

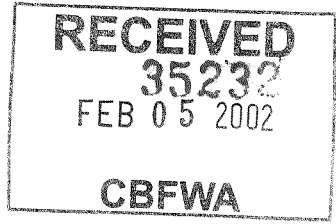
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UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
525 NE Oregon Street  
PORTLAND, OREGON 97232-2737

F/NWR5

February 1, 2002



Doug Marker  
Director of Fish and Wildlife  
Northwest Power Planning Council  
851 SW Sixth Avenue, Suite 1000  
Portland, OR 97204-1348

RE: NMFS' Comments on Blue Mountain and Mountain Snake Proposals

Dear <sup>Doug</sup>Mr. Marker:

This letter transmits the results of the National Marine Fisheries Service's (NMFS) evaluation of proposals submitted under the Blue Mountain (Enclosure 1) and Mountain Snake (Enclosure 2) solicitations noticed by the Bonneville Power Administration (BPA). By copy of this letter, we are also providing these evaluations to BPA, the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the Columbia Basin Fish and Wildlife Authority (CBFWA).

All anadromous fish proposals have been reviewed by NMFS. In addition, NMFS staff participated in sub-regional meetings and in the CBFWA process to evaluate and rate proposals. The CBFWA consensus recommendation provided to the Northwest Power Planning Council (Council) on November 30, 2001, considers our technical evaluations of the proposals and our input regarding priorities, based on CBFWA's criteria. At that time we also identified the associated Reasonable and Prudent Alternative (RPA) Action number(s) from the December 21, 2000, Federal Columbia River Power System (FCRPS) Biological Opinion that the proposal addressed, if any. Further consideration since the CBFWA review has resulted in refinement in the assignment of RPA Action numbers for some proposals. Therefore, RPA Action numbers will vary slightly from those identified in the earlier CBFWA submission. Additionally, the overall determination of whether the proposed project is a possible candidate for the FCRPS Action Agencies' offsite mitigation program ("BIOP" determination) changed for a few projects.

The attached spreadsheets (sorted by project number) address five parameters: the RPA Action number(s) associated with the project; the evolutionarily significant unit(s) (ESU) affected; a statement of potential biological benefit to the ESU; whether or not the activity is already required by another Endangered Species Act document; whether the project is potentially "creditable" as offsite mitigation under the 2000 FCRPS Biological Opinion; and our comments on the proposal. Enclosure 3 provides an explanation of acronyms and criteria associated with these parameters.



In many cases, NMFS staff reviewing these proposals had difficulty in determining the specific targeted biological benefit expected from implementation of the project, particularly some of the habitat projects. For example, it was often difficult to determine the anticipated effect of project implementation on habitat requirements of target species and which life stage was intended to benefit. Further, while most of the projects demonstrate a high likelihood of success in achieving the desired outcome, the significance of that achievement to improvements in terms of species survival or productivity is not clearly expressed. We recommend that in future solicitations, BPA and the Council emphasize the importance of a clear statement of biological benefits and, if possible, that it be related to limiting factors, risk assessments, or other available information regarding target species and associated habitat. NMFS appreciates that this is neither appropriate nor possible in all cases due to critical uncertainties, insufficient data, or other causes. However, we believe that review and evaluation would be facilitated by a clear characterization of desired or expected response of the species to the intended habitat changes.

This letter addresses only the suite of proposals that were submitted for funding in the Blue Mountain and Mountain Snake provinces. The scope of submitted projects may not be sufficient to address all of the RPA Actions that apply to these provinces. To the extent that we identify any gaps in the range of proposed projects, they will be addressed in subsequent correspondence to BPA, the Council, and others. We anticipate preparing our "gaps" letter within the Council's comment period for the Blue Mountain and Mountain Snake provinces.

NMFS appreciates the opportunity to provide this information and facilitate coordination between implementation of the Columbia River Fish and Wildlife Program and the 2000 FCRPS Biological Opinion. If you have further questions regarding our review of these proposals, please contact John Palensky of my staff.

Sincerely,



Brian J. Brown  
Assistant Regional Administrator  
Hydro Program

Enclosures

cc: Sarah McNary, BPA  
Doug Arndt, COE  
Ron McKown, BOR  
Bill Shake, USFWS  
Jann Eckman, CBFWA✓

**National Marine Fisheries Service Review of Blue Mountain Province Project Proposals**  
(Sorted by project number)

**Enclosure 1**

<b>Project Number</b>	<b>Title</b>	<b>RPA Action Items</b>	<b>ESU(s) Affected</b>	<b>Statement of Potential Biological Benefit to ESU</b>	<b>Already ESA Req?</b>	<b>Biop?</b>	<b>Comments</b>
27001	Asotin County Riparian Buffer and Couse and Tenmile Creeks Protection and Implementation Project	400, (153)	SR SH, SR SSCH, SR FCH	Project will implement riparian buffer systems using cost share provided by USDA, WCC and SFRB, and private landowners. Buffers will restore and protect salmonid habitats, which should improve survival. Project also proposes to implement upland BMPs and improve instream habitat in watersheds that drain to the Snake River.	No	Yes	Project will implement RPA 153 if permanent or long term (> 15 years) easement is secured. Easement should be consistent with Oregon CREP. This project needs to be implemented consistent with limiting factors & problem locations identified in subbasin summaries & and eventually subbasin planning to ensure fisheries benefits to target species. Proposed in stream restoration activities emphasize hard engineering as opposed to emphasizing natural channel formation -- course migration damped by riparian vegetation.
27002	Assess Salmonids in the Asotin Creek Watershed	180	SR SH, SR SSCH	Benefits are indirect. Monitoring of adults and juveniles will provide some information about the status of salmonids in Asotin Creek.	No	Yes	Better description of how decision to supplement steelhead will be made, and what role monitoring data will play in that decision is needed. Genetic studies poorly defined.
27003	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Blue	0					
27004	Grande Ronde and Imnaha Stream Channel Complexity and Fish Passage Barrier Inventory, Prioritization and Remediation	154	SR SH, SR SSCH	Benefits are indirect. Project is to complete an inventory of channel simplification of the Grande Ronde and Imnaha stream channels and inventory each fish passage barrier in each basin. Data are intended to be used to develop restoration priorities and early implementation.	No	Yes	Proposal provides little detail on methods to be used, especially in development of a prioritization strategy. What are the criteria for prioritization? What M&E work will be done & what methods will be used?
27005	Increase CREP Enrollment and Enhance Riparian Protections in the Grande Ronde and Imnaha basins	400, (153)	SR SH, SR SSCH	Benefits are indirect. Project is to increase enrollment in the CREP Program and improve the program to add permanent protection to restored riparian areas.	No	Yes	This project is the same as project #25099 in the Columbia Plateau Province. Project will implement RPA 153 if permanent or long term (>15 years) easement is secured. Easement should be consistent with Oregon CREP. This project needs to be implemented consistent with limiting factors & problem locations identified in subbasin summaries & and eventually subbasin planning to ensure fisheries benefits to target species. Project proposes to increase riparian restoration implementation & develop tools for long-term protection of restored areas, but doesn't specify rationale for the program being proposed or how what is being proposed will be implemented.

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Project Number	Title	RPA Action Items	ESU(s) Affected	Statement of Potential Biological Benefit to ESU	Already ESA Req?	Biop?	Comments
27006	Establishing Baseline Key Ecological Functions of Fish and Wildlife for Subbasin Planning	0			No	Yes	
27007	Assessment of spring/summer chinook salmon habitat within the Grande Ronde Subbasin.	183	SR SSCH	Benefits are indirect. Project would evaluate and compare attributes of streams utilized and not utilized by chinook salmon within the subbasin. Evaluated habitat characteristics would describe low gradient stream segments which foster chinook salmon production.	No	Yes	This project #27007 has been merged with project #28005 in the Mountain Snake Province. The main project goal is to test the null hypothesis that there are no significant differences between habitat utilized & not utilized by chinook. The alternative hypothesis is that there are significant differences. Suggest that the project proponents 'better' link the extensive habitat database on this subject to evaluating present population status info for chinook populations as part of this proposal.
27008	Grande Ronde River Riparian Restoration	400	SR SH, SR SSCH, SR FCH	Increase juvenile and adult survival by restoring riparian and native vegetation along the Wallowa and Grande Ronde Rivers to reduce sedimentation and improve riparian and instream habitat.	No	Yes	Proposal is to perform riparian restoration on land acquired by the BLM in 1993. Why request for BPA funding instead of BLM funding? M&E program is not in place and most monitoring methods listed lack adequate detail. It is not clear whether monitoring includes any attempt to evaluate the effectiveness of active measures on fish populations versus that of simple protection of land and allowance of passive restoration.
27009	SSHIAP - Blue Mountain Province	154	SR SH, SR SSCH, SR FCH	Benefits are indirect. Proposal is for construction of a georeferenced database on stream habitat and salmonids.	No	Yes	This project # 27009 is the same as project # 25097 in the Columbia Plateau Province. The Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP) will provide routed and segmented hydrolayer, and collate and synthesize data on 19 aquatic habitat variables over an estimated 10,000 miles of streams in 2 salmon-bearing subbasins in the WA portion of the Blue Mountain Province. This would update and enhance some datalayers that could be useful to subbasin and watershed assessments. What is the benefit of the work to fish?
27010	Snake River Hells Canyon Tributary Enhancements	154	SR SH, SR SSCH	Future survival improvements might result from actions taken as a result of comprehensive planning. Project proposes to develop a comprehensive restoration plan for Snake River tributaries in the Idaho portion of the Snake Hells Canyon subbasin, and then implement actions which protect and enhance those tributaries.	No	Yes	Proposal was very generic with no detail on how the objectives would be accomplished. How much would the restoration efforts in the proposed area increase overall Snake River production?

