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FY2002 Blue Mountain and Mountain Snake Provincial Review: Part I

Final Review

of

Fiscal Year 2002 Project Proposals for the Mountain Snake and Blue Mountain Provinces

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ISRP Final Review of Fiscal Year 2002 Proposals for the Mountain Snake and Blue Mountain Provinces

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Introduction

This report provides final comments and recommendations on projects submitted for Fiscal Year 2002 funding in the Mountain Snake and Blue Mountain Provinces. It also provides a preliminary discussion of programmatic issues that cut across subbasins and provinces, and were identified in the course of the proposal review.

This report is part one of three reports the ISRP released on December 21, 2001, pertaining to fish and wildlife projects in the Blue Mountain and Mountain Snake Provincial Review. The second report consists of a preliminary review of Lower Snake River Compensation Plan proposals, and the third is a preliminary review of Northeast Oregon Hatchery Spring Chinook Master Plan Step Two documents.

The review process to develop these recommendations and comments included several steps. On September 28, 2001, the ISRP released a preliminary review of Blue Mountain and Mountain Snake proposals (ISRP 2001-9; www.nwcouncil.org/library/isrp/isrp2001-9.htm). The review process for that report included several elements that are the foundation of the provincial review process. The review process for that report included several elements that are the foundation of the provincial review process. Each proposal was reviewed by at least three reviewers and discussed by the full review team. Proponents of each proposal gave presentations to the ISRP. Each presentation was followed by a question and answer session. The ISRP review teams visited most of the subbasins in the provinces, during which the teams engaged in informal discussions with project leaders. The combination of the discussions and oral presentations was invaluable in identifying potential issues and clarifying the nature of the projects. The site visits and presentations were well organized and informative. As stated in our preliminary report, we were privileged to witness this year's strong run of fish spawning in the wild and appreciate the project sponsors' effort during the busy field season.

With the release of the ISRP's preliminary report, project sponsors were provided several weeks to respond to the ISRP's comments. The ISRP received about 140 responses. The ISRP reviewers who had reviewed the original proposal reviewed the response related to that proposal, and the ISRP review teams as a whole discussed the responses. The ISRP received CBFWA's Draft FY 2002-2004 Blue Mountain and Mountain Snake Work Plans, as scheduled on November 30, 2001 (see www.cbfwa.org), and briefly conferred to compare the ISRP review team recommendations with CBFWA's recommendations and comments. Consequently, each ISRP recommendation includes a comparison with CBFWA's prioritization and takes into account project sponsor responses to the ISRP's preliminary review.

This marks the end of the ISRP's duties in the fifth iteration of the provincial review process. The ISRP continues to be enthusiastic about the new approach and notes improvement gained by the process. Specifically, the site visits and presentations were well organized, informative, and demonstrated an improving trend over those in the earlier

province workshops. This is evidence that the review process is generating benefits towards better organization, coordination, and scientific emphasis to projects. Participation by the Lower Snake Compensation Plan project proponents was also a step forward toward providing a more complete picture of the recovery and mitigation activities occurring in the basin.

Recommendation Categories

Recommendations and comments are provided for each of the 142 proposals submitted. These recommendations are split into three basic categories: 1) fundable (59 proposals); 2) fundable in part (33 proposals); and 3) not fundable (48 proposals). Two proposals were considered not amenable to scientific review.

ISRP recommendation categories are based on the criteria provided in the 1996 amendment to the Northwest Power Act. The amended Act directs the ISRP to review projects in the context of the Council's program and in regard to whether they:

1. are based on sound science principles;
2. benefit fish and wildlife;
3. have clearly defined objectives and outcomes; and
4. have provisions for monitoring and evaluation of results.

Pursuant to the 1996 amendment, the Council fully considers the ISRP recommendations when making its recommendations regarding funding, and provides an explanation in writing where its recommendations diverge from those of the ISRP.

The ISRP uses "fundable," "not fundable," and variations to summarize the extent to which a proposal meets the ISRP review criteria and to capture the level of ISRP confidence in a proposal. After its Fiscal Year 1999 review, the ISRP began using "fundable" rather than "adequate proposal," because funding recommendations are the common currency between the Council, CBFWA, and BPA. As such, the "fundable" categories enable a ready comparison with CBFWA's recommendations, which is part of the ISRP review.

Fundable is assigned to a proposal that substantially meets each of the ISRP criteria. Each proposal does not have to contain tasks that independently meet each of the criteria but can be an integral part of a program that provides the necessary elements. For example, a habitat restoration proposal may use data from a separate monitoring and evaluation proposal to measure results. The proposal must demonstrate this integration. Some "fundable" proposals may require minor clarifications and adjustments to methods and objectives by the sponsor in consultation with the Council and BPA in the final project selection process. "Fundable" is not an ISRP endorsement to fund the project or an opinion on the proposal's priority.

Fundable in Part is assigned to a proposal that includes work that is scientifically supported, but also work that is not. In this case, the ISRP specifies which objectives or tasks are not scientifically sound and recommends that these parts of the proposal not be funded. Examples are proposals that include objectives that are not scientifically supported, for instance a proposal for both background assessment work and concurrent major on-the-

ground implementation that could not be supported before results of the assessment were known, and proposals that included use of unsound methods to meet a particular objective.

Not Fundable is assigned to a proposal that is significantly deficient in one or more of the ISRP review criteria. One example is a research proposal that is technically sound but does not offer benefits to fish and wildlife because it substantially duplicates past efforts and does not offer new insights. Another example is a proposal for an ongoing project that may offer benefits to fish but does not include provisions for monitoring and evaluation or report past results. Usually a deficiency in one area is a symptom of overall deficiency in the proposal. In most cases, proposals that receive "Not Fundable" recommendations lack detailed methods, provision for monitoring and evaluation, or have the potential for deleterious effects on native populations. The ISRP notes that numerous "not fundable" projects propose needed actions or are an integral part of a watershed effort, but the proposed methods, tasks and objectives are not scientifically sound. The ISRP comments are intended to indicate areas where serious remedial effort, such as significant revision and review, is needed before funding continues. In some cases, an RFP is warranted to address the needed action.

ISRP comments also include observations on budgetary, *in lieu*, and other issues that are not central to the scientific review. These observations do not dictate whether a project will receive a "fundable" or "not fundable" recommendation. Instead, these comments are intended to flag issues for the Council, BPA, CBFWA, and the public that require further inquiry.

Programmatic Issues

These statements on programmatic issues should be considered works in progress. They are included here because the basic elements are of value in judging the merits of project proposals in the Mountain Snake and Blue Mountain Provinces. However, not all Provinces have been reviewed by the ISRP and not all ISRP members were on the Peer Review Group for the Mountain Snake and Blue Mountain Provinces. The ISRP anticipates that a final report on overarching programmatic issues will be issued by the ISRP in 2002 upon the completion of the Provincial Reviews.

Stock Assessments

A basinwide salmonid stock assessment program is required as the basis for management and research of fish and fisheries in the Columbia Basin. The ISRP notes a lack of consensus over a uniform stock assessment protocol. Salmonid stock inventory is key, in particular, to the management decisions on appropriate tools for recovery.

For anadromous salmonids, key variables required in an assessment include harvest, adult escapement, smolt yield to determine smolts per spawner as a function of spawner density, adults per smolt, and trends in these statistics over time periods that define the productivity and capacity within a climatological and/or ecological regime. A standardized, uniform index management system is required, where sites are selected to represent a particular geographic location (province), where detailed life stage monitoring may be required, usually

at a fish enumeration facility. Other watersheds are tracked to determine relative abundance, via harvest records, spawner surveys, redd counts, fry abundance, or other means that have been calibrated to the index site results. Such a program is rare, if non-existent, in the Columbia Basin, but examples of its use may be found in British Columbia for several different salmonid species, and on the eastern seaboard for Atlantic salmon. A program of stock assessment is briefly described on the Fisheries and Oceans Canada website (www.pac.dfo-mpo.gc.ca/ops/fm/Salmon/stock.htm), including a listing of crucial information needs, and example cases.

From an adequate stock assessment and stock status analysis (e.g., healthy, critical, depressed, or endangered), a list of management tools appropriate to the stock's recruitment level may be selected. These tools include choices within harvest, habitat, and hatchery management. In the recovery projects reviewed in the Columbia Provinces, we rarely encountered a project justification that provided a solid reference to such a stock assessment framework. Projects need to coordinate their efforts towards a solid stock assessment framework, and indicate the linkage of stock assessment and stock status to their proposed work within project applications.

Stock assessment and watershed assessment are consistent with the required elements of the sub-basin plan. Careful selection of index sites will be necessary, since these sites will become the standard for comparison, or controls, in Tier 2 and 3 levels of evaluation, monitoring, and research, as described below. Careful coordination of sub-basin activities and effectiveness evaluation is thus centered on the stock assessment and index stream system.

