Northwest Power and Conservation Council

August 2, 2007

DECISION MEMORANDUM

TO: Fish and Wildlife Committee Members

FROM: Council staff

SUBJECT: Draft innovative project funding recommendations

PROPOSED ACTION: Fish and Wildlife Committee recommendation for Fiscal Year 2008 and 2009 funding for innovative projects

SIGNIFICANCE: The Council reserved funding in its Fiscal Year 2007-2009 Fish and Wildlife Project recommendations for Innovative projects. A project review and selection process for this funding is nearing completion and a F&W Committee recommendation is requested at the August meeting.

BUDGETARY/ECONOMIC IMPACTS
The funding available for this action is $2,000,000 total for Fiscal Year 2008 and 2009, per Bonneville's decision for Fiscal Year 2007-2009.

BACKGROUND
The Council and Bonneville Power Administration (Bonneville) jointly invited the public to submit innovative fish and wildlife project proposals to be considered for funding by the Bonneville during Fiscal Years 2007-09.

This solicitation for innovative project proposals is part of the on-going effort by the Council and Bonneville to implement the Council's *Columbia River Basin Fish and Wildlife Program* under the Northwest Power Act. The Council, in its project funding recommendations to Bonneville for Fiscal Years 2007-09, recommended that Bonneville reserve a portion of its available funds for an innovative project solicitation. The Council did so in large part in response to a recommendation from the Council's Independent Scientific Review Panel (ISRP). The purpose of seeking out innovative projects is to improve knowledge, encourage creative thinking, and provide an opportunity for sponsors to submit proposals that focus on testing new methods and technologies designed to directly benefit fish and wildlife in the Columbia River Basin. Bonneville has agreed to make available up to $2,000,000 to fund innovative projects during

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these fiscal years. The solicitation letter and accompanying materials can be found at http://www.nwcouncil.org/fw/budget/innovate/Default.asp.

The Council's and Bonneville's Fiscal Year 2007-09 innovative proposal solicitation specified the following criteria for innovative projects. An innovative project should:

- offer a method or technology designed to directly benefit fish and wildlife, that (1) has not previously been used in Columbia River Basin fish and wildlife projects or (2) if used before in other projects, has not been used in the proposed application
- be an innovative on-the-ground "demonstration" or "pilot" project with a focus on testing or demonstrating new methods or technologies
- if successful, contribute to direct improvements in the survival or productivity of Columbia River fish or wildlife species such as investigations of basic biological and physical phenomenon are not targeted with this solicitation
- be consistent with the Council's Program
- address key management questions or limiting factors identified in the Program's subbasin plans or mainstem amendments
- feasibly be complete within 18 months, including one year to implement the work and six months to complete reports and other deliverables as appropriate
- meet the ISRP's review criteria in Section 4(h)(10)(D) of the Northwest Power Act

ANALYSIS

Fifty-nine proposals were submitted for the Fiscal Year 2007-2009 innovative proposal solicitation, requesting about $16 million. A total of $2 million is available to spend. This section will discuss the nine proposals that the ISRP identified as meeting the innovative criteria and the other information used by staff to develop alternative funding scenarios. The alternatives are presented in the section of this memo.

The ISRP found that nine proposals substantially met the solicitation criteria; were innovative; were on-the-ground, described scientifically sound techniques and offered potential benefits to fish and wildlife. Five of the nine proposals were found by the ISRP to stand out as proposals that are high priority (A1 and A2) and four of the nine (B1-B4) were found to offer potentially valuable contributions to the Fish and Wildlife Program but did not stand out for their innovation nor demonstrate as strong a potential to provide significant benefits as those in the first group. The ISRP report can be found in its entirety at http://www.nwcouncil.org/library/isrp/isrp2007-9.htm. Staff considered these nine proposals fundable and used these as our base for consideration of alternatives. The staff also considered public comment and environmental planning information from Bonneville to develop the alternatives. Staff asked Bonneville to give a preliminary indication of what environmental planning work would be necessary for the nine projects and for a rough approximation of the timeline required to perform that work. Innovative projects in particular, have had problems meeting performance schedules in the past. Often, problems with environmental planning and permitting have been a factor in this lack of ability to meet performance schedules, which is why the solicitation letter included the following language:

> A project sponsor must also demonstrate that it is feasible to complete the proposed project within 18 months, including one year to implement the work and six months

to complete reports and other deliverables as appropriate. Project sponsors should communicate their readiness to begin work (for example, are necessary permits in place?) as well as their capacity to complete work on schedule. No innovative project will be considered complete until the project sponsor submits to Bonneville a final report that includes results, findings, and conclusions.