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**Enclosure 1**

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27011	Lookingglass Creek land purchase for watershed protection (spawning and rearing habitat continuity and water quality at Lookingglass Hatchery).	150	SR SH, SR SSCH	Project is to purchase an identified parcel of land along 2.5 miles of Lookingglass Creek for the purpose of riparian protection, which should at least maintain current survival rates in that reach.	No	Yes	Proposal technical background is brief. What is scientific justification for specified purchase, is fish habitat a limiting factor to restoration of natural production in Lookingglass Creek? Although the objective of the proposal is to protect and improve water quality and provide habitat continuity between private and federally-owned land, no methods are described as to how the objective will be accomplished.
27012	Restore and Enhance Grande Ronde Valley Deciduous Riparian Habitat	400, (153)	SR SH, SR SSCH	Possible survival improvements if habitat modifications have intended effects. Proposal is to establish cooperative arrangements with Grande Ronde riparian owners to set up long-term easements for protection and enhancement of riparian habitat. Active restoration would include riparian fencing, vegetation plantings, and re-connecting existing oxbows with the active river channel.	No	Yes	No info provided on how habitat will be restored once easements are signed. Also, no discussion of coordination/collaboration or how proposed restoration activities would benefit fish. Project will implement Action 153 if permanent or long term (> 15 years) easement is secured. Easement should be consistent with Oregon
27013	Grande Ronde River Stream Restoration - La Grande, Oregon	500	SR SH, SR SSCH	Possible survival improvements if habitat modifications have intended effects.	No	Yes	Although the project purports to improve fish passage and habitat through the replacement of the headgate structure, establish rock cross vane structures, rock weirs, fill and stabilize scour pool improving habitat, stream bank stabilization and large woody debris placement, the primary intent of the proposal is to forestall channel headcutting that threatens to undermine a bridge and irrigation ditch diversion. The proposed project fails to remedy the problem's cause, the channel straightening, and portrays minimal benefits to fish. In fact, the project as now planned, would perpetuate various features of the present channel that adversely affect fish habitat.
27014	Protect and Restore the Asotin Creek Watershed	154	SR SH, SR SSCH	In part, this project contributes to assessments by surveying and assessing problem roads. Project is to contribute an on-going watershed restoration effort by working in collaboration with private and Federal entities to reduce sedimentation into stream and tributaries from road-related sources on forested ground, and to reduce cobble embeddedness from 35% (current) to 20%. Possible survival improvements if habitat modifications have intended effects.	No	Yes	The project needs an M&E component which will assess the structural & biological effectiveness of the project on, for e.g., juvenile steelhead rearing.
27015	Develop Long-Term Management Plan for Snake River (Hells Canyon Reach) White Sturgeon	0		NA			

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27016	Evaluate the effects of hyporheic discharge on egg pocket water temperature in Snake River fall chinook salmon spawning areas	190	SR FCH	Benefits are indirect. Hydrologic research will evaluate the potential for altered hydropower operations (discharge from Hells Canyon Dam) to alter temperatures in spawning areas for Snake River Fall Chinook	No	Yes	Study does not appear to include any means to link its findings with fish survival. Strong hydrologic research project that could be tremendously enhanced from NMFS's perspective with the addition of some means to
27017	Bull trout population assessment and life history characteristics in association with habitat quality and land use: template for recovery	0					
27018	Oregon Plan Blue Mountain Province Fish Screening/Fish Passage.	500	SR SSCH SR FCH SR SH	Improve the survival of out-migrating smolts by replacing old ineffective screens with modern designs that will reduce or eliminate injury and mortality caused by impingement and entrainment.	No	Yes	The proposal is to build 6 rotary drum fish screens to replace temporary portable installations and in-place screens that do not meet current NMFS criteria. The proposal represents ongoing screen replacement in the Grande Ronde. ISRP felt that the proposal could have been more aggressive, i.e., finishing all screening needs in the basin, not just replacing six. The state agency felt that it could not do that and still comport with current state policies and guidelines. Not in priority subbasin, so does not implement Action 149 directly.
27019	Adult Salmon Abundance Monitoring	180	SR SSCH	Benefits are indirect. Development and implementation of hydroacoustic detection methods will allow more accurate abundance estimates for Minam River population. Accurate abundance estimates aid in status assessment, recovery planning.	No	Yes	Project may also relate to action #193 (develop novel tagging and detection techniques); however Action 193 is aimed primarily at stock identification (in ocean, hatchery vs. wild, etc.). Continuity with previous monitoring methods will be important.
27020	Grande Ronde Subbasin Water Right Acquisition Program	150	SR SH, SR SSCH,	Project will: (1) acquire 2 cfs senior water rights on a voluntary basis for conversion to instream use along small streams and tributaries of the Grande Ronde Subbasin that provide prime spawning and rearing habitat for anadromous salmonids; (2) transfer to instream water rights under Oregon state law; and (3) target acquisitions to maximize fulfillment of habitat objectives for instream flows. Possible survival improvements if successfully implemented.	No	Yes	The project goal is to acquire relatively small amounts of water that significantly impact flow in tributary habitats, by acquiring senior water rights for conversion to in-stream use. However, acquisition site is not described. Project needs acquisition site to be located where 3 cfs would be a significant amount of increased flow. M&E are included not only for the rights acquisition, but also for the ecological impact of increased in-stream flow. Cooperative monitoring of conservation impacts with Tribes & state agencies is planned. Need to assess the biological impact on fish of the additional water.

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27021	Adult Steelhead Status Monitoring - Imnaha River Subbasin	180, 179	SR SH	Benefits are indirect. Accurate monitoring of steelhead populations in the Imnaha River will provide important information for recovery planning efforts and support an adaptive management approach.	No	Yes	Important work. May be an important pilot project for steelhead monitoring. Project has potential to provide information important to population definition as well as monitoring data with greater spatial resolution than is currently available.
27022	Wallowa County Culvert Inventory	154	SR SH, SR SSCH,	Benefits are indirect. Biological benefits might accrue from subsequent actions taken to correct problems identified in this effort. The project would identify and prioritize culverts that restrict fish passage or fragment habitat.	No	Yes	Project is to prioritize on county, state, Federal, and private land, culverts that either need maintenance or replacement to meet fish passage needs.
27023	Precious Lands Wildlife Habitat Expansion	0					
27024	Life history strategies in <i>Oncorhynchus mykiss</i> : interactions between anadromous and resident	184	SR SH	Benefits are indirect. This work seeks to assess some of the causal factors underlying life-history variation in steelhead (resident vs. anadromous), and the extent to which hatchery practices influence this variability.	No	Yes	Important work that has potential to influence many aspects of recovery planning for steelhead. Some methodological details to be more fully explored.
27025	Acquire South Fork Asotin Creek Property	150	SR SH, SR SSCH	Project is to acquire and protect the 8500-acre Schlee property in southeastern Washington, which should at least maintain current survival rates in that reach.	No	Yes	Although proposed project will extend a current WDFW wildlife area and primarily contribute to goals of maintaining elk populations, property purchase would include streams that provide critical contiguous habitat in the Asotin Creek watershed for federally-endangered anadromous fish.
198402500	Grand Ronde Basin Fish Habitat Project	400, (153)	SR SH, SR SSCH	Project will contribute to protection and enhancement of fish habitat in selected streams on private lands in the Grande Ronde Basin to improve instream and riparian habitat diversity, and increase natural production of wild salmonids.	No	Yes	Project uses three strategies in approach to stream restoration: (1) habitat protection through signing of riparian leases, cooperative agreements or easements; (2) passive restoration of marginal habitat; and (3) active restoration of severely degraded streams. Protective measures include excluding grazing, timber harvest, road construction, etc. Project will implement Action Item 153 if permanent or long term (>15 years) easement is acquired. Easement should be consistent with Oregon CREP. Active remediation techniques include using plantings, soil bioengineering, instream structures (e.g., LWD), or whole channel alterations. Project is NOT providing the quantitative analysis of biological or physical changes resulting from 17 years of multiple habitat restoration projects (on 62.2 miles of stream) necessary to gauge beneficial effects to fish populations.

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198805301	Northeast Oregon Hatchery Master Plan	Base	SR SSCH SR SH	Benefits are indirect. Support improvements in survival, abundance, and distribution by identifying key opportunities for implementing actions in the subbasin.	No	No	The preparation of the HGMP should occur and efficient, expeditious, integration of hatchery programs to meet resource needs would result.
198805305	Northeast Oregon Hatcheries Planning (ODFW)	Base	SR SSCH SR SH	Benefits are indirect. Support improvements in survival, abundance, and distribution by identifying key opportunities for implementing actions in the subbasin.	No	No	The preparation of the HGMP should occur and efficient, expeditious, integration of hatchery programs to meet resource needs would result.
199202601	Implement the Grande Ronde Model Watershed Program Administration and Habitat Restoration Projects	500	SR SH, SR SSCH	Proposal requests continued funding for the comprehensive Grande Ronde Model Watershed Program (GRMWP) to restore spawning and rearing habitat for SR SH and SR SSCH using a combination of active and passive restoration strategies. Possible survival improvement if habitat restoration has intended effects.	No	Yes	What are the results of this habitat restoration project in terms of biological and physical attributes? The projects's 8 years of results need to be evaluated in terms of measured responses in fish populations and habitats. Project results are currently expressed in terms of number of projects completed instead of in quantitative indicators of watershed improvement.
199202604	Investigate Life History of Spring Chinook Salmon and Summer Steelhead in the Grande Ronde River Basin and Monitor Salmonid Populations and Habitat	180, 184	SR SSCH, SR SH, SR FCH	Benefits are indirect. Expansion and extension of ongoing RM&E program in Grande Ronde and Imnaha River basins.	No	Yes	Absolutely necessary monitoring program for juvenile and adult salmonids in the Grande Ronde and Imnaha River basins.
199401805	Continued Coordination and Implementation of Asotin Creek Watershed Projects	400, (153)	SR SH, SR SSCH	Project is to coordinate, assess, protect, restore (active and passive) and monitor biological benefits to fish of holistically-based fish habitat cost-share programs in the Asotin Creek watershed. Combination of indirect benefits through planning and survival improvement if habitat restoration has intended effects.	No	Yes	Project is to reduce in-stream summer water temperatures to 18 degrees C; increase quantity and quality of pools with LWD to nine pools per mile; reduce sediment deposition in spawning gravels by maintaining or reducing cropland erosion; continue coordination of Asotin Creek Model Watershed project prioritization & planning; implement 15 CRP/CREP riparian buffer system agreements with landowners on 20 miles of stream to improve 550 riparian acres, using e.g., no-till/direct seeding; secure additional funding & cooperative partnerships outside the Asotin Creek watershed; provide watershed information & education programs to local schools, citizens, & agency representatives; and, plan, coordinate, & implement project assessment & monitoring. Is there a landowner commitment? Project will implement Action Item 153 if permanent or long term (>15 years) easment is acquired. Easement should be consistent with CREP.