Watershed Assessments and Analysis

At least four watershed assessment protocols have been in use in this area:
1. Federal Guide to Watershed Analysis.
www.southernregion.fs.fed.us/gwj/lrmp/plandocs/r8r9_water_assess_attach.htm

2. Washington Department Natural Resource Guide to Watershed Analysis.
www.wa.gov/wdfw/hab/sshiap/

3. Oregon Watershed Assessment Manual, by the Oregon Watershed Enhancement Board (OWEB). www.oweb.state.or.us/

4. The Ecosystem Diagnosis and Treatment (EDT) model is being applied throughout the Columbia River Basin and elsewhere (www.mobrand.com).

Standard protocols for watershed assessment, prescription, rehabilitation and evaluation in the Columbia River Basin are lacking. A thorough, standard watershed assessment and a prescription that arises from the assessment, with a clear set of priorities is required. We would like to point these efforts toward standard protocols of condition assessment and a database for information storage that can be useful Basinwide and beyond.

On forested lands in British Columbia, the Watershed Restoration Program has developed guidelines for condition assessment, starting with overview assessments (Johnston and Moore 1995) which serve to indicate where stable conditions do not warrant further work and where more intensive levels of assessment are required on hill slopes, and in gullies, riparian areas, stream channels, and fish habitat. More information on these manuals may be obtained from the Ministry website:
srmwww.gov.bc.ca/frco/programs/wrp/procedures.html

The next phase that requires a similar science-based approach is in the rehabilitation work. In BC, Slaney and Zaldokas (1997) "Fish Habitat Rehabilitation Procedures" (srmwww.gov.bc.ca/frco/bookshop/tech.html) is frequently referenced. Similar guidelines are in development for Washington State (www.wa.gov/wdfw/hab/ahg/).

After assessment, prescription, rehabilitation, comes the task of monitoring and evaluation. Keeley and Walters (1994) provided recommendations for monitoring, using smolts as the response variable in numerous paired (treated and untreated) watersheds, but the program never evolved towards their recommended level of evaluation. Other frameworks have emerged for tracking project effectiveness (Gaboury and Wong 1999).

As recently implemented by the U.S. Forest Service, watershed analysis is a procedure used to characterize the human, aquatic, riparian and terrestrial features, conditions, processes, and interactions (collectively referred to as "ecosystem elements") within a watershed. It follows the protocol of Ecosystem Analysis at the Watershed Scale (EAWS), to provide a systematic way to understand and organize ecosystem information.

Watershed analysis is an issue-driven stage-setting process that establishes the context for subsequent NEPA and project decision steps. It simplifies and shortens the preparation of project environmental analyses. It enhances the ability to estimate direct, indirect, and cumulative effects of management activities and guide their general type, location, and sequence within a watershed.

The EAWS relies upon the judgment of an interdisciplinary team to:

1) Characterize the watershed highlighting the dominant processes and features;
2) Identify plan objectives and regulatory constraints to resource management;
3) Identify key issues and resource concerns specific to the watershed;
4) Describe current conditions and links with other scales;
5) Describe reference conditions and explain changes in ecological conditions resulting from anthropogenic and natural disturbances;
6) Synthesize and interpret results to explain changes in ecosystem conditions and their probable causes, including implications for watershed management objectives; and
7) Develop recommendations for management activities that are responsive to the issues and key questions.

During this provincial review, the ISRP noted the increasing efforts being expended on EAWS preparation in National Forests, as well as proposals to use the EAWS protocol on non-federal lands. Based upon relatively limited exposure to EAWS, the ISRP offers three observations.

1. EAWS is appropriate to identify and prioritize federal land rehabilitation activities such as culvert replacement and road decommissioning that might be considered for Bonneville funding. In cases where USFS funds are unavailable, EAWS preparation by consultants seems appropriate to accelerate the identification and prioritization process.

2. EAWS prepared by consultants in situations (such as Deer Creek in the Salmon subbasin, proposal #28044) where land is non-federal and of mixed ownership are often hindered by inadequate data on fish and fish habitats. Under data-poor conditions, an effective watershed assessment will be more difficult to produce and funding requests for those endeavors should be carefully scrutinized.

3. EAWS will not in itself be adequate to plan and prioritize larger fish-centered projects that are often presented for Bonneville funding. Watershed assessments as the basis of fish restoration objectives must be able to prioritize stream reaches based on actual vs. potential natural fish production. The prioritization will rely on assessments of relative survival by life-stage (such as egg to fry and parr to smolt for anadromous species) for each reach. The ISRP observes that developing such a watershed assessment approach is one of the biggest challenges in these Provinces. Little developmental progress was evident from the year 2001 field tour, proposals, and presentations. The ISRP has noted significant progress toward such a goal elsewhere (such as in the Yakima system, using EDT) and will continue its involvement in helping to find a solution.

The ISRP offers a further general observation about watershed restoration. Many watershed projects are based on a general assumption that the sponsors can conclude from the literature or from their personal experience how to improve conditions for salmonids and achieve some (undefined) concept of watershed health. If watershed restoration projects are to be credible, they should include physical criteria by which the relationship between "watershed health" and fish production will be measured. When a rancher says "show me that if I leave 10% of my water in a stream, and keep my livestock X number of feet from a creek that the fish run will be significantly increased," data need to be available to demonstrate this relationship. Additionally, a systematic and evaluative approach to watershed restoration will generate knowledge about the success and failures of alternative approaches and the appropriate incentives to achieve effective landowner cooperation.

Prioritization of Habitat Protection and Restoration Projects

Productive habitat for fish and wildlife provides complex structural diversity in space and time. The quality of habitat for different life-stages varies across and between watersheds, and from year-to-year, depending on factors such as flood frequency, snow-pack, and fire. Populations persist under these variable conditions because they have a complex structure of sub-populations, some strong and some vulnerable, distributed across a wide array of habitats. Extinction in one area can be compensated, in time, by emigration from an adjacent sub-population that was not decimated. Similarly, low production in one area may be compensated by above average production in adjacent areas.

Scientists can make educated guesses regarding the optimal population structure and habitat patterns for a successful population. Projects to halt disruption of, or to restore, watershed

processes that produce productive natural habitat for fish and wildlife probably are beneficial in most situations, but by themselves, likely to make only minor contributions to restoration of the structure in space and time needed by a successful population of wildlife or fish. Our confidence in the "gardening approach" (piecemeal improvement of the appearance of habitat) to restoring the complexity needed for protecting fish and wildlife populations is low. For these reasons, we recommend that administrators and scientists participating in the Council's Fish and Wildlife Program focus attention on identifying, as soon as possible, the overall spatial array of watersheds and habitat units needed to protect important populations. The ISRP believes that the best long term strategies for protecting fish and wildlife habitat and restoring viable populations are to purchase lands, conservation easements, and water rights for instream flow. The greatest scientific confidence for protecting the needs of populations resides in protecting as many areas maintained by natural processes as possible, at least until specific needs are better understood.

In September 2001, the ISRP reviewed the Confederated Salish and Kootenai Tribes' Habitat Acquisition and Restoration Plan (19910600) to determine whether it provided scientifically sound criteria and protocol to prioritize habitat acquisitions. The ISRP found that document described a good plan for habitat acquisition and restoration of wildlife habitat in mitigation for lost aquatic and riparian habitat due to the Kerr Project No. 5 located on the Flathead River and could serve as a useful model to other habitat and restoration proposals with some minor revision of the monitoring and evaluation (M&E) component of the plan.

Methods of Rehabilitation and Recovery

Supplementation as an Experiment

At the conclusion of the Blue Mountain and Mountain Snake provincial reviews, the ISRP has an increasing concern that the Columbia Basin's suite of large-scale supplementation projects (Hood River, Yakima, NEOH [Northeast Oregon], NPTH [Nez Perce Tribal Hatchery], ISS [Idaho Supplementation Studies], LSRCP [Lower Snake River Compensation Program], and others) do not add up to a coherent complete test of the major hypotheses associated with supplementation as a rebuilding and recovery tool. Critical uncertainties may remain unresolved indefinitely.

The basin is investing very large amounts of money and resources into supplementation, both as an experimental test of the technique and as a rebuilding tool to achieve the FWP's goals. Chief among the supplementation programs reviewed to date are the Yakima Cle Elum projects, the ISS suite of projects, and the NEOH projects. The ISRP has provided extensive critical comments on all of these projects and programs in this Blue Mountain/Mountain Snake review and our earlier Columbia Plateau review (ISRP 2001-8), including many suggestions on how to increase the experimental rigor of these projects toward addressing critical uncertainties about supplementation. The ISRP is concerned that without a larger experimental framework that links all supplementation projects in the basin together specifically to test the major hypotheses and reduce uncertainties, the huge investment presently being made will not resolve the issues to any real degree. If so, the present often-acrimonious debates about supplementation will likely continue unabated.

