and, especially, how progress toward them is assessed and evaluated. Although the philosophical approach of the group is now much more clear, it is not clear how decisions

to adopt active management are reached or how the outcome of such active management is judged.

ProjectID: 9506700

Colville Tribes Performance Contract For Continuing Acquisition
Colville Confederated Tribes, Fish & Wildlife Department
Short Description: To project, enhance and evaluate wildlife habitats and species for partial mitigation for losses to wildlife resulting from Grand Coulee and Chief Joseph Dams.
CBFWA Funding Rec.: $400,000 Sponsor Request: $1,500,000 Umbrella: 20509*
ISRP Response Evaluation:
Fund at some level; the CBFWA recommended level looks appropriate. Future funding for operation and management of these lands should be contingent on supplying a clear management plan that includes adequate monitoring and evaluation, using direct measures of target species.

The responses clarify the opportunistic nature of the proposal, that is, having funds available to purchase properties that may come on the market and meet the selection criteria. The respondents also supplied a summary and discussion of criteria for selecting and prioritizing lands for acquisition. The responses did not clearly answer the question about priority for disjunct versus contiguous lands in terms of wildlife needs, but overall selection criteria are biologically reasonable. Although the respondents do not clarify the type of conservation easements they might seek or accept, they clarify that purchase is the main objective of this proposal.

ProjectID: 9004400

Implement Fisheries Enhancement Opportunities: Coeur D'Alene Reservation
Coeur d'Alene Tribe
Short Description: Enhance critical watershed habitat to mitigate limiting factors for westslope cutthroat and bull trout in the Coeur d'Alene subbasin. Maintain compensatory harvest opportunities and develop environmental educational programs in local schools.
CBFWA Funding Rec.: $685,254 Sponsor Request: $685,254
ISRP Response Evaluation:
Fund. The original proposal was generally excellent. The response to the ISRP's questions about Objective 3, the construction of put-and-take trout ponds, was of equally high quality. It is clear that the Tribe has thought through their management strategy, has emphasized native stocks, but also needs some interim fishing opportunities to take pressure off the native fish restoration efforts. The put-and-take ponds seem well located (in closed basins not accessible to native species) and are designed to avoid the problems that concerned the ISRP.

ProjectID: 9500100

Kalispel Tribe Resident Fish
Kalispel Tribe of Indians
Short Description: Assess native trout habitat in tributaries to the Pend Oreille River and implement recommendations for enhancement. Provide largemouth bass habitat in mainstem Pend Oreille River and supplement population. Monitor and evaluate all enhancement measures.
CBFWA Funding Rec.: $297,000 Sponsor Request: $297,000
ISRP Response Evaluation:
Fund. The proposers provide good citations for success of largemouth bass supplementation elsewhere. On this basis one would assume that their program would have some success. Unfortunately, the cases where supplementation has not been effective (usually just unnecessary because of adequate natural spawning) are not well reported in the literature (stocking programs are just dropped). The effects of fluctuating water levels on spawning success are well documented and these effects may be occurring in this situation. Also, over-wintering success of first year fish can be low in cold climates, which is one reason the published supplementation efforts have often used yearlings for stocking. This may also be occurring there. On balance, the ISRP is willing to accept on the basis of the response that the supplementation project has merit and is worthy of funding as long as a thorough monitoring program attests to its value.

Upper Columbia Flathead and Kootenai

ProjectID: 9101901

Flathead Lake Monitoring And Habitat Enhancement
Confederated Salish and Kootenai Tribes
Short Description: Implement and monitor fisheries improvement activities within the Flathead Indian Reservation portion of the Flathead Lake basin. Research factors limiting successful application of mitigation measures within Flathead Lake.
CBFWA Funding Rec.: $95,000 Sponsor Request: $95,000 Umbrella: 20554*
ISRP Response Evaluation:
Fund. The responses adequately cover the concerns of the ISRP panel, especially the UM subcontract for trophic studies. The proposers and the ISRP agree that the proposal format does not do justice to this multi-faceted project, and that the more thorough review recommended by the ISRP is preferable. Considering the small cost and integral nature of the subcontract to the mitigation strategy, it warrants funding.

ProjectID: 9101904

Hungry Horse Mitigation - Nonnative Fish Removal / Hatchery Production
U.S. Fish and Wildlife Service
Short Description: Conduct nonnative fish removal in Lake McDonald in Glacier National Park to facilitate restoration of native bull trout and westslope cutthroat trout in the Flathead drainage; produce hatchery fish for offsite stocking to mitigate Flathead Lake losses.
CBFWA Funding Rec.: $428,950 Sponsor Request: $428,950 Umbrella: 20554*
ISRP Response Evaluation:
Fund. The response adequately covers the ISRP concerns over non-native stocking. It is clear now that the non-natives are being stocked into lakes where conflicts with native fish restoration will not occur.

ProjectID: 8346700

Mitigation For The Construction And Operation Of Libby Dam
Montana Department of Fish, Wildlife and Parks
Short Description: Research, design, execute and monitor watershed / habitat enhancement projects that mitigate for native fish losses caused by hydropower construction and operation.
CBFWA Funding Rec.: $500,000 Sponsor Request: $500,000 Umbrella: 20517*
ISRP Response Evaluation:
Fund at level to maintain existing scope of investigation as in FY99, but do not expand scope of project until it is reviewed in the "rolling review." This was a good proposal that was generally supported by the ISRP. The ISRP's reservation was for increasing the scope of the project without a more thorough review. The response was adequate to support continuation. The regrouping of projects in the basin is probably good, but the response did not adequately alleviate the ISRP's confusion. A more detailed review of all projects and subprojects in the basin is needed for the ISRP to understand the history and flexible objectives of this on-going and fluid set of projects.

ProjectID: 9401001

Mitigation For Excessive Drawdowns At Libby Reservoir
Montana Fish, Wildlife and Parks and the Confederated Salish and Kootenai Tribes
Short Description: Mitigate for fish and fish habitat losses due to excessive drafting of Libby Reservoir for power production (Fish and Wildlife Program measures 903(a) and (b)).
CBFWA Funding Rec.: $377,971 Sponsor Request: $377,971 Umbrella: 20517*
ISRP Response Evaluation:
Fund at level to maintain existing scope (FY99) of investigation, but do not expand scope of project until it is reviewed in "rolling review." There is obvious confusion over what constitutes a combining of proposals as recommended by the ISRP previously.

In this instance, the project is apparently being kept as a separate BPA number but "combined" under the umbrella proposal. In this sense, the combining that the ISRP again recommended for FY2000 has been done by the sponsor. The ISRP reviewers did not fully appreciate the extent that the sponsors had viewed the umbrella as the "proposal" and the components as sub-proposals. In this context, this separate proposal is reasonable. A second concern was the scientific soundness of the proposed work. The response is adequate to justify the work proposed. A review of the basin's proposals as a whole package was recommended by the ISRP and is reiterated in light of confusion over this project.

ProjectID: 9404900

Improve The Kootenai River Ecosystem
Kootenai Tribe of Idaho
Short Description: Identify best management options in order to enhance the aquatic ecosystem and recover native populations of white sturgeon, kokanee salmon, bull trout, burbot, Westslope cutthroat trout and redband trout in the Kootenai River system.
CBFWA Funding Rec.: $270,000 Sponsor Request: $300,000
ISRP Response Evaluation:
Fund at level recommended by CBFWA without objective 4. The response adequately addresses the ISRP's concerns. The sponsors have withdrawn objective 4 (fertilization study) from funding consideration, as recommended by the ISRP. Matters of project focus are being addressed by the sponsor and other sponsors using the Adaptive Environmental Assessment. The experimental use of egg hatching capsules was well supported in the response. It is evident that there are contradictory thoughts about effects of siltation in the river below Libby Dam, and these need testing.

ProjectID: 8806400

Kootenai River White Sturgeon Studies And Conservation Aquaculture
Kootenai Tribe of Idaho
Short Description: Prevent extinction, preserve existing gene pool, and begin rebuilding healthy age classes of the endangered white sturgeon in the Kootenai River using conservation aquaculture techniques with wild broodstock.
CBFWA Funding Rec.: $1,150,202 Sponsor Request: $2750,202
ISRP Response Evaluation:
Fund in part. Fund the research component. Do not fund capital expenditures until a comprehensive review of regionwide white sturgeon recovery efforts is complete. Do not fund kokanee portion of the proposal, objective 4, because the scientific basis for linking kokanee to white sturgeon is not justified.