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199403900	Watershed Restoration Planner	154	SR SH, SR SSCH	Benefits are indirect -- proposal is a coordination project	No	Yes	Proposal requests continuing funding for a liaison to function as a planner and coordinator for the NPT's involvement in the Wallowa County and Grande Ronde Watershed plans. Proposal needs details on planner's overall strategy for targeted improvements, along with strategies for prioritizing & implementing them, and outcome
199405400	Characterize the Migratory Patterns, Population Structure, Food Habits, Abundance of Bull Trout from Subbasins in the Blue Mountain Province.	0					
199608000	NE Oregon Wildlife Mitigation Project -- "Precious Lands"	0					
199608300	CTUIR Grande Ronde Subbasin Restoration	Base, 400 (153)	SR SH, SR SSCH	Project is an ongoing effort (1996) to restore McCoy meadow and relocate creek from a straight ditch into a former natural, meandering course. Project activities will contribute to enhancing and restoring critical juvenile rearing habitat with emphasis on restoring natural channel morphology and floodplain function, cold water refuge, complex aquatic habitat. Should improve survival if habitat restoration has intended effect.	No	Yes	Good project. Maintenance and M&E are integral components of the project and are necessary to maintain habitat improvements and evaluate progress of habitat development and biological response. Project will implement Action 153 if permanent or long-term (>15 years) easement is secured. Easement should be consistent with Oregon CREP. Base part of proposal is annual maintenance on existing improvements.
199700900	Evaluate Potential Means of Rebuilding Sturgeon Populations in the Snake River Between Lower Granite and Hells Canyon Dams	0					
199701501	Imnaha Smolt Survival and Smolt to Adult Return Rate Quantification	184, 185, 189	SR SSCH, SR SH	Benefits are indirect. Part of an ongoing M&E program for natural and hatchery production in the Imnaha River. Necessary work to assess smolt and adult populations, and overall population productivity (SAR).	No	Yes	A good proposal that generates necessary data to assess the overall population behavior of an entire river basin. Weakest in the potential application of the data in that the data collected integrates over the entire juvenile life phase and entire basin. Will be difficult to detect specific effects of actions. However, the data collected are required for a basin wide assessment of population status, trend and productivity.

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199702500	Implement The Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan	154	SR SH, SR SSCH	Mainly a planning project, so most benefits are indirect. To extent that project will maintain and/or restore salmon habitat through cooperative and voluntary methods in the Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan, should improve survival if habitat restoration has intended effect.	No	Yes	A small portion of funds may result in project implementation consistent with other RPA actions, but most involve planning consistent with Action 154. Project proponents need to better describe how the suite of small restoration projects will be prioritized and selected, develop technical justification for the proposed methods, develop an M&E program that includes biological response monitoring in addition to habitat monitoring. What performance standards will be measured?
199800702	Grande Ronde Supplementation: Lostine River O&M and M&E	Base	SR SSCH	Reduce short-term extinction or extirpation risks for the Lostine River spring chinook.	No	No	Continuing program. Opportunity should be taken to assess monitoring aspects and their relationship to FCRPS Biop. Should benefit from RPA 176.
199800703	Facility O&M And Program M&E For Grande Ronde Spring Chinook Salmon and Summer Steelhead	Base	SR SSCH, SR SH	Reduce short-term extinction or extirpation risks for the Catherine Creek and Upper Grande Ronde River spring chinook.	No	No	Continuing program. Opportunity should be taken to assess monitoring aspects and their relationship to FCRPS Biop. Should benefit from RPA 176.
199800704	Northeast Oregon Hatcheries Implementation (ODFW)	Base	SR SSCH	Reduce short-term extinction or extirpation risks for the Lostine River, Catherine Creek and Upper Grande Ronde River spring chinook.	No	No	Continuing program. Opportunity should be taken to assess monitoring aspects and their relationship to FCRPS Biop. Should benefit from RPA 176.
199801001	Grande Ronde Basin Spring Chinook Captive Broodstock Program	Base	SR SSCH	Reduce short-term extinction or extirpation risks for the Lostine River, Catherine Creek and Upper Grande Ronde River spring chinook.	No	No	Continuing program. Opportunity should be taken to assess monitoring aspects and their relationship to FCRPS Biop. Should benefit from RPA 176.
199801003	Spawning distribution of Snake River fall chinook salmon	184	SR FCH	Benefits are indirect. Part of an ongoing M&E program associated with artificial propagation in the Blue Mt. province of the SR. Necessary work regarding contribution of hatchery escapement to naturally spawning population, as well as distribution of supplemented spawners throughout SR basin.	No	Yes	A good proposal that generates necessary data to assess the impacts and success of supplementation programs.
199801004	Monitor and Evaluate Yearling Snake River Fall Chinook Released Upstream Of Lower Granite Dam	184	SR FCH	Benefits are indirect. Part of an ongoing M&E program associated with artificial propagation in the Blue Mt. province of the SR. Necessary work regarding contribution of hatchery escapement to naturally spawning population, as well as condition and behavior of hatchery juveniles IF the resulting information is integrated into the hatchery management program.	No	Yes	A good proposal. Needs stronger links to past work and the implications of the results. The potential results are important for the management of fall Chinook hatcheries.

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199801005	Pittsburg Landing (199801005), Capt. John Rapids (199801007), Big Canyon (199801008) Fall Chinook Acclimation Facilities	Base	SR FCH	These 3 acclimation sites provide for the production and release of appropriate FCH in traditional spawning areas in Snake and Clearwater Rivers. Adult Returns from first releases appear promising.	No	No	Projects continue to be the best test of a production scale supplementation program for a listed species.
199801006	Captive Broodstock Artificial Propagation	Base	SR SSCH	Reduce short-term extinction or extirpation risks for the Lostine River.	No	No	Continuing program. Opportunity should be taken to assess monitoring aspects and their relationship to FCRPS Biop. Should benefit from RPA Action Item 176.
200002100	Securing Wildlife Mitigation Sites - Oregon, Ladd Marsh WMA Additions	0					

**National Marine Fisheries Service Review of Mountain Snake Province Project Proposals  
(Sorted by Project Number)**

**Enclosure 2**

<b>Project Number</b>	<b>Title</b>	<b>RPA Action Items</b>	<b>ESU(s) Affected</b>	<b>Statement of Potential Biological Benefit to ESU</b>	<b>Already ESA Req?</b>	<b>Biop?</b>	<b>Comments</b>
28001	Evaluate Factors Influencing Bias and Precision of Chinook Salmon Redd Counts	180	SR SSCH	Benefits are indirect. Increased reliability in assessments and evaluations through the development of new techniques. Supports adaptive management approach to improving productivity of listed populations. Applies particularly to SR SSCH, but also to all stream-type chinook. Proposed work seeks to improve spring/summer chinook redd counts by investigating bias and precision in redd count surveys in the Snake River Basin. Well designed study, would produce important improvements in estimating populations.	No	Yes	Very important work on measurement and sampling error associated with standard survey techniques (redd counts). Absolutely necessary for the development of accurate Tier 2 monitoring programs.
28002	Fluvial Bull Trout Migration and Life History Investigations in the upper Salmon River Subbasin	0					
28003	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Mountain Snake Province	0					
28003	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Mountain Snake Province	0					
28004	Lawyer Creek Subwatershed-Steelhead Trout Habitat Improvement Project	400 (153)	SR SH	Could increase survival by contributing to improvement of water quality and reduction of erratic flow regimes through the implementation of upland agricultural BMPs. However, lack of specifics in proposal prevents evaluation. The target species, a steelhead population, has not been documented in the sub-watershed	No	Yes	One portion of the BMPs is the protection of riparian areas through riparian buffers, but the proposal does not address the period of time of those buffers, nor how much of this project will be devoted to buffers. Project proponents stated at the project review that the project will follow NRCS standards and that landowners have to comit to a miminum of 10 years. Project could be consistent with RPA 153 if permanent or long term easement, at least > 15 years. This project also does not seem to address the primary limiting factors in the subbasin as identified by the proposal. Like many habitat projects this is a good idea, and it won't hurt, but we question how much it can help anadromous habitat when 80% of the drainage is dry-farm wheat and lentils and the remaining 20% has been logged and grazed intensively for 100 years. Benefits to fish of applying BMPs in a small area will be hard to measure.