The ISRP is aware of ongoing efforts of three scientific advisory groups to provide advice to the Council on "supplementation": the Council's Artificial Production Review, the Independent Scientific Advisory Board's (ISAB) pending review of supplementation, and the present and continuing ISRP review of project proposals within Provinces, including the upcoming Columbia Cascade and Systemwide reviews. The ISRP recommends that ongoing review efforts on artificial production and supplementation be more closely linked together to try to reach consensus among the scientific advisory groups on whether the basin's investment in testing supplementation is likely to be successful at resolving critical uncertainties. If not, then consensus on an overall basin-wide experimental framework and design is needed.

No-till (direct seeding) Production

Numerous proposals to demonstrate the benefits of no-till methods (direct seeding) of agricultural production have been submitted to the Fish and Wildlife Program. These proposals are motivated by the problem of topsoil erosion leading to sediment deposition in streams and degradation of fish habitat. The proposals have in common the advocacy of no-till methods, a reliance on subsidies, a reliance on individual demonstration projects, an absence of economic evaluation, and an absence of biological evaluation of fish response to reduced sedimentation.

The ISRP has commented in past reviews that no-till projects should evaluate:

- the impact of alternative practices on soil erosion and sediment deposition;
- the impact of various levels of sedimentation loads on fish;
- the costs and benefits (economic and ecological) of no-till rather than attempt to demonstrate benefits alone;
- adoption economics at different operating scales and production conditions.

No-till methods may be a promising technique to control erosion, but they should be evaluated through an experimental approach that includes the costs and benefits of no-till under different production conditions and scales. (e.g. What operating costs are specific to no-till? How do they change over different operating scales and production portfolios? What are the breakeven points for operations at different scales? How do these compare to break-even points under conventional production methods?)

Given the proposed public investment in subsidies to introduce no-till production, projects should also assess adoption behavior over a range of subsidies.

An evaluative approach would produce information about economics of production of different operations and identify the factors most important in influencing adoption. It would generate information useful to the establishment of a subsidy structure or other economic incentives, allow findings to be generalized beyond individual case studies and eliminate the need to carry out county-by-county demonstration projects.

Economic analysis:

Principal investigators of proposed no-till projects have not been economists. The ISRP recommends that economic analysis of the no-till question be subcontracted to agricultural economists with experience in production economics. The two general components of an economic analysis are production economics and adoption response functions, including the following:

- production costs (fixed and variable) of tilling practices, at different scales
- production costs (fixed and variable) of no-till practices, at different scales
- investment costs and depreciation schedule for no-till equipment
- production practices – sequencing, etc
- commodity prices and market structure
- breakeven points for till and no-till practices
- non-cost factors influencing adoption choice
- adoption response function (dep. vars. e.g. scale of operation, area, commodity price, costs)

Monitoring, Evaluation, and Reporting of Results

As specified in the 1996 Amendment to the Power Act, a primary review function of the ISRP is to determine if projects are based on sound scientific principles and are likely to benefit fish and wildlife. Integral to this determination is whether projects monitor and evaluate progress and report results that allow measurement of benefits. Project proposals often lack detailed description of the kind of monitoring and evaluation that is necessary in sound scientific programs. We offer the following suggestions for implementation, trend (routine), statistical, and research monitoring.

For some projects, monitoring is made difficult by the localized nature of the project compared to the larger spatial scale on which the ultimate ecological responses (e.g., increased populations of fish or wildlife) can be expected. This is particularly true of many proposals for which the target species to be benefited are anadromous fishes. For such projects, monitoring can in part be addressed at the level of the subbasin plan and in part with separate larger-scale monitoring projects. These parts need to be coordinated, and the overall plan needs to describe and explain the coordination. Monitoring of ecological conditions and fish stock status in the subbasin as a whole must be sufficient to reveal whether the initial diagnosis of the subbasin was correct and whether the ecological problems are being solved by the cumulative effects of the projects in that subbasin. The large-scale aspects of monitoring may best be addressed by separate projects that have the explicit objective of monitoring ecological conditions and stock status for a large area (e.g., a subbasin, basin, or region). Eventually the adequacy of the monitoring for an individual project would be judged in terms of the combined project-specific monitoring in the proposal and the linkage (which also should be described in the proposal) to the larger scale monitoring and cumulative impact assessment in the subbasin.

At the level of individual projects, monitoring should test for the proximate effectiveness of the project's activities. Each project should propose the level of monitoring (see discussion below) that is needed, should justify the adequacy of this level of monitoring for determining success of the project, and should outline the sampling design and methods that will be applied to attain monitoring goals. The monitoring plan may be provided directly as part of a project proposal (thus included in its background, methods and budget) or may be provided by specific reference through other parallel or larger scale (e.g., subbasin level) project proposals. In the latter case, it will be necessary that the project proposal for the parallel or larger scale monitoring project provide enough detail that the adequacy of the monitoring for purposes of the lower level project can be evaluated. Monitoring and evaluation at the basin, province, or subbasin scale may realize additional savings if proponents of related projects collectively design and implement their monitoring and evaluation activities.

Proposals must indicate plans for monitoring and evaluation of project effectiveness, and, for ongoing projects, include summaries of monitoring data, in figures and tables, even if the monitoring is conducted by another project. Reviewers look for a monitoring and evaluation plan or a project link to a larger monitoring and evaluation program that can help determine whether an action provides biologically measurable results, ultimately in terms of fish or wildlife numbers. The ISRP is not necessarily recommending major research-level data collection for projects. Most monitoring does not provide strong evidence of cause and effect, which requires an explicit experimental framework. Rather, we envision use of cost-effective, consistent, written procedures that can be easily replicated by new personnel.

Each project should propose the level of monitoring (see discussion below) that is needed. How can this be decided? For example, what M&E is needed when a faulty culvert is replaced? How does it compare to M&E needed to evaluate the collective projects in the Fish and Wildlife Program for recovery of spring chinook runs in the John Day River Basin? How does it compare to a project that evaluates the survival rates of adult salmonids caught and released from tangle nets?

Monitoring has been categorized in a hierarchical sequence (Tier 1, Tier 2, or Tier 3) in the NMFS All-H document (*Conservation of Columbia Basin Fish:* Final Basinwide Salmon Recovery Strategy, Volume 1, Table 4). We also recommend categorizing monitoring in a hierarchical sequence from monitoring of implementation and effectiveness of individual projects to large-scale statistical studies and research experiments. Four hierarchical levels should be considered: 1) implementation monitoring, 2) trend monitoring (NMFS Tier 1), 3) statistical monitoring (NMFS Tier 2), and 4) research monitoring (NMFS Tier 3).

- **Implementation Monitoring** is added as a term to describe monitoring of task completion. For example, miles of stream fenced, number of culverts removed, completion of reports, irrigation diversions maintained, etc. Implementation monitoring is often given in proposals to the Council's Fish and Wildlife Program. Implementation monitoring results must be presented, but sound science requires that project results also be measured in terms of benefits to fish and wildlife using one of the following levels of monitoring.

- **Tier 1 (trend or routine) monitoring** obtains repeated measurements, usually representing a single spatial unit over a period of time, with a view to quantifying changes over time. Changes must be distinguished from background noise. This is usually a low level of monitoring that falls under the NMFS Tier 1. Tier 1 trend monitoring on individual project sites does not establish cause and effect relationships (i.e., is not research) and does not provide statistical inductive inferences to larger areas or time periods. However, Tier 1 trend monitoring on similar projects replicated over time and space can provide compelling evidence for general conclusions.

- **Tier 2 (statistical) monitoring** provides statistical inferences to larger areas and longer time periods and requires both probabilistic selection of study sites and repeated visits (NMFS Tier 2). A good model is the Oregon Plan for Salmon and Watersheds Monitoring Program (Nicholas 1997a, 1997b, 1999) as implemented in the Oregon coastal coho streams and proposed in the John Day Basin of the Columbia Plateau Province. The Oregon Plan, successfully implemented for estimation of coho distribution and abundance, applied a rigorous design for probabilistic site selection to answer key monitoring questions. Individual proposals can support larger Tier 2 statistical monitoring projects such as the Oregon Plan by using the same field methods and methods to select study sites that contribute information to Tier 2 statistical monitoring. Most large projects should implement sampling designs that allow Tier 2 statistical monitoring or contribute data to statistical monitoring.