The ISRP stands by its original recommendation. The answers to the specific ISRP concerns do not justify capital expenditure. This project was recommended for partial funding, pending a review of regionwide sturgeon recovery efforts. The PIs agree, and

provide specific responses to a number of issues raised in the ISRP review. Although the responses are, for the most part, adequate, they do not provide a compelling argument that the original ISRP recommendation was not a wise one.

ProjectID: 8806500

Kootenai River Fisheries Recovery Investigations
Idaho Department of Fish and Game
Short Description: Determine status of Kootenai River white sturgeon (ESA), burbot (a genetically distinct stock), whitefish, and bull and rainbow trout stocks in the Kootenai River and effects of water fluctuations and ecosystem changes on these stocks.
CBFWA Funding Rec.: $616,596 Sponsor Request: $616,596
ISRP Response Evaluation:
Fund in part. Do not fund hypotheses/objectives 3, 4, and 11; 3 and 11 are not theoretically justified. The ISRP's original recommendation to not fund hypothesis 2 is now changed to a fund because the response adequately addressed the ISRP concerns, although the response does not provide clarification of all the logic underlying the hypothesis. Hypothesis 2 is for monitoring and evaluation of white sturgeon as related to environmental conditions. This monitoring is needed to implement the Recovery Plan and for adequate management by the Technical Management Team. It will also contribute to long-term records for scientific studies. The responses justify this work, especially at an exploratory level. Further coordination of all parties in the Kootenai system still seems desirable to the reviewers.

Lower Snake Mainstem and Multi-subbasin

ProjectID: 9801003

Spawning distribution of Snake River fall chinook salmon
U.S. Fish and Wildlife Service
Short Description: Monitor the spawning distribution of fall chinook salmon to determine if supplemented yearling hatchery fish spawn where intended, and to document redd distribution and collect information on the spawning distribution of subyearling releases and natural f
CBFWA Funding Rec.: $177,666 Sponsor Request: $182,666 Umbrella: 20533, 20541
ISRP Response Evaluation:
Fund. The responses adequately address the ISRP concerns.

ProjectID: 9700900

Evaluate Rebuilding The White Sturgeon Population In The Lower Snake Basin
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Evaluate the need for and identify potential measures to protect and restore white sturgeon between Hells Canyon and Lower Granite dams to obtain a sustainable annual harvest of white sturgeon.
CBFWA Funding Rec.: 409494 Sponsor Request: 419494
ISRP Response Evaluation:
Fund due to the important nature of the work and vulnerability of the population, but the ISRP concerns from the original review remain. The responses and study design are vague and do not inspire confidence that the project's objectives can be met.

Idaho Supplementation Studies and Related Proposals

ProjectID: 9005500

Steelhead Supplementation Studies in Idaho Rivers
Idaho Department of Fish and Game
Short Description: Evaluate the feasibility of using artificial production to increase natural steelhead populations and to collect life history, genetic, and disease data from wild steelhead populations in Idaho.
CBFWA Funding Rec.: $407,744 Sponsor Request: $560,744 Umbrella: 20534, 20535
ISRP Response Evaluation:
Fund. The sponsors adequately addressed the ISRP comments. The sponsor's Attachment 2 is very helpful. The project proposes genetic monitoring to see if genetic change occurs in supplemented natural populations. With interbreeding, there will be mixing of genetic material whether or not the monitoring program detects it. The appropriate questions and the questions that will be asked even if they show some change is - so what? Genetic assessment may prove valuable in tracking directions and amounts of interactions, however, long-term evaluation should focus on life history traits that are thought to be related to fitness and adaptation. Does supplementation cause a significant loss of production from natural habitats? Is that loss related to the method of supplementation? How much productivity loss in reproduction is likely in the long-term? And, how much productivity loss is acceptable?

ProjectID: 9107300

Idaho Natural Production Monitoring And Evaluation
Idaho Department of Fish and Game
Short Description: Improves adult-to-smolt and smolt-to-adult survival of chinook salmon and steelhead. Identifies limiting factors and methods to improve survival. Provides monitoring to determine the effectiveness of recovery actions and population status.
CBFWA Funding Rec.: $767,512 Sponsor Request: $767,512 Umbrella: 20535
ISRP Response Evaluation:
Fund. The response was excellent and makes it much clearer what the project is about, what is taking place in it, what has been accomplished, and where it is going. The response creates confidence in the capability of the project team. Parts of it could serve as a model for future proposals.

However, the project still needs to undergo a programmatic review. The project should be further assessed by independent reviewers to ensure its components form a coherent package consistent with the program goal. The review should ensure that all components are progressing via sound science. Reviewers trust that all parties involved in the project (including the Council and independent biometricians) are discussing the variability of estimated SARs and have an appreciation of the number of years of monitoring that may be required to come up with usable results.

Lower Snake Captive Broodstock Proposals

ProjectID: 9703800

Preserve Listed Salmonid Stocks Gametes
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Establish a gene bank to preserve male gametes from listed steelhead and chinook salmon conservation units that are at low levels of abundance and at high risk of extirpation.
CBFWA Funding Rec.: $185,122 Sponsor Request: $185,122 Umbrella: 20535, 20556
ISRP Response Evaluation:
Fund in part. The original June 15th ISRP recommendation stands. Do not fund the portion to cryopreserve female genetic material as this part of the proposal is too uncertain and experimental. The responses did not adequately address the ISRP comments.

The original comments still stand: “An argument is included to justify work to determine the genotype of each fish. The research team only needs to ensure that they adequately represent the gene pool of what remains of a population in their samples. This is a statistical problem; genotypes are not necessary.”

The authors of this proposal intend to "manage" the project, which is in large part to take place at the University of Idaho and Washington State University. These institutions will be freezing and maintaining the sperm samples. A researcher from the University will also be funded from the project to pursue experiments directed to exploration of possibilities for preserving embryos. This project and the captive brood project should be part of the same program, or at least closely managed as parts of a single program. The captive brood program cannot possibly protect the genetic diversity present in the Columbia Basin, nor can it protect the structure even of the populations taken under culture for extended periods. The cryopreservation project should get samples to represent the populations under the captive brood program, but its primary thrust should be to obtain samples to represent all sub-populations of the basin's metapopulations. Small sub-populations are at greatest risk in the basin and they are likely a major source of gene diversity.

The genetic manipulation (selected matings) described in the proposal should be abandoned. Matings strategies should provide as close to random mating as possible.

Work to preserve embryos should be proposed as a separate project by the principal investigator actually doing the work. The proposal should carefully outline past trials and summarize present knowledge. It should provide details of experimental methods. Such work has been going on for many years without success, so the funding agency should be prepared to either fund specific experiments with completion dates or be prepared to continue the funding indefinitely.

The proposal does not present a convincing argument that the DNA genotyping is necessary to meet project goals.

The objective of this project is to provide an additional safeguard against extinction. The strategy should be to gain representative samples of salmonid gene diversity present in the basin. Sampling should account for fact that salmonids occur in metapopulations (relatively large populations comprised of sub-populations). The proposal does little to convince a reader that sampling needs have been considered in detail and within the context of the structure of these populations.

Clearwater

ProjectID: 20157

Gas Bubble Trauma Monitoring in the Clearwater, ID
Idaho Department of Fish and Game
Short Description: To monitor gas bubble trauma in resident fish during period of flow augmentation releases from Dworshak Reservoir in the North Fork Clearwater River and Clearwater River below Dworshak Dam.
CBFWA Rec.: $59,000 Sponsor Request: $45,117
ISRP Response Evaluation:
This proposal was a late submittal and was not reviewed in the ISRP's initial proposal review for the June 15 report. However, the Council requested that it be reviewed in the Response Review. The ISRP recommendation follows.

Fund. Address ISRP comments in BPA funding process.
Comments: The ISRP understands that this monitoring is required by the Idaho Division of Environmental Quality as one of the conditions of their waver of dissolved gas standards, allowing 120% saturation during the spring outmigration of juvenile salmon. If the Corps of Engineers is to comply with NMFS Biological Opinion and provide spill at Dworshak Dam, then the waiver is required and monitoring is required pursuant to the waiver. However, there are several important pieces missing from the proposal.

Primary concerns.
A. Regardless of whether a legal requirement for monitoring may exist, this proposal does not adequately convince the reviewers that a problem exists. Can the level of gas be correlated with the incidence of gas bubble trauma after four years? If not, how much longer will it be necessary to study the problem? A progress report consists of providing a range of percentages of resident fish showing gas bubble trauma. The range is .2% to 1.02% over a five-year period. Would it be reasonable for the investigators, at some point in time, to propose that such monitoring be discontinued, on the basis of the results over a sufficiently long period that show no adverse effects of 120% dissolved gas? Or perhaps the sampling frequency could be reduced?