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28005	Assessment of spring/summer chinook salmon habitat within the Salmon River Subbasin.	155	SR SSCH	Benefits are indirect. Project will provide baseline data on conditions required to promote salmonid populations across the Salmon River basin. Methods are precisely defined as project is ongoing (other funding sources). No direct or immediate impact on fish, but project will provide important information on habitat differences and their effects on chinook populations, if any.	No	Yes	This project is important because it addresses some of the fundamental stream ecology questions we need to investigate (such as primary productivity) in order to determine habitat quality, and relate the quality with fish distribution and abundance. This work will help with future questions about population dynamics, protection and restoration.
28006	Tag and evaluate PIT-tag retention in sub-yearling chinook salmon	0	SSCH-U	Benefits are indirect. Although not a listed species, the results may be applicable to listed species	No	No	While this proposal is not specifically called for in the RPA and does not directly benefit any ESU, it is an important project. The magnitude of potential tag shedding needs to be understood to account for it in subsequent data analysis.
28007	Causes and effects of non-native trout invasions in the Salmon and Clearwater River subbasins	152, 183	SR SSCH, SR FCH	Benefits are indirect. Improve management decisions for non-native trout species by assessing potential ecological and genetic impacts non-native species have on native salmonids in the Salmon and Clearwater River subbasins. Very broad and comprehensive approach - will produce a more complete understanding of native and non-native fish interactions.	No	Yes	This is a well-written proposal that outlines a worthwhile study on the effects of non-native salmonids on the ecology and genetics of native salmonids. Two minor concerns; 1) With only one year to fill in the gaps in the habitat data, there is no chance to pin down variability in the habitat variables in question, and 2) it is unclear if the study will address interspecific interactions and/or spatial overlap across different age classes. However, the merits of this proposal supercede those concerns, and the PI's seem more than capable of addressing the second concern.
28008	Riparian Conservation Easement Purchase of Scarrow Property on Lake Creek a Tributary to the Secesh River, Idaho.	150	SR SSCH	Protects important spawning area for natural stock by acquiring a sensitive riparian area - this is the only privately owned land in this important area	No	Yes	Should verify that this easement covers all mineral rights on the entirety of the property. The property is 3/4 of a mile upstream of spawning grounds, but this is still a good project, at relatively low cost. It will preserve water quality and spawning habitat for one of the few remaining natural populations of summer chinook.
28009	Smolt Condition and Adult Returns: An Indirect Method of Assessing the Potential Mitigation Benefits of Nutrient Enhancement Projects	190	SR SSCH, SR SH	Benefits are indirect. Indirectly assesses effects of nutrient enhancement projects by comparing smolt condition and adult returns of Snake River spring/summer chinook and steelhead to those of other regions. Applies particularly to SR SSCH, but also SR SH.	No	Yes	It is unclear how investigators will answer the questions they pose. Also, they do not specify what data are available to answer the questions. Furthermore, they have not identified how alternative processes/mechanisms might also explain differences in size or survival.
28010	Nez Perce Salmon River Terrestrial	0					

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28011	Incidental Mortality in Selective Sport Fisheries	167	SR SSCH, SR FC, SR SH	Reductions in impacts of harvest on listed runs in Idaho sport fisheries. Could Improve recreational fishery management	No	Yes	Cost seems excessive for literature search and scoping. Case not made that current information is not adequate. Project would be valuable if emphasis was on reducing 'uncertainty' and if 'ground-truthing' is a major goal.
28012	Four-Step Planning to Identify Safety-Net Projects for Idaho Steelhead	175	SR SH	Benefits are indirect. This is a planning process to prioritize populations and determine strategies to alleviate near-term extinction risk.	No	Yes	Idaho's SNAPP proposal. Will be integrated with other projects. After coordination is complete under the umbrella process, this project will directly implements RPA Action Item 175.
28013	Renovate Selway Falls Anadromous fish Passage Tunnel	500	SR SH, SPR CHN-U, SMR, CHN-U	Improve the survival of out-migrating smolts by renovating and reconstructing deteriorated infrastructure that will eliminate injury and mortality caused by impingement and entrainment	No. (But minor O&M is covered under an informal section 7 with NMFS on Mitchell Act.)	Yes	The Selway River anadromous fish passage tunnel was constructed in the 1960's and has provided an alternative route for movement above Selway Falls, particularly during periods of drought or extremely high flows. The infrastructure of the passage tunnel has deteriorated over time and it no longer provides optimum passage conditions i.e., the interior baffles no longer function to slow water movement and the upper headgate facility does not operate effectively to control flows through the tunnel. Renovation is needed.
28014	Bull trout population assessment and life history characteristics in association with habitat quality and land use: template for recovery planning	0					Important basic work for Bull Trout.
28015	Benefit/Risk Analysis to Promote Long-Term Persistence of Chinook Salmon in the Middle Fork Salmon River	175	SR SSCH	Benefits are indirect. Supports improvements in survival, abundance, and distribution by identifying key opportunities for implementing actions. Perform Benefit/Risk Analysis for Chinook salmon in the Middle Fork Salmon River in order to facilitate future management decisions for the populations.	No	Yes	One of several projects that could be combined in SNAPP and RME pilot in Salmon River basin. Also, planning component is underway via the TRT process. A B/R analysis seems like an intensive and broad undertaking with many objectives.

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28016	Restoration of the Yankee Fork Salmon River.	154	SR SSCH SR SH	Benefits are indirect. This is an assessment with a large data collection component. The intent is ultimately to guide restoration of an historically productive subbasin that is severely degraded. It is not clear that this habitat improvement will result in significant gains in productive salmon habitat or how that habitat improvement would translate into increased survival.	No	Yes	This was once prime spawning and rearing habitat, but a 6 mile stretch has been severely altered by dredge mining. This project will acquire an easement for the property and restore it, but it does not meet RPA 150 because it is not <b>currently</b> productive non-Federal habitat. In outyears, the project may partially implement RPA 153 if permanent or long term easements (i.e., > 15 years) with willing landowners are initiated. Easements should be consistent with Oregon CREP. Chinook do continue to spawn in this reach, however. There is also an active mine in the area and another one which, while inactive, will discharge once the details are worked out with NMFS through Section 7. Given these concerns, and the proposed budget of \$800K in FY02 , and even more in the coming years, we would question whether this project gives the "most bang for the buck" at this time.
28017	Monitoring the Selway Falls renovation project for passage of spring chinook salmon and steelhead	0	SR SSCH, SR SH	Benefits are indirect. Project intends to quantify fishway passage bioenergetic costs for adult salmonids. Evaluate improvements to Selway Falls fish tunnel on passage and energy consumption rates of spring chinook and steelhead using electromyogram radiotransmitters.	No	No	No demonstrated importance of study objective (energetics of fish passage) on limiting population productivity. Methodologically flawed. This project may have some relevance to RPA Action Item 193 but is unclear.
28018	Lower Salmon River Tributary Protection and Enhancement	154	SR SSCH SRSH	Benefits are indirect. Will develop a restoration plan, which will identify and prioritize restoration and protection needs on private land.	No	Yes	This project will develop a restoration plan, but does not give much detail about its implementation. Presumably, that is why the budgets increase substantially in out years. It might be more useful to focus on individual streams. Most of the Lower Salmon tributaries have limited value for anadromous fish, but a few have potential and should be a high priority.

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28019	Improve Stream Habitat by Reducing Discharge from Animal Feeding Operations	0	SR SSCH SRSH	Potential indirect benefits to anadromous fish through the reduction of direct discharge and run-off from Animal Feeding Operations. However, proposal does not indicate specific actions or locations or actions so benefits can't be evaluated further.	No	No	No specific RPA covers water quality alone. The proposal does not provide any information on what BMPs will be implemented, where, when, and the likely effect on water quality or salmonids. This proposal has been submitted to BPA for funding previously under the High Priority solicitation. NMFS did not support funding it under that process and the Council and BPA deferred it to the Mountain Snake Provincial Review and told the project proponents to revise and further flesh out the proposal. Project proponents have not significantly revised or expanded the proposal and are not even certain that the work will take place in anadromous drainages. That will depend on willing landowners. This proposal does not meet the FCRPS BiOp RPAs and appears to be more appropriately funded through other sources such as agricultural or Clean Water Act programs.
28020	Nez Perce Tribe Harvest Monitoring Program	0	SR SSCH, SR FC, SR SH	Benefits are indirect. Should provide valuable information to assess harvest composition and impacts, also useful for run reconstruction	Yes	No	Harvest reporting from NPT is very important for assessment of harvest impacts. The accuracy and completeness of past reports has been uncertain. Access to a biometrician is necessary to assure statistically valid samples. Already required under Fall 2001 Harvest Biop.
28021	Lower Clearwater Habitat Enhancement Project	400 (153), 154	SR SH	Depending on implementation, protection and restoration of riparian habitat could indirectly increase survival by reducing water temperatures.	No	Yes	The project description states that it will attempt to enroll land in the Conservation Reserve Program (RPA 153), but does not give any specifics as to how much land, or what lands it will attempt to enroll in the program, or for how long. Project will partially implement RPA 153 if permanent or long term easement (i.e., > 15 years). Easement should be consistent with Oregon CREP. The proposal also discusses acquiring lands, but does not give any detail as to whether that land is already productive, or is in need of restoration. This project needs focus. Roughly \$250K will be spent before any land is acquired. In addition, the Nez Perce Tribe received several million dollars in 1992, as mitigation for the Dworshak Reservoir, for the purpose of purchase and preservation of 10,000 acres of wildlife habitat in the Lower Clearwater River, to benefit the same indicator species.



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28022	Evaluate Bull Trout Life History In Dworshak Reservoir, N.F. Clearwater River Drainage, ID	0					
28023	Evaluate and Control Brook Trout Populations - Addressing Competition and Hybridization Threats in the Clearwater River Drainage, Idaho.	0		None for RPA ESUs. Monitor and improve bull trout populations in Clearwater River drainage by suppressing brook trout populations, documenting the distribution and abundance of brook and bull trout, and documenting hybridization between the two species.			Important basic work for Bull Trout, with strong potential implications for chinook.
28024	Dworshak Dam Impacts Assessment and Fisheries Investigation	0		The primary objective of the proposal is to minimize entrainment losses of kokanee into the turbine intakes and reservoir.			The proposal would use strobe lights to divert kokanee away from the intakes to the dam. They also propose to monitor the kokanee population annually and relate changes to the operation of the dam. This empirical information can then be used to assist in the development of rule curves for the reservoir.
28025	Potlatch River Watershed Restoration	152, 154	SR SH	Indirect benefit through contribution to development of a comprehensive watershed plan and implementation of agricultural BMPs to improve water quality.	No	Yes	This is a priority watershed for steelhead in the Clearwater subbasin, but the budget appears to be excessive compared to on the ground benefit. Also, this project will not likely have measureable benefits for listed species in the foreseeable future. The information collected in the watershed plan will contribute to the TMDL to be done in 2003.
28026	Develop HGMP's for LSRCP Programs to address artificial production reforms identified in the FCRPS Biological Opinion	169	SR SSCH, SR FC, SR SH	Benefits are indirect. Development of HGMPs will aid regional planning efforts, evaluate the impacts of artificial propagation on listed species, and facilitate the application of hatchery reform.	No	Yes	The FCRPS biop required HGMPs as a critical step in hatchery reform and regional planning
28029	Restore Lawyer Creek Habitat Targeting Steelhead and Chinook Salmon	154	SR SSCH SR SH	Indirect benefit through completion of a watershed assessment. Potential increase in juvenile survival by habitat restoration, reconstruction of channel, addition of large woody debris, and creation of deep pool habitat.	No	Yes	This project will implement a watershed assessment effort, which would partially implement RPA 154, but the purpose of the assessment appears only to be to determine priority reaches for reconstruction and active restoration of the channel. Implementation of a project should not begin until a watershed plan is complete and should address basin-wide runoff and land use issues.
28030	Salmon River Native Resident Fish Assessment	0		None for RPA ESUs. But still important basic research for resident fish.			The region needs a comprehensive monitoring program for resident fish. This is a good start, but should be combined with Oregon and Washington's efforts to do the same.