- **Tier 3 (research) monitoring** is for those projects or groups of projects whose objectives include establishment of mechanistic links between management actions and salmon or other fish or wildlife population response (NMFS Tier 3). Bisbal (2001) defines this level of effort as *effects* or *response monitoring*; the repeated measurement of environmental variables to detect changes caused by external influences. The key words here are "establishment of mechanistic links" and "detect changes caused by external influences." Generally, the results of Tier 3 research monitoring qualify for publication in the refereed scientific literature. Examples of Tier 3 monitoring would include: 1) projects to evaluate the effects of different levels of fertilization on growth and survival of juvenile salmonids with streams selected randomly for reference and treatment; 2) projects to evaluate the survival rates of adult salmonids caught and released from tangle nets; 3) projects to evaluate the survival rates of juveniles migrating past a dam at different levels of spill and turbine passage; 4) projects to evaluate the swimming ability of lamprey during upstream migration; 5) projects to evaluate the effectiveness of various land restoration or management techniques, etc.

The Council's Fish and Wildlife Program calls for monitoring and evaluation of biological and environmental conditions at the scale of provinces and subbasins. Tier 2 statistical monitoring will be required to provide inductive inferences to entire provinces, subbasins, and many watersheds, because it is impossible to survey every square foot of every stream bottom, riparian zone, and uplands area in these large regions every month of every year for decades. Many of the Columbia Basins' projects for "*monitoring*" fish and wildlife species (redds, spawners, juveniles, etc.) currently limit surveys to "*index sites*" selected by professional judgment in past years. Use of such data for inferences to larger areas is problematic, and requires additional data obtained from a special design in order to calibrate

the relation between the index sites and the larger area as considered from the perspective of Tier 2 statistical monitoring. The proponents of such projects should plan their monitoring programs to allow for valid inductive inferences to the target areas. To maintain consistency of calibration, sites and methods used in the past should be continued along with the new sites (and possibly new methods) in a new Tier 2 statistical monitoring program for at least enough time to obtain an adequate sample for calibration. Depending on the original reasons for selecting the index sites, there may be good reason to continue monitoring at those locations, which would henceforth be treated as a special, defined stratum in the design.

Monitoring provides the information that will be used to evaluate the success or failure of a project to contribute to the ultimate goals of fish and wildlife recovery, preservation, or mitigation. Thus, each project should explicitly state its local, specific, and short-term goals as well as the ways in which these contribute to the larger longer-term goals of fish and wildlife remediation and mitigation. These goals should be cast in the form of measurable biological results and criteria for success, such as habitat parameters and fish and wildlife numbers or performance measures. This level of biological monitoring with direct ties to goals is required under the 1996 Amendment to the Power Act. Bisbal (2001) provides some useful guidelines for fish and wildlife evaluation plans, including choice of indicators to monitor, management needs, planning of the evaluation component, the importance of sampling design, consideration of the statistical analyses that are anticipated, and the value of pilot studies to test techniques and performance standards.

Monitoring for Survival and SAR using PIT-TAGS

Much has been learned about survival and return rates of salmonids based on PIT-TAG technology. Undoubtedly, PIT-TAGS will continue to play a central role in design and analysis of individual research programs and scientific observational studies. However, the ISRP believes that a coordinated annual operations and management project is needed for application and detection of PIT-TAGS in support of long term monitoring and evaluation of out-migration survival of juveniles and return rates of adults.

Specific Comments on Aquatic Monitoring and Evaluation

The ISRP emphasizes its support of the proponents of projects in the Mountain Snake and Blue Mountain Provinces to work with all Idaho, Oregon, Washington, and Montana Provinces to develop compatible aquatic monitoring and evaluation procedures with common field procedures and probabilistic site selection for the entire Columbia River Basin.

A similar effort is underway in the Oregon portion of the Columbia Plateau Province. Principal Investigators of aquatic monitoring projects in the Mountain Snake and Blue Mountain Provinces should interact closely with Project No. 199801600 in the Columbia Plateau (Jim Ruzycki and Richard Carmichael, ODFW, "Monitor Natural Escapement and Productivity of John Day Basin Spring Chinook Salmon"). ODFW revised this proposal to create a comprehensive plan to include all monitoring and evaluation for all anadromous salmonid life-stages and habitats in the John Day portion of the Columbia River Plateau Province. The M&E program in the John Day Basin is apparently developing as a model for

the Oregon section of the Columbia Basin and is being carefully reviewed by agencies in Washington.

A potential problem in efforts to standardize sampling and data collection protocols was brought to the attention of the ISRP during the review of responses to our initial concerns on project Project 199107300, "Idaho Natural Production Monitoring and Evaluation." The proponents indicated that progress toward improved system monitoring and evaluation should occur through a coordinated Fish and Wildlife Program and ESA process, specifically the proposed Technical Oversight Committees for Research, Monitoring and Evaluation and Data Management organized through the FCRPS Implementation Plan. They also indicated that they intend to coordinate project activities and sampling plans with any such collaborative programs. However, they comment that the proposed formulation of the Technical Oversight Committees, defined as multi-federal membership without state or tribal participation, is unacceptable. If this is correct, the Council might consider supporting a larger role for the states and tribes in the collaborative development of this plan.

The ISRP recommends that the Council endorse and support these efforts to develop standard sampling and data collection protocols within the Columbia Basin. It is extremely difficult to change a monitoring plan once it is in place. With the increased emphasis on monitoring and evaluation in ISRP project reviews, this may represent a one-time opportunity to make progress on this difficult task. We also recommend that the proponents of all aquatic habitat monitoring consider using aquatic habitat data collection protocols recommended in Johnson et al. (2001).

Specific Comments on Terrestrial Monitoring and Evaluation

The ISRP endorses the efforts of the proponents of Projects: 199202603, 28036, 28038, 28040, 28039, 28037 to research the Natural Resources Conservation Service terrestrial monitoring program (i.e., the National Resources Inventory) and to consider a broader, ridgetop-to-ridgetop perspective. The Principal Investigators plan to evaluate this sampling program and the possibility of coordinating monitoring locations with established NRI points. Similarly, the ISRP endorses the commitment in the response by proponents of 28018 to develop a more unified monitoring and evaluation plan.

In response to the ISRP's comments and the Council's recommendations, the Albeni Falls Workgroup prepared a Draft Monitoring and Evaluation Plan for the Albeni Falls Wildlife Mitigation Project, dated August 2001 and submitted it for Council and ISRP review. This draft plan is currently under review by the Council and the ISRP. Although the review is not complete, it seems likely that this plan will be recommended as a model for terrestrial (including riparian) monitoring in the Columbia Basin. We encourage the proponents of terrestrial monitoring projects in all provinces to work closely with the Albeni Falls Workgroup and the Confederated Salish and Kootenai Tribes to develop common site selection procedures and data collection protocols for terrestrial monitoring within the Provinces of the Columbia Basin.

In particular we have suggested that an intensification of the National Resources Inventory (NRI) survey sites and data collection protocols would serve the Columbia Basin well. See the Proposals #200002300 and #200020116, the ISRP reviews in the Columbia Plateau, and

the NRI web site www.nhq.nrcs.usda.gov/NRI/. The Council's Fish and Wildlife Program includes objectives for fish and wildlife habitat in subbasins and in fact for the entire Columbia Basin. It is our understanding that subsets of data collected in the NRI could be utilized at the present time to make statistical inferences (to variables currently measured by the NRI) in the Columbia Basin and in some of the larger subbasins. See Oregon and Washington results from the NRI on the sites: www.or.nrcs.usda.gov/nri/index.htm, and www.wa.nrcs.usda.gov/NRI. Monitoring of habitat and other land uses on the scale of subbasins (e.g., the Salmon subbasin) and the Columbia Basin will require development of a system wide probabilistic sampling plan similar to the NRI or use of the NRI with appropriate variables measured. The ISRP believes that a coordinated "top-down" plan that can be intensified to make inferences to "small areas" (e.g., the size of projects in the Albeni Falls Dam Wildlife Mitigation Projects) is the best long-term strategy for the Columbia Basin.

Habitat Evaluation Procedures and Habitat Suitability Indices

In reviewing the Albeni Falls plan for wildlife monitoring and evaluation and Habitat Evaluation Procedures (HEP), the ISRP noted that the proposal includes provision for long-term HEP evaluations. We suggest that effort put into long-term repetition of HEP analyses may not be very useful and that use of HEP analyses and their associated Habitat Units (HUs) to guide land management may lead to counterproductive management practices. HEP is based on the assumption that habitat suitability for a species can be described by a Habitat Suitability Index (HSI). These indices vary in quality and many are based on limited information. Measures of uncertainty in the form of confidence bounds on HSIs are rarely given, but have been found to be very broad. Management to produce or maintain habitat that is predicted by an index of untested quality to provide good habitat for a particular species is not warranted when better and more direct information on wildlife is available. We urge the program away from continuing emphasis on HEP evaluation as a tool for long-term evaluation or management planning.

We have noted before that the HEP procedure was a reasonable way to assess loss and mitigation initially. The Wildlife Program developed with the expectation that Habitat Units (HUs) could provide a proxy for direct wildlife measures and so an increase in HUs could be expected in a well-managed program and could provide a yardstick for measuring recovery. However, the development of good-quality direct monitoring programs will make this coarse approximation obsolete as an evaluation tool. The Albeni Working Group is prudent in allowing that they expect to at least maintain baseline HUs and they will allow a 20% decrease in this before invoking a management response.