ISRP rank, public comment, and preliminary environmental planning information is summarized for the nine project proposals below. The Bonneville Power Administration provided generally supportive comments on all proposals in the top two groups of proposals as prioritized by the ISRP and indicated a willingness to fund proposals that meet the "on-the-ground" criteria. Bonneville also provided a preliminary in lieu analysis for the three highest ranked categories of proposals. Bonneville noted that the in lieu ratings represent an early "flag" of potential concerns that may need to be addressed in the future should the project sponsor subsequently submit the proposal in a future Council solicitation review process for full implementation in with regular Bonneville funding.

The US Fish and Wildlife Service (USFWS) commented on a number of proposals using a ranking system of "Urgent, high priority, recommended action and do not fund". All proposals for which the USFWS provided comments received either a high priority or recommended action rank. All other comments focused on specific project proposals, and these are summarized below.

Public comments were received for proposals that fell outside the ISRP top two categories of proposals. Those comments are not addressed here. All public comments received can be found at: http://www.nwcouncil.org/library/isrp/isrp2007-9comments.htm.

Project 200752100, Improving Fish Habitat Using Innovative Strategies to Remediate Contaminated Sediments in the Columbia River Basin. The ISRP ranked this project as one of the two highest ranking projects (A1). The sponsor commented that they were pleased with the results of the ISRP review. The USFWS noted that while the project is worthwhile and unique in addressing an important issue, the direct benefits to bull trout are somewhat unclear. But the USFWS stated that the funding request is reasonable and the project should be considered for funding, ranking it as a "recommended action." Preliminary information from Bonneville regarding environmental planning indicated that because bull trout are present in the St. Joe River, a section 7 consultation would be needed, but it would probably be a fairly short process, taking about 2-3 months to complete.

Project 200752400, Integrated Non-Lethal Barrier and Sonar System to Deter Marine Mammal Predation on Fish in the Columbia River System: A Demonstration Project: This is the other top-ranked proposal by the ISRP (A1). Many public comments were received for this proposal. Comments of support were sent by Washington Representatives Jim Moeller and Bill Fromhold, Carol Clark of the NW Steelheader's, Tony Meyer of the Lower Columbia Fish Enhancement Group, and the sponsor Smith-Root Inc. The sponsor sent a packet of information that included additional technical information from Jim Cave of the Pacific Salmon Commission, and letters of support from Brian Baird (Member of Congress, Washington), Washington State Representative Deb Wallace, Deb Marriot of the Lower Columbia River Estuary Partnership, Norman Richie and Mads Ledet of the Northwest Steelheaders, John DiVittorio of Fish First, Dr. Keith Jefferts

of Northwest Marine Technology, Inc., Richard Kennon of the Native Fish Society, Don MacDonald of the Sustainable Fisheries Foundation, Brent Grening of the Port of Ridgefield, Dennis Ward of the Clark-Skamania Flyfishers. These comments were in support of the proposal and highlighted concerns about the recent marine mammal predation issues at Bonneville Dam and the belief that the work proposed for this project could be effective. Chris Beggs, with Fisheries and Oceans -Canada commented that they worked with Smith Root on a study in the Courtenay River to test a similar system on wild seals. The comments noted promise in excluding seals for established predation areas and expressed support for this proposal.

The USFWS ranked the proposal as a "recommended action," noting that the proposal is very expensive and would consume the bulk of the available funding, and that the project needs to evaluate the potential effects to lamprey behavior. A letter from the Columbia River Inter-tribal Fisheries Commission did not support the proposal. The Commission agreed that finding innovative solutions to sea lion predation is worthy of Council and Bonneville support, but criticized the proposal as very expensive and presenting unacceptable risks to Pacific lamprey and other non-target species. The Commission suggested that more investigation should be done on these concerns prior to field tests. The comments noted that controlled tests have been performed on seals, but not on California sea lions, yet sea lions are the least responsive to conventional hazing. The limited testing with harbors seals by the sponsor is insufficient to demonstrate a general response by pinnipeds. The comments further noted that sea lions are known to be very motivated and tenacious predators. The Commission comments that controlled tests should be performed to investigate the reaction of California sea lions to the electrical field when reward/food are presented. Bonneville commented that if successful, this project would directly benefit returning adult salmon of all upriver ESU's and non-listed fish. But Bonneville also noted that the proposal needs to be evaluated for acoustic discrimination capability; the possibility of deleterious effects on lamprey, salmon and sturgeon; and the feasibility of creating an impervious barrier in a river with changing flows and debris. Bonneville further noted that coordination with the Corps of Engineers and NOAA Fisheries is essential and that the best benefit may be achieved if the project is implemented further downriver, close to Astoria. Preliminary environmental planning information from Bonneville indicates that implementation of this project could be complicated. Implementation will require a section 7 consultation for potential impacts to listed fish and permission under the Marine Mammal Protection Act for potential impacts to sea lions. This planning work would likely take a minimum of 6 months and potentially longer.