B. The method that will be used to determine the degree of dissolved gas bubble trauma in fish sampled is not adequately described. Reviewers understand that there is (more or less) a standard method that is usually employed, and that the proposal indicates that fish will be examined for exopthalmia and macroscopic bubbles in fins and on body surfaces. However, is there a rating factor that is used, depending upon the relative severity of the trauma expected from what is observed, or is the criterion simply yes or no, present or absent.

In addition, it is not clear that gas bubble trauma will be monitored during periods of no flow augmentation. Do dissolved gas levels exceed 110% at times other than flow augmentation? Graphs of dissolved gas levels for a high water year and a low water year

at different points downstream would be helpful to understand the extent of the problem. Periods of flow augmentation could be indicated.

C. There is no indication that the data are stored in a database or are otherwise available electronically.

The sponsors need to develop testable hypotheses and plans for making results available to the scientific community.

Other questions and comments which should be addressed.
1. Accomplishments should be stated in terms of information gained about gas bubble trauma and dissolved gas levels, not number of fish evaluated.
2. Is there evidence or references to the literature to support that exceeding the dissolved gas level standard of 110% causes problems to resident aquatic life?
3. What is the effect of high gas levels on invertebrates and other species besides fish? The food chain for fish? Are fish the most sensitive indicator of problems?
4. Using the binomial distribution, the upper limit of a 95% confidence interval is about 5% if the incidence of gas bubble trauma is 1% and n = 100 fish are examined. What is the precision of estimates realized in past studies? What is the precision for incidence of gas bubble trauma in species other than trout? What level of precision is necessary to satisfy the DEQ requirement that there be monitoring?

ProjectID: 8335000

Nez Perce Tribal Hatchery
Nez Perce Tribe
Short Description: Implement construction of Nez Perce Tribal Hatchery supplementation program to assist in the recovery and restoration of non-listed spring chinook and coho salmon and ESA listed Snake River fall chinook in the Clearwater subbasin.
CBFWA Funding Rec.: $14,590,000 Sponsor Request: $20,188,949 Umbrella: 20534
ISRP Response Evaluation:
Do not fund. The response did not adequately address the ISRP's concerns in its original review and recommendations.

This project focuses on a largely untested concept on too large a scale. Over the last decade, the Basin has entered into 3 substantial programs that were intended to serve as experimental tests of supplementation (NEOH, Idaho, and Yakima projects); but have not yet had time to yield reliable findings. The scientific foundation for the NPT large-scale project has therefore, not been provided. The proposed activities should more directly address or at least circumvent limiting factors to salmon production.

According to instructions from Congress, the ISRP is required to assess projects in this review for their scientific validity. This is a well-written document, but it has little to do with science. Many of the assertedly "innovative" approaches have not been proven to yield greater survival of released fish than standard practice. Project advocates also claim that they will not impact populations in nature by keeping within natural "carrying

capacities." Carrying capacity has proven difficult to measure and altering density at any population level with propagated fish will no doubt influence the population in nature. On the positive side, it appears the sponsors have undertaken surveys to determine carrying capacity and appear to be undertaking habitat improvement projects to absorb the hatchery-produced fish.

ISRP Specific Comments
On the NPT response to ISRP comment that the proposal does not establish that the proposed activities are likely to result in benefits to fish and wildlife: NPT asserts that the proposal "establishes" that certain numbers of naturally spawning chinook salmon will result from the project, however, the figures presented in the proposal (p 20) are clearly stated as "predictions." Predictions can establish estimates and objectives, but cannot establish results. For estimates, the uncertainty involved should be indicated. The proposal gave no indication of the uncertainty of the predictions, and no statistical basis was presented for judging how accurate and precise the predictions might be. Some modeling was summarized, but whatever variabilities of data and hence output were considered were not incorporated in the summary.

On the NPT response to ISRP comment that the proposed activities are likely to cause problems for wild fish and other biota: NPT invokes the FEIS noting the previous review process from BPA and other interested parties. However, any potential adverse effects considered in the EIS were not mentioned in the proposal. Decision on starting new supplementation programs for chinook and coho should await, among other things, conclusive measurement of this potential source of damage to wild populations.

On the NPT response to ISRP comment that overcoming egg mortality in streams has not been shown to increase fish populations: The response reiterates the over-150-year-old rationale for artificial propagation in which results usually failed to meet expectations or prove cost-effective. Producing "more viable" juveniles is cited as an objective, but their lower fitness relative to naturally produced juveniles is not mentioned in the response.

In the original proposal, production of juveniles that are more fit than in conventional hatcheries and at hoped-for cost reduction is stated as an experimental objective—but such experiments are already being done on massive scales elsewhere in the basin. A "higher return per spawner" is cited in the response, but the expected high cost per returned adult is not mentioned. Hoped-for improved results from supplementation (as opposed to conventional hatchery programs) is stated, but this should be considered in the light of the three large supplementation experiments already underway in the basin (Yakima Hatchery System, NE Oregon Hatchery System, and Idaho Supplementation Program) which are intended to test supplementation's utility, but have not yet had time to yield reliable findings. Investments in further supplementation hatcheries should not be made until positive biological and economic results of the existing major programs become conclusively evident.

On the NPT response to ISRP comment that fish passage remains as an unaddressed problem to the work: The proposal admits that its results will depend (in large measure)

on improved fish passage through the river system's dams and reservoirs. Clearly, programs that depend on fish passage improvements should not be undertaken until after the necessary improvements have been made, or are at least scheduled to correspond with the needs of juveniles and adults.

In this connection, the Council should consider that basic requirements for validity of any biological-resource-improvement project are (1) that the conditions primarily responsible for limiting the resource (the salmon population in this case) be identified, and (2) that it be demonstrated that the proposed project will remove those limiting conditions or circumvent them. The proposed project has not established that it will do either.

On the NPT response to ISRP comment that the proposal does not adequately describe findings from referenced studies: The response begins to mention some of the topics in the references but is in general unresponsive. The complaint that "summarizing the findings would require considerable effort" stands out. Considerable effort is warranted in view of the proposed project's enormous scale and $20-million budget request.

On the NPT response to ISRP comment that a clear monitoring and evaluation plan is not yet developed: NPT emphasis of the M&E plan by Steward (1966) is noted. We were not provided with copies of that plan, and the proposal did not summarize its main features. Much as we respect Dr. Steward, blanket references do not provide a sound basis for assessing a proposal.

On NPT response 4 questioning the need for inclusion of published literature in the review and background of the proposal: If the project is based on reasonable breadth and depth of science, then there must be more than grey literature that pertains to it. The point is, the parties involved should understand a reasonable amount of the existing, basic science that supports or contradicts the plan. A larger, particularly ecological overview is needed, not just the planning and planning studies of the sponsor and hired parties. As essential as that planning is and as massive as it may have been, it and the proposed operations must relate to underlying science in order to stay on track, and must show that in order to be credible. Often, the proposal and responses try to claim such validity by listing hoops the sponsor has jumped through but don't describe (summarize) the content involved in the hoops and don't show what the scientific basis is.

ProjectID: 8335003

Nez Perce Tribal Hatchery Monitoring And Evaluation
Nez Perce Tribal Fisheries/Watershed Program
Short Description:
CBFWA Funding Rec.: $992,847 Sponsor Request: $992,847 Umbrella: 8335000*
ISRP Response Evaluation:
Fund in part. Those aspects of the project to collect baseline data needed to evaluate the long-term goals of enhancement in the Clearwater Basin appear valuable; however, those aspects that are dependent on the hatchery should be removed. In general, the responses are satisfactory. They nicely explain what will be done and why.

ProjectID: 9501300

Nez Perce Tribe Resident Fish Substitution Program
Nez Perce Tribe
Short Description: Increase fish harvest opportunities to mitigate partially for anadromous and resident fish losses incurred as a result of the construction and operation of Dworshak Dam on the North Fork Clearwater River.
CBFWA Funding Rec.: $750,000 Sponsor Request: $8,500,300
ISRP Response Evaluation:
Do not fund. The original proposal and response do not convince the reviewers that this is a scientifically sound proposal. The basic idea is supportable both in the Fish and Wildlife Program (the objective to use "substitute fisheries") and scientifically, but the proposal is not adequate as it stands. A simpler, lower-cost, more practical project could be developed.

This pond fishery project is interesting and should be a relatively simple one to manage. The responses (and the original proposal) point to some serious problems in management that may be overcome by relatively simple, practical measures, such as watershed BMPs and the fencing that the proposal mentions. If the BMPs are being followed to remedy past watershed abuses (but exactly what sorts of abuses and BMPs are not described in the proposal), they should probably be given several years to take full effect before complicated in-pond management schemes are tried.