References

Monitoring and Evaluation Section

Bisbal, G.A. 2001. Conceptual design of monitoring and evaluation plans for fish and wildlife in the Columbia River ecosystem. *Environmental Management* 28(4): 433-453.

Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211pp.

Nicholas, J.W. (Principal Writer). 1997a. Monitoring Program, Chapter 16. The Oregon Plan: Oregon coastal salmon restoration initiative. State of Oregon, Salem, Oregon. (www.oregon-plan.org/)

Nicholas, J.W. (Principal Writer). 1997b. Monitoring Program, Addendum to Chapter 15b. The Oregon Plan: Revisions to the steelhead supplement. State of Oregon, Salem, Oregon. (www.oregon-plan.org/)

Nicholas, J.W. (Principal Writer). 1999. Implementation of the monitoring program, Chapter 15b. The Oregon Plan: Draft steelhead supplement. State of Oregon, Salem, Oregon. (www.oregon-plan.org/)

Watershed Assessment Section

Fish Habitat Assessment procedures are now on line at srmwww.gov.bc.ca/frco/programs/wrp/fhap/index.html. This is also the link to these documents on line:

Keeley, E.R. & C.J. Walters. 1994. The BC Watershed Restoration Program: Summary of the Experimental Design, Monitoring and Restoration Techniques Workshop. BC Watershed Restoration Management Report. 34p. 284Kb

Johnston, N.T. & Slaney, P.A. 1996. Fish Habitat Assessment Procedures, BC Watershed Restoration Technical Circular. 97p. 576Kb

Johnston, N.T. & Moore, G.D. 1995. Guidelines for Planning Watershed Restoration Projects. BC Watershed Restoration Technical Circular. 52p. 130Kb

Slaney, P.A., and Zaldokas, D. [Editors]. 1997. Fish Habitat Rehabilitation Procedures. BC Watershed Restoration Technical Circular No. 9. 341p. 7.1Mb

Gaboury, M. & Wong, R. 1999. A Framework for Conducting Effectiveness Evaluations of Watershed Restoration Projects. BC Watershed Restoration Technical Circular. 33p.

Final Recommendation and Comments on Each Proposal

Final recommendations and comments are provided on the 142 proposals submitted and are organized in several sets. The first set includes proposals that have activities in multiple provinces or are part of a group of related proposals that are best reviewed together; e.g. bull trout assessments and the Idaho Supplementation Studies. Following the grouped set, the proposals are organized by province, then subbasin, beginning with Salmon and Clearwater in the Mountain Snake Province, followed by the Asotin, mainstem Snake River's Hells Canyon reach, Imnaha and Grande Ronde in the Blue Mountain Province. Within the subbasins, the proposals are organized by topic (research, habitat restoration, hatchery) and roughly follow the order they were presented to the ISRP at the proposal review workshop.

Multiple Province and Grouped Proposals

Northwest Habitat Institute Mapping Proposals

1. Project ID: 27003
Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Blue Mountain Province
Subbasin: Blue Mountain
Sponsor: Northwest Habitat Institute
Short Description: Fine-scale wildlife habitat assessment for the Blue Mountain Province will provide critical baseline data for planning and monitoring efforts that is consistent with the NWPPC 's Subbasin Planning process.
FY02 Request: $201,175
3 YR Estimate: $312,145
ISRP Final Recommendation: Fundable in Part
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Fundable in Part

2. Project ID: 28003
Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Mountain Snake Province
Subbasin: Mountain Snake Province
Short Description: Fine-scale wildlife habitat assessment for the Mountain Snake Province will provide critical baseline data for planning and monitoring efforts that is called for in the 2 subbasin summaries and is consistent with the NWPPC 's Subbasin Planning process.
FY02 Request: $375,935
3 YR Estimate: $1,118,197
ISRP Final Recommendation: Fundable in Part
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part. A response was not requested for these two proposals. The ISRP has reviewed versions of these proposals in each province. The proposals argue for the utility of consistent wildlife maps produced at a finer level of resolution than currently available, but

the benefits of this mapping should first be demonstrated in one subbasin or province before funding in multiple areas. The ISRP recommends that only Objective 1 of one proposal in one subbasin or province be funded as a test of the maps' utility.

The proposals make a convincing case for the value of presenting complex habitat information in map form. The proponents have previously demonstrated the ability to produce high-quality maps at the Columbia Basin level. The proposed mapping would develop Landsat maps of wildlife-habitat types throughout the Columbia River Basin. If successful, these maps would represent a major step forward in the detail of information available to managers as baselines for ecological assessments. The improvement in mapping scale (down to 4 Hectare MMU from the Current 100 Hectare) would be particularly useful. However, the success of finer resolution maps would be determined by the availability of data at this scale. It is unlikely that regional data are of sufficient quality to support Objective 2.

Objective 2 should not be funded. The "wildlife and ecological evaluation" would be an assessment based only on habitat-type maps and on previous correlations of the habitat types shown in these maps with presence of species of wildlife. However, habitat maps contain errors and habitat types are necessarily arbitrary and cannot fully capture habitat for individual species. Thus, the evaluation adds no additional information to what is provided by the habitat maps, and it would undoubtedly be in error on many counts in predicting wildlife. It would not provide a very useful assessment of "wildlife species or habitats that are limiting" within a subbasin; in fact, it is not clear exactly what is meant by species or habitats being limiting. Objective 2 would have managers diagnose errors in the predictions that would be generated by the evaluation. Critiquing the predictions would be a useful exercise for the proponents but is not likely to be useful to the managers, who might be better informed by gathering primary information on species distributions and ecosystem function.

The maps would be made available in digital format to wildlife managers for the development of "coarse filter" conservation strategies. The utility of the maps to wildlife resource selection studies or as a layer in a GIS is unclear. For example, if the location (latitude-longitude) of a radio-tagged animal is provided, can the user easily build a table of associated habitat types based on the digital map?

Proposal 27003 falls below the quality of previous proposals. It is poorly written, combining poor grammar, spelling and punctuation with a confused structure and unexplained technical terms. Methods are presented in the background section. Objectives are different in sections 4 and 5. The "relations to other projects" section refers almost exclusively to other NHI mapping projects rather than establishing how the mapping would relate to and complement other projects. Also, absent from the proposals is a clarification of their relationship to work funded under the NWPPC's Ecosystem Diagnosis and Treatment project. The proponents have, however, adequately addressed the ISRP's previous comments on validation and field-testing from those reviews.

A key issue for these mapping proposals remains support from the managers, CBFWA, and the scientific community as a whole. Subbasin summaries indicate a need for mapping products and in particular, a need for mapping wildlife-habitats, but the summaries in

themselves do not directly call for specific maps. The proposals did not contain letters of support from managers in the respective subbasins. Finally, publications describing the methodology for wildlife and ecological evaluation of the habitat maps should be submitted to peer review in the wildlife scientific journals such as the *Journal of Wildlife Management.*

The ISRP suggests that validation and field-testing be made compatible with one of the national terrestrial survey efforts. Perhaps an intensification of the National Resources Inventory survey sites and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and the ISRP reviews in the Columbia Plateau.

CBFWA Project Review Comments:
This activity is currently being funded under the Ecosystem Diagnosis and Treatment project at NWPPC. The need for expansion of this project to produce finer resolution within each province should be determined through the EDT assessment process. If that process determines that finer resolution is necessary for regional planning, then funding for expansion should be provided through the NWPPC subbasin assessment effort. Project 27003 should be reviewed by the Regional Assessment Advisory Committee.

Project ID: 27006
Establishing Baseline Key Ecological Functions of Fish and Wildlife for Subbasin Planning
Sponsor: Northwest Habitat Institute in collaboration with the Washington Department of Fish and Wildlife
Subbasin: Blue Mountain Province - Systemwide
Short Description: This project will develop key ecological function information and species range maps for 133 resident fish and 474 wildlife species that occur within the Columbia River Basin.
FY02 Request: $153,500
3 YR Estimate: $303,000
ISRP Final Recommendation: Not Fundable
CBFWA Category: Do Not Fund
ISRP Comparison with CBFWA: Agree - Not Fundable
ISRP Final Review Comments:
Do not fund. This project proposes to evaluate key ecological functions of species and species assemblages in ecosystems and suggests that functional richness and functional redundancy can be assessed from the information base they have gathered or will compile. Knowledge of species functions in ecosystems and of redundancy versus uniqueness of species to ecosystem dynamics is important and has obvious implications for management. However, the current proposal is unlikely to provide information of a quality that could reasonably be used for management.