Project 2007-513-00, Eelgrass Enhancement and Restoration in the Columbia River Estuary through innovative site selection and planting techniques. The ISRP ranked this project in the top five proposals (A2). The USFWS ranked the proposal as a high priority, noting that the proposal could benefit a wide variety of fish and wildlife in a relatively inexpensive manner. According to preliminary environmental planning information from Bonneville, eelgrass habitat is critical habitat under ESA for some species and is "essential" habitat under the Magnuson-Stevens Act. The planning work for this project would probably require section 7 consultation and would probably require 4-6 months to complete.

Project 2007-516-00, Enhancing summer instream flow and reducing temperature in Agricultural watersheds. This proposal was also ranked in the top five projects by the ISRP (A2). The

USFWS ranked this proposal as a high priority and called for its funding, noting that it could prove useful in the management of instream flow, directly benefiting numerous listed species. According to preliminary environmental planning information from Bonneville, little environmental planning would be necessary, so no additional time is likely needed for this step.

2007-557-00, What is old is new again: evaluate traditional gears for selective harvest. The ISRP ranked this proposal in the top five projects (A2). Two comments suggested this proposal is flawed. One, from river historian Irene Martin, stated that the proposal author used Irene's name inappropriately in support of the project and commented that the proposal contains errors of fact, a lack of comprehension of river conditions that will affect performance of the gear, and a lack of analysis of serious social issues associated with the proposal. She asked that her name be removed from the proposal. Salmon For All commented that the proposal is seriously flawed due to technical errors and due to erroneous claims of coordination with a local fishery group. The USFWS noted that although the proposal could provide useful information, the overall cost of the project does not fit with the projected benefits. The USFWS also noted that the funding could be used instead to benefit more on-the-ground restoration activities. Contrarily, the Hatchery Scientific Review Group supported moving forward with this type of work and urged the Council and Bonneville to support funding this proposal. The proposal sponsor, Washington Department of Fish and Wildlife (WDFW) also commented and noted that they are aware of concerns expressed by fishery representatives. They stand by the importance of the proposal in advancing the selective fishing concept, and remain interested in implementing the proposal. However WDFW also agreed on the need to more closely coordinate with the industry and fishery managers, stating an intent to meet with fishery managers and the Columbia Commercial Advisory Group beginning this fall. According to preliminary environmental planning information from Bonneville, testing new gear would be a direct take of listed species; however using commercial fishermen to test the gear within a commercial fishery would avoid the need for Bonneville to seek special permits, as the fishery managers regulating the fishery itself seek the necessary permits.

2007-535-00, Physical and biological field testing of a flow velocity enhancement system (FVES). This ISRP ranked this proposal first in the *second* group of prioritized proposals (B1). All comments on this proposal were in support of funding, including comments from the Kootenai Tribe of Idaho, the Montana Department of Fish, Wildlife and Parks, and Montana Trout Unlimited and Tacoma Power. The USFWS ranked the proposal as a recommended action, noting that it may provide opportunity to decrease smolt residence time in reservoirs. The USFWS also noted that the proposal could be strengthened by a more comprehensive assessment of physical habitat conditions especially relative to profiles of variables when the FVES system is operating and when it is not. Preliminary environmental planning information from Bonneville indicated a need for a section 7 consultation, as the device will be tested on smolts. The planning could take 4-6 months, probably less if it is determined that the action is not likely to adversely affect listed species.

2007-526-00, Lake oxygenation pilot study: Improving redband trout habitat quality in Twin Lakes, Wa. This ISRP ranked this proposal second in the second set of prioritized proposals (B2). Comments were received from the Confederated Tribes of the Colville Reservation (Colville Tribe) and from the sponsor, Washington State University. Both comments supported the proposal. The Colville Tribes offered strong support and encouragement for funding.