The proposal indicated that a good, practical watershed-analysis was probably done. However, the proposal and responses did not describe the analysis or how the proposal's justification, objectives, and methods stem from it.

Additional consultation with specialists, including possibly an engineer and hydrologist, as well as biologists, who have had success in fish-pond-ecosystem-management might help identify remedies to some of the persistent problems identified in the proposal. Improvements in managing existing ponds might be recommended, and mistakes in siting and building future ponds might be avoided. Future proposals should provide maps that show existing ponds, reservoirs, streams, etc. and proposed sites.

More specifically, the sponsor states a laudable desire to "reduce the need and costs associated with the continual stocking of 'catchables.'" However, it may well be that the proposed approach of studying in-pond conditions and trying different predator-prey combinations is not the right tack to take until the BMPs are put into effect and the watershed has had time to heal. The sponsor also wants an "ecosystem" approach, but may be viewing this too narrowly (yet perhaps too complexly) as "maintaining the equilibrium between predators and prey, and maximizing biotic interactions." The evident pond problems point to a need to focus more on the larger ecosystem of each pond—its watershed.

The sponsor points to "high temperatures, low oxygen levels, elevated nutrient levels and associated algal blooms during summer and oxygen depletions during winter." These are classic symptoms of watershed abuse (and perhaps secondarily a water supply and/or siting and/or pond-basin-shape problem). The watershed (drainage basin) sources of nutrients, which usually result from land-management problems; the water supply; and the shape of the pond basin and dam/outlet structure usually govern fish-production success in ponds, not finding some special mix of species. Even if a pond is thermally more suitable for warmwater fishes than for trout, the warmwater species will also do poorly if certain (often correctable) physical attributes of the pond ecosystem are wrong.

ProjectID: 9608600

Clearwater Subbasin Focus Watershed Program - Iscc
Idaho Soil Conservation Commission
Short Description: Coordinate multiple jurisdictions, agencies and private interests to protect, restore, and enhance anadromous and resident fish, and wildlife in the Clearwater River subbasin.
CBFWA Funding Rec.: $89,450 Sponsor Request: $89,450 Umbrella: 20534
ISRP Response Evaluation:
Fund at base level to maintain operations until province review. The recommendation of ISRP, in its June 15 FY2000 report, was to delay funding, until what is now being termed a "province review" can be conducted. The panel was not persuaded by the response that this recommendation should be changed to a recommendation for full funding. This project, and its companion (9706000, to the Nez Perce Tribe) are designed to provide some of the oversight and coordination function to a group of watershed restoration projects. This function is badly needed, but has been weak to date, and the project is in need of careful review and recommendations of the type that can only be provided by a site review team. Furthermore, by the time of the province review, this project needs to demonstrate that there is a coordinated biological monitoring plan in place. The ISRP recognizes the urgency of the province review, and has recommended that the Clearwater basin be among the first to be scheduled. Note that ISRP is now recommending that the component restoration projects within the Clearwater basin on which work is already underway be funded in the interim (which is a change for most from a "delay funding" recommendation). See also project 9706000.

ProjectID: 9706000

Clearwater Subbasin Focus Watershed Program - Npt
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Manage and Implement a comprehensive system to coordinate multiple jurisdictions, agencies, and private landowners within the 1855 Nez Perce ceded territory area. These efforts will protect, restore, and enhance anadromous fisheries habitat.
CBFWA Funding Rec.: $98,737 Sponsor Request: $98,737 Umbrella: 20534, 9608600*
ISRP Response Evaluation:
Fund at base level to maintain operations until province review. The recommendation of the ISRP, in its June 15 FY2000 report, was to delay funding, until what is now being termed a "province review" can be conducted. The panel was not persuaded by the response that this recommendation should be changed to a recommendation for full funding.

This is the companion to project 9608600, and the recommendation is the same. The projects are designed to provide some of the oversight and coordination function to a group of watershed restoration projects. This function is badly needed, but has been weak to date, and both projects are in need of careful review and recommendations of the type that can only be provided by a site review team. Furthermore, by the time of the province review, this project needs to demonstrate that there is a coordinated biological monitoring plan in place. The ISRP recognizes the urgency of the province review, and has recommended that the Clearwater basin be among the first to be scheduled. Note that ISRP is now recommending that the component restoration projects within the Clearwater basin on which work is already underway be funded in the interim (which is a change for most from a "delay funding" recommendation).

ProjectID: 9901400

Restore Anadromous Fish Habitat In The Little Canyon Creek Subwatershed
Clearwater Focus Watershed Program - Idaho Soil Conservation Commission
Short Description: Restore steelhead trout habitat in Little Canyon Creek subwatershed that are affected by upland agricultural land uses by implementing agricultural best management practices and coordinating ISCC, NRCS, and BPA funding sources.
CBFWA Funding Rec.: $196,855 Sponsor Request: $217,855 Umbrella: 9608600*
ISRP Response Evaluation:
Fund. See also projects 9608600 and 9706000.
The recommendation of ISRP, in its June 15 FY2000 report was to "delay funding" due to concerns about whether a watershed assessment had previously been performed, whether the work was properly coordinated, and whether there was sufficient biological

justification. The biological justification is still somewhat tenuous – essentially to the effect of "if you build it they will come". The question of biological relevance/justification, however, is not particular to this project. The ISRP would like the sponsors to consider the biological context, and a monitoring strategy, for this and its companion watershed restoration projects within the Clearwater. However, it recognizes that most of the work will of necessity be focused predominantly on physical mitigation of habitat, via instream work, streamside vegetation, control of sediment production via removal of roads, and the like. Furthermore, the sponsors' response addresses most of the deficiencies of the original proposal with respect to prioritization and scheduling of project activities, and qualifications of personnel. ISRP therefore now recommends that the project be funded.

ProjectID: 9901500

Restore Anadromous Fish Habitat In The Nichols Canyon Subwatershed
Clearwater Focus Watershed Program - Idaho Soil Conservation Commission
Short Description: Restore steelhead trout habitat in the Nichols Canyon subwatershed affected by upland agricultural land uses by implementing agricultural best management practices and coordinating ISCC, NRCS, and BPA funding sources.
CBFWA Funding Rec.: $186,237 Sponsor Request: $211,237 Umbrella: 9608600*
ISRP Response Evaluation:
Fund. This is the companion to 9901400, and the response is identical. See also projects 9608600 and 9706000.

ProjectID: 9303501

Enhance Fish, Riparian, And Wildlife Habitat Within The Red River Watershed
Idaho County Soil and Water Conservation District
Short Description: Restore physical and biological processes to create a self-sustaining river/meadow ecosystem using a holistic approach and adaptive management principles to enhance fish, riparian, and wildlife habitat and water quality within the Red River watershed.
CBFWA Funding Rec.: $450,000 Sponsor Request: $550,000 Umbrella: 20534
ISRP Response Evaluation:
Fund. The sponsors provided a convincing response that addressed most of the ISRP questions and comments very well. In addition, the response provides new information that should have been included in the original proposal. Of particular importance is the justification for the focus on particular stream reaches. The inclusion of maps and drawings was very helpful. Reviewers note that this project is intended more to address channel stabilization goals than fish restoration goals (see also projects 9608600 and 9706000).

ProjectID: 20084

Protect And Restore The North Lochsa Face Analysis Area Watersheds
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Protecting and restoring the North Lochsa Face Watershed to increase anadromous fish populations is the overall goal of this project. We will achieve this working within an overall watershed approach, based on comprehensive studies of the analysis area.
CBFWA Funding Rec.: $154,782 Sponsor Request: $204,782
ISRP Response Evaluation:
Fund. The proposers have provided most of the information that was missing in the original proposal, especially prioritization and scheduling of project activities, and qualifications of personnel. ISRP therefore now recommends that this project, and companion projects within the Clearwater basin, be funded. See also programmatic recommendations under projects 9706000 and 9608600.

ProjectID: 20086

Rehabilitate Newsome Creek - S.F. Clearwater River
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Protect and enhance Newsome Creek watershed for the benefit of both resident and anadromous fish. This will be accomplished using an overall watershed approach.
CBFWA Funding Rec.: $301,689 Sponsor Request: $364,725
ISRP Response Evaluation:
Fund. This is a companion to project 20084 and 20087; many of the original proposal deficiencies were similar, as is the response. The major deficiencies are addressed in the proposers' response, and ISRP now recommends funding. See also programmatic recommendation under projects 9706000 and 9608600.