This proposal purports to establish key ecological functions for fish and wildlife to use as a baseline in subbasin planning. It proposes to expand the work on KEFs presented by the PI and another author in *Wildlife-Habitat Relationships in Oregon and Washington* and in the earlier stages of this project. It proposes to improve on GAP analysis by more consistent mapping. Good background is given on the development of KEFs and their application in the estimation of various functional patterns, but the proposal is vague about which ongoing work it would enhance. It cites the locations of information supporting the project but does

not summarize that information. It does not specify relationship to projects other than to its predecessor BPA project; surely the project proponents could establish the utility of the KEF work they propose in terms of its usefulness to other researchers? The project history would be another place that the utility of results to managers and researchers could be demonstrated. The potential utility of the approach would be further strengthened if the proponents submitted the work for publication in the peer-reviewed literature. Objectives are well specified but it does not seem reasonable to infer ecological function that generalizes across different contexts on the basis of species lists.

The information to be used to assess ecological function is very general (e.g., an animal might be described as an herbivore that carries vertebrate diseases and that physically affects soil structure) and does not consider strength or even presence of a functional role for a species in a particular area. These "key ecological functions" might provide a useful thumbnail sketch of basic ecological traits of a species, but species effects in ecosystems have often been shown to be very context-specific. The project will not use or gather any primary data on ecological function. Given the many ecological studies that show different functional roles for the same species in different communities or under different environmental conditions, this approach seems inherently flawed. Further, the data (species distributions) needed for such a project are not available for many species in many areas. Both lack of data and poor data quality are likely to be major problems for early steps of the analysis. The alternate source of distributional information – projecting presence of animals from habitat data – introduces circularity into the process and must add significant error to the resulting distribution maps and species lists.

CBFWA Project Review Comments:
Although the reviewers suggest that the knowledge of species functions in ecosystems is important and has potential management implications, the reviewers question whether the information that would be developed could be used for management purposes. The managers expressed a concern about the lack of coordination. It may be appropriate for the Regional Assessment Advisory Committee to review this proposal.

Bull Trout and Related Resident Fish Proposals

A collection of proposals was submitted for this review that address bull trout. Three clearly focus on general life-history studies in different parts of the basin (199405402, 28022, 28002). Two focus primarily on population dynamics of bull trout (27017, 28014). Other projects include brook trout control to help prevent them from interbreeding with bull trout (28007), development of a monitoring program for native species in the Salmon River basin (28030), and modeling invasion by exotics (28007).

The submitters agreed to an ISRP recommendation and have submitted the work proposed in 27017 and 28014 as a single proposal at a single location. The ISRP rejected proposal 28002 because it did not present a credible study design. Responses to ISRP questions provided the review team a basis to conclude that life-history projects 199405402 and 28022 are technically acceptable. Project 28030 did not meet the ISRP expectations for a scientifically credible proposal, and finally, the review panel concluded that project 28007 is

technically acceptable, but does not provide convincing evidence that it will yield significant benefit to management.

The review team concluded that there is a large amount of information regarding bull trout life history in the basin. Because it is not clear that significant benefit accrues to the species from more such studies, it is time to begin encouraging submissions with focus on imaginative hypotheses and tests regarding factors controlling reproductive success of the species across its range.

Project ID: 199405402
Characterize the Migratory Patterns, Population Structure, Food Habits, and Abundance of Bull Trout from Subbasins in the Blue Mountain Province.
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Blue Mountain Province
Short Description: To aid in conservation efforts for bull trout, describe their piscivorous nature, assess their population and age structure, explore methods to monitor their abundance, describe their migratory patterns, and monitor the status of populations.
FY02 Request: $670,804 (CBFWA Recommendation: $402,611)
3 YR Estimate: $1,946,270 (CBFWA Recommendation: $1,380,253)
ISRP Final Recommendation: Fundable (medium priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable but Medium Priority
ISRP Final Review Comments:
Fundable but medium priority. This multi-faceted investigation of bull trout life history and population structure in the Grand Ronde subbasin is fundable on a scientific basis, but the budget appears high for the work being done, and the proposal is rather weakly supported. The proposal is well prepared with respect to background and research approach in most respects but has deficiencies regarding some methods. It is of large scale and expensive (about $2.5 million over 5 years), excessive for what the investigators propose to accomplish. The insights gained from this project should be made available to a broader community, but there is a poor record of scientifically peer-reviewed publication. The original proposal contained a large budget requests in several places for publication, which may indicate that the sponsor also senses publication shortcomings, but the total of such items was nevertheless judged excessive in ISRP review. The sponsor's revised proposal reduced the publication budget request and explained that the involved items included data processing. The ISRP feels the budget for this is still too high. The ISRP recommends that the Council and BPA examine the budget in the project selection and contracting process before funding. Where is this project going? It rates a medium priority because production of results is low.

The project's habitat component is restricted to temperature, and the reviewers were concerned that this is not sufficient for understanding bull trout abundance and distribution, and for restoration and monitoring, but the apparent deficiencies may be covered by Project #199202604, and coordination with Project #27017 and/or 28014 is promised.

A clearly defined monitoring plan for bull trout in the Blue Mountain Province is necessary to provide context and justification for the EMAP-based surveys. Objective 5 is especially

tenuous given the problems associated with assessing bull trout abundance from redd counts.

The Council should examine the project's 60% fringe benefit rate. It seems extraordinarily high. Other State of Oregon projects in this Province are also high, ranging from 40% to 60%, whereas, in a sample of most other Blue Mountain and Clearwater proposals, the range was 10% to 38%, the great majority lying between 21% and 36%.

CBFWA Project Review Comments:
Reviewers question when this project will sunset. The EMAP objective has been removed from this proposal (budget reflects action).

The Resident Fish Caucus indicates that the proposal does not provide a review of all the diet studies conducted for bull trout in anadromous and non-anadromous waters within the Blue Mountain Province. The Resident Fish Caucus proposes that revisions of the proposal should include a more thorough review of previous diet studies. The majority of the hypotheses may have been answered by previous studies.

The USFWS suggests that "this project would be complimentary to proposal 27017 and provide additional needed information in the Grande Ronde. The objectives will characterize the fine-scale population structuring of bull trout within the Grand Ronde River subbasin; investigate the seasonal movements of fluvial bull trout of the Lostine and Imnaha rivers and Catherine Creek; describe the diet of fluvial bull trout in streams with relatively few anadromous salmonids present; and employ EMAP protocols to monitor and evaluate the status and trends in bull trout populations. This project will help implement reasonable and prudent measure 10.A.3.1 and terms and conditions 1.1, 11.2, and 11.A.2.2.b in the FCRPS biological opinion. The USFWS recommends the funding of this proposal, particularly the EMAP protocols for monitoring and evaluating and seasonal movement component be funded. The USFW believes that Proposal 27017 and 199405400 are complimentary and will assist in assessing bull trout recovery and implementation of the Biological Opinion."

Bull Trout Population Assessment and Life History Proposals from USGS

1. Project ID: 27017
Bull trout population assessment and life history characteristics in association with habitat quality and land use: template for recovery planning.
Sponsor: Utah Cooperative Fish and Wildlife Research Unit, USGS
Subbasin: Imnaha
FY02 Request: $469,792
3 YR Estimate: $1,009,568
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
Short Description: Assess bull trout population density, abundance and life history characteristics for core areas of the Imnaha Subbasins and evaluate relationships to habitat quality and land use based on field evaluations and mark/recapture techniques.
ISRP Final Review Comments (on 27017):
Fundable in part. A related proposal (28014) from the same sponsors in the Salmon subbasin was withdrawn. Reduction to a pilot-study on one Imnaha tributary is recommended. In this, the sponsor can test and develop methods to give greater assurance of a sound, full-scale study in the long run. In particular, the Pradel mark-recapture method, which apparently has never before been applied to fish, should be pilot-tested using the single tributary's replicate study areas. The detection of pit tags with the new detector apparatus can also be tested in that tributary; the results should yield insight into interpretation of data for determining fish movement and habitat use. Also appropriate for pilot study would be the validation of redd count methodology by mark recapture estimates and/or other procedures.

The statistical design presented via proposal and responses was not deemed adequate to evaluate critical limiting habitat factors. The movements important in metapopulation dynamics are not likely to be defined via the methods proposed and during a study of only three years' duration. The response to questions about replication is still confusing. One problem is that there is no indication of the sizes (stream lengths) of the 5 study areas that would constitute the replicates within each tributary stream. It is very important that these each be of adequate length, taking into consideration such factors as channel width, diversity and spacing of channel forms and features, "home range size" of the target fishes (encompassing routine day-to-day movements), and seasonal changes in habitat use by the fish. The sponsor has not discussed this or even presented any idea of appropriate replicate length. Determination of appropriate replicate lengths could be an objective in the pilot study.