WDFW commented to address a few ISRP project-specific comments. Preliminary environmental planning information from Bonneville indicates that there are no listed fish in the project vicinity, but cultural resource work may be required at the site of construction of a storage facility. This work could take 3-6 months to perform.

2007-518-00, Evaluation of artificial upwelling to enhance lower Columbia River Gorge chum salmon spawning. This ISRP ranked this proposal third in the second set of prioritized proposals. The USFWS commented that the proposal could provide opportunities to increase availability of spawning habitat, and that the proposal could be strengthened by further evaluation of infrastructure reliability to provide water consistently to upwelling areas. The USFWS ranked this proposal as a recommended action. Bonneville's preliminary environmental planning information indicated that a section 7 consultation would likely be required, and that the possibility of adverse impacts could make the planning process longer. In addition, cultural resource work would be needed for piping and other tasks. The planning is work would take about 6 months to perform. Note: the project sponsor acknowledged in the proposal the need to perform these planning tasks, and factored time for this into the proposal performance schedule.

2007-542-00, Shad for Nutrient enhancement -- Demonstration of fishery supply, disease evaluation, product type and potential use. The ISRP ranked this proposal fourth in the second set of prioritized proposals, although the ISRP's review comments stated that "no proposed location or experimental design is given so it was difficult to classify as on-the-ground." The ISRP report also indicated a need for more details about this proposal before it could be funded. The proposal does not report where the sponsor will obtain the shad, where they will place the shad nor does it describe the experimental design. WDFW, the project sponsor, commented to these ISRP concerns and indicated that this information would be developed after being given an indication that the Council will fund the proposal. The USFWS ranked the proposal as a high priority, noting that shad would be an abundant source of nutrients and an innovative way to address nutrient problems. The USFWS also noted that implementation and effectiveness monitoring would be an important part of the project, to identify short term problems and assess results. Bonneville noted that this work is a shared responsibility with other partners and that it is similar in scope to previous innovative nutrient enhancement projects, although using shad as the nutrient source is different. According to Bonneville's preliminary environmental planning information, this proposal does not have any environmental planning requirements as the sponsor does not propose to actually out-plant the shad nutrients into a stream environment.

ALTERNATIVES

Staff used the results of the ISRP review as an initial basis to consider projects to fund.

The comments and information described above factor into the following funding alternatives. The alternatives provided here are illustrative of the trade-offs present in this funding category. Options include funding only a few of the highest ranking proposals, in that one of the highest ranking proposals has a relatively high cost and if funded would not allow for most of the other highly ranked proposals to be funded. Conversely, if the one highly ranked yet very costly proposal were not funded, most of the remaining highly ranked proposals could be funded.

Alternative 1: Fund proposals ranked in the highest category by the ISRP:

Proposal number	Proposal Title	FY 2008-09 Funding
2007-521-00	Improving Fish Habitat Using Innovative Strategies to Remediate Contaminated Sediments in the Columbia River Basin	$185,112
2007-524-00	Integrated Non-Lethal Electric Barrier and Sonar System to Deter Marine Mammal Predation on Fish in the Columbia River System: A Demonstration Project	$1,440,483

This alternative totals $1,625,595 of the available $2,000,000. $374,405 remains and could be used to fund another project within the A and B category. Funding proposal 200752400 (Non-Lethal Electric Barrier and Sonar System to Deter Marine Mammal Predation) carries a risk that if the project is unable to obtain the necessary permits in a timely fashion, it may not be able to meet the criteria of completing all deliverables within 18 months.

The Council may want to consider an alternative route for this proposal, through the within-year process as a new project to be funded from the regular Fish and Wildlife Program budget. Implementation through the regular program does not carry the 18 month implementation criteria and could provide better implementation flexibility to address technical concerns about non-target species, effectiveness of the array to deter California sea lions and permitting. Funding this project through the regular Fish and Wildlife Program budget could also allow funding for several other innovative proposals that ranked well with the ISRP, but which would not otherwise be funded given the budget constraints (see alternative 2).

Alternative 2: Fund six innovative proposals from the A and B categories, excluding the proposals that have significant controversy or implementation challenges.