ProjectID: 20087

Protect And Restore Mill Creek Watershed
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Protect and enhance critical riparian areas of the Mill Creek Watershed to provide quality habitat for Chinook salmon, Steelhead trout, Bull trout, and resident fish by working with an overall watershed approach.
CBFWA Funding Rec.: $63,036 Sponsor Request: $63,036
ISRP Response Evaluation:
Fund. This is a companion to projects 20084 and 20086; many of the original proposal deficiencies were similar, as is the response. The major deficiencies are addressed in the proposers' response, and ISRP now recommends funding. However, the reviewers continue to express concern about the budget, and urge Council to closely examine the $63,000 budget. The work consists of developing a memorandum of understanding,

building 3-miles of fence, and developing a monitoring plan. Fencing cost, as stated in the response, is to be $12,000 ($4,000 per mile), which is reasonable. However, $15,000 is budgeted for a (fencing?) subcontractor. Furthermore, on-site supervision and other apparently modest tasks (MOU and monitoring plan) are to cost of about $32,000, which seems excessive. See also programmatic recommendation under projects 9706000 and 9608600.

ProjectID: 9607708

Protect And Restore The Lolo Creek Watershed
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Protect, restore, and enhance the Lolo Creek Watershed to provide quality habitat for Chinook salmon, Coho salmon, Steelhead trout, Pacific Lamprey, and resident fish. This will be accomplished by working with an overall watershed approach.
CBFWA Funding Rec.: $203,750 Sponsor Request: $203,750
ISRP Response Evaluation:
Fund. In general the proposers' responses adequately address the review comments. However, justification for the vegetation planting tasks is inadequate, and that aspect of the project should be deleted. In particular, the sponsor cites the 68-degree Fish and Wildlife Program standard for maximum spawning-rearing water temperature, and reports that the water exceeds that in summer (but not how often and how much). It is then claimed that riparian planting will "immediately" reduce those temperatures—which is clearly an exaggeration. The sponsor neglects to say why natural regeneration of bushes—which will surely occur for free—will not be more cost-effective. Unnecessary planting is commonly done in stream habitat restoration projects. Sponsor also refers to a need for a vegetation filter strip to impede flow of nutrients and pesticides toward the stream, but bushes and trees are much less effective in this function than are grasses, sedges, forbs and so on, which usually develop very rapidly on their own. The sponsor has provided no evidence that the proper vegetation cannot be expected to do the job as it normally does within a few years once disturbance of the riparian corridor is controlled.. The funds that would be required for planting would probably have much greater stream-restorative effect if spent on control of riparian disturbance, e.g. by fencing or reducing upland abuses. See also programmatic recommendations under projects 9706000 and 9608600.

ProjectID: 9607709

Protect And Restore The Squaw To Papoose Creeks Watersheds
Nez Perce Tribal Fisheries/Watershed Program
Short Description:
Protecting and restoring the Squaw to Papoose Creek Watersheds is the overall goal of this project. We will achieve this working within an overall watershed approach, based on a completed watershed anaylsis.
CBFWA Funding Rec.: $303,607 Sponsor Request: $353,607
ISRP Response Evaluation:
Fund. The sponsors provided a convincing response that addressed the most important ISRP questions and comments adequately. See also programmatic recommendations under project 9706000.

ProjectID: 9607711

Restore Mccomas Meadow/ Meadow Creek Watershed
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Restore, enhance, and protect the diveristy of physical and biological characteristics of Meadow Creek and associated wetland area to provide quality habitat for Chinook salmon and Steelhead trout by working with an overall watershed approach.
CBFWA Funding Rec.: $166,622 Sponsor Request: $166,622
ISRP Response Evaluation:
Fund. The sponsors provided a convincing response that addressed the most ISRP questions and comments adequately. See also programmatic recommendation under project 9706000.

ProjectID: 9901600

Protect & Restore Big Canyon Creek Watershed
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Restore Big Canyon Creek to a more healthy and productive system which is capable of sustaining a self perpetuating population of anadromous and resident fish.
CBFWA Funding Rec.: $61,276 Sponsor Request: $61,276
ISRP Response Evaluation:
Fund. The responses are generally adequate. It seems a bit inconsistent that the stream (apparently including the project area) is characterized as an "outstanding Steelhead resource," yet water temperature is viewed as such a critical limiting factor that artificial planting must be done to "speed up the process of providing shade and large woody debris inputs to the creek." As for large woody debris, it will probably take many decades for any significant amount of it to start being generated from the newly-protected riparian area, whether or not planting is done, so a several-year delay to let natural revegetation get started doing the job for free may not make much difference. Regarding

water temperature, if the stream is so outstanding for steelhead, temperature must not be so limiting as to warrant trying to accelerate the natural revegetation (which sponsor says will eventually happen) following control of disturbances within the riparian corridor. Sponsor should quantify the present thermal regime and predict the likely reduction of temperature that would occur as a result of artificial and natural revegetation, prior to initiating revegetation attempts. Absent strong justification to the contrary, natural revegetation should be the first choice before resorting to costly artificial revegetation. This appears to be a very worthy project otherwise. See also programmatic recommendations under projects 9706000 and 9608600.

ProjectID: 9901700

Protect & Restore Lapwai Creek
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Restore Lapwai Creek to a more healthy and productive system which is capable of sustaining a self perpetuating population of anadromous and resident fish.
CBFWA Funding Rec.: $61,276 Sponsor Request: $61,276
ISRP Response Evaluation:
Fund. The sponsors provided a convincing response that addressed the most important ISRP questions and comments adequately. See also programmatic recommendations under project 9706000 and 9608600.

ProjectID: 8740700

Dworshak Impacts/M&E And Biological/Integrated Rule Curves
Nez Perce Tribe
Short Description: Obtain and assess thermal, physical, chemical, primary production, zooplankton and benthic data for formulating biological/integrated rule curves for Dworshak Dam and Reservoir and for enhancing baseline data for monitoring and evaluation.
CBFWA Funding Rec.: $199,485 Sponsor Request: $199,485
ISRP Response Evaluation:
Do not fund. This was a poorly written proposal, and the response fails to allay the reviewers' concerns. Specifically, the ISRP review of the original proposal indicated concern that the project team is not qualified to do the work. Furthermore, the project has gone on for years (6.5 as indicated in the response) with few results. The statement regarding qualifications in the response indicates that the Project Leader is a "Certified Fisheries Scientist with course work and career development training in hydrology". This hardly meets the need of the project for expertise in hydrology and water resources management. Furthermore, it does not appear that any of the university collaborators have significant background in these fields, which is what the project demands. This would seem an ideal project for a targeted solicitation – the problem is important, but the

project team is not up to the task. The project has gone on much too long, with too few results, to justify further funding.

ProjectID: 9501600

Genetic Inventory Of Westslope Cuttthroat Trout In The N F Clearwater Basin
Nez Perce Tribe
Short Description: Document the extent of hybridization among native westslope cuttthroat trout and introduced rainbow trout and evaluate the effects of Dworshak resident fish mitigation on wild trout in the North Fork Clearwater basin.
CBFWA Funding Rec.: $180,000 Sponsor Request: $200,000
ISRP Response Evaluation:
Do not fund. The response does not adequately address the ISRP concerns.

The original June 15 ISRP comments still stand: This project has been receiving funds since 1995. They have found evidence of introgression, a finding that was a virtual certainty given the presence of both species in the basin. There is little reason to continue to seek evidence of introgression. If managers do not want introgression to occur, they should halt the stocking programs immediately and hope that the cutthroat trout can re-establish themselves in the basin.

The CBFWA technical evaluation also noted that this proposal had outlived its usefulness as a research activity and that continued work would be of questionable value to fish

Salmon River Subbasin

ProjectID: 9700100

Captive Rearing Initiative for Salmon River Chinook Salmon
Idaho Department of Fish and Game
Short Description: Develop captive rearing techniques for chinook salmon and evaluate the success and utility of captive rearing for maintaining stock structure and minimum number of adult spawners in three drainages.
CBFWA Funding Rec.: $546,385 Sponsor Request: $546,385 Umbrella: 20535
ISRP Response Evaluation:
Fund. The responses are to the point and adequately address the ISRP concerns. The sponsor obviously took considerable pains to develop thoughtful responses.

ProjectID: 9705700

Salmon River Production Program
Shoshone-Bannock Tribes
Short Description: Use instream, sidestream, and in-lake incubation and on-site rearing methods that provide increased natural adaptation to the environment and higher quality smolts than traditional production techniques to increase natural production.
CBFWA Funding Rec.: $931,376 Sponsor Request: $931,376 Umbrella: 20535
ISRP Response Evaluation:
Do not fund. The response did not adequately address the ISRP concerns. The master plan development and implementation are confusingly intertwined. Completion of the master plan should precede implementation. However, here it appears implementation precedes planning. There is not a sufficient monitoring and evaluation plan to test the efficacy of the project.