The objective of determining survival rates will be difficult, and trying to correlate survival and other population parameters with habitat variables will be even more problematic. Basically, the within-stream replicates cannot be independent with regard to the fish population while the fish are moving significantly, so paired comparisons would be tenuous. The reviewers agree that the envisaged basic information on relationships between bull trout and their habitat is indeed needed (and future proposals could use the results from this project to develop a watershed assessment), but at this point pilot study is required to better work out the procedures for making such determinations in this stream system.

A further concern is that the sponsor did not clearly state the extent to which habitat study sites (the replicates) would be colocated with the population sampling sites. Some reviewers assumed they would be identical (and some of the above comments are predicated on that), but others questioned the situation. This might be clarified simply and quickly with Council staff and BPA contract officers if the project is funded.

In regard to the original, multi-stream design, habitat variables, sites within streams probably will be more correlated with each other than with sites in different streams. Analysis of data from this segment of the project will require a hierarchical analysis or demonstration that the sites are more or less independent. Another problem is that the Imnaha system contains a relatively narrow range of land uses. Therefore, the prospects for relating bull trout survival and growth to land use patterns (Objective 6) may not be a good in this basin as in some others. On the other hand, perhaps it will be best to conduct the pilot study here where land use patterns are not complex.

The proponents should use a probabilistic procedure for selecting some if not all of the study sites. The ISRP strongly recommends that they select sites using the "Oregon Plan" as a model. See the proposals, ISRP reviews, and proponent responses for fish, habitat, and water quality monitoring in the Salmon subbasin (199107300, 199405000, and 28051). Also, see the Council's draft recommendations on monitoring in the John Day of the Columbia Plateau Province (199801600). The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

In responding to the ISRP suggestion that (in addition to the project's quest for baseline data) testing of more elegant hypotheses than those embodied in the proposal is needed to facilitate bull trout recovery, the sponsor wrote that the project would be testing hypotheses but did not specify what they would be.

Given the number of areas in which ODFW and USGS projects on bull trout would be complementary, the PIs of both projects should develop an explicit coordination mechanism to ensure continuing collaboration and avoid duplication. The response lists several areas in which there is potential gain from collaboration; all are described as possible, but only hypothetically. Before funding, the PIs need to describe the means by which data collection will be coordinated, shared, and formatted in compatible ways so that each project's analysis benefits from the other.

CBFWA Project Review Comments:
This USFWS suggests that this proposal was designed to develop techniques to assess recovery planning and provide information for implementing the biological opinion. The proposed work would assess bull trout population density, abundance, and life history characteristics for core areas of the Imnaha Subbasin and evaluate relationships to habitat quality and land use based on field evaluations and mark/recapture techniques. The USFWS suggests the proposed work would "also provide the technical information to develop a template for bull trout recovery planning." The USFWS indicated that the proposed work is "needed to evaluate population response to recovery measures within and outside of the tributaries." According to the USFWS, the proposed work would help implement reasonable

and prudent measure 10.A.3.1 and terms and conditions 11.1, 11.2. and 11.A.2.2.b in the FCRPS biological opinion..

The USFWS views the proposed work "as an extremely important project for assisting in determining bull trout population status and habitat conditions" and believes there is a "need to systematically collect critical tributary information on bull trout to help in assessing the effects of FCRPS operation." The USFWS supports the funding of this proposal.

CBFWA did not review Proposal 28014. Per the ISRP's request, the sponsors have resubmitted the proposal for review in just one subbasin (i.e., Imnaha Subbasin in the Blue Mountain Province (Proposal 27017)).

Clearwater Subbasin

Project ID: 28022
Evaluate Bull Trout Life History in Dworshak Reservoir, N.F. Clearwater River Drainage, ID
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Clearwater
Short Description: Evaluate distribution, habitat use, and movement patterns of bull trout (Salvelinus confluentus) in Dworshak Reservoir
FY02 Request: $208,850 (CBFWA Recommendation: $133,000)
3 YR Estimate: $516,850 (CBFWA Recommendation: $399,000)
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority (Obj 4, see comments)\ Recommended Action (all else)
ISRP Comparison with CBFWA: Disagree - Fundable in Part; Agree - Objective 4 is High Priority
ISRP Final Review Comments:
Fundable in Part. The ISRP agrees with CBFWA that objective 4 on entrainment is of high priority. The project will study bull trout distribution, habitat use, feeding, and movement in Dworshak Reservoir and tributary streams, as well as measure possible entrainment at Dworshak Dam. It will consolidate various bull trout activities and funding sources into a single project. The project is generally well planned and comprehensive. Its data should provide a basis for managing the system to benefit bull trout. The response remedied gaps in a generally appropriate manner but added cost that seem excessive.

To meet ISRP concerns, a revised proposal was submitted containing two new objectives (6 new tasks and one switched from another objective = $41K additional) and augmentation of three previously existing tasks ($8K additional). A task (6.2) was added at cost of $10,000 to review and apply existing literature that ISRP suggested the sponsor should have been familiar with before writing the proposal. The $10K definitely should be cut. The Council should scrutinize the budget request.

Further, the ISRP questions the response's inclusion of an additional 30 tags (another $10K) that would archive temperature/pressure data in the reservoir. This might be a good idea but is not described in adequate detail. Use of those tags seems a form of gadgetry; the proposal and response do not give a clear description of the hypotheses that might be then tested with

the tags. The reviewers are also skeptical about the feasibility of recapturing fish to recover the tag data. How they would be recaptured is not explained. It might be more practical to use tags that provide temperature data when the fish's location is recorded, without the archival feature and without the need to recapture the fish.

CBFWA Project Review Comments:
This project would contribute towards meeting the terms and conditions stated in the FCRPS Biological Opinion for Dworshak Dam. Objective 4 of the proposal is considered a high priority from USFWS to measure entrainment of bull trout through Dworshak Dam.

This proposal is directly tied to hydrosystem impacts and Terms and Conditions set forth in the FCRPS BiOp. The addition of a fixed telemetry site in Dworshak Tailrace substantially strengthened the project as a whole, in addition to the success of meeting Objective 4.

In past studies, the proponents have been used 400 kHz PIT tags. It is unclear in the proposal if the project intends on switching over to 134 kHz PIT tags if awarded funding. Switching over to the 134 kHz tags would likely provide additional interrogations of entrained fish below Dworshak Dam, and would also strengthen the proposal.

Through the Subbasin Team Review, Objective 4 of this proposal received a "High Priority" ranking while the other objectives were categorized as "Recommended Action." The Resident Fish Caucus suggests that Objective 4 cannot be completed without making the following Objectives/tasks High Priority: Task 1.1, Task 1.3, Task 2.1, Objective 3, and Objective 4 for a total of approximately $133,000. The remaining proposed work should be categorized as Recommended Action.

The USFWS indicates that the proposed work "will help implement reasonable and prudent measure 10.A.3.2 and terms and conditions 11.1 and 11.2 in the FCRPS biological opinion."

Project ID: 28023
Evaluate and Control Brook Trout Populations – Addressing Competition and Hybridization Threats in the Clearwater River Drainage, Idaho.
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Clearwater
Short Description: Biological and physical methods will be utilized to suppress or eliminate brook trout populations in area where risk of competition and hybridization with bull trout is high.
FY02 Request: $183,800 (CBFWA Recommendation: $153,800)
3 YR Estimate: $547,600 (CBFWA Recommendation: $517,600)
ISRP Final Recommendation: Fundable (Low Priority)
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (Low Priority)
ISRP Final Review Comments:
Fundable (Low Priority). The project would evaluate stocking of predatory "tiger muskies" (sterile muskellunge-northern pike hybrids) in high lakes as a means of controlling brook trout (a non-native) which compete with native bull trout. The intent is to eliminate the lake populations as sources of brook trout that invade downstream into bull trout habitats. This innovative procedure has shown preliminary indications of success elsewhere in the

Clearwater drainage. Other more routine activities (stream population assessment and genetic analysis) will be carried out to aid development of a management plan for native salmonids. The idea behind this project seems a good one. The project appears well thought out and has an experimental/adaptive management element. ISRP reviewers had concerns about project organization and some methodological matters in the original proposal, and these were adequately dealt with in the response. However, the reviewers rate the project as being of low priority compared with other, more pressing needs in the basin.

The ISRP questioned the sponsor on matters of risk in stocking tiger muskies, then discussed at length the sponsor's response, which was thorough and helpful. The ISRP considers the risks and potential disadvantages of stocking tiger muskies in this particular situation to be negligible. The use of one non-native to control another non-native should be viewed with caution.

CBFWA Project Review Comments:
The Nez Perce Tribe doesn't support the objective to stock of tiger muskies.

The Resident Fish Caucus suggests this project addresses one of the primary extinction threats to bull trout. The decline and local extirpation of bull trout stocks has been closely tied to invasion, competition, and hybridization with brook trout. Much work remains to be done on this issue, and this project evaluates one approach to the problem that may prove effective in areas where native fish have been displaced by introduced species.