Proposal number	Proposal Title	FY 2008-09 Funding
2007-521-00	Improving Fish Habitat Using Innovative Strategies to Remediate Contaminated Sediments in the Columbia River Basin	$185,112
2007-513-00	Eelgrass enhancement and restoration in the Columbia River Estuary through innovative site selection and planting techniques	$252,794
2007-516-00	Enhancing Summer Instream Flow and Reducing Temperature in Agricultural Watersheds	$224,766
2007-53500	Physical and Biological Field Testing of a Flow Velocity Enhancement System (FVES)	$318,310
2007-526-00	Lake oxygenation pilot study: Improving Redband Trout habitat quality in Twin Lakes, WA	$271,634
2007-518-00	Evaluation of artificial upwelling to enhance lower Columbia River Gorge chum salmon spawning	$173,590

This alternative recognizes that there are technical concerns about impacts to non-target species and implementation timeframes for proposal 200752400 (Non-Lethal Electric Barrier and Sonar System to Deter Marine Mammal Predation) and concerns about proposal 200755700 (Evaluate

traditional gears for selective harvest). These concerns are summarized above. This alternative prioritizes funding for six remaining proposals in the A and B group for a total of $1,426,206. This leaves a remaining amount of $573,794 that could be used to fund either a portion of the electric barrier to deter marine mammal predation proposal (phase-in or seek cost share for remainder) or to fund the selective harvest proposal if the Council is inclined. If the former, work would need to occur with the sponsor to determine a viable work plan for the reduced amount of funding. It may be of interest to the Council and Bonneville to approach the Corps and NOAA about funding a portion of the proposal, since the Proposed Action indicated that addressing marine mammal predation at the mainstem dams is primarily a Corps responsibility. Or, it may be of interest to the Council to consider funding the selective harvest proposal and provide the sponsor an opportunity to revise the proposal to address the concerns received during the public comment period. This could result in some budget reduction for the proposal.

This alternative does not fund proposal 200754200 (Shad for Nutrient Enhancement). Staff believes that this proposal did not demonstrate that it meets the intent of the "on-the-ground" criteria associated with the solicitation. The ISRP noted that the proposal has trouble meeting the on-the-ground criteria as the proposal does not propose to use the shad nutrient in streams, just to research the possible techniques and test for pathology problems.

Alternative 3: This Alternative funds at least a portion of all proposals in the "A" category.

Proposal number	Proposal Title	FY 2008-09 Funding
2007-521-00	Improving Fish Habitat Using Innovative Strategies to Remediate Contaminated Sediments in the Columbia River Basin	$185,112
2007-524-00	Integrated Non-Lethal Electric Barrier and Sonar System to Deter Marine Mammal Predation on Fish in the Columbia River System: A Demonstration Project	To Be Determined ($892,357 available)
2007-513-00	Eelgrass enhancement and restoration in the Columbia River Estuary through innovative site selection and planting techniques	$252,794
2007-513-00	Eelgrass enhancement and restoration in the Columbia River Estuary through innovative site selection and planting techniques	$252,794
2007-516-00	Enhancing Summer Instream Flow and Reducing Temperature in Agricultural Watersheds	$224,766

This alternative focuses on funding at least a portion of all "A" group proposals. In order to do so, the funding level for one proposal, the funding for Electric Barrier and Sonar System to Deter Marine Mammal Predation is reduced from a total of $1.4 million to $892,357. Work would need to occur with the sponsor to determine a viable work plan for the reduced amount of funding.