Apparently confusion has been created because the work toward a broad-scale "Salmon River Salmon and Steelhead Master Plan" (SRSSMP) is mixed in with one of its components, the narrower "Salmon River Production Program" (SRPP). Conducting the two as separate projects would seem to be a better approach. The sponsor says its is now at only the "first step of a detailed three-step process" that is required by the NPPC to continue funding. The first step is to develop a Master Plan for the Salmon River Basin. Such a plan does not presently exist, and will incorporate not only production actions, but also harvest and habitat requirements. There is no other project in the NPPC Fish and Wildlife Program to develop this master plan." The Master Plan should be completed before considering the SRPP. To launch into an SRPP without a complete plan would be unwise.

June 15 ISRP Comment: This proposal requires greater detail and clearly stated objectives with provisions for monitoring and evaluation of results.

Sponsor Response: "Detail is lacking because, as stated above (and as a recurring response to the ISRP comments), the project is at the first phase – development of a master plan for production (and related) actions in the Salmon River Subbasin. The scrutiny from many entities that is part of master planning will force a high level of detail to be developed during the FY 1999 funding, in preparation for initiation of implementation in FY 2000."
ISRP: Here again, the plan detail ought to be settled before starting the "production."

Sponsor Response: "Objectives are clearly stated in sections 7 and 8e of the proposal: redirecting artificial production efforts to recover declining wild fish populations; constructing low-cost streamside incubation and rearing, acclimation, volitional release and broodstock holding facilities; reforming existing hatchery programs and facilities in the Salmon River; and providing fish culture education and training for SBT Tribal Members as part of the federal government's trust responsibility to treaty tribes."
ISRP: Objectives should be stated in terms of desired resource outcomes, not activities to be performed.

"Specific monitoring and evaluation parameters aimed at measuring whether biological objectives are met are detailed in section 8f, including the number of eggs hatched, number of fish released, survival at life stage, adult returns, and natural reproduction success of returning adults."
ISRP: The first two of these are within-hatchery results, not resource outcomes. The last three correctly state intent to measure resource outcomes.

June 15 ISRP Comment/Question: Its content is directed toward developing a rather unspecified method of artificial propagation and description is lacking of any results of previous funding in 1996-98.

Sponsor Response: "BPA funding for this project started in May, 1998 (as stated in section 8d) and was only approximately six months old when the FY 2000 proposal was submitted. Results of previous production actions (since 1995, and limited to side-stream incubation) that were funded through other sources is currently in final report development."
ISRP: This work probably should not have been done before there was a master plan.

June 15 ISRP Comment/Question: Except in describing other projects (Sec. 8c), it addresses fishery resource problems only in the vaguest of terms.

Sponsor Response: "Sections 8a, 8b and 8e describe these problems – primarily, that highly technical and quantity-oriented artificial production strategies and actions have not successfully mitigated for losses of naturally-producing populations (the past and present production programs in the upper Salmon River do not include the objectives of restoring naturally-producing populations)."
ISRP: Sponsor not responsive to ISRP comment. Sponsor states problems with hatchery systems. A responsive answer should identify the resource-limiting factor(s) of the Columbia River system and what the proposed project can do to reduce or circumvent one or more of those factors.

June 15 ISRP Comment/Question: Hatchbox technologies could be tested on a much smaller scale.

Sponsor Response: "They have been. For example, the Oregon STEP program, the Washington Remote Site Incubator projects, the California SASEP and Truckee River, and projects in Wyoming (Green River and Snake River). The major passage migration barriers present for Salmon River anadromous fish populations and resultant smolt-to-adult survival rates cause the test of this technology in the Salmon River to be of a larger nature than elsewhere. The urgent nature of salmon recovery in the Salmon River basin precludes proceeding on a smaller scale. Knowing that salmon (including steelhead fry) can be produced using low tech on-site incubation, but needing to work at a level of production that will allow for evaluation beyond hatch rates and numbers of fry released. Under the present conditions of high mortalities due to the disruption of migratory

corridors, adequate evaluation is not possible if the project is conducted on a small scale. The program should expand to a level that will produce adequate numbers of fish to provide for suitable evaluation."
ISRP: Neither the proposal nor response establish the efficacy of the programs the sponsor cites as examples. In general, hatch-box programs have not been very effective. Perhaps only one genuine study was undertaken to test results. It was in the Oergon STEP program. Results from the first 2 years showed no evidence of beneficial effect from the hatch boxes. To be conclusive, that study should have continued for additional years, but it did not. While salmon recovery in the Salmon River Basin does have elements of urgency as the sponsor notes, the sponsor failed to establish how the proposed project would remedy cause(s) of the fish population problem that exists. "Disruption of migratory corridors" should be removed or significantly reduced before production projects like the proposed one are undertaken,

June 15 ISRP Comment/Question: Stream-side incubators a) have received favorable media attention and suggest increasing local awareness of the issue and b) have involved many young people in the process, but their biological efficacy should be assessed and compared with other options before the program is expanded.

Sponsor Response: "This issue, and the necessary comparisons of other alternatives, will be an essential part of not only the master planning process, but also the NEPA and ESA requirements under Step 2 of the NPPC process."
ISRP: Then the master-planning process should be finished first.

June 15 ISRP Comment/Question: As it stands, the project is almost purely activity-oriented rather than fishery-results-oriented, and thus appears to be busy work.

Sponsor Response: "The on-the-ground production activities (e.g., side-stream incubation) that is occurring while the master plan, NEPA, ESA, and engineering design and feasibility work is performed are activities that are 100% fish-resource oriented. The SBT are strong proponents of learning while doing (just do it) rather than getting mired in studies (analysis paralysis) of potential actions. Such studies are important to resolve critical uncertainties if such uncertainties prevent initiation of actions, as is monitoring and evaluation in order to adaptively manage. However, it is at least equally important to the SBT initiate to actions to help prevent the imminent extinction of Snake River wild anadromous fish populations."
ISRP: Again, without the guidance of a Master Plan, the Sponsor is recommending "just do it" activities that are not justified based on the results of the previous projects that sponsor has mentioned as examples above.

June 15 ISRP Comment/Question: Nowhere in the proposal are any scientific principles or theory stated.

Sponsor Response: "Principles and theories are stated in the document: Section 8b - "highly technical production strategies have not successfully mitigated losses of natural

production;" Section 8d – "initiate low-cost, low-tech alternatives and improvements to existing hatchery programs;" Section 8e – "Determine if significant adult returns and successful natural reproduction to the natural environment occur by using this technology;" Section 8e – "test whether low-tech artificial production methods can increase egg-to-fry survival over natural in-gravel incubation while increasing production from fry-to-adult compared to current hatchery strategies;" and, "utilize hatcheries to return fish to the natural environment while maintaining harvest opportunities;" and, Section 8f – "juvenile fish would be more naturally acclimated to their rearing environment as a result of volitional releases…[and] providing a more natural rearing environment is believed to increase survivals of smolt-to-adults relative to fish incubated, hatched and reared in a traditional hatchery and transported to release sites.'"
ISRP: The response is mainly technique-oriented and does not speak to underlying matters, such as limiting factors. The idea of producing juveniles more acclimated to the rearing environment and providing for more natural rearing is intuitive and indeed, is a goal of many artificial production programs in the basin, as well as the focus of the NATURES approach. However, such a goal is unlikely to be achieved without rigorous experimental designs and monitoring and evaluation protocols.

Review of this proposal and the ISRP's recommendations on it have strong parallels to our review of Project 9901900, Restore the Salmon River, in the Challis, ID area, to a healthy condition. Both projects suffer from attempting to implement broadly-stated recovery and restoration goals without benefit of having a technically-defensible master plan in place. The ISRP is directed by Congress to evaluate proposals based on several criteria, including varying levels of scientific accountability. The ISRP focuses primarily on the scientific and technical merits of proposed projects. It goes against the ISRP's Congressionally-mandated directives and good scientific common sense to recommend advancement of projects for funding that do not have a comprehensive plan (or its equivalent) in place that define critical elements of project planning, experimental design, and monitoring and evaluation.

ProjectID: 9604300

Johnson Creek Artificial Propagation Enhancement Project
Nez Perce Tribal Fisheries/Watershed Program
Short Description: Implement and monitor supplementation program to recover native summer chinook salmon in Johnson Creek. Construct facilities for adult collection and holding, NATURE's concept rearing, and smolt acclimation.
CBFWA Funding Rec.: $2,800,000 Sponsor Request: $2,800,000 Umbrella: 20535
ISRP Response Evaluation:
Fund. The ISRP's concerns regarding priority of the project in the Salmon River subbasin was adequately addressed. The responses adequately identified and addressed each ISRP comment.

