

**Independent Scientific Review Panel
for the Northwest Power Planning Council**

Prioritized List of 42 Proposals Submitted for FY2000 Funding
through the Columbia Basin Fish and Wildlife Program

Charles C. Coutant
Daniel Goodman
Susan S. Hanna
Nancy Huntly
Dennis Lettenmaier
James Lichatowich
Lyman McDonald
Brian Riddell
William Smoker
Richard R. Whitney
Richard N. Williams

ISRP 99-3
October 8, 1999

Background

In the Independent Scientific Review Panel (ISRP) FY1999 report, the ISRP emphasized the need for the Northwest Power Planning Council to create an appropriate opportunity in the Columbia Basin Fish and Wildlife Program for new and innovative projects. In the FY2000 solicitation for proposals, the Council and Bonneville Power Administration (BPA) responded and proposed that initiatives to undertake new research or innovative alternatives to existing work be funded from a new “innovative proposal fund.” In the course of the ISRP’s review of FY2000 proposals, the ISRP identified 16 projects that offered promising new concepts, addressed unexplored areas, and would likely benefit fish and wildlife, and categorized them as “innovative.” The ISRP recommended 13 of the proposals for funding, in contrast to the Columbia Basin Fish and Wildlife Authority (CBFWA), which recommended funding for only two of the sixteen proposals. The ISRP found many of these proposals to be extremely compelling, often addressing priority areas in the Program as pilot-scale projects.

In a September 8, 1999 letter from Bob Lohn, the Council asked the Independent Scientific Review Panel to provide a prioritized rank of 42 proposals. The set of proposals included 40 proposals that the ISRP recommended for funding and disagreed with CBFWA’s recommendation to not fund (i.e., ranked Tier 2 or 3 by CBFWA). This set included the “innovative” proposals identified for funding by the ISRP in the FY2000 report described above. In addition, the Council requested that the ISRP rank two law enforcement proposals that did not receive a specific CBFWA recommendation.

In prioritizing these projects, the ISRP considered the Council’s request to give the highest priority to proposals representing:

- 1) An initial scoping effort tied to unimplemented elements of the Program;
- 2) A promising approach to improve upon existing projects;
- 3) Systemwide, or at least sub-basin wide, significance, as distinguished from primarily site-specific significance;
- 4) Projects that advance critical assessment or planning tasks in watersheds or sub-basins in which the Panel found these elements deficient.

Recommendations

Using these criteria and information from the proposal review process, ISRP members independently rated each proposal. Then the ISRP met for a one-day meeting and arrived at a consensus ranking of the proposals (Table 1). Summary review comments from this meeting of the ISRP and the original Peer Review Group (PRG) review are contained in Attachment 1.

The proposals fell into four basic groups:

1. The top eight ranked proposals,
2. Middle Ranked Proposals, roughly ranked nine through 29 (including many high quality site specific proposals),
3. Low Ranked Proposals, approximately ranks 30 through 42, and
4. The Owyhee Subbasin Proposals.

The top eight ranked proposals received outstanding reviews from the original Peer Review Groups with strong recommendations for funding. Seven of the top eight were judged to address at least three of the Council's criteria listed in the request for assistance from Mr. Lohn. The exception, Proposal No. 20083 "Evaluate, restore and enhance 14 miles of instream and riparian habitat on Lower Crab Creek", is an excellent, well-coordinated proposal based on a watershed assessment. Crab Creek is a highly degraded area, but is unique geographically and is near the healthy fall chinook population in the Hanford Reach. Restoration work would be of high programmatic value to the region although it is site-specific.

The middle ranked proposals, from rank nine through 29, include proposals on which there was general consensus for support both by the ISRP and in the original PRG review. This group contains, for example, many excellent site-specific proposals and the two proposals calling for funding of law enforcement projects.

The lowest five ranked proposals, contain worthwhile elements in the judgment of the ISRP and the original PRG. However, the recommendations contain significant qualifications, e.g., to fund part of the proposal or to fund after certain conditions are satisfied. See the review comments in Attachment 1.

The ISRP understands that Proposal No. 9700300 "Box Canyon Watershed Project" was withdrawn from the solicitation process because Bonneville Power Administration funds were no longer needed; consequently, it is not included in the ranked list.

Owyhee Subbasin.

Five proposals for projects in the Owyhee Subbasin required separate evaluations in the judgement of the ISRP. These are new proposals from the Duck Valley Indian Reservation (DVIR) for development of a fish and wildlife program in the Owyhee Subbasin (proposal numbers 20040 – Develop a Fish and Wildlife Management Plan for the Owyhee Basin, 20041 – Develop a Fish and Wildlife Conservation Law Enforcement Plan, 20092 – Inventory Fish and Wildlife Populations of the Owyhee Basin, 20093 - Evaluate the Feasibility for Anadromous Fish Reintroduction in the Owyhee, and 20094 – Assess Resident Fish Stocks of the Owyhee Basin). (A sixth proposal, 20536, served as

an umbrella for these.) Two of the proposals (20092 and 20093) were identified as innovative approaches.

Although individually the DVIR proposals each ranked in the lower mid-range of the 42 proposals reviewed, the ISRP finds it appropriate to separate these proposals for a specific recommendation for funding. Collectively, the proposals contain innovative projects of high programmatic value. There are currently 2 active projects in the subbasin, both for substitution of non-resident stocks to mitigate for lost fishes. The subbasin has no comprehensive wildlife program and no program for survey or management of native resident fishes. Individually, the 5 proposals received generally favorable reviews of the scientific and programmatic value of the scientific goals they presented (to inventory resident fish and wildlife and to develop plans and mechanisms for their management, including the possible use of native stocks in on-going resident fish substitution projects), but all suffered from lack of adequate methodological detail. Thus, all received recommendations of funding for 1 year, during which more detailed proposals could be prepared and reviewed for consideration of continuing funding. The ISRP concluded that a year's work, including provision for use of consultants, as needed, could result in scientifically meritorious proposals in future years for implementation of the valuable scientific goals posed in the proposals submitted for FY2000.

The proposals provide a strong rationale that funding be awarded to initiate the native fish and wildlife program that these 5 proposals present, because of: 1) the absence of any current wildlife or resident fish survey or management programs, 2) the total blockage of the Owyhee by Hell's Canyon Dam, and 3) the presence of potentially strong native stocks of redband trout in the Owyhee Subbasin. Further, since the current proposal solicitation and review process is under consideration of change, the important basic sub-basin survey work that is proposed could go undeveloped while the region develops a new proposal solicitation process. Funding for the development of a fish and wildlife inventory and subbasin plan in the Owyhee would further the proposed strategy to emphasize eco-province planning and peer review, which the ISRP supports.

The work outlined in the 5 DVIR proposals will address the 4 criteria proposed by the Council for highest priority of recommendation in that the survey work will provide 1) initial scoping of unimplemented Program elements (see below), 2) a promising approach to improve upon existing projects: inventory and research on native resident fishes, particularly redband trout, may lead to their use in the funded reservoir stocking programs in the Owyhee that currently use non-native fish, 3) systemwide significance: knowledge of the native stocks of the Owyhee is needed, and the development of integration of law enforcement with biological survey and educational work is potentially useful throughout the basin, and 4) sub-basin wide assessment and planning for an area that totally lacks such critical background data.

The Council's Fish and Wildlife Program includes few measures targeted directly to the Owyhee subbasin. However, measure 10.8C.3 specifies that alternative sources of catchable resident fish should be evaluated as part of an approved resident fish substitution program that is being implemented there. Further, the priorities for

implementation of resident fish policies include according highest priority to weak but recoverable native stocks and high priority to areas of the basin where anadromous fish are not present. By these criteria, inventory and study of native resident fish of the Owyhee, particularly stocks of redband trout, should be of high programmatic priority.

The ISRP recommends that the biological goals of the 5 proposals listed above be collected into a single proposal and that this overall proposal receive baseline funding for planning and initiation of the needed biological survey work. We suggest that the goals be collected into proposal 20040, the title of which, if modified to include the inventory function (e.g. "Develop a fish and wildlife inventory and management plan for the Owyhee Basin), well-describes the overall goals. The ISRP notes that the absence of the work that is proposed in these 5 new proposals will inhibit development of fish and wildlife programs for the Owyhee, and this critical planning problem should be addressed now, as it will facilitate the coordinated planning efforts that Council supports and has proposed to expand. Future more detailed proposals, which could continue or perhaps expand the work, could be reviewed when the Owyhee subbasin comes under review in the new proposal solicitation process.

Conclusion

The ISRP hopes this prioritized list will help the Council identify and recommend for funding a set of strategic new initiatives that pursue innovative studies to help provide a solid foundation for effective long-term management of fish and wildlife in the Basin including recovery of anadromous fish species.

Table 1. Proposals in the table are listed from highest to lowest rank. Proposals with the same rank are organized by ProjectID. The Owyhee proposals are separated from the ranked set for a specific recommendation. The Box Canyon Watershed Project is not included in the ranking because the sponsor withdrew the funding request. Details in the “Project Information” columns, including “Sponsor”, “Sponsor Request”, and “Outyear Costs,” were not specifically considered in the ISRP ranking, but are provided for Council purposes.

ISRP Prioritization List			Council Prioritization Criteria				Project Information			Proposed Outyear Costs		
ProjectID	Title	Rank	1. Unimplemented program area	2. Improves Existing Projects	3. Systemwide Significance	4. Advances Critical Watershed Assess.	Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
20045	Analyzing Genetic And Behavioral Changes During Salmonid Domestication	1	X	X	X	X	WSU	Systemwide	\$209,720	\$203,549	\$211,741	\$220,120
20057	Strategies For Riparian Recovery: Plant Succession & Salmon	2	X	X	X	X	OSU	Systemwide	\$429,463	\$420,000	\$430,000	\$400,000
20034	Impact Of Flow Regulation On Riparian Cottonwood Ecosystems	3	X	X	X	X	BioQuest	Flathead	\$148,034	\$175,000	\$175,000	\$175,000
20102	Research/Evaluate Restoration Of Ne Ore Streams And Develop Mgmt Guidelines	3	X	X	X	X	OSU/UO	Grande Ronde	\$309,936	\$326,249	\$343,420	\$361,495
20103	Indexing Salmon Carrying Capacity to Habitat, Population, & Physical Fitness	3		X	X	X	OSU	Systemwide	\$363,392	\$378,233	\$393,805	\$0

ProjectID	Title	Rank	1. Unimplemented program area	2. Improves Existing Projects	3. Systemwide Significance	4. Advances Critical Watershed Assess.	Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
20106	Heritability of Disease Resistance and Immune Function in Chinook Salmon	6	X	X	X		USFWS	Systemwide	\$398,596	\$0	\$0	\$0
20083	Evaluate, restore and enhance 14 miles of instream and riparian habitat on Lower Crab Creek	7					USFWS	Crab	\$102,706	\$327,200	\$419,000	\$419,000
20042	Integrating Okanogan And Methow Watershed Data For Salmonid Restoration	7		X	X	X	Okanogan Conservati on District	Okanogan	\$269,285	\$200,000	\$0	\$0
20007	Acquire And Conserve Priority Bull Trout Habitat In Trestle Creek Watershed	9					River Network	Upper Pend Oreille	\$276,370	\$475,000	\$0	\$0
20109	Cedar Creek Natural Production and Watershed Monitoring Project	9					WDFW	Lower Columbia Mainstem	\$225,899	\$223,200	\$150,000	\$150,000
20062	Adaptive Management Of White Sturgeons	11		X	X		USGS-BRD, CRRL	Mainstem	\$184,674	\$200,000	\$0	\$0

ProjectID	Title	Rank	1. Unimplemented program area	2. Improves Existing Projects	3. Systemwide Significance	4. Advances Critical Watershed Assess.	Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
20122	Test guidance flows and strobe lights at a SBC to increase smolt FCE & FGE	11		X	X		WDFW	Mainstem	\$295,300	\$0	\$0	\$0
9803500	Watershed Scale Response Of Stream Habitat To Abandoned Mine Waste	13	X	X	X		UW	Methow	\$53,820	\$55,215	\$56,187	\$0
20028	Purchase Conservation Easement from Plum Creek Timber Company along Fisher	14					MFWP	Kootenai	\$500,000	\$0	\$0	\$0
20056	Elucidate Traffic Patterns Of Iln Virus In The Columbia River Basin	14		X	X		USGS-WFRC	Systemwide	\$75,207	\$0	\$0	\$0
20064	Upstream migration of Pacific lampreys in the John Day R: behavior, timing	14	X		X		USGS-BRD, CRRL	John Day	\$298,700	\$275,000	\$50,000	\$0
20013	Restore Unobstructed Fish Passage To Duncan Creek	17					Skamania Land Owners Assoc.	Lower Columbia Mainstem	\$190,000	\$0	\$0	\$0

ProjectID	Title	Rank	1. Unimplemented program area	2. Improves Existing Projects	3. Systemwide Significance	4. Advances Critical Watershed Assess.	Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
20107	Reconnect The Westport Slough To The Clatskanie River	17					LCRWC	Lower Columbia Mainstem	\$29,850	\$5,500	\$5,500	\$5,500
20006	Yakima Basin Benthic Index Of Biotic Integrity (B-Ibi)	19	X	X	X		Washington Trout	Yakima	\$48,072	\$40,000	\$42,000	\$48,000
20113	Securing Wildlife Mitigation Sites - Oregon, South Fork Crooked River	19					ODFW	Deschutes	\$13,877	\$13,000	\$13,000	\$13,000
9105100	Monitoring And Evaluation Statistical Support	19		X	X		UW	Mainstem	\$340,357	\$343,000	\$347,000	\$349,000
20067	Effects Of Supersaturated Water On Reproductive Success Of Adult Salmonids	22	X	X	X		USGS	Mainstem	\$839,893	\$848,533	\$872,697	\$0
9202400	Protect Anadromous Salmonids In The Mainstem Corridor	22		X	X		CRITFC	Mainstem	\$388,427	\$407,848	\$428,240	\$449,652
20012	Develop New Technology For Telemetry And Remote Sensing Of Fish Quality	24			X		OCFWRU	Mainstem	\$323,690	\$317,758	\$255,501	\$0

ProjectID	Title	Rank	1. Unimplemented program area	2. Improves Existing Projects	3. Systemwide Significance	4. Advances Critical Watershed Assess.	Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
20076	Diet, Distribution & Life History of Neomysis Mercedis in John Day Pool	24	X		X		UMT	Mainstem	\$176,158	\$0	\$0	\$0
20054	Evaluate Effects Of Hydraulic Turbulence On The Survival Of Migratory Fish	24	X	X	X		ORNL	Mainstem	\$341,000	\$0	\$0	\$0
9502700	Collect Data On White Sturgeon Above Grand Coulee Dam	27					STOI	Upper Columbia Mainstem	\$342,086	\$359,190	\$377,150	\$0
9202409	Enhance Conser. Enforcement For Fish & Wildlife, Watersheds Of The Nez Perce	28		X	X		NPT	Clearwater	\$425,236	\$425,236	\$400,000	\$400,000
20014	Evaluate Songbird Use Of Riparian Areas During Fall Migration	29			X		U of I	Systemwide	\$32,760	\$0	\$0	\$0
20156	Identification Of Redband And Rainbow Trout In The N F Clearwater Basin	29					NPT	Clearwater	\$110,925			