ATTACHMENTS

Excel file of proposals and alternatives

Proposal#	Title	ISRP Priority	Sponsor	Total Funding Request	FY08 request	FY09 request	Alternative 1	Alternative 2	Alternative 3	Comment
200752100	Improving Fish Habitat Using Innovative Strategies to Remediate Contaminated Sediments in the Columbia River Basin	A1	Washington State University	$185,112	$55,534.00	$129,578.00	$185,112	$185,112	$185,112	
200752400	Integrated Non-Lethal Electric Barrier and Sonar System to Deter Marine Mammal Predation on Fish in the Columbia River System: A Demonstration Project	A1	Smith-Root, Inc	$1,440,483	$615,690.64	$824,791.98	$1,440,483		?	$892,357 potentially available
200751300	Eelgrass enhancement and restoration in the Columbia River Estuary through innovative site selection and planting techniques	A2	Pacific Northwest National Laboratory	$252,794	$180,394.00	$72,400.00		$252,794	$252,794	
200751600	Enhancing Summer Instream Flow and Reducing Temperature in Agricultural Watersheds	A2	Washington State University	$224,766	$151,264.00	$73,502.00		$224,766	$224,766	
200755700	What was old is new again: evaluate traditional gears for selective harvest	A2	Washington Department of Fish and Wildlife	$444,971	$333,728.30	$111,242.70			$444,971	
	Total Request Top Five Ranked Proposals			**$2,548,126**						
200753500	Physical and Biological Field Testing of a Flow Velocity Enhancement System (FVES)	B1	Natural Solutions	$318,310	$318,310.00	$0.00		$318,310		
200752600	Lake oxygention pilot study: Improving Redband Trout habitat quality in Twin Lakes, WA	B2	Washington State University	$271,634	$217,990.00	$53,644.00		$271,634		
200751800	Evaluation of artificial upwelling to enhance lower Columbia River Gorge chum salmon spawning	B3	Pacific Northwest National Laboratory	$173,590	$109,369.00	$64,221.00		$173,590		
200754200	Shad for Nutrient Enhancement -- Demonstration of Fishery Supply, Disease Evaluation, Product Type and Potential Use	B4	Washington Department of Fish and Wildlife	$163,400	$96,526.00	$66,874.00				*Project does not clearly meet the on-the-ground criteria.
	Total Request Proposals Ranked Five through Nine			**$926,934**			$1,625,595	$1,426,206	$1,107,643	
	Dollars remaining to $2,000,000						$374,405	$573,794	$892,357	
200753800	Predicting the future effects of climate-induced stream warming on spring Chinook salmon and their predators in the John Day River Basin	R1	University of Washington	$214,959	$161,802.00	$53,157.00				
200755400	Using advanced technologies to help reduce the impacts of global warming on anadromous and resident fish populations in the Columbia Basin	R2	US Forest Service - Rocky Mt Research Station	$294,302	$187,466.00	$106,836.00				

Proposal#	Title	ISRP Priority	Sponsor	Total Funding Request	FY08 request	FY09 request	Alternative 1	Alternative 2	Alternative 3	Comment
200750800	Designing Pre- and Post-Fire Restoration Strategies For Recovery of Salmonid Habitats in a Period of Climate Change and Increased Forest Fire Disturbance	R3	Earth Systems Institute	$88,300	$38,500.00	$49,800.00				
200750200	Application of Innovative Acoustic Telemetry Technology to Underpin Statistically-Valid Survival Estimates for Chinook Salmon in the Nearshore Ocean Off the Mouth of the Columbia River	R4	Pacific Northwest National Laboratory	$532,680	$447,928.00	$84,752.00				
200751100	DNA typing to identify native inland Oncorhynchus mykiss	R5	Washington State University	$217,364	$128,705.00	$88,659.00				
	Total Request Ranked Research-oriented Proposals			**$1,347,605**						
200750000	A New Aging Technique For Lake Trout and Northern Pikeminnow Using Allometric Relationships Between Fish Size and Otolith Mass	Unranked	University of Montana	$115,240	$86,644.00	$28,596.00				
200750100	Adapting tree-ring techniques to reconstruct stream environmental histories from the growth increments of long-lived freshwater mussels	Unranked	Oregon State University	$73,502	$51,405.00	$22,097.00				
200750300	Assessment of Functional Biological Differences Between Natural and Hatchery-Raised Redfish Lake Sockeye Salmon	Unranked	University of Idaho - Aquaculture Research Institute	$199,751	$199,751.00	$0.00				
200750400	Automated Scale Image Analysis (ASIA)	Unranked	Biopar, LLC	$198,250	$153,250.00	$45,000.00				
200750500	Catching Predator fish with commercial traps	Unranked	Gulf Vessel Management Inc.	$400,000	$200,000.00	$200,000.00				
200750600	Chiwawa River Adult Spring Chinook Otolith Study	Unranked	Wild Fish Conservancy (formerly Washington Trout)	$47,913	$11,592.00	$36,321.00				
200750700	Crumble-Crete Habitat Revegetation and Stability Blocks - Development of degradable bank protection/reveg block to provide temporary stability during recovery of natural bank-stabilizing vegetation.	Unranked	WDFW and CRITFC	$27,738	$25,498.00	$2,240.00				
200750900	Develop structure for implementing and maintaining a Master Sample of rivers and streams in the Columbia Basin, and develop statistical tools for analyzing Master Sample applications.	Unranked	Oregon State University	$386,806	$188,777.00	$198,029.00				