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28031	Evaluation of Unclipped Hatchery Steelhead Released in the Clearwater and Salmon River Basins	107, 184	SR SH	Benefits are indirect. Could inform managers regarding the return rates and impacts of unmarked, hatchery-produced steelhead	No	Yes	The objectives are good but ISRP concerns need to be addressed. Objective 4 (fallback at Lower Granite Dam) partially addresses RPA 107. Other objectives partially apply to RPA 184.
28032	Assessment of A-Run Steelhead populations in the Clearwater River Basin	179, 180	SR SH	Benefits are indirect. Supports improvements in survival, abundance and distribution by identifying key opportunities for implementing actions. Assess population abundance, productivity, spatial structure, and diversity of A-run steelhead in the Clearwater subbasin. This project will improve understanding of the A-run steelhead population.	No	Yes	Very important work for SR SH, however, might be best implemented within an RME pilot?
28033	Monitoring and evaluating coho salmon reintroduction in the Clearwater River Basin	0	SR FCH, SR SH	Benefits are indirect. Should provide information on the impacts of the introduction of non-indigenous coho stock into tributaries with listed steelhead and fall chinook	Yes	No	NMFS supports coho reintroduction into suitable habitat, but the impacts of mid-summer releases of fed coho fry into steelhead spawning and rearing areas at the same time and place that listed steelhead are emerging is potentially large. However, if the coho reintroduction is going to occur, there must be adequate monitoring, thus the 1998 Opinion required monitoring and evaluation of effects from competition, predation, and residualism on listed species.
28034	Chinook Salmon Smolt Survival and Smolt to Adult Return Rate Quantification, South Fork Salmon River, Idaho	Multiple, esp. 180	SR SSCH	Benefits are indirect. Monitor the production, migration, and survival of spring/summer chinook in the South Fork Salmon River basin using primarily smolt-to-adult return rate and recruit-per-spawner ratios to evaluate progress toward recovery. Addresses many RPA items indirectly (will add data to assist other researchers). Includes a genetic component that seems a little excessive given all their other goals.	No	Yes	Very important RME in the SR basin. The core of an RME pilot?

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28035	Geomorphic Controls on Watershed-Scale Availability of Chinook Salmon spawning Habitat in the Salmon River	155	SR SSCH	Benefits are indirect. Identify potential spawning habitat for chinook salmon in the Middle Fork Salmon River by using models based on gravel size preferred by spawning salmon.	No	Yes	Model development. If purpose of project is to predict spawning distribution in the MF Salmon, this project is not necessary. We agree with the ISRP's comments that this project would not significantly contribute to the goals of the NWPPC's Fish and Wildlife Program, nor to recovery of Snake River stocks, because spawning substrate in the Salmon subbasin is already well identified and not in short supply. This information is already generally available, so actual benefit of project is questionable. If purpose is to develop a model in the well-censused MF Salmon for use in less-studied subbasins elsewhere, this may be a reasonable proposal, but it will need to include testing in other subbasins. Although it may be of some use in this context, NMFS questions that a model supporting broad-ranging habitat assessments will focus on something as specific as sediment size? What about flow, water depth, water quality, etc?
28036	Holistic Restoration of Critical Habitat on Non-federal Lands in the Pahsimeroi Watershed, Idaho	150, 154	SR SSCH, SR SH	Likely increase in survival if the project improves habitat by addressing water quantity and quality through water renting, fencing, conservation easements, and replanting riparian areas. Difficult to evaluate benefit accurately since proposal doesn't identify where actions will occur.	No	Yes	Putting in individual proposals for each of the geographic areas in which the model watershed group is a good approach, but there are few details in the proposals as to where and how much land will be affected by these activities, which leads one to question the budget estimates. These budgets should be closely scrutinized. <b>The following comments pertain to 28036-28040:</b> These projects will benefit fish resources through improvements in riparian areas, fish screens and grazing management, but they also lack focus and have huge personnel, management, evaluation and planning costs.
28037	Holistic Restoration of Critical Habitat on Non-federal Lands in the Lemhi Watershed, Idaho	149, 150, 154	SR SSCH SR SH	Likely increase in survival if improves habitat by addressing water quantity and quality through water renting, fencing, conservation easements, and replanting riparian areas. Difficult to evaluate benefit accurately since proposal doesn't identify where actions will occur.	No	Yes	Putting in individual proposals for each of the geographic areas in which the model watershed group is a good approach, but there are few details in the proposals as to where and how much land will be affected by these activities, which leads one to question the budget estimates. This is a priority subbasin in the FCRPS BiOp.

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28038	Holistic Restoration of Critical Habitat on Non-federal Lands, East Fork Salmon Watershed, Idaho	149,150, 154	SR SSCH SR SH	Likely increase in survival if improves habitat by addressing water quantity and quality through water renting, fencing, conservation easements, and replanting riparian areas. Difficult to evaluate benefit accurately since proposal doesn't identify where actions will occur.	No	Yes	Putting in individual proposals for each of the geographic areas in which the model watershed group is a good approach, but there are few details in the proposals as to where and how much land will be affected by these activities, which leads one to question the budget estimates.
28039	Holistic Restoration of Habitat on Non-federal Lands, Middle Salmon-Panther Watershed, Idaho	149, 150, 154	SR SSCH SR SH	Likely increase in survival if improves habitat by addressing water quantity and quality through water renting, fencing, conservation easements, and replanting riparian areas. Difficult to evaluate benefit accurately since proposal doesn't identify where actions will occur.	No	Yes	Putting in individual proposals for each of the geographic areas in which the model watershed group is a good approach, but there are few details in the proposals as to where and how much land will be affected by these activities, which leads one to question the budget estimates. This subbasin contains very little private land.
28040	Holistic Restoration of Critical Habitat on Non-federal Lands, Upper Salmon Watershed, Idaho	149, 150, 154	SR SSCH SR SH	Likely increase in survival if improves habitat by addressing water quantity and quality through water renting, fencing, conservation easements, and replanting riparian areas. Difficult to evaluate benefit accurately since proposal doesn't identify where actions will occur.	No	Yes	Putting in individual proposals for each of the geographic areas in which the model watershed group is a good approach, but there are few details in the proposals as to where and how much land will be affected by these activities, which leads one to question the budget estimates. This subbasin is identified as a priority subbasin in the FCRPS BiOp.
28041	Dworshak Zooplankton Entrainment	0					
28041	Dworshak Zooplankton Entrainment	0					
28042	Timing and location of spawning by pure and introgressed cutthroat trout in the North Fork Clearwater River	0					
28043	Crooked River Ecosystem Assessment at the Watershed Scale	154	SR SSCH SR SH	Benefits are indirect. This project will provide a means to understand the whole watershed and to rationally direct recovery projects/actions	No	Yes	This project will complete a watershed assessment, but this river system is not a priority subbasin under the BiOp.

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28044	Protect and Restore Deer Creek Watershed	154	SR SH	Benefits are indirect. Conduct watershed assessment to guide restoration activities, and ultimately protect/improve habitat through riparian fencing.	No	Yes	This project will complete a watershed assessment, but this river system is not a priority subbasin under the BiOp. Furthermore, all of the work will be above the falls which is a barrier to anadromous fish. There is insufficient detail to determine if the actions proposed are cost effective and in some cases even whether they are beneficial within the watershed. The design also calls for the construction of nine miles of fence to be built along sections of a stream which will be redirected in later stages of the project. This would require re-building several stretches of fence where the stream has been moved.
28045	Evaluating stream habitat using the Nez Perce Tribe Fisheries/Watershed Watershed Monitoring and Evaluation Plan	183	SR SH	Possible indirect benefit. Data collected are intended to document the extent and quality of spawning and rearing habitat.	No	Yes	Although consistent with the RPA, there is much unused inventory data in state and federal files. Does this effort advance beyond or mesh with existing data? Until that question is answered it is uncertain that this project will result in either direct or indirect benefits.
28046	Impacts of Salmon Carcasses on Chinook Salmon and Watershed Restoration in Subbasins of the Clearwater River	0	SR FCH, SR SH	Benefits are indirect. Improve salmon management plans in tribal, federal, and regional restoration efforts in the Clearwater River basin by evaluating the effects of adding marine derived nutrients in the form of salmon carcasses to inland watersheds.	No	No	Research would parallel efforts in the Salmon River Basin (NMFS, Shoshone-Bannock Tribe, WDFW). This experiment is designed to evaluate the role of carcasses in stream ecosystems (as opposed to random dumping of carcasses without further monitoring). By replicating this experiment in a number of different river systems, we better learn how streams and fish will respond to nutrient enhancement.
28047	Restore and Protect Red River Watershed	154, 400	SR SH	Potential increase in adult reproduction and juvenile survival if project alleviates sediment input and improves fish passage by addressing potential culvert problems and decommissioning roads. Indirect benefit from watershed assessment development.	No	Yes	While the Red River has been identified as an important subbasin in the South Fork Clearwater for anadromous fish, the Nez Perce Forest did similar work in the 1980s and Idaho Department of Fish and Game and the local Soil and Conservation District have spent at least \$100K per mile trying to restore the Red River Meadow. It is not clear what this project's link to past and ongoing efforts are.