ProjectID	Title	Rank					Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
			1. Unimplemented program area	2.Improves Existing Projects	3.Systemwide Significance	4.Advances Critical Watershed Assess.						
9601900	Second Tier Database Support For Ecosystem Focus	29		X	X		BPA	Mainstem	\$180,000	\$150,000	\$150,000	\$150,000
20033	Rehabilitate instream and riparian habitat on the Similkameen and Okanogan	32					USFWS	Okanogan	\$484,902	\$264,000	\$396,000	\$426,800
20063	Evaluate Effects Of Catch And Release Angling On White Sturgeon	32			X		USGS, IDFG	Mainstem	\$271,486	\$380,000	\$350,000	\$200,000
20029	Electronic Columbia Basin Fish & Wildlife Research Report	34			X		Inter - mountain Com.	Systemwide	\$56,600	\$0	\$0	\$0
20052	Strategies To Limit Disease Effects On Estuarine Survival	34		X	X		OSU, NMFS	Mainstem	\$334,178	\$343,863	\$355,445	\$0
20071	Restore Crab Lake And Adjacent Reaches Of Crab Creek.	34					Ducks Unlimited, Inc.	Crab	\$365,000	\$0	\$0	\$0

ProjectID	Title	Rank	1. Unimplemented program area	2. Improves Existing Projects	3. Systemwide Significance	4. Advances Critical Watershed Assess.	Sponsor	Subbasin	FY00 Sponsor Request	FY01	FY02	FY03
Owyhee Subbasin Proposals												
20040	Develop A Fish & Wildlife Management Plan For The Owyhee Basin, D.V.I.R.				X	X	SPT - DVIR	Owyhee	\$22,411	\$23,083	\$23,776	\$24,489
20041	Develop A Fish & Wildlife Conservation Law Enforcement Plan, D.V.I.R.				X	X	SPT - DVIR	Owyhee	\$40,872	\$0	\$0	\$0
20092	Inventory Wildlife Species & Populations Of The Owyhee Basin, D.V.I.R					X	SPT - DVIR	Owyhee	\$185,985	\$191,565	\$197,311	\$75,000
20094	Assess Resident Fish Stocks Of The Owyhee Basin, D.V.I.R.					X	SPT - DVIR	Owyhee	\$220,799	\$245,799	\$252,143	\$105,000
20093	Evaluate The Feasibility For Anadromous Fish Reintroduction In The Owyhee				X	X	SPT - DVIR	Owyhee	\$56,851	\$58,557	\$0	\$0

Sponsor Withdrew Request for Funding												
9700300	Box Canyon Watershed Project						KNRD	Lower Pend Oreille	\$70,256	\$72,000	\$74,900	\$77,900

Prioritized List of 42 Proposals Submitted for FY2000 Funding through the Columbia Basin Fish and Wildlife Program

ATTACHMENT 1 - Background Information and ISRP Comments on the 42 Ranked Proposals

Proposal comments in this document are organized by rank starting at the highest. Proposals with the same ranks are organized by Project ID. The Owyhee subbasin proposals are presented at the end.

Contents:

ProjectID: 20045.....	9
ProjectID: 20057.....	10
ProjectID: 20034.....	12
ProjectID: 20102.....	14
ProjectID: 20103.....	15
ProjectID: 20106.....	16
ProjectID: 20083.....	18
ProjectID: 20042.....	18
ProjectID: 20007.....	19
ProjectID: 20109.....	20
ProjectID: 20062.....	21
ProjectID: 20122.....	23
ProjectID: 9803500.....	24
ProjectID: 20028.....	24
ProjectID: 20056.....	26
ProjectID: 20064.....	27
ProjectID: 20013.....	28
ProjectID: 20107.....	29
ProjectID: 20006.....	30
ProjectID: 20113.....	32
ProjectID: 9105100.....	33
ProjectID: 20067.....	34
ProjectID: 9202400.....	36
ProjectID: 20012.....	37
ProjectID: 20076.....	38
ProjectID: 20054.....	39
ProjectID: 9502700.....	40
ProjectID: 9202409.....	41
ProjectID: 20014.....	42
ProjectID: 20156.....	43
ProjectID: 9601900.....	44
ProjectID: 20033.....	45
ProjectID: 20063.....	46
ProjectID: 20029.....	47
ProjectID: 20052.....	48
ProjectID: 20071.....	49
Sponsor Funding Request Withdrawn	50
ProjectID: 9700300.....	50
Owyhee Subbasin Proposals	50
ProjectID: 20040.....	50
ProjectID: 20041.....	51
ProjectID: 20092.....	52
ProjectID: 20094.....	53
ProjectID: 20093.....	53

RANK: 1

ProjectID: 20045

Analyzing Genetic And Behavioral Changes During Salmonid Domestication

Washington State University; Funding Request: 209,720

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 7.1.F.2, 7.2.A.1, 7.4.D.1; Target Species: Chinook salmon (*Oncorhynchus tshawytscha*), Steelhead trout (*Oncorhynchus mykiss*)

Short Description: Analyze genetic changes occurring during domestication in chinook salmon and steelhead trout by studying selection on mapped DNA markers under wild and hatchery conditions and analyze behavioral and physiological changes using standardized tests.

Rank Comments:

This proposal is for highly innovative science that should assist in the development of hatchery performance standards such as those being developed for the Council's Artificial Production Review. It addresses all four of the Council criteria. This proposal will provide useful information: 1) in the application and use of supplementation which is a major part of the Council's program, and 2) in setting policies in regard to interactions of wild and hatchery fish.

June 15 ISRP Recommendation:

Fund, OK for a multi-year review cycle, review in FY2002 for results to date.

Comments:

Rationale. There is evidence that hatcheries domesticate salmon, which is manifested in changed behavior and physiology. A consequence of domestication expected is that offspring of wild salmon and hatchery products will be less fit in the wild because they will have inherited maladaptive traits from less fit hatchery parents.

This project proposes to develop readily observed indices of domestication, which are behavioral assay, cortisol assay, and fluctuating asymmetry. These indices would serve resource managers as a means of evaluating specific stocks. They propose to use QTL techniques to map these domestication traits on the genome of steelhead and chinook. They'll develop a microsatellite map for chinooks similar to the one Thorgaard has for rainbow; entails producing inbred androgens, which Thorgaard has done for rainbows. They'll develop behavior and physiological and meristic (FA) stress indicators that hypothetically relate to domestication selection. They will test for associations between traits and genetic map. It is not explicitly claimed, but the ambition seems to be to be able to assess the 'domestication' of a group of salmon by assessing the frequencies of QTL's known to be associated with domestication traits.

The method entails working with pairs of chinook and steelhead stocks, each pair containing domesticated and wild. A product useful to the FWP will be "standard behavioral tests that can be used to monitor levels of domestication" of those species; it is not clear how the information would be used in future hatchery management. (One reviewer suggests that behavioral work be conducted in running water rather than static conditions.)

The proposers are eminent in their respective disciplines and provide considerable evidence of peer-reviewed publications of their work. This is highly innovative science. The ISRP strongly endorsed this project and recommends it for funding.

RANK: 2

ProjectID: 20057

Strategies For Riparian Recovery: Plant Succession & Salmon

Oregon State University; Funding Request: 429,463

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: sections 2.1, 2.2, 4.1, 7.6, 7.7, and 10.2; Target Species: inland rainbow trout, sculpin, spring chinook salmon, bull trout, native cyprinids, catostomids, cottids and all other aquatic species in the study reaches.

Short Description: Determines the role of riparian plant diversity, structure and density on fish diet and habitat. Examines temporal and spatial dynamics of riparian inputs and their use by aquatic invertebrates and salmonids.

Rank Comments:

This innovative proposal, highly recommended for funding in FY99, addresses a relatively ignored aspect of stream ecology, e.g., the comparative contribution of "fall-out" or litter insects to stream productivity, and its relationship to riparian vegetation composition and structure. It has general basinwide application and addresses each of the Council's criteria.

June 15 ISRP Recommendation:

Fund. Review in FY2002 funding cycle.

Comments:

A fundamental premise of this proposal is that stream food resources and habitat availability are key factors to the decline in salmonid populations in the Basin, as focused on how terrestrial (riparian) diversity influences stream communities. Li et al. seek to examine primary and secondary food web linkages between various successional stages of riparian vegetation and stream-dwelling juvenile salmonids. The primary focus is the contribution of plant and insect litter. Analysis of historic patterns in riparian vegetation changes will be extrapolated to reconstruct changes in riparian habitat structure, diversity, density and extent over time. An admirable goal of the proposal is also to expand the scope of the study beyond reach or site specific phenomena to include connections with historical, watershed and regional processes; although the exact mechanisms for doing this are not obvious beyond upstream and downstream effects. The ultimate goal is to provide information useful in riparian restoration.

This proposal addresses a relatively ignored aspect of stream ecology, e.g., the comparative contribution of "fall-out" or litter insects to stream productivity, and its relationship to riparian vegetation composition and structure. In and of itself, this aspect would be worthy of support. There are a few unanswered questions, such as how they propose to separate the effects of riparian structure on stream temperatures and solar incidence from plant and litter fall. There are a plethora of questions and hypotheses, but no real description about how the various answers and products are going to be integrated; in this respect, a modeling component would definitely strengthen the project.

The study is also concentrated in just the Umatilla and Imnaha basins, and one criticism is that applicability of these results beyond the eastern Oregon portion of the Basin (e.g., to upper Snake watersheds, eastern Washington, etc.) will be tenuous; inclusion or ultimate validation in other ecosystems would be desirable.

The proposal is explicitly related to NWPPC FWP sections that addresses both the health and integrity of the Columbia River Basin and the rebuilding of upriver populations. It also approaches habitat analysis from a whole watershed perspective, and addresses critical uncertainties and tests important hypotheses. The project is well justified and progresses from previous work funded by the FWP, although it appears to be somewhat isolated from other high-watershed research within the Program. There are points of collaboration with other research projects, some of which are part of the FWP. Much of this appears to be in the form of interest and courtesy transfer of information, and there are no evident interdependencies or other strong links between research programs.

Objectives are specific, given in the form of research questions and associated hypotheses. Components of the project design are reasonable and defensible, although complex in the hypotheses being addressed and linkages among diffuse components. The project would benefit from simple modeling approaches to sort out different independent factors, etc. Methods are well described mostly in sufficient detail. There is some vagueness regarding the size of study reaches. Reviewers have a question about where the information to “reconstruct riparian community succession “ is coming from. Proposers say they will analyze time series of aerial photographs of riparian zones in different areas; reviewers assume these are available on the proposed study streams. Proposers, in their description of invertebrate sampling, propose to make visual counts of large-bodied aquatic invertebrates using a water scope along 5 transects; reviewers do not see this as providing additional information not present in Serber samples.

OSU facilities and personnel are likely the most qualified and capable within the region. This proposal includes good use of a conceptual model. This proposal is unique among riparian restoration as it takes an analytical approach to understanding functional relationships between riparian habitat and restoration activities. The proposal would benefit from incorporation of modeling to address and separate the effects of temperature, solar incidence, and succession.

RANK: 3

ProjectID: 20034

Impact Of Flow Regulation On Riparian Cottonwood Ecosystems

BioQuest International Consulting Ltd.; Funding Request: 148,034

Subbasin: Flathead; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: Resident Fish -10.3.A -Flathead and 10.3.B -Libby, (no notation found for Methow and Yakima). The white sturgeon and burbot program on the Kootenai River is also associated with this project. Section 11. -Resident Wildlife -11.2.E.1; Target Species: This proposal is concerned with an specific ecosystem rather than specific species. Priority species are black cottonwood, resident fish, otter, beaver, bald eagle great blue heron, , black-capped chickadee, ruffed grouse and migrating songbirds
Short Description: Enhance riparian cottonwood ecosystems through a basin wide inventory and assessment of the timing and duration of springtime flows that will benefit not only anadromous and resident fish, but also lead to the natural recruitment of cottonwoods below dams.

Rank Comments:

This is an innovative proposal to enhance riparian cottonwood systems in the upper Columbia River system providing an extension of work already being undertaken by the same team in the Canadian portion of the Kootenai basin. The proposal addresses each of the Council's four criteria. The ISRP notes that the sponsors have demonstrated the effectiveness of the methods and have satellite information available.

June 15 ISRP Recommendation:

Fund (High priority). However, it is unclear whether they will be able to implement this project due to problems with the commercial IKONOS satellite, which they were to rely on for locating cottonwood groves.

Comments:

This is a proposal to enhance riparian cottonwood systems in the upper Columbia River system. The proposer argues that the “structure and function” of riparian cottonwood ecosystems within the upper Columbia has been degraded as a result of dams and water management, and that this degradation has affected fish habitat. The proposal would survey, on a river mile basis, the remaining cottonwood habitats, and would infer the extent (river miles) of habitat lost. The focus would be on the Flathead, Kootenai, Yakima, and Methow basins. The approach would utilize both field surveys, and satellite imagery, including very high resolution (3 m) multi-spectral imagery from the IKONOS system. The project would in a sense be an extension of work already being undertaken by the same team in the Canadian portion of the Kootenai basin.

This is a refreshingly well-written proposal, which outlines the problem, and the approach, succinctly. It is more of the nature of a research project than many of the continuing projects, but represents an area in which the Program must make an investment. The proposal is clearly written and the work well justified. The Resource Issues section is extremely comprehensive and informative. Proposal objectives are excellent and related to Methods in a concise fashion and then clearly related to the budget. The international aspect of this project is also appealing. It is the best of the new project proposals in this set. The proposal appropriately cites relevant FWP measures, Kootenai sturgeon BiOp, NMFS hydrosystems BiOp, and watershed coordination for the Kootenai. It is related to 2 ongoing projects and 2 proposals (last year's notations are used, so it is not clear the status). Objectives, tasks, schedules, and

budget are reasonable. There is potential cost sharing, but not included in the budget. Lots of references lend credibility. There is excellent scientific background and demonstration of the authors' primacy in this topic. It relates the work well to flow regulation in the Kootenai for sturgeon (common objectives). Excellent objectives, tasks, and deliverables. Methods are good. Facilities and equipment are good, and purchases seem justified. There is an excellent multi-national staff. This is the type of research the Program should encourage as it addresses the larger ecosystem issues important for the restoration of conditions that will favor native fishes.

The argument that natural hydrographs are as important to vegetation as for spawning conditions of sturgeon has merit and fits within the concept of the normative river. Therefore, adopting hydrographic regimes that mimic the natural hydrograph will presumably bring dividends to the riparian zone as well as to the aquatic organisms. The proposed work is relatively inexpensive and will go a long way in helping us determine the extent to which we need to restore cottonwood forests.