ProjectID: 9107100

Snake River Sockeye Salmon Habitat And Limnological Research
Shoshone-Bannock Tribes
Short Description: Increase carrying capacities of Snake River sockeye salmon rearing lakes (Redfish, Pettit, and Alturas). Evaluate the effects of nutrient additions and fish stocking on the lake's ecosystems.
CBFWA Funding Rec.: 427000 Sponsor Request: 438461 Umbrella: 20535
ISRP Response Evaluation:
Fund. The additional information provided by the project sponsor addressed the ISRP's concerns. Involvement of the TOC in oversight of the various sockeye projects helps ensure integration of the various projects and provides a venue for examination of risks associated with the overall program.

ProjectID: 9901900

Restore the Salmon River, in the Challis, ID area, to a healthy condition
Custer County Watershed Group
Short Description: Restore river corridor to a healthy condition by reestablishing riparian vegetation and allowing the floodplain to become functional. Social and political factors are being addressed through a county-based watershed group.
CBFWA Funding Rec.: $50,000 Sponsor Request: $50,000
ISRP Response Evaluation:
Do not fund. The response did not address the ISRP's original concerns.

On the ISRP Comment that the proposal falls short of establishing sound scientific principles and demonstrating clear benefits to fish and wildlife, sponsor responded: "All interim work to protect existing riparian habitat is being reviewed by NMFS, USFWS, NRCS, Peter Goodwin, IDFG, USFS, BLM, Army Corp, Water Resources, etc. In other words, adequate scientific review has been provided as this project has evolved." While this may be true, the proposal and the response failed to provide such information to the ISRP. The proposal and response also failed to set forth any scientific principle for the reviewers.

On the ISRP comment that the authors should make further efforts to interact with other model watershed projects in the Lemhi, Pahsimeroi, and East Fork Salmon, and together with collaborators identified in Section 9 could develop technically defensible approaches, procedures and a viable proposal, the sponsor responded: "The technically defensible plan talked about is being developed by the Corp of Engineers and Dr. Peter Goodwin's grad students [etcetera]." Therefore, the plan has not yet been fully developed. The plan should precede implementation.

Review of this proposal and the ISRP's recommendations on it have strong parallels to our review of Project 9705700, "Salmon River Production Program". Both projects suffer from attempting to implement broadly stated recovery and restoration goals without benefit of having a technically-defensible master plan in place. The ISRP is

directed by Congress to evaluate proposals based on several criteria, including varying levels of scientific and fiscal accountability. The ISRP focuses primarily on the scientific and technical merits of proposed projects. It goes against the ISRP's Congressionally-mandated directives and good scientific common sense to recommend advancement of projects for funding that do not have a master plan (or its equivalent) in place that define critical elements of project planning, experimental design, and monitoring and evaluation.

ProjectID: 9600700

Irrigation Diversion Consolidations & Water Conservation; Upper Salmon R
Lemhi County Soil & Water Conservation District
Short Description: Irrigation consolidation of gravity diversions 10 Acre Canal (S-13) with the Pope Canal (S-14) and the Kane/Ramey Canal (S-12) with the Edwards Canal (S-11). Construct new fish screens on S-14 and S-11.
CBFWA Funding Rec.: $293,113 Sponsor Request: $753,816 Umbrella: 20535
ISRP Response Evaluation:
Fund. The responses adequately addressed the ISRP concerns.

Grande Ronde and Imnaha

ProjectID: 9800703

Facility O&M And Program M&E For Grande Ronde Spring Chinook Salmon
Confederated Tribes of the Umatilla Indian Reservation
Short Description: Develop, implement, and evaluate integrated conventional and captive brood hatchery projects to prevent extinction, and stabilize populations of threatened spring chinook salmon populations in the Grande Ronde River.
CBFWA Funding Rec.: $489,000 Sponsor Request: $597,516 Umbrella: 20531, 20556*
ISRP Response Evaluation:
Delay funding until the sponsor provides an adequate detailed study design to BPA such as that the sponsors identify as being in their companion project 9801001. The response focused on justifying the program, but that was not the ISRP's primary concern.

This proposal received a generally positive review, but was lacking in adequate presentation of many methods for collecting data, analyzing data, and drawing conclusions about the progress and outcome of the project. Until that information is presented, the project does not have a sound scientific monitoring and evaluation program. The ISRP's primary concern was with the study design, specifically data collection and statistical methods, but the sponsor did not provide the information requested. The proposers do state that they are following procedures in their companion proposal 9801001. Thus, it should be straightforward for them to provide the information needed to allow scientific evaluation of their methods and their monitoring protocols.

However, much needed information has not been provided at all and some provided in the response is not adequate. For instance, according to information provided to date, procedures for evaluating the effects of the weir on fish migration are not quantitative, and there is no evidence that they will provide reliable estimates.

Although it is obvious that the short-term costs of a captive broodstock program are acceptable compared to the long-term costs of extinctions, loss of genetic diversity, and reintroduction from other sources, the sponsors have not stated how they will address the factors that are causing the decline and extirpation of spring chinook salmon in the Grande Ronde River basin (e.g., passage mortality and harvest rates). Unless these factors are identified and rectified, it is doubtful that any type of hatchery program will have long-term success in the restoration of native anadromous fishes.

ProjectID: 8805301

Northeast Oregon Hatchery Master Plan
Nez Perce Tribe
Short Description: Plan and develop conservation production facilities in the Imnaha and Grande Ronde rivers necessary to implement salmon recovery programs for native, ESA listed, steelhead, spring and fall chinook and reintroduction of coho and sockeye salmon.
CBFWA Funding Rec.: $1,217,017 Sponsor Request: $1,217,017 Umbrella: 20556*
ISRP Response Evaluation:
These two proposals, 8805301 and 8805305, are for participation in the same set of programs by two groups. Their strengths and shortcomings are shared and we provide a single response to the two.

Fund in part. Fund the spring chinook Grande Ronde and Imnaha objectives, which involve some capital modifications to Lookingglass Hatchery. Do not fund the reintroduction efforts or efforts to use local endangered stocks to support harvest.

The response clarifies that part of the requested funding is needed to support the Grande Ronde Endemic Spring Chinook Program, which was presented in several other proposals and recommended by the ISRP as a reasonable test program for captive broodstock approaches to conservation and remediation for threatened or endangered native stocks.

The original proposals were criticized for failing to clearly develop a rationale for their goals and objectives (many of the latter were in fact simply tasks, not biological objectives) which were very broad and general. Most remain vaguely presented and justified. Because alternatives to development of proposed facilities will be addressed in the master plan document, it is impossible to evaluate the scientific merit of the various alternatives until the document is available for review. The Fish and Wildlife Plan does not constitute scientific justification for planning and development for coho and sockeye salmon reintroduction and steelhead supplementation.

Reviewers judged the combination of hatcheries intended to preserve native stocks with supplementation for harvest to be scientifically unjustified and unsound. Current scientific understanding would dictate that genetic conservation of stocks and mass rearing to support harvest are incompatible goals. These stocks should not be used to support harvest, but rather should be used to recover endangered stocks.

The proposed reintroduction efforts also are not scientifically justified, given the presence of the other overriding limiting factors, which are acknowledged in the proposal to be continuing problems. The respondents note that previous research suggests that the prospect for successful introduction are good, but passage mortality and harvest rates under current conditions are too high for natural production to be self-sustaining. This information suggests that if the goal of the proposal is to implement salmon recovery, a captive brood program will not be successful until the other critical factors affecting salmon persistence are addressed. Stating that a study says that reintroduction has a good chance of "working", given continuing supplementation, does not remove this concern. Further, the continuing weakness of native stocks in the rivers of concern is likely to be worsened by increasing numbers of hatchery fish of other species.

ProjectID: 8805305

Northeast Oregon Hatcheries Planning And Implementation - Odfw
Oregon Department of Fish and Wildlife
Short Description: Work with comanagers to develop endemic broodstocks for supplementation of spring chinook salmon in the Grande Ronde basin and continue planning for additional anadromous salmonid enhancement programs in the Grande Ronde, Imnaha, and WallaWalla basins.
CBFWA Funding Rec.: $226,000 Sponsor Request: $660,422 Umbrella: 20512*
ISRP Response Evaluation:
Fund in part. Fund the spring chinook Grande Ronde and Imnaha objectives, which involve some capital modifications to Lookingglass Hatchery. Do not fund the reintroduction efforts or efforts to use local endangered stocks to support harvest. See project 8805301.