Proposal#	Title	ISRP Priority	Sponsor	Total Funding Request	FY08 request	FY09 request	Alternative 1	Alternative 2	Alternative 3	Comment
200751000	Development of a Low-cost Dual-Frequency Acoustic Tracking Capability for Ocean & Freshwater Components of the POST Tracking Array	Unranked	Kintama Research	$330,199	$330,199.10	$0.00				
200751200	Documentation of food-web linkages in the mainstem Columbia River: towards understanding the role of invasive species and establishing a baseline trophic state	Unranked	US Geological Survey - Cook	$337,374	$232,228.00	$105,146.00				
200751400	Effectiveness monitoring of in-stream habitat restoration using tools from population ecology	Unranked	US Forest Service - Pacific Northwest Research Station	$193,624	$96,811.75	$96,811.75				
200751500	Elemental analysis of fin spines: A potential tool for assessing movement of white sturgeon (Acipenser transmontanus) within the Lower and Mid-Columbia River basin	Unranked	Oregon Department of Fish & Wildlife	$42,122	$42,122.00	$0.00				
200751700	Estimating abundance of white sturgeon by using visual strip-transects; an alternative to mark-recapture population estimates	Unranked	US Geological Survey - Cook	$590,925	$344,027.00	$246,898.00				
200751900	Feasibility of using a computerized video system to estimate lamprey passage at Bonneville Dam	Unranked	Columbia River Inter-Tribal Fish Commission	$93,532	$53,797.00	$39,735.00				
200752000	Genetic Predisposition of Smoltification in Rainbow Trout and Steelhead	Unranked	Columbia River Inter-Tribal Fish Commission	$89,978	$44,837.00	$45,141.00				
200752200	Innovative Fish Sample Gear for Reducing Stress and Mortality in the Catch and Increasing Efficiency in Monitoring the Effectiveness of Dike Removal Projects	Unranked	Columbia River Estuary Study Taskforce	$7,838	$6,731.00	$1,107.00				
200752300	Innovative methods to quantify transport of hydrophilic and legacy pesticides to the riparian zones within the Yakima Basin	Unranked	U.S. Geological Survey-Washington Water Science Center	$216,909	$143,528.00	$73,381.03				
200752500	Integrating Ecological Flows into River Management on the Willamette River	Unranked	Nature Conservancy	$64,150	$52,537.50	$11,612.50				
200752700	Lake Roosevelt Littoral Habitat Enhancement Project	Unranked	Colville Confederated Tribes	$574,112	$293,806.00	$280,306.00				
200752800	Little McCormick Creek: Investigating Placer Mine Impacts to Streamflow Connectivity and Developing New Restoration Techniques	Unranked	Trout Unlimited	$96,800	$45,500.00	$51,300.00				
200752900	Loss of salmon and steelhead productivity due to barriers in the Lower Columbia River ESU	Unranked	Washington Department of Fish and Wildlife	$158,326	$101,250.00	$57,076.00				

Proposal#	Title	ISRP Priority	Sponsor	Total Funding Request	FY08 request	FY09 request	Alternative 1	Alternative 2	Alternative 3	Comment
200753000	MADS Weir Demonstration Project in Walla Walla Subbasin (MADS - Modular Arch Drop Structure)	Unranked	Steward and Associates (in conjunction with the Walla Walla County Soil and Water Conservation District)	$118,750	$103,050.00	$15,700.00				
200753100	Microbial Assessment of Thermal Impacts of Dworshak Reservoir Releases	Unranked	Washington State University	$165,473	$108,368.00	$57,105.00				
200753200	Molalla-Pudding Sub basin Assessment; utilizing the new EPA Watershed Assessment of the River Stability and Sediment Supply(WARSSS)procedural methods to increase anadromous fish survivability	Unranked	Molalla River Watch	$271,222	$166,217.00	$105,005.00				
200753300	Monitoring fine sediment delivery to fish habitat in the Entiat River subbasin	Unranked	PNW Research Station -- Wenatchee	$295,000	$220,550.00	$74,450.00				
200753400	Performance comparison of a stationary PIT tag antenna array in Lookingglass Creek, Oregon	Unranked	Confederated Tribes of the Umatilla Indian Reservation	$47,829	$31,733.00	$16,096.00				
200753600	Piloting StreamBank™ Web Tool and permitting efficiencies to achieve Middle Fork John Day River Channel Reactivation and Floodplain Restoration.	Unranked	Oregon Trout	$354,941	$327,742.00	$27,199.00				
200753700	Population specific in-season forecasts of Columbia River Chinook salmon (Oncorhynchus tshawytscha) returns for allowing selective in-river fisheries	Unranked	Columbia River Inter-Tribal Fish Commission	$99,762	$66,508.00	$33,254.00				
200753900	Promote Kokanee Repopulation in Lake Pend Orielle using Autonomous Underwater Vehicles (AUVs) for Location and Verification of Lake Trout Spawning Areas.	Unranked	University of Idaho - Microelectronics Research & Communications Institute (MRCI)	$400,177	$363,476.00	$36,701.00				
200754000	Quantitative Assessment Sampling for Pacific Lamprey in Cedar Creek (Lewis River Subbasin), Washington	Unranked	US Fish & Wildlife Service	$140,000	$95,127.00	$44,873.00				
200754100	Reecer Creek Floodplain Restoration Project to support ecosystem function using build-in-the dry and 3 yrs revegetation to encourage channel dynamics, habitat formation and natural sediment management	Unranked	South Central Washington Resource Conservation and Development	$428,307	$400,307.00	$28,000.00				