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28048	Protect and Restore Crooked Fork Creek to Colt Killed Analysis Area	154	SR SH	Benefits are indirect. This project will provide a means to understand the whole watershed and to rationally direct recovery projects/actions. It will also seek to improve habitat through culvert replacement, road obliteration, and riparian replanting.	No	Yes	This project will undertake a watershed analysis, but this subbasin is not identified as a priority subbasin in the BiOp. Also, the project will continue restoration projects in the area prior to the completion of the watershed assessment. This project has some merit, but much of the habitat degradation is from past Forest Management and road construction. Much of the watershed inventory has already been done by the USFS. It seems that there is a redundancy in funding one entity to shadow another entity who has the more direct responsibility.
28049	Restore and Protect Slate Creek Watershed	400	SR SH	Potential increase in survival through restored ecological processes. Project intends to restore and protect the Slate Creek Watershed for the benefit of both resident and anadromous fish through riparian revegetation, culvert replacement, road stabilization and channel reconstruction. However, lack of specificity and overall condition of the drainage makes accurate evaluation of benefit difficult.	No	Yes	Slate Creek is an important tributary of the Lower Salmon River, but most of the Slate Creek drainage is limited by impassable barriers and cascades, so the likely beneficiaries of this project will be resident fish. Project intends to address riparian function through fencing but does not specifically propose easement or other long-term or permanent protection and therefore does not address Action 153.
28050	Protect and Restore Little Salmon River	154	SR SSCH, SR SH	Benefits are indirect. Will conduct a watershed assessment and seeks to improve water quality by reducing temperature and sediment inputs. Restoration of riparian habitat through fencing and planting is likely to benefit survival although not clear if riparian condition is primary limiting factor in subbasin.	No	Yes	Identified as a priority subbasin in BiOp and there are not any BPA funded projects in the subbasin, but this project is located above a partial fish barrier that will not be addressed for some time. And, instream flow needs are not addressed, which are probably the principal limiting factor here.
28051	Assess and Monitor Steelhead in the Middle Fork Salmon River Subbasin	179, 180	SR SH	Benefits are indirect. Supports improvements in survival, abundance and distribution by identifying key opportunities for implementing actions. Increase understanding and assess current status of Snake River Steelhead in the Middle Fork Salmon River subbasin by monitoring their abundance, distribution, life history, and genetic composition.	No	Yes	Very important work for SR SH, might be best implemented w/in RME pilot?
28052	Adult Snake River steelhead monitoring in the South Fork Salmon River Basin.	179, 180, 193	SR SH	Benefits are indirect. Supports improvements in survival, abundance and distribution by identifying key opportunities for implementing actions. Determine population status and viability of Snake River Steelhead in the South Fork Salmon River basin by establishing baseline population abundance in the Johnson Creek subbasin.	No	Yes	Interesting novel approach to sampling, but basic research component (how does hydroacoustic approach compare to current techniques) is risky.
28054	Evaluation of Pisces Fish Protective Guidance and Monitoring System	149	MULTIPLE	Investigate specific problem (passage) directly related to fish survival. May possibly improve survival of outmigrating smolts. Intent is to improve fish passage at hydropower systems using "Pisces," a float mounted water intake	No	Yes	Unclear of appropriateness of funding for R&D of project. Hydro group believes it is unlikely that this structure will do anything for fish passage.

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<b>Project Number</b>	<b>Title</b>	<b>RPA Action Items</b>	<b>ESU(s) Affected</b>	<b>Statement of Potential Biological Benefit to ESU</b>	<b>Already ESA Req?</b>	<b>Biop?</b>	<b>Comments</b>
28055	Four-Step Safety-Net Plan for Upper Lochsa River B-Run Steelhead	175	SR SH	Benefits are indirect. Planning process to prioritize populations and determine strategies to alleviate near-term extinction risk.	No	Yes	CRITFC's SNAPP proposal. Will be integrated with other projects. After coordination is complete under the umbrella process, this project will directly implements RPA Action Item 175.
28056	Four-Step Safety-Net Plan for South Fork Salmon River B-Run Steelhead	175	SR SH	Benefits are indirect. Planning process to prioritize populations and determine strategies to alleviate near-term extinction risk.	No	Yes	CRITFC's SNAPP proposal. Will be integrated with other projects. After coordination is complete under the umbrella process, this project will directly implements RPA Action Item 175.
28057	Four-Step Safety-Net Plan for Lower Salmon River A-Run Steelhead	175	SR SH	Benefits are indirect. Planning process to prioritize populations and determine strategies to alleviate near-term extinction risk.	No	Yes	CRITFC's SNAPP proposal. Will be integrated with other projects. After coordination is complete under the umbrella process, this project will directly implements RPA Action Item 175.
28059	Restoring anadromous fish habitat in the Lapwai Creek watershed.	154	SR SH	Benefits are indirect. Largely a planning exercise. Improvement in water quality through implementation of agricultural BMPs. Likely increase in survival if habitat planning and restoration is successful although there is insufficient specificity in the proposal to determine where project will be implemented and what the specifics will be and whether land owner interest is present.	No	Yes	There is no specific RPA that addresses water quality projects by themselves. This project does not appear to be in the Middle Fork of the Clearwater (a priority subbasin). This project may not be effective because a major portion of the flow in this subbasin is diverted. Once the flow issues have been addressed, BMPs on agricultural lands would be a good investment.
28060	Assess Stream Quality for Salmonid Recovery in the Lower Clearwater Subbasin	183	SR FCH, SR SH	Benefits are indirect. Will assist in prioritizing restoration actions.	No	Yes	This project is likely to confirm that six small streams have been severely degraded by past land use. Needed actions such as riparian easements or fences, may already be known.
198335000	Nez Perce Tribal Hatchery	0	SR SH, SR FCH, SR FCH-U, SR SSCH-U	Intended to assist recovery of SR FCH and reintroduction of SR SSCH in Clearwater System	No	No	Agree with the ISRP comments on this and the following proposal. The commitment to NATURES rearing without any other large scale tests has contributed to the expense of this project, particularly for a fairly small production of Rapid River stock of spring chinook that are proposed for release as Natures-reared parr into some questionable habitats. Phase 1 may be a good boost to the Clearwater fall chinook, but phase 2 should be held until evaluation is complete on phase 1. The size and scope of the production programs and the potential adult returns may not justify the cost of this program.

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198335003	Nez Perce Tribal Hatchery Monitoring And Evaluation	0	SR SH, SR FCH, SR FCH-U, SR SSCH-U	Benefits are indirect. Monitor success of recovery of SR FCH and reintroduction of SR SSCH and provide management information.	Yes	No	Note above Comment. 1997 consultation on funding the 1998-2002 NPTH requires BPA to monitor and evaluate hatchery operations, juvenile releases and adult returns to NPTH. That Biop also states that BPA shall monitor and evaluate ecological interactions between listed steelhead and hatchery chinook.
198740700	Dworshak Integrated Rule Curves/M&E	0		Benefits are indirect. The proposal is to develop biological and integrated rule curve for Dworshak Dam and Reservoir. It would construct a model to resolves issues dealing with the thermal, hydrologic and biological production model components that could then be used to integrate operations to achieve compatability with as many needs as possible.	No	No	The purpose of the model is to regulate flows from Dworshak to lessen the impact on resident fish. We agree with the ISRP comments that the operations during fish passage are already highly regulated for mainstem salmon passage, power production and other needs. It may be difficult to to incorporate additional operational constraints on an already complex operating plan for the project.
198909800	Idaho Supplementation Studies	182, 184	SR SSCH	Benefits are indirect. Evaluate the usefulness of supplementation as a recovery/restoration strategy for depressed stocks of spring and summer chinook salmon in Idaho.	No	Yes	Supplementation of natural stocks has become an important part of the hatchery programs. However, in spite of widespread outplanting activities there has been little scientific evaluation of supplementation on rebuilding or influencing natural salmon populations. The results of these projects should help determine whether supplementation is a viable restoration strategy, a subject which NMFS is currently researching.
198909801	Evaluate Supplementation Studies in Idaho Rivers (ISS)	182, 184	SR SSCH	Benefits are indirect. Evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook salmon populations in Idaho. Develop recommendations for the use of supplementation to rebuild naturally spawning populations.	No	Yes	Supplementation of natural stocks has become an important part of the hatchery programs. However, in spite of widespread outplanting activities there has been little scientific evaluation of supplementation on rebuilding or influencing natural salmon populations. The results of these projects should help determine whether supplementation is a viable restoration strategy, a subject which NMFS is currently researching.
198909802	Evaluate Salmon Supplementation Studies in Idaho Rivers- Nez Perce Tribe	182, 184	SR SSCH	Benefits are indirect. Evaluates hatchery supplementation as a recovery - restoration tool for spring/summer chinook salmon. Quantifies key population status and performance variables, including early-life history and smolt-to-adult survival rates.	No	Yes	Supplementation of natural stocks has become an important part of the hatchery programs. However, in spite of widespread outplanting activities there has been little scientific evaluation of supplementation on rebuilding or influencing natural salmon populations. The results of these projects should help determine whether supplementation is a viable restoration strategy, a subject which NMFS is currently researching.