Upper Snake above Hell's Canyon, Malheur, Owyhee

ProjectID: 20135

Consumptive Sturgeon Fishery-Hells Canyon And Oxbow Reservoirs
Nez Perce Tribe
Short Description: Provide fishery opportunities for white sturgeon in Oxbow and Hells Canyon reservoirs to mitigate for loss of white sturgeon fisheries in Columbia and Snake River basins due to hydropower development and operations.
CBFWA Funding Rec.: $250,000 Sponsor Request: $250,000
ISRP Response Evaluation:
Do not fund. This proposal was deemed not scientifically sound and received a do not fund recommendation in the initial proposal review. The proposal was criticized for lack of presentation of adequate scientific rationale, calculations, and data to justify the proposed work. The reviewers noted that the proposal states hypotheses, but not methods for testing them, and the work is required to include monitoring and evaluation, but this is not in place.

The responses from CBFWA and from the NPT do not address these concerns adequately from the viewpoint of scientific soundness. There is not scientific justification for initiating a sturgeon stocking program in the absence of a management plan (which is stated to be developed) and in the absence of a sound data collection plan designed to test hypotheses about how well the stocking program is meeting its biological goals and avoiding generating unwanted damaging side effects.

Whether or not this is called a research proposal (the responses state that the work is mitigation, not research), it must generate research-type data in order to have scientifically acceptable monitoring and evaluation. The usefulness of data to test hypotheses depends on having hypotheses, or questions, specified in advance so that the appropriate data set is defined before collection. Further, often, pre-treatment (i.e. before fish stocking), initial (i.e., time of first fish stocking), and continuing data are needed to understand the outcome of work such as this; the design and sampling need to be planned before the work is begun.

Similarly, sound application of science dictates that unwanted side effects would be scoped in advance of beginning the stocking program and that this information would be subject to outside review by other scientists. It is not scientifically adequate to plan to raise and address these later. It is not adequate to assert that so few sturgeon are present that an introduction program cannot harm them; what about other fish species and what about other elements of the food chain. The response that full augmentation will be delayed misses this essential point. Past manipulations of lake and riverine food chains make clear that this extended food web analysis must by considered and that food web responses must be monitored.

The response refers to the management plan in future tense. It sounds like funding for the development of a management plan was received previously, and the plan was supposed

to be developed with IDFG an ODFW during FY 1999. When will it be completed? Why isn't it referenced or central details presented for scientific review? Additionally, a master plan and NEPA documents are scheduled to be completed and approved prior to the initiation of fish stocking. Without these documents, it is impossible to complete a comprehensive review of the project. A decision concerning further funding and implementation of the program should be contingent on a favorable scientific review of the management plan, master plan, and NEPA documents.

The respondents' claim that public review in the FWP amendment project provides justification to the work, however, this does not supply information about scientific soundness.

ProjectID: 9500600

Shoshone-Bannock/Shoshone Paiute Joint Culture Facility
Shoshone-Bannock Tribes
Short Description: Planning, development, and operation of a hatchery facility to provide native trout for re-introduction of stocks affected by hybridization, habitat loss, and exploitation on the Duck Valley and Fort Hall Reservations
CBFWA Funding Rec.: $282,621 Sponsor Request: $282,621
ISRP Response Evaluation:
Fund in part. Do not fund objectives 5-8. This proposal received a recommendation for partial funding, with the hatchery component of the proposal not recommended for funding. The reasons for the negative recommendation for the hatchery component (hatchery development and stocking program) were lack of adequate background data on status and trends of currently-present native stocks and lack of adequate consideration of jeopardy to them from stocking with hatchery fish.

The respondents say that the work in objectives 1-4, which were approved for funding, "will quantify and further elucidate the known need for production and re-introduction of native Yellowstone cutthroat trout". This statement lacks scientific justification and leads one to question the overall scientific competency of the proposers. Although the work in objectives 1-4 was judged by reviewers to be well-justified, of value to fish and wildlife, and scientifically useful, it is disturbing to hear that the proposers already are sure what they will find. This is not sound science. The initial proposal (and others from the Fort Hall Reservation) report positive response of native stocks to on-going habitat improvements. Clear justification for beginning stocking of hatchery fish, which might compromise regeneration of existing stocks, is not established. It might eventually be, but adequate data are lacking.

The respondents further state that reviewers do not understand that put-and-take fishery development will surely relieve pressure on native stocks because they are "not a fisheries manager on the Fort Hall Indian reservation". This is not scientific justification, but rather presentation of insiders' knowledge or opinions as fact to be accepted on faith. It does not pass scientific muster. The response also states that "monitoring would be

developed to quantify these effects" (i.e., those of put-and-take fisheries on fishing pressure to native stocks), but monitoring and evaluation plans should be in place and subject to review for scientific adequacy before beginning a stocking program. Otherwise, it may be impossible to estimate its effects.

Completion of Objectives 1-4 will provide information needed to evaluate the need and relevance of continuing with the remaining objectives. It is still unclear how the development of a put-and-take hatchery program will enhance the persistence of native Yellowstone cutthroat and redband trout. There is not adequate scientific justification in the responses to recommend funding of objectives 5-8. Prior inclusion in the FWP doesn't necessarily address the questions of scientific merit.

ProjectID: 9106700

Idaho Water Rental: Resident Fish And Wildlife Impacts - Phase III
Idaho Department of Fish and Game
Short Description: Quantify changes in resident fish habitat in the upper Snake River basin resulting from the release of 427,000 acre-feet of water for anadromous fish flow augmentation. Recommend release strategies to benefit weak, native resident fish populations.
CBFWA Funding Rec.: $119,465 Sponsor Request: $119,465
ISRP Response Evaluation:
Do not fund. The initial proposal was not recommended, due to lack of a sound scientific framework for addressing the subject of concern.

The responses do not direct the central scientific concerns of reviewers. The primary argument the respondents offer is that the proposal is for evaluation, not research. This is a meaningless distinction. Evaluation implies conclusions with some degree of confidence, and that is a form of research. The responders state that they are not designing an experiment with this project, but then go on to say that they are trying to identify when and how to release flow augmentation water in such a way as to either reduce negative impacts or improve habitat. This is an experiment. How would water management activities be evaluated without testing hypotheses about alternative treatments/effects? This is the crux of the issue.

In the absence of clear design and procedures for testing hypotheses, the "conclusions" of the project would seem to be little more than, at best, descriptive natural history (which might generate some good hypotheses), or, at worst, unwarranted individual opinion that remains unchallenged by standards of statistical deduction. The responses suggest a fundamental misunderstanding of how sound, scientifically supported conclusions are drawn from data (observations). Inclusion of an idea in the Fish and Wildlife Program document does not address the question of scientific soundness of that idea or of any particular implementation of the idea.

Averaging habitat measurements across reaches and months to obtain an estimate of change in the quantity of habitat per reach per year will not account for variation in habitat requirements related to individual fish species and life-history stages.

Is there any evidence that estimation of habitat changes will accurately or precisely predict the effects of the flow augmentation on potamodromous fish populations in the Upper Snake River basin? Regardless of how much information is gathered from models, IFIM literature, and/or expert opinion, it will be impossible to realistically ascertain these effects without some type of validation study that includes all of the species and/or specific life-history stages that may be affected. An evaluation of habitat without any population data has little scientific merit.

ProjectID: 9501500

Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)
Shoshone-Paiute Tribes of the Duck Valley Indian Reservation
Short Description:
CBFWA Funding Rec.: $221,550 Sponsor Request: $221,550 Umbrella: 20536*
ISRP Response Evaluation:
Delay funding until the proposers develop and present a scientifically justified plan for development of Lake Billy Shaw as a fishery. The initial proposal received a Do Not Fund recommendation from reviewers, due to lack of clear presentation or justification of work to be done.

The responses address some of the concerns, but fail to address the most fundamental. The response clarifies short-term tasks to be accomplished in developing and maintaining the reservoir. However, the long-term intent of the project is to establish a fishery, with the reservoir serving to host that fishery. The long-term goals of the project are not adequately described, nor are methods for their accomplishment and evaluation given. The response does not talk about fish or fish habitat, and gives no detailed discussion of goals and plans for use of native or non-native fish or for how these plans might be developed and judged. The response indicates that the proposers want to re-establish native fish, but does not go on to develop this plan and relate it to the overall proposal.

To facilitate an evaluation of the effects of Lake Billy Shaw on native fish and wildlife populations, monitoring should include protocols for the collection and analysis of data on fish and wildlife populations and on habitat quality and quantity.

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