The review group did have a few concerns, though. The budget doesn't seem to include an item for acquisition costs of the satellite imagery. If this is obtainable without charge, some indication of the arrangements should have been made. How critically dependent is the first year of the project on the IKONOS launch, what happens if it is delayed? Its only conceptual fault is that it does not go further and describe all trees in the riparian assemblage, although this would be an ambitious undertaking.

Some detailed criticisms for consideration by authors of this proposal:

There is no mention of any analyses of historical hydrographs of various catchments to be examined or a way to determine the hydrographic needs for seed dispersal and successful germination. Is this an oversight and implied?

The condition of the floodplain is not taken into consideration. Many streams have had reaches inundated by impoundments, dredged, channelized, straightened, and riveted. Streams have been deliberately disconnected from the flood plains, in many cases to prevent flooding, therefore the conditions of the floodplain may not be as hospitable for seedlings. Are the alluvial soils that encourage successful germination of seeds available on the shorelines of stream reaches now inundated by impoundments?

In summary, this proposal has very important programmatic implications for understanding riparian mitigation, fits with the overall FWP goal for native species, and fits within the normative river concept. The ISRP notes this proposal as an especially important one to fund.

RANK: 3

ProjectID: 20102

Research/Evaluate Restoration Of Ne Ore Streams And Develop Mgmt Guidelines

Oregon State University and University of Oregon; Funding Request: 309,936

Subbasin: Grande Ronde; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: Measure 205- Coordinated implementation monitoring and evaluation; Target Species: This proposal has relevance to the restoration of normative conditions of habitats for all resident and anadromous fishes in low order tributaries of the Columbia Basin as well as for riparian-dependent wildlife species

Short Description: Research/evaluate approaches to the restoration of freshwater salmon and riparian wildlife habitats. Quantify the biophysical responses of both passive and active restoration projects. Establish reference reaches of value for the normative river concept.

Rank Comments:

This is an outstanding proposal, with a strong scientific basis to quantify the biophysical responses of both passive and active restoration projects in low order tributaries of the Columbia Basin. The proposal addresses each of the Council's criteria with a very strong application to watershed analysis and assessments.

June 15 ISRP Recommendation:

Fund. This is an outstanding proposal, with a strong scientific basis, which should be given the highest priority for funding.

Comments:

This is a new proposal by an interdisciplinary group at Oregon State University and the University of Oregon to take a new look at habitat restoration protocols. The proposers argue that the \$200 million spent to date on habitat restoration in the PNW has been largely unsuccessful, due to poor planning, absence of a scientific basis, and absence of post-project monitoring and evaluation. They propose to implement a set of long-term studies at an ecosystem restoration site in northeastern Oregon, at which background data required for assessment and improvement of habitat restoration activities could be undertaken. Overall, this is by far the best proposal submitted for this basin.

The authors are well qualified to take on the work, and it is evident that restoration activities have not been well focused in that past. The panel was especially impressed that the proposal is based on a pilot project (unfunded, at least by BPA). This proposal is also notable because it examines (actually measures) the responses of streams, fish and other biota to restoration. Most restoration efforts measure inputs (miles of fence etc.) rather than consequences. The panel did feel that there should be more emphasis on information/technology transfer. An information transfer plan should be explicitly requested by the BPA COTR at the time of funding. The panel is confident that will result in many conference publications and journal papers (the record for which is woefully inadequate in most projects sponsored by the program). However, there also needs to be an element of information transfer that assures that this information would make it to the parties that need it the most, especially in the near term. For a project funded at this level (over \$310k per year) the project should have at least one person dedicated to education and outreach. The intention to have "... seminars of research results for land managers ..." and "... on the ground demonstrations and workshops ..." is good, but it needs to be a more central focus of the project.

RANK: 3

ProjectID: 20103

Indexing Salmon Carrying Capacity to Habitat, Population, & Physical Fitness

Oregon State University; Funding Request: 363,392

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 4.1B, 4.3B, 5.0E, 7.1A.1, 7.1C.3, 7.1G, 7.6A.2, 7.6C; Target Species:

Short Description: The objective of this proposal is to develop a fast reliable method to determine salmonid carrying capacity for watersheds based on remotely sensed data. The initial research will test this approach by linking remotely sensed data to habitat quality as defined by population densities and the physical fitness of salmonids. If as the preliminary evidence suggests, that the method will work, we can rely on remotely sensed images of stream temperature and riparian condition to inventory the potential of watersheds to support salmonids. This will be a tremendous boon for monitoring stream restoration efforts and developing policy. Our approach to ground truthing will establish protocol for calibration to specific watersheds should very precise estimates be required in future work.

Rank Comments:

This proposal is for a very innovative approach to indexing salmon carrying capacity. If it works, this research could provide an economical comprehensive monitoring tool throughout the basin. The ISRP judged that the proposal meets three of the Council's criteria and has potential to significantly enhance Program elements.

June 15 ISRP Recommendation:

Fund. OK for a multi-year review cycle, fund for three years as proposed.

Comments:

A rapid inexpensive method is needed for determining salmon carrying capacity for watersheds -- as a guide for policy making and for monitoring habitat recovery.

Method. This project seeks to take advantage of rapid, remote detectability of thermal habitat types, and their relationship to stream landscape attributes, to test the feasibility of mapping spring chinook salmon and rainbow trout carrying capacity over broad scales in the Basin. They suggest that this approach may produce results that are equivalent to the vastly more costly, in situ snorkel survey methods of Hankin and Reeves. The Grande Ronde and John Day basins will be used as test cases to determine the applicability and scalability of the method. The project seems exceedingly well thought out, if not somewhat ambitious, but we would represent a phenomenal advancement in fish habitat quality inventory and mapping if successful.

The proposal argues persuasively that fish physical fitness can be estimated (or correlated) by the thermal regimes and that, in conjunction with habitat quality (landscape attributes), remotely sensed technology can be used to map fish carrying capacity. The logic and rationale behind this approach is described and illustrated in detail. Objectives are both measurable and associated with expected outcomes, including alternative conclusions. Extensive background research and development of the proposed approach and methods appears to have set the stage for this test case. The proposal includes a detailed hierarchical design that is easy to follow and interpret. Methods are described in extensive detail, are broadly accepted, and have been tested and perfected

under a variety of conditions. Analytical models are described, statistical considerations are discussed, and limitations and alternative interpretations are identified. Ground truthing and calibration of fish fitness and carrying capacity relationships incorporated into design. Independent validation of resulting methodology in new system, outside those in which it was calibrated, will apparently have to depend upon future support. The overall time frame is appropriate, although tight scheduling is probably not warranted. The researchers include well-qualified and experienced personnel.

This sort of identification and quantification of salmonid carrying capacity is a critical component of the FWP. It is explicitly related to project #9405400 (bull trout) and an unnumbered lamprey project. There are additional cooperative relationships described for redband trout studies and river connectivity studies under USFWS, OR DEQ and EPA/NSF. This was a very detailed proposal. This is a very innovative approach and parts are potentially useful. If it works, this research could provide a comprehensive monitoring tool. It may be able to identify potential for production and stress on the system. It should not be considered to be the sole source to determine carrying capacity. This is innovative research.

RANK: 6

ProjectID: 20106

Heritability of Disease Resistance and Immune Function in Chinook Salmon

U.S. Fish and Wildlife Service; Funding Request: 398,596

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: Sections 4.2A, 7.1B, 7.2D.1, 7.2D.3, and 7.2D.4; Target Species: Chinook salmon (spring-run/stream-type), *Oncorhynchus tshawytscha*

Short Description: Determine the heritabilities and genetic correlations of resistance to bacterial kidney disease (BKD) in spring chinook salmon, and evaluate whether broodstock culling based on ELISA can cause genetic changes in disease resistance and immune function.

Rank Comments:

This study has important application to determine if there are unwanted selective effects of current hatchery practices in regard to BKD. It may be shown that the current practice of culling broodstock based on ELISA is benign but the hypothesis should be tested and this proposal identifies an innovative and solid approach to test the hypothesis. The ISRP judged that three of the four Council criteria are addressed.

June 15 ISRP Recommendation:

Fund for duration of project to 2002.

Comments:

This detailed proposal to investigate vertical transmission of *Renibacterium salmoninarum* in spring chinook, and estimate the heritabilities and genetic correlations of disease resistance indicators, addresses an important need to improve hatchery practices for long-term recovery of genetic diversity and fitness in the Basin's salmon stocks. Broodstock culling, removing eggs from females infected with BK disease agent, is a widespread, important disease control practice in chinook hatcheries. It's unknown what the subtle genetic effect of culling is—what if immunocompetence is genetically

correlated with infection? The long-term effect may be selection for less competent population, increased susceptibility to disease. The proposers provide a good review of the technical and scientific background, including some related research they have recently completed. There is a clear need for the study; they have shown how it relates to the Fish and Wildlife Program and it includes collaborative efforts. They convincingly make the case that a critical element missing from previous studies has been an evaluation of a potential link between such indicators of disease as tissue levels of a pathogen or putative host responses to it and the actual immunocompetence of the host, particularly in a quantitative genetic framework where genetic and non-genetic components of the observed phenotypic variation can be evaluated. They point out that characterizing this potential link, or genetic correlation, is essential to evaluating the practical utility of these indicators as measures of controlling infection, using these indicators as indirect measures of phenotypic resistance or susceptibility of individual host fish, and understanding the underlying immunogenetic mechanisms of disease resistance (particularly important for determining whether the culling of progeny on a basis of parental ELISA values can genetically change the susceptibility of a population to BKD in future generations). The study has a strong quantitative basis and promises to be an important contribution to science as well as a benefit to the Fish and Wildlife Program.

Methods. Use standard Quantitative genetic techniques to estimate heritability, genetic correlation, of disease susceptibility and immunocompetence. The experimental design, methods, and analytical approaches appear to be very straightforward and thoroughly investigated.

The ISRP was impressed with this proposal and strongly recommends it for funding. The proponents expertise and facilities appear to be as good as you can get. This proposal is exceptionally well done. The proposal needs to demonstrate a stronger relation to other projects, specifically 9305600 and 20045. Excellent budget explanation.

RANK: 7

ProjectID: 20083

Evaluate, restore and enhance 14 miles of instream and riparian habitat on

U.S. Fish and Wildlife Service; Funding Request: 102,706

Subbasin: Crab; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 7.6, 7.7, 7.9, and 7.10; Target Species: Species that will be affected include chinook (*Oncorhynchus tshawytscha*), steelhead (*Oncorhynchus mykiss*), resident fish species as well as waterfowl, raptors and ungulates.

Short Description: Evaluate, rehabilitate and enhance 14 miles of in-stream and riparian habitat along Lower Crab Creek. This will enhance spawning habitat for adult anadromous salmonids and improve the rearing and resting habitat for juveniles.

Rank Comments:

This is an excellent, well coordinated proposal based on a watershed assessment. Crab Creek is a highly degraded area, but is unique geographically and is near the healthy fall chinook population in the Hanford Reach. Restoration work would be of high programmatic value to the region although site-specific.

June 15 ISRP Recommendation:

Fund (High priority). OK for a multi-year review cycle, review in FY2002 for reporting of results.

Comments:

This was an excellent proposal. It appears well coordinated and describes relationships to other project. The proposal is based on the results of a watershed assessment and includes a monitoring plan and noteworthy local education approach. Although Crab Creek is a highly degraded area, it is unique geographically and is near the Hanford Reach where a healthy population of fall chinook is located. Consequently, restoration work would be of high programmatic value. The ISRP strongly endorsed funding this proposal.

The Rosgen method may not be appropriate to a natural marshland; the proposal should describe how it applies. The methods could have been described in more detail.

RANK: 7

ProjectID: 20042

Integrating Okanogan And Methow Watershed Data For Salmonid Restoration

Okanogan Conservation District; Funding Request: 269,285

Subbasin: Okanogan; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: The proposed project addresses the following sections of the 1994 FWP as amended in 1995: Section 7.6A1, 7.6C.2, and 7.7.; Target Species: Steelhead, Spring Chinook Salmon, Sockeye, Bull Trout, Redband Trout, Cutthroat Trout

Short Description: Gather, compile, and integrate all relevant watershed, fisheries, and water-quality information into a pre-developed computerized information tool for dissemination to policy makers and stakeholders for use in watershed restoration planning and monitoring.

Rank Comments:

This is an important subbasin project to collect, evaluate, and make available, all relevant watershed and fishery restoration information directly affecting the project area. Policy makers, restoration experts, and the general public have been frustrated due to the lack of integration of data and information, and the inability to easily access existing information.

June 15 ISRP Recommendation:

Fund (high priority). They need to identify who will manage the KRIS database after the initial two years.

Comments:

Overall, this proposal is clearly stated, reasonable, and has worthwhile objectives. KRIS has a record of success in the Klamath. Generally, the tasks and objectives are well explained, although the reviewers would have appreciated more detail about the specific categories of information that would go into KRIS. The procedure for prioritizing information was incompletely explained. Who is managing the database after 2001? Are there ongoing costs after the two years? The resource management committee may not provide a consistent long-term base for continued operation of KRIS.

RANK: 9

ProjectID: 20007

Acquire And Conserve Priority Bull Trout Habitat In Trestle Creek Watershed

River Network; Funding Request: 276,370

Subbasin: Upper Pend Oreille; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Agree-fund (Tier 1?) Note: CBFWA did not recommend funding so ISRP disagrees with Tier 2.

Program Measure: 10.5, 10.5A.5; Target Species: Bull trout

Short Description: Purchase conservation easements and/or fee interests on 800 acres of private land in the watershed of Trestle Creek, a crucial bull trout spawning and rearing stream in the Lake Pend Oreille Basin, Bonner County, Idaho.

Rank Comments:

This important project would protect high quality bull trout habitat. Trestle Creek is a priority area for bull trout and thus the project offers benefits beyond the site for this migratory species.

June 15 ISRP Recommendation:

Fund (high priority). OK for duration of project through FY2001 as proposed.

Comments:

This is a proposal to acquire, either through purchase or conservation easements, private lands in the lower reaches of Trestle Creek and to conserve high quality habitat for bull trout, mainly using passive restoration. This project directly addresses the major threats to bull trout in the drainage, which are disruptions of normal ecological processes in the lower drainage by residential development. This project proposal addresses enhancement of an important population of a native species that is clearly in trouble. The project will acquire critical habitat to protect it against the effects of residential development. The review team was particularly impressed with the inclusion of information regarding the probability of success for the project.

The proposal itself was of high quality. The proposal references the FWP measure and two other plans: a watershed assessment and a bull trout conservation plan. The project is important for purchase of easements or title to lands near the mouth of Trestle Creek to ensure continued bull trout conservation (adfluvial bull trout use this creek extensively). There is excellent cost sharing (about half) and excellent background narrative, showing good planning efforts and problem definition. There is a good rationale (to sustain habitat and populations, rather than rehabilitation after degradation). Objectives and methods are straightforward, logical, and reciprocally related. Monitoring will be by IDFG. The project is the result of good regional planning and cooperative efforts by agencies and other organizations. This proposal addresses the ISRP's FY99 recommendation regarding habitat restoration projects. This is a good example of a habitat protection proposal.