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198909803	Salmon Supplementation Studies in Idaho- Shoshone-Bannock Tribes	182, 184	SR SSCH	Benefits are indirect. Evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook populations in Idaho. Develop recommendations for the use of supplementation to rebuild naturally spawning populations.	No	Yes	Supplementation of natural stocks has become an important part of the hatchery programs. However, in spite of widespread outplanting activities there has been little scientific evaluation of supplementation on rebuilding or influencing natural salmon populations. The results of these projects should help determine whether supplementation is a viable restoration strategy, a subject which NMFS is currently researching.
199005500	Steelhead Supplementation Studies in Idaho Rivers	182, 184	SR SH	Benefits are indirect. Evaluate the feasibility of using artificial production to increase natural steelhead populations and to collect life history, genetic, and abundance data from wild steelhead populations in Idaho.	No	Yes	The project proposes to evaluate the feasibility of using artificial production to increase natural steelhead populations and to collect life history, genetic, and abundance data from wild steelhead populations in Idaho. The sponsors focus on hatchery and wild steelhead populations from the Snake River Basin to gather background information and compare abundance and growth rates, parr age structure, migration info, etc. .
199102800	Monitoring smolt migrations of wild Snake River sp/sum chinook salmon	190	SR SSCH	Benefits are indirect. The proposed work targets a monitoring program for anadromous salmonids in the SR basin. This is an extension of current work, and is highly beneficial to recovery planning in the region.	No	Yes	Important ongoing monitoring program using existing infrastructure (PIT tag detectors w/in hydrosystem) to assess wild populations.
199107100	Snake River Sockeye Salmon Habitat and Limnological Research	184, 185	SR SOCK	Benefits are indirect. Improve and monitor freshwater rearing habitat for Snake River sockeye by evaluating effects of nutrient addition. Complicated ongoing project with many objectives, including habitat assessment, population monitoring and management, and observing fish community dynamics.	No	yes	This is an important long-term series of projects looking at ways to improve sockeye survival. The project combines basic limnology, studies of food web dynamics and how these relate to sockeye growth and survival.
199107200	Redfish Lake Sockeye Salmon Captive Broodstock Program	600 (176, 177)	SR SOCK	Increase abundance of listed sockeye ESU through captive broodstock and artificial propagation.	No	Yes	This is the ongoing IDFG portion of the very important sockeye captive broodstock program. It has been remarkably successful in increasing the number of endangered sockeye and moderately successful in restoring anadromous returns of the species to the Salmon River. This project is providing new conservation biology information and testing techniques for preservation of endangered genetic material in living fish in large quantities, every year.

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199107300	Idaho Natural Production Monitoring and Evaluation	180, 190	SR SSCH, SR SH	Benefits are indirect. The proposed work targets a monitoring program for anadromous salmonids in the SR basin. This is an extension of current work, and is highly beneficial to recovery planning in the region. The work covers the anadromous zone in Idaho. The work tracks trends in populations and environmental factors, as well as collecting field observations on fish/habitat relationships.	No	Yes	This is another important contribution to the design of a comprehensive monitoring program in the SR basin. How they all should be combined, we are not sure, but all of the pieces are here (in multiple proposals from several agencies...).
199202603	Upper Salmon Basin Watershed Project Administration/Implementation Support	154, 152	SR SSCH, SR SH	Benefits are indirect. The intent of the project is to plan, coordinate, and prioritize restoration actions and projects in the Upper Salmon Basin.	No	Yes	Many of the projects that might fit under this umbrella have merit, but it is hard to see the focus. This project intends to coordinate and administer the six projects, each of which already has a large budget component for administration and communication.
199204000	Redfish Lake Sockeye Salmon Captive Broodstock Rearing and Research	600 (176, 177)	SR SOCK	Increase abundance of listed sockeye ESU through captive broodstock and artificial propagation.	No	Yes	This is the NMFS portion of the very important sockeye safety-net. See comments for Project No. 199107200.
199303501	Enhance Fish, Riparian, and Wildlife Habitat Within the Red River Watershed	400	SR FC, SR SH	Potential increase in survival via protection and restoration of productive habitat through conservation easements and restoration of physical and biological processes in that habitat.	No	Yes	Identified in the Forest Service subbasin assessment as a very important watershed, but this subbasin is severely degraded and in need of restoration. Thus, we don't believe that this meets RPA 150 which calls for the protection of currently productive private land. It is possible that the riparian easements could be consistent with Action 153, but the design, duration, and certainty of securing the easements is not addressed within the proposal.
199401500	Idaho Fish Screen Improvement	149, 500	SR SSCH, SR SOCK, SR SH	Improve the survival of out-migrating smolts by replacing old ineffective screens with modern designs that will reduce or eliminate injury and mortality caused by impingement and entrainment.	No	Yes	This proposal is part of a process to complete Idaho's screening program, which is approximately 75% complete. Evaluations of fish screens, reconnected stream projects and sites needing attention are on-going using a combination of in-kind and combined private, state, and federal funding sources. This important program constructs fish screens in both priority (RPA 149) and non-priority (500) subbasins in Idaho. All screening program would be completed in all the basins in the next three years. The program is funded through a combination of Mitchell Act and BPA grants. This very important proposal would help expedite the completion of the program.

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199405000	Salmon River Habitat Enhancement M & E	Base, 150, 152, 183	SR SSCH, SR SH	Benefits are indirect. Monitoring and evaluation of habitat restoration and improvement work conducted in the area will likely lead to increased survival through continued restoration work in some very important spawning areas	No	Yes	This is the necessary monitoring and maintenance of stream improvements and rehabilitation projects completed in the 1980's. The deliverables should include estimates of production, use of the habitat by listed species, and other benefits. Base refers to the maintenance of existing improvements. RPAs refer to new restoration work and monitoring activities.
199501300	Resident Fish Substitution Program	0					
199604300	Johnson Creek Artificial Propagation Enhancement Project	Base	SR SSCH	Project is designed to restore natural spawning population of SR SSCH in Johnson Creek through a conservation hatchery program	No	No	Johnson Creek received NMFS support in 1996 as a "high priority". The proposal has evolved into a moderately large and fairly expensive production program of 315,000 smolts, with components of NATURES rearing included. An HGMP needs to be completed. A special use permit for the permanent weir, holding ponds and NATURES final rearing/acclimation pond needs to be received from USFS.
199607702	Protect and Restore Lolo Creek Watershed	500	SR FCH, SR SH	Likely increase in survival as a result of improvement of habitat through road obliteration, culvert replacement and other restoration activities.	No	Yes	This project is not in a priority subbasin and therefore is not geographically consistent with Action 149. This project has been ongoing since 1996. Lolo Creek is not a large watershed. Is it possible to determine how many culverts have been replaced and how many are left? It seems to be time to reevaluate this project.
199607703	Protecting and Restoring the Waw'aatamnima (Fishing)(Squaw) Creek to 'Imnaamatnoon (Legendary Bear)(Papoose) Creek Watersheds Analysis Area	500	SR SH	Likely increase in survival as a result of improvement of habitat through road obliteration, culvert replacement and other restoration activities.	No	Yes	Will address passage problems, but this is not in a priority subbasin as identified by the BiOp and All Hs paper. This project has been ongoing since 1996, though and most of the culverts should have been fixed by now. The budget has escalated to \$500K per annum without clear reason.
199607705	Restore McComas Meadows/Meadow Creek Watershed	500	SR SH	Likely increase in survival as a result of improvement of habitat through road obliteration, culvert replacement and other restoration activities.	No	Yes	Project is based on an ecosystem analysis at the watershed scale (EAWS) - Meadow Creek is identified as an important focus for restoration of aquatic processes but it is not in a priority subbasin per the All H paper. But this project, too, has been ongoing in 1996 and substantial money has already been spent in the meadow. It's time to reevaluate this project.

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199608600	Clearwater Focus Program	152, 154	SR FCH SR SH	Benefits are indirect. This project objectives are to plan, coordinate, and prioritize restoration actions and projects in the Clearwater Basin.	No	Yes	Here is another \$350K for planning and focus of watershed efforts in the lower Clearwater. This group should be doing more to focus and prioritize the projects in the Clearwater subbasin.
199700100	Captive Rearing Project for Salmon River Chinook Salmon	600 (176, 177)	SR SSCH	Intended to restore high-risk chinook populations and test captive-rearing techniques	No	Yes	This project has tested "captive rearing" of fish from natural parr or eggs, that are subsequently released for natural spawning as adults, as opposed to "captive broodstock" as in some other chinook and sockeye programs. These populations should be evaluated under SNAPP and future actions guided by the review.
199703000	Chinook Salmon Adult Abundance Monitoring	180, 193	SR SSCH	Benefits are indirect. Assist in establishing recovery threshold abundance of spring/summer chinook in the Snake River basin by accurately quantifying spawner abundance using state-of-the-art technologies. Geographic extent: Secesh River, Lake and Marsh Creeks.	No	Yes	An important contribution to the development of monitoring programs in the SR basin. Not sure how it fits into the overall plan for monitoring.
199703800	Preserve Salmonid Gametes and Establish a Regional Salmonid Germplasm Repository	600 (176, 177)	SR SSCH, SR SH	Maintain genetic diversity in ESA-listed chinook salmon, steelhead, bull trout and other rare salmonids in the Columbia River basin by establishing a Regional Salmonid Germplasm Repository to preserve salmonid gametes through cryogenic techniques.	No	Yes	The project proposes to preserve salmonid gametes through cryogenic techniques in order to maintain genetic diversity in populations with low levels of abundance and at high risk of extirpation and to establish a regional salmonid germplasm repository for ESA-listed populations. Target species include chinook salmon, (Snake River spring/summer chinook salmon ESU), steelhead, and bull trout. Generally, measures such as cryopreservation are taken in an attempt to protect a species for a very short time while emergency actions are taken to restore lost habitat. NMFS has not yet determined the suitability of the use of cryopreservation as a tool of conservation for, or recovery of, Columbia River salmonids.
199706000	Clearwater Subbasin Focus Watershed Program - NPT	152,154	SR FCH, SR SH	Benefits are indirect. The objectives of this proposal are too plan, coordinate and prioritize restoration actions and projects in the Clearwater Basin. This project will have indirect effects on survival by improving ecosystem function.	No	Yes	Here is another \$350K for planning and focus of watershed efforts in the lower Clearwater. This group should be doing more to focus and prioritize the projects in the Clearwater subbasin.
199901400	Little Canyon Creek Subwatershed-Steelhead Trout Habitat Improvement Project	400	SR SH	Potential increased survival through improved water quality as a result of implementing agricultural BMPs.	No	Yes	Only one category of BMPs mentioned (Riparian treatment practices : includes tree and shrub plantings, offsite-watering systems) is partially consistent with Action 153 and that represents only about 17% if the FY2002 budget. There is not sufficient detail on the types, specifications, and duration of BMPs that will be implemented to evaluate this project under Action 153.