Proposal#	Title	ISRP Priority	Sponsor	Total Funding Request	FY08 request	FY09 request	Alternative 1	Alternative 2	Alternative 3	Comment
200754300	Simmons Dike Removal feasability study	Unranked	Umatilla Basin Watershed Council	$43,000	$39,800.00	$3,200.00				
200754400	Spawning Channel for Chum Salmon at Beaver Creek Hatchery	Unranked	Washington Department of Fish and Wildlife	$398,000	$372,500.00	$25,500.00				
200754500	Stock specific run timing and upstream migration mortality of adult Chinook salmon and steelhead through genetic stock identification and PIT tagging at Bonneville Dam	Unranked	Columbia River Inter-Tribal Fish Commission	$123,150	$101,534.00	$21,616.00				
200754600	Test of protocols and validation of estimates derived with traditional and new methods for steelhead adults, smolts, and parr using an instream PIT-tag interrogation system	Unranked	US Geological Survey - Cook	$236,785	$155,853.00	$80,932.00				
200754700	The Natural Tag - TNT	Unranked	Biopar, LLC	$229,288	$170,238.33	$59,049.67				
200754800	The use of cDNA microarrays to develop biomarkers of environmental stress in salmonids and other fishes	Unranked	US Geological Survey - Cook	$572,352	$284,065.00	$288,287.00				
200754900	Toppenish Creek Well Modification Project	Unranked	Yakama Nation	$351,423	$337,821.00	$13,603.00				
200755000	Toxics as a limiting factor for salmon recovery throughout the Columbia River Basin: understanding the enhanced toxicity of pesticide mixtures	Unranked	Northwest Fisheries Science Center	$199,244	$162,493.00	$36,751.00				
200755100	Use of a novel technique to compare of Pre- and Post-migratory energy storage and use in upriver coho salmon: How much change can can occur with intense selective pressure.	Unranked	Yakama Nation	$49,245	$29,011.79	$20,232.84				
200755200	Use of LA-ICPMS and fin ray microchemistry to examine historic and present movement patterns in Upper Columbia River white sturgeon	Unranked	Ministry of Environment	$75,525	$54,900.00	$20,625.00				
200755300	Using acoustic telemetry to evaluate the behavior, habitat use, and survival of tagged juvenile salmonids in the John Day Reservoir	Unranked	US Geological Survey - Cook	$977,335	$844,848.00	$132,487.00				
200755500	Using otolith microchemistry and microstructure to assess the causes and consequences of alternative life history strategies for Snake River fall Chinook	Unranked	Northwest Fisheries Science Center	$573,252	$295,787.00	$277,465.00				
200755600	Water Stargrass Demonstration and Management in the lower Yakima River for Spawning Habitat, Water Quality and Beneficial Uses (WiSDoM)	Unranked	Benton Conservation District	$372,450	$314,570.00	$57,880.00				

Proposal#	Title	ISRP Priority	Sponsor	Total Funding Request	FY08 request	FY09 request	Alternative 1	Alternative 2	Alternative 3	Comment
200755800	Willamette Mitigation	Unranked	The Nature Conservancy	$277,644	$187,558.07	$90,086.26				
	Total Request Proposals Ranked Five through Nine			**$11,045,243**						
	Total Request All Proposals			**$15,867,908**						