RANK: 9

ProjectID: 20109

Cedar Creek Natural Production and Watershed Monitoring Project

Washington Department of Fish and Wildlife; Funding Request: 225,899

Subbasin: Lower Columbia Mainstem; Project Type: M&E

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 2.2A, 2.2C, 3.2, 3.3, 4.2, 4.3, 7.0C, 7.1A,C&F, 7.2, 7.3, 7.4A,B&F, 7.5C,D,E&F, 7.6, 8.1, 8.4; Target Species: coho salmon, steelhead, sea-run cutthroat, chinook salmon, chum salmon, and pacific lamprey

Short Description: Estimate juvenile production and adult escapement for coho, cutthroat, steelhead, chinook, and possibly lamprey to support local watershed restoration projects and recovery of fish populations listed under the Endangered Species Act.

Rank Comments:

Cedar Creek is a high-priority site for a monitoring project to evaluate response to multiple restoration activities. Although somewhat site-specific, evidence of success of the Cedar Creek projects would be of benefit beyond the watershed. The proposal is of very high quality and was strongly endorsed in the initial ISRP review.

June 15 ISRP Recommendation:

Fund, OK for a multi-year review cycle with high priority.

Comments:

This is an excellent proposal, comprehensive and persuasive, and a logical candidate for long-term funding. Cedar Creek appears to be a high-priority site for a monitoring project, given existing activities by other agencies. Further, monitoring would be facilitated by the opportunity to trap upstream-migrating adults in this basin. There exists evidence of good cooperation with local landowners and significant financial support from sources other than BPA. The listed objectives and methods for their achievement appear quite valid. Biological information sought in this proposal should be very valuable.

Specific comments and questions that should also be addressed are:

To meet Objective No. 5, would production of juveniles (supplemented) by, say, the modified Hankin and Reeves survey procedures (rather than by use of traps at three locations) yield more information on distribution and habitat? A question arises with

regard to the goal of monitoring fish stocks in Cedar Creek for the purpose of evaluating fish response to a large number of recently enacted measures to improve habitat, reduce harvest rates and foster genetic diversity. The monitoring should be effective in assessing the sum total of these actions, but it will be difficult to use the results in an adaptive management context, one that will enable them “to apply success(ful) strategies and not repeat our failures in other subbasins.” With so many restoration activities in progress in the basin, there are no specific mechanisms proposed to examine the effects of individual actions. The ISRP was impressed with this proposal and strongly recommends it for funding.

RANK: 11

ProjectID: 20062

Adaptive Management Of White Sturgeons

U.S. Geological Survey, Biological Resources Division, Columbia River Research Laboratory; Funding Request: 184,674

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 10.4; Target Species: White sturgeon (*Acipenser transmontanus*)

Short Description: Improve on an existing model for population viability analyses of white sturgeons and identify costs and benefits of alternative adaptive management actions, including supplementation and harvest management.

Rank Comments:

This important proposal addresses a critical and likely erroneous, extrapolation of white sturgeon population characteristics from the unimpounded Columbia downstream of Bonneville to set biological objectives for recovery of more impounded and isolated populations. This proposal has the potential to improve existing projects and have systemwide significance.

June 15 ISRP Recommendation:

Fund through 2001 as proposed.

Comments:

Parsley et al. propose to assemble a PVA model from existing and emerging data on white sturgeon throughout the Basin, and to employ the model to design adaptive policies and actions to increase population densities. This addresses a critical and likely erroneous, extrapolation of population characteristics from the unimpounded Columbia downstream of Bonneville to set biological objectives for recovery of more impounded and isolated populations. An existing PVA model they developed for the middle Snake will be expanded to meet the needs of this broader, Basin-wide approach. The need to develop and test a PVA model for Columbia River Basin white sturgeon populations is succinctly and logically developed. They are confining their management strategies to supplementation, broodstock management and harvest policies, although there is a specific step to integrate population status and genetic diversity information with habitat availability. However, their analysis is actually intended to assess risks associated with supplementation. The project focuses on probably the second most important fish, other than the various salmonid species, in the estuary. The project directly addresses FWP

Measure 10.4 and sub-measures dealing with actions to restore white sturgeon populations and mitigate for system development and operation impacts.

Interaction of the population and habitat aspects with assessment of genetic variation could provide some intriguing and potentially valuable information on the extent of population homogeneity and migration exchanges. Strong feedback loops among scientists and resource managers, involving responses to the outcomes of alternative management scenarios, is also an attractive element of the proposal. This may also be one of the more interconnected (both within and among FWP) projects in the package. It also may be one of the few to result in timely, peer-reviewed scientific journal publications?

This project appears to be absolutely dependent on at least one proposed FWP project (#8605000), but also five other on-going (?) projects that provide sturgeon stock/population and harvest characteristics, genetic analyses results, and reservoir habitat information. All these projects will provide strong "value added" linkages to this project. In addition to the on-going and proposed FWP projects, this project will be coordinated with independent projects from Idaho Power, and Grant County PUD through the Oak Ridge National Laboratory.

Objectives are specific, and feed into a comprehensive product (the PVA model), and the process of expanding the existing ORNL PVA model appears feasible as long as fundamental data exists. Although not describing the detailed structure of the existing or expanded model, the methods appropriately describe steps required to parameterize, test and apply it. The tasks are well aligned with the objectives. Monitoring and evaluating appears to occur primarily through interaction with agencies to fine-tune management objectives and to evaluate model predictions, but timeframe for validation of management outcomes is beyond project duration. The sequenced schedule (1 yr for development of PVA model, 11 mo. to draft manuscript) is ambitious but proposers have capable background and track record. Integration of facilities and personnel of USGS-BRD (Parsley), the Oak Ridge National Laboratory (Jager, Bevelhimer) and Rutgers (Van Winkle, Jr.) should produce strong team capabilities. All have published in peer-reviewed journals recently and on current, state-of-the-science research. Why is this separate from 8605000? Information gained from this proposal should be applied to efforts under 8605000. The two projects should be integrated. The modeling exercise is a separate task from 8605000, but the other objectives are integral to 8605000. At completion of study, results should be reviewed relative to the white sturgeon umbrella proposal. It should identify gaps to be addressed by 8605000.

RANK: 11

ProjectID: 20122

Test guidance flows and strobe lights at a SBC to increase smolt FCE & FGE

Washington Department of Fish and Wildlife; Funding Request: 295,300

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund in Part; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund in part
Program Measure: 5.6A.13. ...Explore promising new approaches to fish bypass technologies....; Target
Species: Steelhead, coho and spring chinook smolts

Short Description: Test guidance flow and strobe lights at the Cowlitz Falls Dam to increase FCE and FGE. Radio telemetry, fyke and flume nets and facility collection will be used to measure the success of guidance flow and strobe lights.

Rank Comments:

This innovative project would test a potentially important method for guidance of juveniles through reservoirs using 'guidance flows' where currently juveniles cannot find the dam site. If successful, the method would have significant systemwide significance for reestablishing anadromous runs above some reservoirs such as Billy Chinook on the Deschutes River.

June 15 ISRP Recommendation:

Fund in part with emphasis on testing guidance flow.

Comments:

Authors offer an excellent presentation of a project with a good experimental design and monitoring provisions, and with encouraging prospects for success. They demonstrate a very good understanding of downstream fish passage issues, and do a good job relating this work to regional programs and needs.

The proposal provides an adequate explanation of the guidance flow portion of the experiment, but neglects to relate where strobe lights would be placed and how they would be employed in the experimental phase. Neither does it indicate how environmental conditions are to be monitored.

Specific questions and comments that should also be addressed are:

Would strobe lights always be used in conjunction with the attraction flows, or would the two techniques be tested separately? The proposal alludes to the prospect that additional funding may be obtained from Tacoma Public Utilities. If so, how much, at what time, and how would this money be spent?

RANK: 13

ProjectID: 9803500

Watershed Scale Response Of Stream Habitat To Abandoned Mine Waste

University of Washington, College of Forest Resources, Center of Streamside Studies; Funding Request: 53,820

Subbasin: Methow; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: 7.8C Mining: 7.8C1 ". . . ensure that all mining activities comply with state water quality standards . . ."; Target Species: *Salmo gairdneri* (steelhead/rainbow), *Oncorhynchus tshawtscha* (Chinook salmon), bull trout (*Salvelinus fontinalis*, *Salvelinus confluentus*)

Short Description: Seasonal fluctuations of mine drainage effects will be analyzed. Heavy metal loading in forest soils, Alder Creek, and the mainstem of the Methow River will be measured. Metal uptake, transfer, and hazards in the stream food web will be determined.

Rank Comments:

This well written project proposal is to develop guidelines that will have significant systemwide application to reclamation of mining sites throughout the basin.

June 15 ISRP Recommendation:

Fund (High). They need to include suggestions for remediation efforts as a deliverable.

Comments:

This proposal is well written and will likely have applicability to mining sites throughout the basin, as the problem they propose to address is common in the basin. Current guidelines for restoration and remediation are inadequate, thus the results from this study will be valuable. Products should include guidelines for remediation efforts, peer review journal publications. The budget is appropriate for the task. The proposal could better describe how it will apply to remediation efforts.

RANK: 14

ProjectID: 20028

Purchase Conservation Easement from Plum Creek Timber Company along Fisher

Montana Department of Fish, Wildlife and Parks; Funding Request: 500,000

Subbasin: Kootenai; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Agree-fund (Tier 1?) Note: CBFWA did not recommend funding so ISRP disagrees with Tier 2.

Program Measure: 10.1, 10.2A, 10.3B.11, 11.1, 11.2C, 11.2D, 11.2E; Target Species: bull trout, interior red-band rainbow trout, westslope cutthroat trout, burbot, other native fish, mule deer, elk, white-tailed deer, moose, black bear and riparian associated species.

Short Description: Purchase perpetual conservation easement on up to 73,000 acres of PCTC lands in Fisher River watershed which precludes subdivision/commercial developments; conserves/enhances fish habitat, maintains public recreational opportunities, and insures continued timber production consistent with protecting fisheries habitat values.

Rank Comments:

This to be a very good project addressing the acquisition/protection of a large block of fish and wildlife habitat. Although site-specific, the coordination with other agencies and relationship to other projects is a very strong aspect of the proposal.

June 15 ISRP Recommendation:

Fund (High priority).

Comments:

This is a proposal for partial funding (about 5 percent of the total cost) of purchase of Plum Creek Timber Lands in the Fisher River watershed. Although this is a new proposal, it was also proposed last year. As stated in the proposal, the acquisition of this huge block of land, in addition to the planned acquisition of the Thompson River project, “will result in completion of most, and possibly all, of the wildlife mitigation goals for both Libby and Hungry Horse dams.” The current proposal has a reduced BPA commitment and greater commitment by other funding sources (heavily supported by the state of Montana).

It is well written and adequately supports the cost-sharing expenditures by BPA. BPA will be asked for only 5% of the total cost (small but considered critical to stimulate the purchase). The proposal adequately cites the relevant FWP measure, species listings, and 6 other plans. It has a high level of public support. The proposal is well related to other projects under the Montana Libby umbrella (20517) and 4 other projects. There is a massive cost share, with BPA’s amount small for the purchase in FY2000. Most planning and financial arrangements seem complete. There is an excellent background, giving high importance to the basin. The rationale for the easement purchase seems excellent and persuasive (the objectives narrative gives more goals). The methods are good and no facilities are required. The cost to BPA has been trimmed from last year’s proposal, with a larger percentage now derived from other funds (demonstrating local support). This seems to be a valuable, one-time effort.

It is an example of the old adage, “an ounce of prevention is worth a pound of cure”. Limiting development of the area will help establish refuges for wild stocks and prevent further habitat degradation. It will also provide a touchstone or reference point for habitat restoration efforts within the basin. The cost to BPA is very low and the project is cost-effective

The review group considered this to be a very good project addressing the acquisition/protection (by fee title or easement) of wildlife habitat. The Technical and/or scientific background section clearly relates this habitat to benefits for wildlife (both aquatic and terrestrial). The coordination with other agencies and relationship to other projects is a very strong aspect of the proposal. Objectives are well laid out and related to methods. The Budget section is a bit weak, but this is overcome by the strength of the rest of the proposal.

The main negative comment was that the proposers need to clarify the nature of logging activities that could continue on the proposed easement properties and estimate the effects on the fish and wildlife resources intended to be protected. This point was raised in the ISRP’s FY1999 proposal review. Despite the large total cost, it is still just an easement, not a purchase.

RANK: 14

ProjectID: 20056

Elucidate Traffic Patterns Of IHN Virus In The Columbia River Basin

USGS-BRD, Western Fisheries Research Center; Funding Request: 75,207

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 2.1, 4.1, 7.2A.6, 7.2D.4, 7.2D.6, 7.2D.7; Target Species: Oncorhynchus mykiss, O. tshawytscha, O. nerka

Short Description: RNase protection technology will be used to survey the genetic types of IHN virus throughout the Columbia Basin, to identify sources of disease outbreaks, and to infer viral traffic patterns in an effort to reduce the impact of IHN on basin salmonids.

Rank Comments:

This innovative, well-written proposal has the potential to improve existing projects and have systemwide significance in reducing the impact of IHN on basin salmonids. The technical background is thoroughly described.

June 15 ISRP Recommendation:

Fund for one year as proposed.

Comments:

This project focuses on expanding localized information to assess IHN traffic throughout the Columbia River Basin, using historical and current collections of IHN isolate to help resource managers avoid risks associated with movements of fish stocks and their pathogens. The technical background is thoroughly described, collaborative efforts are ongoing and they provide good rationale regarding management application. However, there's no analysis of problem--how prevalent is IHN, what problem does it pose for restoration. There's no analysis of cost or threat of the virus to restoration. No new technology is developed here. The "research" part of this proposed study deals with genetic fingerprinting of IHN isolates throughout the basin, some on hand and others to be supplied by collaborators. Fingerprint patterns are then examined to determine the total number of composite genetic types present. Data will be archived and compared to provide evidence of viral traffic patterns and sources of disease outbreaks. The proposer already demonstrated that virus moved from wild to hatchery, not vice versa, demonstrating important practical value of technique.

Methods. The proposal is to expand a catalog of known types, then map movements of virus types through the basin. The methods are probably competent but the proposer doesn't present much evidence of peer-reviewed publication of her work, but summarizes work in progress. This is innovative research.

RANK: 14

ProjectID: 20064

Upstream migration of Pacific lampreys in the John Day R: behavior, timing

U.S. Geological Survey, Biological Resources Division, Columbia River Research Laboratory; Funding Request: 298,700

Subbasin: John Day; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: 7.5F, 7.5F.1, and from the report proceeding from 7.5F.1: Status report of the Pacific lamprey (*Lampetra tridentata*) in the Columbia River basin (BPA Project Number 94-026), Section III - Recommended Research, Subsections A, B, and C (abundance studies; Target Species: Pacific lamprey (*Lampetra tridentata*), upstream migrating phase

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.