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199901500	Restoring Anadromous Fish Habitat in Big Canyon Watershed	400	SR SH	Potential increased survival through improved water quality as a result of implementing agricultural BMPs.	No	Yes	\$1 million over five years is requested to implement BMPs in a drainage that will still have water quality and quantity limitations. Only steelhead are listed in these streams and there needs to be prioritization of these BMP projects. Although the project mentions riparian buffers as a BMP there is discussion of type, specifications, or enrollment. There is not sufficient detail on these BMPs to evaluate this project under Action 152
199901600	Protect and Restore Big Canyon Creek Watershed	154, 500	SR SH	Project may improve survival by increasing habitat quality and access by replacing access through the replacement of culverts, obliterate roads, fencing riparian areas	No	Yes	Here is an additional \$500K per annum to work on the same small watershed as the previous project. Is there \$500,000 of work still to be done here?
199901700	Protect and Restore Lapwai Creek Watershed	500	SR SH	Project may improve survival by increasing habitat quality and access by improving passage largely through the replacement of culverts and some road obliteration.	No	Yes	This project intends to address some water issues but is not an FCRPS priority subbasin so is not identified in Action 149. This project is guided by a draft watershed assesment to be finalized later this year, but does not appear to address the primary limiting factors of lack of flow and headwater diversions. Thus, this project may be of limited benefit. The project also includes 2miles of fence along wetland areas but that accounts for about 5% of the total funds requested for FY2002 and is not apparently linked to agricultural easement programs.
199901800	Characterize and quantify residual steelhead in the Clearwater River, Idaho	184	SR SH	Benefits are indirect. Recommend modifications to hatchery practices in Clearwater River to produce more effective smolts and reduce hatchery/wild interactions by characterizing successful smolts and residuals and comparing the differences.	Yes	No	Already required by NMFS' Biological Opinion on 1995-1998 Hatchery Operations in the Columbia River Basin, Consultation Number 383, April 5, 1995:Section VIII, Number 1. An important research question, but it isn't the extent to which the sampling protocols will address key uncertainties regarding residualism.
199901900	Holistic Restoration of the Twelvemile Reach of the Salmon River near Challis, Idaho	149, 152	SR SSCH, SR SH	May increase survival by improvement of habitat through the reduction of sediment and water temperature, increasing riparian vegetation, removal of areas from grazing, and provide adequate instream flows	No	Yes	There appears to be interest from a number of local landowners in participating in this project. It has the benefit of a cost-share with the Army Corps of Engineers, but is also very expensive. 85% of the FY2002 funds (\$1,844,000) are allocated to purchasing fee titles from willing landowners, although these are not identified. Subsequent outyear budgets have increased expectations for purchasing fee titles. Do the likely benefits justify the cost?

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199902000	Analyze the Persistence and Spatial Dynamics of Snake River Chinook Salmon	180	SR SSCH	Benefits are indirect. Assist in the development of conservation and restoration strategies for Chinook salmon in the Middle Fork Salmon River by advancing the current understanding of the relationship between landscape characteristics and their distribution, pattern, and persistence.	No	Yes	This is another important contribution to the design of a comprehensive monitoring program in the SR basin. It is particularly important for two reasons: continuing a key data set; associating a high quality redd survey data set with potentially explanatory environmental characteristics.
200002800	Evaluate Status of Pacific Lamprey in the Clearwater River Drainage, Idaho	0		None for RPA ESUs. But still important basic research for resident fish.	No	No	No direct connection to FCRPS BiOp, but necessary work on an anadromous species that is not currently listed, but has the potential to be.
200003400	Protect and Restore The North Lochsa Face Analysis Area Watersheds	0	SR SH	Improvement of water quality through the reduction of sediment by obliterating roads may improve survival.	No	No	No specific RPA addresses water quality projects alone. Although road obliteration on USFS land may be beneficial to salmonids, there is no specific RPA in the FCRPS BiOp that covers this action unless justified by completed subbasin and watershed assessments and plans.
200003500	Rehabilitate Newsome Creek Watershed - South Fork Clearwater River	154	SR SH	Benefits are indirect. This is largely an FY2002 assessment and planning proposal. If successful, resultant actions are likely to increase survival through improvement of habitat quality and passage through culvert replacement and the reduction of sediment through the obliteration of roads	No	Yes	A portion of the funding for this project will go towards the completion of a watershed assessment, but it is not clear how much this proposal will contribute to this assessment, which already exists in draft.
200003600	Protect & Restore Mill Creek	500	SR SH	Indirect benefit through culvert assessment. Likely increased survival through improvement of habitat quality and passage through culvert replacement and re-vegetation of riparian areas if actions implemented.	No	Yes	Completed assessment will address passage problems and opportunities, but not in a priority subbasin as identified by the BiOp and All Hs paper. 50% of fund request is meant to cover consultation with Federal Agencies on NEPA, ESA, and permits. 20% of funds will be used to identify and survey problem culverts. Only 6% (\$6200) of funds are allocated to on the ground work, i.e., protect riparian areas, and that is allocated to purchase fencing materials and woody material.

### Enclosure 3. Explanation of Acronyms and Criteria in Enclosures 1 and 2

#### Reasonable and Prudent Alternative (RPA) Action Item(s)

BASE = an ongoing project that affected the survival of broods returning as adults during the base period and which will continue to influence survival at the same rate in the proposed project. The project therefore comprises part of the environmental baseline presumed in the NMFS 2000 Federal Columbia River Power System biological opinion (2000 FCRPS Opinion).

0 = an action that is not called for (specifically or generically) by provisions of the RPA.

1-199 = RPA action number for a project that is called for (specifically or generically) and thus may implement (in whole or part) one of the RPA action items in the NMFS 2000 FCRPS Opinion. This may include ongoing projects that did not affect the survival of broods returning as adults during the base period.

400 = a riparian protection project that is consistent with the riparian restoration intentions of the RPA but does not fully meet the two criteria of RPA Action 153: (1) the easements are not part of the Conservation Reserve Enhancement Program (CREP) or other agricultural incentive program; and (2) the easements are not long term (> 15 years) or permanent.

500 = a flow, passage, screening, or water acquisition/lease that is consistent with the intentions of the RPA but is not in one of the 16 priority subbasins (therefore not associated with RPA 149).

600 = an ongoing conservation hatchery program consistent with the safety-net concept, the continuation of which was implicitly assumed but not explicitly identified in RPA Action 176. Specifically, this category applies to: (1) the ongoing Snake River sockeye salmon captive broodstock program; (2) the ongoing Snake River spring/summer chinook captive rearing program; (3) the genetic cryopreservation project; and (4) other ongoing projects, yet to be identified, that may clearly fit the safety-net concept. Continued implementation of these programs is also consistent with RPA Action 177.

#### ESU(s) Affected

The following is a list of acronyms used in the table. Listed evolutionarily significant units (ESU) are in **BOLD** and the eight listed ESUs included in the 2000 FCRPS Opinion's reasonable and prudent alternative are indicated by (\*).

<b>SR SSCH</b>	Snake River Spring/Summer Chinook Salmon(*)
<b>SR FCH</b>	Snake River fall Chinook Salmon(*)
<b>SR SOCK</b>	Snake River Sockeye Salmon(*)

<b>SR SH</b>	Snake River Steelhead(*)
<b>UCR SCH</b>	Upper Columbia River Spring Chinook Salmon(*)
<b>UCR SH</b>	Upper Columbia River Steelhead(*)
<b>UCR SFCH</b>	Upper Columbia River Summer/Fall Chinook
<b>OR SOCK</b>	Okanogan River Sockeye Salmon
<b>LW SOCK</b>	Lake Wenatchee Sockeye Salmon
<b>MCR SH</b>	Middle Columbia River Steelhead(*)
<b>MCR SCH</b>	Middle Columbia River Spring Chinook Salmon
<b>LCR CH</b>	Lower Columbia River Chinook Salmon
<b>LCR SH</b>	Lower Columbia River Steelhead
<b>LCSW COHO</b>	Lower Columbia/Southwest WA Coho Salmon
<b>SWW SH</b>	Southwest Washington Steelhead ( <i>below Cowlitz on WA side; below Willamette on OR side</i> )
<b>COL CHUM</b>	Columbia River Chum Salmon(*)
<b>UWR CH</b>	Upper Willamette River Chinook Salmon
<b>UWR SH</b>	Upper Willamette River Steelhead
<b>MULTIPLE</b>	Four or more ESUs affected by project
<b>N/A</b>	Affected species is not a Columbia River basin salmon or steelhead
<b>NONE</b>	Project will have <u>no biological effect</u> on any species

When the affected species is a salmon or steelhead of unknown lineage, or one that NMFS has not assigned to an ESU (perhaps because it is a composite hatchery stock), the following acronyms are used:

SPR CHN-U   SMR CHN-U   FALL CHN-U   COHO-U   STHD-U   SOCK-U

### Statement of Potential Biological Benefit to ESU

Text Describing Benefit = the project as proposed is likely to provide a direct or indirect benefit for the affected ESUs if the project is successfully implemented.

N/A = the project is not likely to provide a biological benefit or the project is likely to benefit some fish or wildlife species, but not the salmon and steelhead stocks described above.



### Already ESA Required?

YES = the project is already required by an existing NMFS ESA document, or is likely to be required as a result of an ongoing NMFS ESA consultation. ESA documents include Section 7 biological opinions or proposed actions in informal consultations, and Section 10 take permits and associated HCPs.

NO = project is not already required by an existing NMFS ESA document or likely to be required as a result of an ongoing NMFS ESA consultation, or the proposal would accelerate completion of HGMPs or subbasin assessments and plans or go beyond requirements established in Section 7 or 10 processes/documents. (See "NMFS Guidance: Giving Credit for Offsite Mitigation" for further clarification).

### Biop?

YES = all four of these conditions are met:

- There is a number greater than zero in the "RPA Action Items" column
- At least one of the eight ESUs that are the subject of the 2000 FCRPS Opinion's RPA is included in the "ESU(s) Affected" column.
- There is a beneficial effect described in the "Statement of Potential Biological Benefit to ESU" column.
- There is a "NO" in the "Already ESA Required?" column.

NO = any of the four conditions described above is not true

### Comments

Staff notations are included to help explain some of the determinations in the other columns. These comments by NMFS reviewers should be considered only with regard to the specific proposal and should not be construed or interpreted to indicate any priority or ranking relative to other proposals.