Rank Comments:

This strong proposal addresses an unimplemented part of the program and should be considered with the other proposed lamprey projects.

June 15 ISRP Recommendation:

Fund

Comments:

The project is well justified, and the proposal is well written and succinct. The authors are commended for collaboration with other projects and for standardizing methods.

Techniques for tracking lamprey and assessing their habitats seem reasonable. The project, if funded, appears to have a good chance of developing critically needed data about movements and habitat preferences of the Pacific lamprey.

Specific comments and questions that should also be addressed are:

Hypotheses to be tested are somewhat unclear. For example, does the expression “consistent temporally” mean between months or years or longer? Also, because two years of fieldwork are proposed, does this suggest only that the authors will determine if migration and spawning occur at about the same dates in two successive years? It is unclear how lampreys are to be randomly selected for tagging. The proposal could be improved by additional detail to explain temporal and spatial evaluation of lamprey migration and spawning. These factors may be impacted by water diversion devices and other anthropogenic impacts such as water flows, depths, stream temperature etc.

RANK: 17

ProjectID: 20013

Restore Unobstructed Fish Passage To Duncan Creek

Skamania Landing Owners Association (SLOA); Funding Request: 190,000

Subbasin: Lower Columbia Mainstem; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 7.5D(.1); 7.5E(.1); and 7.11B(.1); Target Species: Chum, Coho, Steelhead and Sea-run Cutthroat

Short Description: Restore unobstructed fish passage to Duncan Creek from the Columbia River through creation of an open concrete fish flume at the mouth of a dam co-managed by the Skamania Landing Owners Association and Washington Department of Fish and Wildlife.

Rank Comments:

Although this project is primarily of site specific value, it would test low cost restoration approaches that could have systemwide significance. If successful, there would be significant benefits to chum salmon and other anadromous species using this Lower Columbia Basin creek.

June 15 ISRP Recommendation:

Fund for one year as proposed.

Comments:

The proposal includes a commendable cost-sharing arrangement, and appears promising as a benefit to chum salmon, coho salmon and sea-run cutthroat in the lower Columbia River. The proposal excels in outlining the historical importance of Duncan Creek to chum salmon and other nearby efforts that would complement this project. The proposal presents an innovative approach focusing on natural restoration of salmonids. The study may be useful to the region as a test of the natural resiliency of depressed stocks when production constraints are removed. Reviewers caution that chum salmon should not be stocked, however, until Washington Department of Fish and Game evaluate chum salmon stocks and develop a plan for establishment of a wild chum salmon population.

The project needs a more clearly defined protocol for monitoring spawning activity and reporting of results (approved by WDFW). Authors should include some estimate of anticipated results. They should also discuss habitat criteria more explicitly (what other conditions are necessary in the Duncan Creek watershed to support anadromous fish?) and explain plans to evaluate results beyond the fact that spawning surveys are to be conducted annually.

Specific questions and comments that should also be addressed are:

There is no evidence of a watershed assessment plan. From what source will the stock for chum salmon come? Is spawning habitat the only limiting factor for chum? And is the estuary adequate to support juvenile chum? The cost-sharing budget figure (Page 4) appears to be incorrect.

RANK: 17

ProjectID: 20107

Reconnect The Westport Slough To The Clatskanie River

Lower Columbia River Watershed Council; Funding Request: 29,850

Subbasin: Lower Columbia Mainstem; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: 7.6,7.7; Target Species: Coho, chinook, steelhead, chum, resident fish.

Short Description: Improve and enhance anadromous and resident fish habitat by reconnecting the Westport Slough to the Clatskanie River. A 12 foot culvert placed in the dam blocking the head of the Westport Slough will reestablish a crucial link for fish migration.

Rank Comments:

This is an important project to improve the habitat in the Westport Slough, potential improving rearing habitat not only for fish from the Clatskanie River but other juveniles migrating down the Columbia River. There was strong support for this project because of potentially big benefits to migrating fish.

June 15 ISRP Recommendation:

Fund with high priority.

Comments:

This is a modest proposal with potentially big benefits, and with very impressive cost-sharing. The cost to BPA is relatively small. The proposal addresses reconnection of the Westport slough to the Clatskanie River in the Lower Columbia River. Estuarine habitats are critical juvenile staging and rearing habitats for young salmon and steelhead as they make the transition from freshwater to saltwater. Estuarine habitats and their quality are thought to be one of the limiting factors in the basin for juvenile fish mortality. The proposed work here offers an opportunity to test juvenile and adult salmon use of a reconnected slough.

The proposal does not describe in adequate detail, however, potential adverse side effects of the proposed action, limiting factors in the tributaries, and a summary of the Corps of Engineers engineering and environmental assessment efforts. This project should require a favorable environmental assessment and engineering plan before implementation.

Specific questions and comments that should also be addressed include:

Habitat restoration criteria are discussed only in general terms. The proposal would benefit from inclusion of a map. Is it assured that naturally occurring fish populations from the Clatskanie would populate the Westport Slough? If so, over what time period? Would supplemental plantings be required? Would the release of built-up toxins and sediments from the slough affect water quality or aquatic biota in the river, and if so, with what result?

Are there other factors (other than the plugged slough) that lead the Clatskanie River to be on the 303d list? Do those factors limit the benefits of the proposed reconnection? Similarly, are the 24 miles of salmonid habitat in tributaries to the slough limited only by fish passage problems, or are there other water quality concerns? What is the basis for the statement (Page 9) that expected results will be improved water circulation and flow? Have flows through the culvert/slough been estimated? Will fish movement through the

culvert be possible? Has sediment transport modeling been done? Will flow through the slough be sufficient to mobilize sediments?

RANK: 19

ProjectID: 20006

Yakima Basin Benthic Index Of Biotic Integrity (B-Ibi)

Washington Trout; Funding Request: 48,072

Subbasin: Yakima; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: 7.1, 7.1A, 7.1B, 7.1E, 7.1I, 7.6, 7.6A, 7.6B4, 7.6C, 7.6D, 10.1, 10.2A1, 10.2C.;

Target Species: Native resident and anadromous salmonids, other indigenous members of the fish community assemblage, native amphibians, aquatic macroinvertebrates (e.g., Plecoptera, Trichoptera, Ephemeroptera, Diptera, aquatic oligochaetes).

Short Description: Develop a multimetric Index of Biotic Integrity for the upper Yakima/Naches Basin using Benthic Macroinvertebrates to detect ranges of human impact on aquatic resource health.

Rank Comments:

The Index of Biotic Integrity (IBI) is an innovative assessment method that would be valuable in measuring the impacts of actions and restoration activities on multiple species. It is commonly used in the Eastern United States and could have regional impact if developed in the Northwest. It has been found to be more efficient to monitor an ecosystem using invertebrates, as does IBI, than vertebrates.

June 15 ISRP Recommendation:

Fund. Reviewers strongly recommend that if the proposal is funded, the authors coordinate where possible with Dr. Todd Pearsons, who is leading the Yakima species interaction studies. In addition, coordination with the monitoring and evaluation of YIN Satus Creek and Toppenish Creek restoration projects could be beneficial to both groups.

Comments:

The proposal provides a good discussion of the scientific rationale and background for the IBI approach. It includes a logical sequence of activity from development and validation of the index to demonstration of its use as a monitoring tool. The author makes a good case for using benthic macroinvertebrates as an index to aquatic resource health. If the use of a benthic index of biological integrity (IBI) can be established and verified for the Yakima Basin, it would provide an additional tool for monitoring and evaluating the success of many different restoration projects within the basin. Based on our review of water quality and habitat proposals, many projects within the basin apparently have not incorporated population measures of habitat response in their monitoring and evaluation. An IBI could provide that link. The proposal does not, however, evaluate alternative approaches or their relative strengths and weaknesses. The proposal makes a good case for applying the method to watershed assessment and for tracking progress toward "normative" conditions. However, trends toward normative conditions will likely require monitoring over a longer period than the proposed five years for this project. Long-term climatic changes will likely have a strong interactive effect on the rate of landscape and habitat response to restoration activities.

In addition to representing stream conditions and land-use patterns in the sample design, it may also be important to consider the types and distribution of habitat treatments in the subbasin. For example, sampling could be stratified by major categories of treatments to better interpret habitat responses to numerous land use, riparian, and instream restoration projects scattered throughout the basin. Ideally, some “control” streams where little restoration work is undertaken could be included in such a design.

The linkage between the proposed IBI and salmonids is relatively weak. It is not clear that samples collected primarily in riffles will be indicative of food webs tied to salmonids that rear in other habitats. The rationale and justification for selecting 30 sample sites is not discussed.

This proposal may offer a useful addition to population monitoring projects in the Yakima that may be less sensitive indicators of habitat change than invertebrate assemblages. Combining the IBI approach with results of fish population and habitat monitoring may improve the ability to interpret diverse ecological responses to restoration effects. The proposal makes a case for integrating IBI results with habitat and population data collected by other projects in the subbasin. However, the proposal does not demonstrate an awareness of many of the ongoing projects in the basin.

The proposal could be improved in several additional ways. First, the methods for selecting and characterizing index sites from a range of “pristine” to “severely degraded” are not well described, yet this step is critical to the construction and verification of IBIs. Second, the writers do not acknowledge the full range of opportunities to collaborate with other relevant projects, although the author may be aware of them. For example, we would strongly recommend that if the proposal is funded, the authors coordinate where possible with Dr. Todd Pearsons, who is leading the Yakima species interaction studies. In addition, coordination with the monitoring and evaluation of YIN Satus Creek and Toppenish Creek restoration projects could be beneficial to both groups.

RANK: 19

ProjectID: 20113

Securing Wildlife Mitigation Sites - Oregon, South Fork Crooked River

Oregon Department of Fish and Wildlife; Funding Request: 13,877

Subbasin: Deschutes; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: 7.1, 7.6.A, 7.6.B, 7.6.C, 7.7, 7.8, 11.3A, 11.3D; Target Species: Lesser scaup, great blue heron, Canada goose, spotted sandpiper, yellow warbler, black-capped chickadee, western meadowlark, sage grouse, mink, and mule deer

Short Description: Maintain enhanced wetland, shrub-steppe, and riverine/riparian habitats on a 2,000-acre eased property on the South Fork of the Crooked River.

Rank Comments:

This was a well-written proposal that might set an example for other private landowners to maintain enhanced wetland, shrub-steppe, and riverine/riparian habitats on the South Fork of the Crooked River

June 15 ISRP Recommendation:

Fund (medium priority).

Comments:

This was a well-written proposal, especially the justification. The narrative is well laid out and convincing. The objectives and tasks seem reasonable. The cost benefit ratio of this project appears very high, and one that might set an example for other private landowners. This project, although small, is linked to a number of other ones. The proposal would have benefited from a little more effort to connect it to fisheries-related projects. They identify this as a highly ranked site for purchase of an easement, but do not describe why it is priority site. The methods are extremely general and how success or failure will be assessed is unclear. For example, what are the success criteria in objective 2, task A? The techniques for monitoring are weakly explained. Despite these weaknesses, the proposers made a good case for funding.

RANK: 19

ProjectID: 9105100

Monitoring And Evaluation Statistical Support

University of Washington; Funding Request: 340,357

Subbasin: Mainstem; Project Type: M&E

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund; strongly recommend

Program Measure: NPPC Doc 94-55: 3.2F.1 Regional Analytical Methods Coordination, 3.3A.1 Coordinated Information System, 4.3B Development of Performance Standards, 4.3C Population Monitoring, 5.2A.7 Third-Party Evaluation of Snake River Spring Migrants; Target Species: Chinook salmon, coho, and steelhead

Short Description: Develops statistical methods needed in monitoring and evaluating salmonid recovery plans. Provides added-value analyses of tagging data to address regional issues. Provides smolt migration timing predictions on internet for the fisheries community.

Rank Comments:

This project with an excellent history of success serves a need in the program for an independent analysis of monitoring for migration and survival of juveniles and adults. Given that it is an ongoing project, the innovative part would come in the form of 'value added' analysis of available data. The project would benefit existing projects and it has systemwide significance.

June 15 ISRP Recommendation:

Fund for one year. Subsequent funding contingent on programmatic review. This entire set of smolt monitoring projects needs to receive a programmatic review with the goal to create a central data repository, to provide a central facility for providing routine statistical analysis, and, most crucially, to develop a basin-wide, coordinated design for data collection that is gauged to meet the information needs for management.

Comments:

This well-written proposal clearly addresses the need for this work and its relationship to other projects. The work allows strong collaborative effort with other projects. The objectives and associated tasks are clearly stated and aligned. There are no plans for formal evaluation other than those provided by observing the continued use of the products from this on-going project and the success of the investigators in publishing results. The budget and personnel are not adequately justified. The relation to proposal 8910700 should be better explained. The proposal should state what they are going to do with the CWT, PIT tag, and other data listed in the tasks and objectives.

More than any of the other smolt monitoring proposals, this one clearly identifies the need for coordination. On page 10 it states: "Despite these overwhelming needs, given the high expenditures on tagging and data collection, no agreement on a coordinated information system for anadromous fish data, methods of their analyses, or timely dissemination of information to the public has been agreed upon." The proposal does not suggest a solution. This problem affects the entire smolt monitoring program.

RANK: 22

ProjectID: 20067

Effects Of Supersaturated Water On Reproductive Success Of Adult Salmonids

U.S. Geological Survey, Western Fisheries Research Center, Columbia River Research Laboratory;

Funding Request: 839,893

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: 5.6.E.1; Target Species: Spring/summer chinook salmon, steelhead and sockeye salmon

Short Description: This study will determine in-situ exposures of adult salmonids to total dissolved gas supersaturation (TDGS) and conduct laboratory assays to determine the effects of TDGS exposure on their reproductive performance.

Rank Comments:

This important project would monitor the effects of dissolved gas exposure on adults. The results could improve existing projects and have systemwide significance. Within the sphere of dissolved gas research that needs to be done, this project would help answer one of the major uncertainties.

June 15 ISRP Recommendation:

Fund. This project is likely to benefit fish in the Columbia River basin. If successful, the project would start the process of filling an important information gap that now precludes relating mainstem management action of controlled spill to spawning success in salmon.

Comments:

It is not clear that objective 1 should be evaluated before a study of objective 2 is conducted. If there is no measurable effect of supersaturated water on reproductive success over a range of realistic exposures to TDGS, then 90% of the cost of this study is saved. If exposure to TDGS can be demonstrated to affect reproductive performance, an assessment of in-situ exposure could be conducted in a future study. Nevertheless, it is unlikely that laboratory conditions can recreate the complex exposure history that adult fish experience. If the in-situ exposure data is collected, analysis should focus on the entire distribution of TDGS and depths, not only a comparison and estimation of central tendency. Extreme exposures may be more indicative of a reproductive response than average exposure. Justification for samples sizes selected to address objective 2 should be included. The proposal is technically sound to the extent it has identified an important information gap that now precludes relating mainstem management actions to spawning success in salmon. The lack of connection between the measures employed in mainstem hydroelectric system monitoring and research for adult salmon and success on the spawning grounds has been identified as a problem by the ISAB (ISAB 99-3). The measurements to be taken in the field, depth, temperature, total dissolved gas TDG (estimated), by location date and time, are a reasonable complement to those to be taken in the laboratory, gonadosomatic index, absolute and relative fecundity, percent of fertilized eggs hatched, by level of TDG exposure. But on the other hand, the study does not identify the relative likelihood of exposure of species and stocks to TDG. It proposes to tag three species with different timings, therefore different likelihood's of exposure, but there is no rationale based on TDG for the distribution of tags. Results are expected to be more critically important for stocks migrating in the early to mid-Spring, such as spring chinook salmon, and less important for stocks migrating during the late spring and summer, such as steelhead and sockeye. Levels of TDG in the spring are often quite high,

declining as the summer progresses. There are some serious questions remaining about how well the proposed methods would actually yield useful depth and temperature measures. It appears that temperature at depth will be inferred from measures of surface temperature, which could be inaccurate. If the tag records or transmits ambient temperature, the proposal did not so indicate. Further, the probability of detecting each individual will be partially dependent on depth due to the attenuation of radio signals in water. Hence, there are unexplained problems of accuracy and precision with the depth measurement method. Precision is possibly impacted because the variance of the estimated proportion at depth is inversely proportional to depth, and since actual detection of fish at depth could be less numerous than fish at shallower depths. Accuracy would be impacted if the fish reach a depth at which they cannot be detected at all. The proposal is silent about the prospect that fish could reach depths below the detection threshold of the receivers. Since depth is a critical component of the study, this is a major shortcoming.

There is also the problem of relating laboratory studies of the effects of TDG on the hatching success of embryos to the performance of spawners in the wild. The levels of TDG exposure to be simulated in the laboratory at shallow depths would probably not accurately reflect the levels of exposure in the wild since fish traveling at depth would be able to avoid some of the ill effects of TDG (declines 10% per m of depth). Given that so little information exists on the effects of TDG on adult salmon, this information should be of value in allowing managers to assess how serious the problem may be, even without direct applicability of the research results to population level effects. If successful, the project would start the process of filling an important information gap that now precludes relating mainstem management action of controlled spill on spawning success in salmon. Further, the project could help understand how episodes of uncontrolled spill and high TDG may impact spawning success, regardless of management actions. The work is related well to other projects. The objective of determining exposures would be approached cooperatively with an existing telemetry study (Bjornns COE work). Signs of GBT would be assessed in cooperation with an ongoing study of signs in smolts (9300802). The telemetry methods for depth selection are well established and appropriate for the objective. The laboratory exposures to test conditions of gas supersaturation are appropriate. The study uses standard hatchery culture procedures for meeting the reproductive goals, which is appropriate (although one aspect of reproduction, behavior, will be missing). The several specific measures of reproductive performance are good. The budget is appropriate and the staff has demonstrated ability to do excellent research. Sonic tags will provide more complete data at depth than radio tags. They need to include a behavioral component in the study. The allocation of tags may be better focused on the spring chinook, which are subject to more chronic exposure. The statistical procedures for estimation of the distribution of fish at depths should be described, because unequal probability of detection at depth will invalidate standard statistical techniques.

RANK: 22

ProjectID: 9202400

Protect Anadromous Salmonids In The Mainstem Corridor

Columbia River Inter-Tribal Fish Commission – Law Enforcement Department; Funding Request: 388,427

Subbasin: Mainstem; Project Type: O&M

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: ; ISRP Comparison with CBFWA: NA

Program Measure: Law Enforcement – Section 8.5C.2; Target Species: Anadromous Salmonid

Short Description: Protect anadromous fish species throughout the Columbia Basin with an emphasis on protection of weak stocks. Protection will be concentrated within the hydro-corridor (e.g., between Bonneville and McNary dams) and focus on adult spawners.

Rank Comments:

In general, there is a biological context for law enforcement and the ISRP notes that a certain level of law enforcement is necessary. Law enforcement is a mix of scientific and social issues that is difficult for the ISRP to review. On a purely scientific basis the ISRP ranks this in the middle of the set of 42.

June 15 ISRP Recommendation:

Fund for one year. Subsequent funding contingent on more complete background information on the magnitude of the illegal harvest problem and the expected benefits to fish and wildlife.

Comments:

This proposal requests funds for enhanced enforcement for the protection of weak stocks by increasing the number of personnel, increasing enforcement efficiency, and increasing compliance. The proposal is well written. Its relation to the Fish and Wildlife Program are clear. The activities and objectives are clearly defined. Specific monitoring criteria are built in and the reviews of past work are very positive. Overall, the proposal seems like a reasonable request. Rather than simply relying on more people to improve enforcement, the proposal takes an evaluative approach to several different components of enforcement. There is a scientific basis for law enforcement and protection of returning adults, particularly from weak stocks. However, the proposal would benefit from more complete background information on the magnitude of the illegal harvest problem and the expected benefits to fish and wildlife. It would also be desirable to have more detail provided on how, as a result of this project, efficiency and compliance will be improved and cross-zone enforcement coordinated.

RANK: 24

ProjectID: 20012

Develop New Technology For Telemetry And Remote Sensing Of Fish Quality

Oregon Cooperative Fish and Wildlife Research Unit; Funding Request: 323,690

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: Direct applicability concerning technology development: 4.2A, 4.3C.1, 4.3C.2;

Examples of technology applicability, when developed: 5.6A.14, 5.9A.1, 6.1B.3, 6.1B.8, 6.1D.4, 6.1D.7, 6.1G.1, 7.1A.1, 7.2B.1.; Target Species: Adult salmon, though applicable to all mid-sized or larger fish and wildlife species, with miniaturization potential for smolt-sized individuals.

Short Description: Develop, verify, and field test a new telemetry system (named "FIELD-OP") which is triggered by fixed or mobile transmitter stations to download real-time or stored position, depth, temperature, and fish quality data to receivers.

Rank Comments:

This important proposal has the potential for systemwide significance and to improve existing monitoring projects for migration depth, water temperature, and fish quality.

June 15 ISRP Recommendation:

Fund (medium priority)

Comments:

This innovative system may well have applications to high priority regional programs. At present, it is not directly linked to existing projects. There are many technical problems to be overcome before the worth of the system for examining meaningful research questions is established. The objectives present a clear progression. Tasks are clearly defined but details for monitoring and evaluating results are inadequate. Proposed statistical methods for the example research question are not appropriate. Some of the examples of research questions that are proposed for addressing with the new system ignore confounding factors. The quality of a scientific discipline is directly proportional to the quality of its measurements. Advances in science follow soon after new measurement techniques are developed, as the field of genetics has so often proved in the last ten years. Field studies of the impact of ambient conditions on fish are usually circumstantial. Reliance on statistical inference and speculation about the relations between ambient conditions and fish behavior and physiology can not substitute for direct measurement. The ability to measure ambient conditions with respect to individual fish would be a great breakthrough. The PI and his associates appear well qualified and suited to the tasks. But this is a developmental program, which seeks to make great strides in miniaturization and integration of functions. The exact outcome from the project cannot be predicted with certainty. The breakthrough would be to measure the relation of ambient conditions on stress. To raise the priority of the proposal, they need to address the sensitivity of the microprobe to detect meaningful differences in stress indicators under the conditions of the proposal. There should be a link of this project to survival studies.

RANK: 24

ProjectID: 20076

Diet, Distribution & Life History of Neomysis Mercedis in John Day Pool

University of Montana; Funding Request: 176,158

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: ; Target Species: Neomysis mercedis

Short Description: Quantify key variables describing the ecology of the exotic mysid Neomysis mercedis that has recently invaded mainstem Columbia reservoirs. Determine the potential N. mercedis has for negatively affecting food web structure in the Columbia River.

Rank Comments:

This proposal is for collection of important basic information on the recent invasion of neomysis into the mainstem Columbia reservoirs. The project would have systemwide significance, because potentially, migrating anadromous species must compete for food with this species.

June 15 ISRP Recommendation:

Fund. Priority of the project depends on the level of Neomysis mercedis invasion basinwide, which is not explained, nor does the proposal describe a means of determining it.

Comments:

The focus of this proposal may be one of many key limiting factors on juvenile survival in the, however the proposal's relationship to the Fish and Wildlife Program is tenuous. The magnitude of the Neomysis problem within the John Day reservoir and among other reservoirs in the system will determine the importance and implications of this proposed work. Consequently, the proposers could have made this proposal better connected to the system as a whole.

The concept is interesting, and the investigator is highly qualified. We note that the study focuses on a question whether Neomysis has a potential for negatively affecting the food web structure in the Columbia River. We see no provision in the proposal for describing the overall food web. There have been several studies of plankton communities in mainstem reservoirs, such as Kootenay and Arrow Lakes (Lisa Thompson, Carl Walters, UBC), Lake Roosevelt and Rufus Woods Lake (above Wells Dam), which might have been cited. Mysis relicta, a related species that causes problems, has been reported there. Further, it would seem that food habit studies of juvenile salmon conducted by personnel at the Cook Laboratory of the USGS would be relevant in this connection, but these are not cited. Benthic sampling techniques described in the proposal are novel but not well justified and may be inappropriate (e.g. video camera observations on behavior).

RANK: 24

ProjectID: 20054

Evaluate Effects Of Hydraulic Turbulence On The Survival Of Migratory Fish

Oak Ridge National Laboratory; Funding Request: 341,000

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund in Part; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund in part

Program Measure: 5.6A.14, also contributes information to many other items in 5.6 and 5.7; Target

Species: Initial test species would include salmonids (rainbow trout; Atlantic salmon) and American shad; experimental apparatus and techniques that will be developed can be applied to any other fish

Short Description: Design, construct, and operate a laboratory apparatus to study effects of turbulence on fish survival and swimming performance. Intensities and scales would be the same as within hydroelectric turbines, fish bypass systems, spill, and vessel passage.

Rank Comments:

This innovative project could have systemwide significance by improving the understanding of effects of turbulence on fish survival and swimming performance. Potential applications exist for design of turbines, fish bypass systems, spill, and vessel passage.

June 15 ISRP Recommendation:

Fund in part, objectives 1 and 2a. (completion of literature review and design of the equipment) (innovative). Subsequent funding should be based on review of results of the first phase. Subsequent funding should also require a study of fish behavior in response to turbulent flow and associated characteristics (e.g. noise). (medium priority)

Comments:

This new proposal is an innovative, experimental approach to directly examining the effect of turbulence on fish. The proponent has access to a unique engineering facility (in Massachusetts) through which they propose to construct a test apparatus and test the biological response of fish to varying levels of turbulence. The proposal indicates that construction and testing will be completed within one year and that the test apparatus will be modular for transport. Initial biological tests would not involve Pacific salmonids but the apparatus could be moved if species specific differences are observed. However, the reviewers identified several concerns about the proposal.

The proponent does not provide a convincing case that turbulence is likely the main, or even a major, cause of mortality, relative to other possible explanations. Other potential sources of injury/mortality should be identified and discussed. The scientific design is not sufficiently described to allow full evaluation, and the proposed activities are not clearly aligned to achieve the objectives. The measurables and monitoring plan are not identified in sufficient detail to fully evaluate. Many critical components (e.g. design of equipment that will be used to assess swim performance of fish) are not described in sufficient detail. The method, which will be used to determine the effects of turbulence on susceptibility to predation, is not described. The proposal does not explain how one of the most important effects of turbulence (duration of exposure) will be examined. No details are provided concerning the numbers of sizes of fish that might be used in proposed experiments.

It is questionable that all the proposed objectives can actually be accomplished in one year. Objective 1, – assess state-of-the-art in turbulence studies – should have been

carried out prior to proposal submission. Typically, one assumes that a PI is aware of the current state-of-the-art in his or her specialized field.

Some concern was expressed about the use of species other than Pacific salmonids, but these comparisons could be undertaken later if the apparatus and methods proved informative. The specific species that would be examined in East Coast settings would not include Pacific salmon. Instead, the author proposes use of eels, American shad and blueback herring that would surely be of much less interest to BPA. Essentially no references are provided.

If this project is supported by BPA, then it is recommended that only the first two phases be funded initially (in depth literature review and report, and detailed design of the test apparatus and overall experimental design). Additional funding should not be provided for construction or testing of the test equipment until the above are completed and fully evaluated.

In support of the proposal, the lead PI seems to possess relevant credentials to carry out such research (see 1997 "Reviews in Fisheries Science" article). If he were to actively collaborate with a Pacific salmon biologist, he might carry out some interesting and useful research. No such effort at collaboration is evident in their proposal. This is an important area to research, however, the proposed costs appear very high relative to the deliverables.

RANK: 27

ProjectID: 9502700

Collect Data On White Sturgeon Above Grand Coulee Dam

Spokane Tribe of Indians; Funding Request: 342,086

Subbasin: Upper Columbia Mainstem; Project Type: Research

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Agree

Program Measure: Section 10.4A including subsections 10.4A.1, 10.4A.2, 10.4A.6, 10.4A.9: Sections 2.2G, 2.2G.1; Target Species: White Sturgeon

Short Description: Three year base-line assessment of white sturgeon in Lake Roosevelt from Grand Coulee Dam to the Canadian border, and the Spokane River arm. Special emphasis will be placed on defining recruitment potential and factors currently limiting recruitment.

Rank Comments:

The ISRP found this proposal to provide a strong case for conservation of this strain of white sturgeon stock. Presently, there is no or very little knowledge of the biological and physical factors which is essential for formulating a biologically sound restoration program.

June 15 ISRP Recommendation:

Fund for one year; future funding contingent on reporting of results to date. Include in an overall programmatic review of white sturgeon work in the entire Columbia River basin.

Comments:

This proposal is for assessment of white sturgeon in Lake Roosevelt. The reviewers found this proposal to be very persuasive. A strong case is made for conservation of this

strain of white sturgeon stock. Continued viability of the white sturgeon population above Grand Coulee Dam is tenuous. Presently, we have no or very little knowledge of the biological and physical factors affecting white sturgeon abundance, population dynamics of the white sturgeon, and when and where they may spawn. All of this information is essential for formulating a biologically sound restoration program. This project proposes to obtain the above information in a scientifically sound manner. The project is tied to restoration and recovery and not strictly enhancement of a native species. The information provided points up the need for quick action if this native species is to be saved from continuing decline and possible local extinction. Although this is given as an existing project, the study has not started and is essentially a new project proposal. This needs clarification.

Taken as a new proposal, this is a good one that warrants funding. The proposal relates the work to the FWP and the Upper Columbia Blocked Area Mgmt. Plan. The objectives and tasks are clear. Costs are shared with the British Columbia Ministry of Environment. The work is linked to other Lake Roosevelt work, and to other white sturgeon work in the Basin. The lack of a project history and accomplishments suggests that this is a mislabeled project and should be considered new. There are good long-term objectives and tasks, methods related to them, and apparently good facilities and equipment for doing the work. The relationship of this project to others is clear. The methods to be employed are thoroughly explained and related to objectives. The budgetary request appears justified, with clearly documented expenditure categories. It is needed work and seems to be a good plan for doing it. However, taken as an existing project from 1995, a different perspective needs to be given. What has been going on since 1995? No results are provided. There is no way to judge this project on its productivity since apparently being funded. Compared to last year's proposal, this one presents better information on methods, but it should be broken into tasks with times attached.

RANK: 28

ProjectID: 9202409

Enhance Conser. Enforcement For Fish & Wildlife, Watersheds Of The Nez Perce

Nez Perce Tribal Fisheries/Conservation Enforcement; Funding Request: 425,236

Subbasin: Clearwater; Project Type: O&M

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 1; ISRP Comparison with CBFWA: Agree-fund

Program Measure: 8.5 c2; Target Species: Anadromous Fish (Salmon, Steelhead, etc.), Resident Fish, and Wildlife.

Short Description: Increase law enforcement (LE) protection of fish, wildlife, their critical habitats and other essential natural resources within watersheds managed by the Tribe. The LE program will be coordinated with all other resource enhancement projects of the NPT.

Rank Comments:

In general there is a biological context for law enforcement and ISRP notes that a certain level of law enforcement is necessary. Law enforcement is a mix of scientific and social issues that is difficult for the ISRP to review. On a purely scientific basis the ISRP ranks this proposal in the low middle of the set of 42.

June 15 ISRP Recommendation:

Fund for one year. Subsequent funding contingent on more complete background information on the magnitude of the illegal harvest problem and the expected benefits to fish and wildlife.

Comments:

This is a proposal for support of enforcement of fisheries and related habitat regulations on the Nez Perce reservation, in the amount of about \$400k per year. This proposal cannot be evaluated in the same manner as a study proposal. There is a scientific basis for law enforcement and protection of returning adults, particularly from weak stocks. However, the proposal would benefit from more complete background information on the magnitude of the illegal harvest problem and the expected benefits to fish and wildlife.

RANK: 29

ProjectID: 20014

Evaluate Songbird Use Of Riparian Areas During Fall Migration

Department of Biological Sciences, University of Idaho; Funding Request: 32,760

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: ; Target Species: Neotropical migratory songbirds, and North American migratory songbirds.

Short Description: Evaluate songbird use of native (Willow-dominated) and non-native (Russian-olive dominated) riparian areas as fall migration stopover areas in the Mid-Columbia River Basin.

Rank Comments:

This is valid well-structured research that studies the link between riparian areas and songbirds. The results of the study could have systemwide application on the management of native (Willow-dominated) and non-native (Russian-olive dominated) riparian areas in the basin.

June 15 ISRP Recommendation:

Fund (innovative for the FWP, medium priority)

Comments:

This proposal requests funding for a fourth and final year of a project to assess the influence of riparian vegetation on migratory songbird use. It proposes to continue monitoring and evaluating songbird utilization and insect prey availability in native and non-native vegetation. Six study sites in Mid-Columbia River riparian areas are designated. During fall migration songbirds, insects and riparian vegetation will all be measured for species richness and abundance. This is a straightforward proposal that responds to the ISRP recommendation for more research on wildlife related activities. It has limited scope and is well written with clear measurable objectives, methods and rationale. Sources of bias and lack of precision in net sampling gear are adequately explored. The budget is modest.

However, the proposal has some shortcomings that need correction. The sample size may be too small to detect small differences in species richness or abundance. Statistical methods appear to be inappropriate for the type of data collected. We recommend that statistical advice be sought. The focus on songbirds may neglect other species, such as North American migratory species, that might have opposing preferences for tree species. How will this work contribute to establishing management goals for exotic tree species if

actions favoring songbirds are detrimental to other native bird species? Interactions between bird abundance and insect abundance have not been properly addressed. The description of insect investigations does not acknowledge the “standing crop” problem, where low abundance of insects could be due to consumption by songbirds. Further, the lack of hypotheses regarding which orders of insects are preferred by songbirds leads to the opposite problem where high abundance of insects may not necessarily mean good forage base for the songbirds, but rather that the songbirds have an aversion to the kinds of insects captured. Possible interactions between bird and insect abundance need to be considered.

The specific benefits of the project are unclear because the authors do not identify the NPPC Program measures, which this project addresses, nor do they identify any other planning document to establish its utility to wildlife programs in the basin. But when used in conjunction with information on other species of birds and preferences of songbirds for insect species as food, the project could provide useful management information for future riparian restoration efforts. For example, results from this study could provide information on the practice of eliminating non-native Russian Olives that many FWP restoration activities pursue.

RANK: 29

ProjectID: 20156

Identification Of Redband And Rainbow Trout In The N F Clearwater Basin

Nez Perce Tribe; Funding Request: 110,925

Subbasin: Clearwater; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: ; Target Species:

Short Description: We are proposing a 12 month genetic study to identify if native wild redband trout exist in the North Fork Clearwater basin, and determine if introgression from hatchery rainbow threatens native redband and cutthroat trout in the basin.

Rank Comments:

This important study would identify if native wild redband trout exist in the North Fork Clearwater basin, and determine if whether rainbow trout have introgressed into redband populations.

June 15 ISRP Recommendation:

Fund

Comments:

This project is intended to show whether redband trout exist in the North Fork Clearwater River basin, and to determine whether rainbow trout have introgressed into redband populations. It is of interest to know whether redband trout exist in the basin; however, if redbands are present, introgression is likely. In any case, knowledge that their gene pool now includes rainbow trout genes is of little utility primarily because there is no reasonable way to regain their original genetic structure. The best to be done now, is to stop stocking exotic rainbow trout. If a decision is made to continue stocking Dworshak Reservoir with trout, the brood stock should be from the native fishes. The project may

have some potential benefit to the extent that remnant native populations can be identified, and the project should focus more on tasks related to this objective.

RANK: 29

ProjectID: 9601900

Second Tier Database Support For Ecosystem Focus

Bonneville Power Administration; Funding Request: 180,000

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund
Program Measure: 3.2G, 5.0F.5; Target Species: Anadromous and resident fishes of the Columbia-Snake River Basin

Short Description: Implement certain non-discretionary actions to provide single-point, Internet-based access to a subset of information to guide and support BPA's independent decisions pertaining to its responsibilities under the Power Act and Endangered Species Act.

Rank Comments:

This project provides useful coordination for the integration and delivery of information. However, there continues to be potential for duplication of effort with other information service projects.

June 15 ISRP Recommendation:

Fund for one year. Subsequent funding contingent on a programmatic information management review as recommended in the ISRP's FY99 report. Evaluate the possibility of combining the data processing functions of the Fish Passage Center, PITAGIS (direct data), Streamnet, and DART.

Comments:

This proposal is to provide monitoring and evaluation by integrating and delivering information from several separate data centers funded by the Fish and Wildlife Program. Data sources are polled through the Internet for subsets of data that are integrated into the database DART.

The ISRP made the following comments in FY99: "The proposal does not clarify why the problems in the primary database are not fixed instead of adding a second tier (this proposal). There is little explanation of how the second tier is done. Objectives are not the same in the table and the text. The work is not so much collaborative as competitive, but all this is laid out and stated in terms of the need to cooperate. The project seems to be the result of frustration with other projects not doing what was expected."

The FY00 proposal explicitly addresses issues raised in the FY99 ISRP review. The relation of this project to the Fish and Wildlife Program is clear. The project provides useful coordination for the integration and delivery of information in what seems like an appropriate use of technology. But because tensions between various data programs are obviously still present, it is not clear how the appropriate coordination will be accomplished if the project depends on the cooperation of primary data sources. In addition, there continues to be duplication of effort with other information service projects. Strategies for quality control and assessment of impact should be strengthened. In FY99, the ISRP recommended an information management review. This proposal

suggests that a review would be beneficial and would help contribute to the solution of some of the regional information management problems.

RANK: 32

ProjectID: 20033

Rehabilitate instream and riparian habitat on the Similkameen and Okanogan

U.S. Fish and Wildlife Service; Funding Request: 484,902

Subbasin: Okanogan; Project Type: Impl/Const

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: 7.6, 7.7, 7.9, and 7.10; Target Species: Species that will be affected include chinook (*Oncorhynchus tshawytscha*), steelhead (*Oncorhynchus mykiss*), and sockeye (*Oncorhynchus nerka*) salmon as well as resident species.

Short Description: Rehabilitate and enhance 6 miles of in-stream and riparian habitat along the Okanogan and Similkameen river channels adjacent to Driscoll Island. This will enhance spawning habitat for adult anadromous salmonids and improve the rearing and resting habitat.

Rank Comments:

In general the ISRP was supportive of the proposal's primary goals to improve instream and riparian habitat around Driscoll Island, which offers the potential for broad benefits to fish and wildlife.

June 15 ISRP Recommendation:

Fund (medium priority), but cost per mile is very high and vulnerability of project to anthropogenic and natural disturbances has not been adequately considered.

Comments:

The proposal's primary goals are to improve instream and riparian habitat improvement around Driscoll Island, which offers the potential for broad benefits to fish and wildlife. River channels around Driscoll Island provide migration corridors, spawning areas, and rearing habitat for summer chinook, and summer steelhead, as well as migration corridors for sockeye salmon. Bull trout may be present. The project has a clear relationship to overall goals for anadromous fishes in the Okanogan River, although they could have better described potential benefits in the context of the entire Okanogan subbasin.

The proposed activities are focused on improvements in water temperature (primary limiting factor), riparian vegetation, streambank stability, and habitat complexity are anticipated. Sources of LWD are lacking. The proposal calls for investing about \$300,000 per mile over the life of the project to improve 6 miles of river and riparian zone in a very large watershed. There has been no effort to quantify the potential benefits to fish populations that would derive from enhancing this limited stream reach at very high cost. Proposed activities include Rosgen habitat survey, restoration plan development, and rehabilitation of 6-7 miles of river corridor. Reviewers were concerned that the proposal did not describe the potential for passive restoration methods. Rather, the proposal seems to assume that expensive bioengineering as the solution for habitat improvement. A large portion of project costs is for bridge construction for permanent access to the island (ca. 84%). What are project restoration costs relative to bridge construction costs? Are there alternatives to a bridge? The bridge offers some benefits such as improved access for public education opportunities such as the planned interpretive trail, but there are also potential negative impacts associated with public

access. Monitoring is included. The proposal leaves several important questions unanswered. Specific stream condition information for the project area is lacking. Soils in the area are highly erodible and the area is subject to high flood events. Will problems remaining in upstream watersheds contribute to flooding and erosion that will be detrimental to project? If it has been highly impacted in the past, they should provide assurances that the restoration activities will not be impacted by the same factors that contributed to the degradation of the site.

RANK: 32

ProjectID: 20063

Evaluate Effects Of Catch And Release Angling On White Sturgeon

U.S. Geological Survey, Columbia River Research Laboratory, Idaho Department of Fish and Game;
Funding Request: 271,486

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund in Part; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund in part
Program Measure: 10.1, 10.4A.4; Target Species: White sturgeon (*Acipenser transmontanus*)

Short Description: Use physiological telemetry to monitor metabolic activity, determine energetic costs and assess stressful effects of catch and release angling on white sturgeon.

Rank Comments:

Overall, the panel viewed the catch and release portion of the project favorably – so long as it were conducted at an alternative location (e.g., below Bonneville) where there are more fish.

June 15 ISRP Recommendation:

Fund in part (catch and release portion only). Do not fund the laboratory components (Category 1b).

Comments:

This proposal would evaluate the effects of catch and release angling on the stress physiology, reproductive physiology, and mortality of white sturgeon in laboratory and field studies. The field component would use physiological telemetry techniques, based on “sonic or radio tags” surgically implanted. The laboratory phase of the research would develop relationships between physiological stress variables (measured in a swimming respirometer) with variables telemetered in the natural setting. Assessment of catch and release mortality of white sturgeon has apparently not been assessed and needs examination. Reviewers were concerned that the study design focuses on evaluation of physiological indicators of stresses in the lab and then (somehow) would extrapolate that to survival of fish under natural conditions. A few fish would be caught in the field, returned to the lab for tag implantation and then released apparently to monitor hooking effects. The panel felt that radiotracking could yield useful data on possible stress and mortality, but it would make much more sense to do this in location (say below Bonneville) where fish are more easily obtained. The physiology component, on the other hand, was much less favorably received. In particular, the proposed procedure to administer stressors to captive fish in the laboratory seems inappropriate (and would incur major logistic problems). Overall, the panel viewed the catch and release portion of the project favorably – so long as it were conducted at an alternative location (e.g., below Bonneville) where there are more fish. The information to be acquired from such a study

could be highly useful in the regulatory environment, and in particular, for determining the extent to which controls on the recreational fishery are desirable or necessary.

This is a new proposal, for a project of duration five years. The proposal does not indicate a time line, so the panel was able to infer relative levels of effort only from the budget information, which seems to suggest that most of the laboratory and field work would be conducted in years 1-3. Given this limited information, it was not possible for the panel to determine whether the level of effort is appropriate.

RANK: 34

ProjectID: 20029

Electronic Columbia Basin Fish & Wildlife Research Report

Intermountain Communications; Funding Request: 56,600

Subbasin: Systemwide; Project Type: Research

ISRP Rec.: Fund; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: 1.2A, 3.3A, 3.3C; Target Species: Columbia Basin fish and wildlife

Short Description: Deliver by email to policymakers, stakeholders, media, and the public a monthly electronic newsletter offering summary information about research and research-related activities relevant to Columbia Basin fish and wildlife restoration efforts.

Rank Comments:

The ISRP judge that if the report provides at least summaries of the scientific reports submitted to BPA it would provide a valuable service to the Basin.

June 15 ISRP Recommendation:

Fund for one year to see how well it works. If the report did nothing more than provide summaries of the scientific reports submitted to BPA it would provide a valuable service.

Comments:

This proposal is very much like the watershed newsletter proposal (20027) and suffers from the same weaknesses. As with 20027, an assessment of the demand for the service and a discussion of methods that will be used to assess its impact are necessary. The programmatic need is not clear. Does a monthly newsletter provide timely information to policymakers? Will it duplicate other efforts? This proposed research report covers a much larger subject area than the watershed council newsletter, so it would be helpful to have more detail on how it would be done. How will information be prioritized? What quality control will be employed? Again, the ISRP considers the products produced by the proposer to be very high quality and useful, but in this proposal it is not clear exactly what the Council is being asked to fund.

RANK: 34

ProjectID: 20052

Strategies To Limit Disease Effects On Estuarine Survival

Oregon State University, National Marine Fisheries Service; Funding Request: 334,178

Subbasin: Mainstem; Project Type: Research

ISRP Rec.: Fund in Part; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Disagree-fund in part

Program Measure: 7.2 Improve Existing Hatchery Production (7.2D.4 - Improve Fish Health), 7.4H

Reintroduction of Anadromous Fish in the Upper Cowlitz River Basin,; Target Species: Spring chinook salmon (*Oncorhynchus tshawytscha*)

Short Description: Determine the impact of pathogens on fish survival in the estuary and examine fish rearing, release, and treatment strategies for decreasing pathogen effects.

Rank Comments:

The panel judged that the proposed laboratory studies could provide important information concerning the role of disease in early marine survival and the potential for controlling these effects in hatchery fish.

June 15 ISRP Recommendation:

Fund in part. Fund objective 2 and proceed with objective 3 pending results from 2. Do not fund objective 1 (45% of budget) due to the uncertainty in interpretation of results.

Comments:

This proposal identifies three significant pathogens in the Columbia Basin and will investigate the effect of these pathogens on the ability of spring chinook to adapt to the marine environment. Smolts will be sampled in the lower river before entry to the estuary and from an estuarine location to examine the incidence of these pathogens. The potential effect of each pathogen will be examined in laboratory conditions so that infections and challenge conditions can be controlled and results observed directly. The investigators will also examine the effectiveness of vaccines and immunostimulants for decreasing pathogen effects in the estuary. The laboratory studies could provide important information concerning the role of disease in early marine survival and the potential for controlling these effects in hatchery fish.

Experimental design appears adequate in most respects with one major exception noted by each reviewer. Samples collected in the river and in the estuary seem to be of little comparative value since a change in pathogen incidence may be due to sampling a different stock of fish, or it may reflect progression of the infection or death of the infected fish. How would observations from these samples be associated with the laboratory component of this project?

More information on the extent of research and results from previous work of this kind would have been useful. Linkages to other BPA/FWP projects and priorities are listed but not described in sufficient detail to evaluate actual interaction or importance. Although this is submitted as a “new” proposal, clearly a considerable amount of similar work has been done previously in freshwater. Insufficient information about this previous work is provided in some areas. This is needed to fully evaluate the importance and potential utility of the new work that is now proposed.

In summary, the question to be addressed is of programmatic value. Due to the uncertainty of the interpretation, the fieldwork aspect of the proposal is considered weak. The lab work is supportable. Each reviewer noted the discrepancy between the uncertainty of the field portion of the work (objective 1) and the much more controlled laboratory components, with the latter being much more likely to provide information of value to the FWP.

RANK: 34

ProjectID: 20071

Restore Crab Lake And Adjacent Reaches Of Crab Creek.

Ducks Unlimited, Inc.; Funding Request: 365,000

Subbasin: Crab; Project Type: Impl/Const

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: 11.3E.1; Target Species: This project will restore important habitat for many species of waterfowl, shorebirds, neo-tropical migrants and wading birds. Resident fish species will benefit from wetland, riparian and in-stream restoration activities.

Short Description: Restore Crab Lake and adjacent reaches of Crab Creek. Crab Lake was drained and Crab Creek altered for agricultural purposes early this century. This project will restore historic habitat conditions.

Rank Comments:

Granted that there was not a clear connection between this project and the Fish and Wildlife Program, the approach to restore historic habitat conditions appears good.

June 15 ISRP Recommendation:

Fund for one year (low-medium priority). Subsequent funding contingent on addressing ISRP comments. The project was not preceded by a watershed assessment, and there was some question whether the activities would enhance native or non-native fishes.

Comments:

There was not a clear connection between this project and the Fish and Wildlife Program. They have not justified the priority of the project in terms of the watershed; e.g. the project has not been preceded by a watershed assessment. How will this project benefit the ecosystem? The approach to restore historic habitat conditions appears good.

However, the project area is so dominated by non-native species such as carp that benefits to native fishes will likely be limited. It seems possible that non-native species could benefit as much as native fishes. They claim the project will enhance native fishes but the target species are not identified. There is very little mention of monitoring. The project does have a good cost share element.

Sponsor Funding Request Withdrawn

ProjectID: 9700300

Box Canyon Watershed Project

Kalispel Tribe of Indians - Kalispel Natural Resource Department; Funding Request: 70,256

Subbasin: Lower Pend Oreille; Project Type: Impl/Const

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund, but not high priority

Program Measure: 10.8B.15; Target Species: By restoring and preserving native habitat, the project aims to benefit all native species present, and may encourage re-establishment of native species not currently present

Short Description: Utilizing a cost-share approach with public and private resource managers, BCWMP prioritizes and implements protection and enhancement of upland areas in a target watershed.

Rank Comments:

This well-written proposal references the FWP measure and both the tribal management plan and the CBFWA Resident Fish Caucus Multi-Year plan. The work is oriented toward habitat restoration in the upper watershed to compliment work in the downstream waters.

June 15 ISRP Recommendation:

Fund for one year (medium priority). Subsequent funding contingent on a better description of the watershed plan and monitoring methods.

Comments:

This project is basically a re-evaluation of conditions in the upper watershed of Cee Cee Ah Creek in terms of presently degraded fish habitat, identification of land management activities most significantly contributing to this degradation, and implementation of remedial actions to improve the habitat for westslope cutthroat trout and bull trout. This project appears to be taking a watershed approach to rehabilitating native salmonid habitat, which is desirable.

The assessment approach seems reasonable, but the enhancement and monitoring approaches are vague. The former mainly reflects the fact that specific actions cannot be proposed until after the assessment. The latter, however, can be stated more precisely at this point, so this is a flaw of the proposal. Another problem is the long-term viability of the salmonid populations in this isolated headwater area. At this point the team recommends funding the watershed assessment portion, but would hold off on funding rehabilitation projects and monitoring until these are more concretely stated.

The proposal is well written. It references the FWP measure and both the tribal management plan and the CBFWA Resident Fish Caucus Multi-Year plan. It lists four related projects. The work is oriented toward habitat restoration in the upper watershed to compliment work in the downstream waters.

Accomplishments in 1997-98 have been good, and the project received an award in 1998. There are good objectives and tasks. The plan is to cover one tributary watershed to Box Canyon Reservoir at a time, starting with Cee Cee Ah Creek. There is excellent cost sharing (half again) plus other cooperating organizations. One wonders if this might have been a USDA Forest Service project instead of BPA, because so much of the land is already FS. There is a good abstract. The background gives good information on the relationship of this project to the broader Kalispel Resident Fish Project. There is a good, structured approach to the proposed work. Methods are a bit vague, though. Facilities seem fine. This is a great project for a small amount of money.

As the ISRP commented in its FY99 review (page 67), the description of methods and monitoring continues to lack needed detail, but the project takes a broad perspective and is well connected to other efforts in the watershed.

Owyhee Subbasin Proposals

ProjectID: 20040

Develop A Fish & Wildlife Management Plan For The Owyhee Basin, D.V.I.R.

Shoshone-Paiute Tribes of the Duck Valley Indian Reservation; Funding Request: 22,411

Subbasin: Owyhee; Project Type: Planning
ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund
Program Measure: Section (§) 2.1; §2.1A.1 ; §2.2A ; §2.2E6; §2.2F1; §2.2H; §7.1B; §7.1C; §8.5C; §10.1;
§10.1A; §10.1E; §10.1E1; §10.2; §10.2A.2; §10.2B; §10.3E9; §10.5; §10.5B; §10.5B1; §10.5B2; §10.8C
(all); §11.1; §11.2D; §11.3A; §11.3C; §11.3G; §11.5; §11.5A.; Target Species: Redband trout; bull trout;
introduced trout species (e.g., rainbow, cutthroat, brook) for put and take fisheries; other resident fish
species comprising the native community; anadromous salmonids (reintroduction/off-site mitigation).
Short Description: Develop a long-term fish & wildlife strategic plan for the Owyhee Basin, including an
annual Shoshone-Paiute implementation plan -- needed to provide an adaptive management framework for
all fish, wildlife, and watershed restoration efforts on the DVIR.

Rank Comments:

June 15 ISRP Recommendation:

Fund for one year during which time the detailed project plan can be developed.
Subsequent year funding contingent on a scientifically sound plan.

Comments:

This proposal suggests a large effort for a very small budget. It contains information on the “vision” and conceptual basis of a management plan for the D.V.I.R., but lacks detail on the specific objectives and tasks associated with developing such a plan. The proposed work needs to be much more specific and systematic about the steps of plan development. Who will do it? How will objectives be identified? What evaluation criteria are possible? How will stakeholders participate in plan development? How will it be reviewed? What groups will be involved in implementation, revision, and enforcement? How will they be coordinated? What other consultations will be conducted? This proposal has the same deficiencies noted for the previous proposal (20536), but the plan to proceed with a year of detailed project planning is justified as of value to fish and wildlife.

ProjectID: 20041

Develop A Fish & Wildlife Conservation Law Enforcement Plan, D.V.I.R.

Shoshone-Paiute Tribes of the Duck Valley Indian Reservation; Funding Request: 40,872
Subbasin: Owyhee; Project Type: O&M
ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund
Program Measure: Primary: section (§) 8.5C; other related measures include § 2.1; § 2.1A1; § 2.2A; § 2.2H; § 7.1B; § 7.10K1; § 10.1; 10.1E.; Target Species: Redband trout; bull trout; introduced trout species (e.g., rainbow, cutthroat, brook) for put and take fisheries; other resident fish species comprising the native community; anadromous salmonids (reintroduction/off-site mitigation).
Short Description: Evaluate existing fish & wildlife law enforcement efforts on the DVIR and develop a plan to maximizing the effectiveness of the Shoshone-Paiute Tribes’ natural resource protection; the goal is integrate enforcement with holistic resource management.

Rank Comments:

This proposal offers an innovative approach to link law enforcement with biological monitoring.

June 15 ISRP Recommendation:

Fund for one year during which time the detailed project plan can be developed.
Subsequent year funding contingent on a scientifically sound plan.

Comments:

This proposal gives an innovative vision for and approach to integration of law enforcement into a field monitoring program. The focus is on the interception end of enforcement and many details remain to be developed, but the idea has potential value to

fish and wildlife. Some justification is given for enhancing natural resource protection for the Duck Valley Indian Reservation, but many details are lacking and it is unclear how this will be accomplished. Reviewers noted several elements that should be considered in development of a more detailed plan: What about also evaluating penalties or incentives for compliance? How will effectiveness be measured? Details are needed on how the plan will be developed. What criteria for success of tribal rangers will be used? The proposal needs some more systematic thinking about measurable objectives and the ability to evaluate success in meeting those objectives. How valid is the creel survey methodology that has been proposed? There are no literature citations to suggest that the proposed method is valid. How will it be evaluated?

ProjectID: 20092

Inventory Wildlife Species & Populations Of The Owyhee Basin, D.V.I.R

Shoshone-Paiute Tribes of the Duck Valley Indian Reservation; Funding Request: 185,985

Subbasin: Owyhee; Project Type: Research

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: Section (§) 2.1; § 2.1A; § 2.1A1; § 2.2A; § 2.2H; § 2.2E6; § 11.1; § 11.2D; § 11.3A; § 11.3C; § 11.3G; § 11.5; § 11.5A;; Target Species: All terrestrial wildlife species (i.e., birds, mammals, reptiles, amphibians) of the Owyhee Basin, DVIR component -- with an emphasis on ecologically sensitive & utilized species

Short Description: Conduct an inventory of all wildlife species present, abundance estimates of bird & mammal populations, and quantification of habitat units on the Duck Valley Indian Reservation -- based on a systematic survey & statistically sound sampling design.

June 15 ISRP Recommendation:

Fund for one year during which time the detailed project plan can be developed.

Subsequent year funding contingent on a scientifically sound plan.

Comments:

This proposal is relevant to the management and protection of native species, and is compatible with the goals of the Fish and Wildlife program. It is difficult to evaluate the project design, since that is one of the expected outcomes, and more information is needed on how progress will be evaluated. It is unclear how the inventory will be incorporated into a wildlife mitigation plan. The proposal has a good plan to standardize sampling, establish a baseline, and anticipate future monitoring. Work should address development of strong sampling and monitoring protocols, as well as methods for linking survey and inventory work with long-term management plans.

ProjectID: 20094

Assess Resident Fish Stocks Of The Owyhee Basin, D.V.I.R.

Shoshone-Paiute Tribes of the Duck Valley Indian Reservation; Funding Request: 220,799

Subbasin: Owyhee; Project Type: Research

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 2; ISRP Comparison with CBFWA: Agree-fund (Tier 1?)

Note: CBFWA did not recommend funding so ISRP disagrees with Tier 2.

Program Measure: Section (§) 2.1A.1 ; §2.2A ; §2.2H; §7.1B; §7.1C; §10.1; §10.1A; §10.1E; §10.1E1; §10.2; §10.2A.2; §10.5; §10.5B; §10.5B1; §10.5B2; §10.8C.2; Target Species: Native redband trout and bull trout; introduced trout species (e.g., rainbow, cutthroat, brook); other resident resident species comprising the native community.

Short Description: Conduct a systematic resident fish species inventory & stock assessment in the Owyhee River Basin, DVIR component. Design a sampling strategy and protocol to evaluate the genetic composition / introgression of native trout populations on the DVIR.

June 15 ISRP Recommendation:

Fund for one year during which time the detailed project plan can be developed.

Subsequent year funding contingent on a scientifically sound plan.

Comments:

This proposal will provide important information on the distribution and abundance of native potamodromous fishes in the Duck Valley Indian Reservation portion of the Owyhee River basin. Information should be collected on all native fishes, not just salmonids. It would be useful to use sampling and assessment methods that are comparable with those used by state agencies, so results can be integrated basin-wide.

ProjectID: 20093

Evaluate The Feasibility For Anadromous Fish Reintroduction In The Owyhee

Shoshone-Paiute Tribes of the Duck Valley Indian Reservation; Funding Request: 56,851

Subbasin: Owyhee; Project Type: Planning

ISRP Rec.: Fund for 1 YR; CBFWA Tier.: 3; ISRP Comparison with CBFWA: Disagree-fund

Program Measure: Section (§) 2.1; §2.1A.1 ; §2.2A ; §2.2E6; §2.2F1; §2.2H; §7.10K; §10.1E; §10.8C; and, § 11.5A.; Target Species: Anadromous salmon and steelhead (reintroduction and/or off-site mitigation).

Short Description: Evaluate the feasibility of reintroducing anadromous salmon and steelhead into the Upper Snake River and Owyhee River Basin – above the Hells Canyon Complex – and develop alternatives for utilization of anadromous fishes by the Shoshone-Paiute Tribe.

June 15 ISRP Recommendation:

Fund for one year to develop details of the project. Subsequent funding contingent on proposals that better evaluate and address the many likely barriers to reintroduction of anadromous fishes, and should give far more detail on alternatives to be evaluated, criteria for their evaluation (costs and benefits), etc.

Comments:

This is an interesting proposal that demonstrates creative and innovative thinking. The proposal is justified to take advantage of a window of opportunity. However, the proposal doesn't emphasize evaluation (assess costs and benefits of actions, and evaluate tradeoffs between them). Rather, it suggests the proposers have a desired solution in mind. If a window of opportunity is really limited to the FERC licensing time period, perhaps work could be done to improve this approach, developing a plan to locate, explore, and evaluate alternatives. There are likely many problems in reestablishing anadromous fishes above the dams, including many aspects of water quality and land use. More information will be needed concerning project monitoring and evaluation of unwanted side-effects for any specific actions involving reintroduction of fishes.