The concept of using an introduced species to combat another introduced species is not uniformly accepted as a viable approach among the Resident Fish Caucus. It would have been beneficial to the Resident Fish Caucus if a more thorough summary of IDFG's existing tiger musky programs were included in the proposal. Without this summary, the Resident Fish Caucus can only recommend a slower approach, looking at longer-term effects of the current program before a more aggressive program is implemented.

One issue worthy of discussion is the long-term management of the treatment lakes when/if the program is successful. The proposal could be strengthened if an additional objective were added to re-establish native species (bull and cutthroat trout) after eradication/control is complete. In addition, it would not be acceptable to continue the stocking of tiger muskies if a sport fishery develops as a result of this effort.

The Resident Fish Caucus suggests Task 5.1 and 5.2 should be performed prior to any other objectives and indicated that the proposed stocking efforts would likely be subjected to the Three-Step Review process.

Salmon River Subbasin

Project ID: 28002
Fluvial Bull Trout Migration and Life History Investigations in the upper Salmon River Subbasin
Sponsor: Shoshone-Bannock Tribes
Subbasin: Salmon
Short Description: Identify the distribution and status of fluvial bull trout populations. Identify seasonal habitat use and migration patterns of fluvial bull trout. Determine bull trout presence/absence, densities, population status, and spawning times.
FY02 Request: $163,440
3 YR Estimate: $451,440
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Do not fund. A response is not needed because of significant deficiencies in the proposal. The proposal is to "fill all data gaps" concerning bull trout distribution, abundance, and migration patterns for fluvial bull trout in the upper Salmon River basin. It endeavors to justify this new effort based solely on a perceived lack of knowledge, a premise that was not convincing to reviewers who would have been more receptive to investigation of specific significant hypotheses. The work did not appear linked to the extensive work conducted by Thurow, Rieman and Dunham in the state. In addition to a radio-tracking component, the sponsor intends to describe distributions and abundances across the sub-basin. No argument in presented to justify what seems to be an insufficient sample size for the objectives of the radio-telemetry tracking portion of the study. A systematic procedure was not presented for estimating abundance or distribution. It is known, as stated, that bull trout spawn from mid-August to mid-late September. The proposal includes action to further define spawning time, but no reason was provided for the need.

The literature on bull trout life history contains significant information on adult capture, radio tag mortalities, day vs. night snorkeling, and other study methodologies that could streamline, fine tune, and focus the proposed study. Lack of discussion and reference to this extensive literature and its implications was viewed as a serious deficit for this proposal.

CBFWA Project Review Comments:
This proposal addresses data gaps in bull trout distribution and life history in the upper Salmon River Subbasin. The Resident Fish Caucus suggests this information is needed for the development of recovery actions for the Salmon River Bull Trout Recovery Unit; however, the geographical scope of this project appears too large for the proposed approach, and the 50 fish radio tagging sample seems too small for the size of the subbasin.

The Resident Fish Caucus suggests a more systematic approach would lend itself well to project success. The project could be strengthened by concentrating on one major drainage at a time. Each of the 3 drainages (Yankee Fork, Mainstem, and East Fork) should receive about 50 tagged fish and 2-3 years sampling effort. It appears the proponents need to include more specific information on telemetry equipment to be used, and details such as transmitter life, size, frequencies and costs. There may be remote tracking sites currently

available in the subbasin that could be utilized for this project, and if so, the project efficiency could be greatly improved by utilizing them. If there are no remote sites currently in place, it would be wise to establish some. The use of data loggers would also narrow the focus of equipment manufacturers and save time and money in data collection. Specific plans for radio-tracking are lacking in the proposal. Some additional plans need to be prepared in regards to tracking methods, frequency, and approach.

"The USFWS feels if the proposal can meet the above concerns and those raised by the ISRP, there are elements of the project that warrant funding."

Project ID: 28030
Salmon River Native Resident Fish Assessment
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Investigate population status and trends, life histories, habitat needs, limiting factors, and threats to persistence of all resident native fishes in the Salmon River Subbasin. Emphasis of work will be on salmonid fishes.
FY02 Request: $250,000
3 YR Estimate: $650,000
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority (Obj 1); Recommended Action (all else)
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. This is a new proposal by the Idaho Department of Fish and Game to establish a position, develop a database structure, and conduct distribution and relative abundance estimates of bull trout, westslope cutthroat trout, redband trout, and non-game fish species in the Salmon River basin. The first objective is to review existing data to identify "data gaps." Subsequently, a detailed work plan would be developed to conduct surveys in FY02-FY06 to fill the data gaps. The long-term goal is to initiate a monitoring program to track the condition of these species.

Reviewers acknowledge that there is a clear and long-recognized need for basic population information on resident native salmonid species, including bull trout, westslope cutthroat trout, and redband trout, and any data gathering should include non-native salmonids in some fashion. However, the panel is equally aware that the proposal's justification ("little current information exists on native resident fishes") is not compatible with the subbasin summary's discussion of more than 100 assessments completed to date. It is clear that better, not simply more, data are needed.

Because the proposal does not present a work plan, it is difficult for reviewers to be supportive of the proposal at this time**.** Once the detailed work plan is developed, a proposal should be developed around it and submitted for review at a future date.

The ISRP recommends that the proponents of the project work with the Oregon, Washington, and Montana Provinces to develop monitoring and evaluation procedures with common field procedures and probabilistic site selection for the entire Columbia Basin. The Oregon Plan for Salmon and Watersheds Monitoring Program (Nicholas 1997a, 1997b, 1999) as implemented in the Oregon coastal coho streams and the Columbia Plateau

Province is a Tier 2 level monitoring and evaluation program that can serve as a good model. Also, see the section on monitoring in the introduction to this report. The ISRP recommends that the proponents consider using data protocols recommended in Johnson et al. (2001).

Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211pp.
Data should be made available via STREAMNET.

CBFWA Project Review Comments:
Objective 1 (plan) is recommended as high priority and the implementation phase should be funded pending the completion/review and coordination of all management groups in the proposed study area.

Project ID: 28007
Causes and effects of nonnative trout invasions in the Salmon and Clearwater River subbasins
Sponsor: USDA Forest Service, Rocky Mountain Research Station
Subbasin: Salmon
Short Description: Provide a better understanding of nonnative trout invasions and their effects on native salmonids. Deliver models and information for evaluating management alternatives. RPA 152 will be most significantly enhanced by this work.
FY02 Request: $64,900
3 YR Estimate: $676,900
ISRP Final Recommendation: Fundable (Low Priority)
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (Low Priority)
ISRP Final Review Comments:
Fundable (low priority). This is a proposal to develop a series of models to examine causes of non-native trout invasions in the Salmon and Clearwater subbasins and to look at genetic impacts (brook trout hybridization) and ecological impacts. It is a well-written proposal by highly qualified scientists that nicely characterizes the current situation regarding the issue of nonnative trout. Reviewers agree with proposal authors that the issue is important and urgent. However, neither the proposal (and response) nor the presentation convinced reviewers that at the end of the proposed project in 2006, fishery and land managers would be better able to make decisions regarding steps best taken to rectify the situation.

The author is encouraged to develop this approach more fully and submit future proposals. To justify FWP funding, the approach should make stronger ties between possible results and management options. Work proposed as objective 1, to describe broad-scale patterns of native and nonnative salmonid status and distribution, would produce some "preliminary predictive models" but the proposal contained no further detail and did not put that effort in the context of currently available models.

The ISRP does not disagree that it is important to better understand the basic causes and patterns of nonnative trout invasions, in order to, in part, predict the course of those invasions yet to occur. However, the panel feels that it is more appropriate that the limited Bonneville resources available be used to effect a reversal of the existing legacy of invasions, and that our current understanding, while admittedly incomplete, is adequate to begin those efforts.

The ISRP fully concurs with CBFWA review comments.

CBFWA Project Review Comments:
Reviewers suggest that benefits from this project will persist over the long-term only if the results/recommendations can be applied in a management scenario. Presently, there is little collaboration with the management agencies (i.e., this research was not sought by the managers). The managers acknowledge that the proposal is well written; however, the proposed work appears innovative and should be submitted for funding through the Innovative Project process. Project addresses RPAs 152 and 183.

The project is designed to investigate the ecological and genetic impacts of nonnative trout invasions at various spatial scales in the Salmon and Clearwater River subbasins. The multi-spatial scale approach by the sponsors could provide comprehensive information on the dynamics of trout invasions.

The Resident Fish Caucus agrees with the broad-scale modeling approach (i.e., data collection and analysis) of Phase 1 of the study and strongly encourage the sponsor to coordinate in a more deliberate fashion with other agencies and ongoing efforts in the North Fork Clearwater. In addition, the Resident Fish Caucus suggests the sponsor should use available genetics information throughout the major study basins to reduce costs in Phase 3 of the study.

The Resident Fish Caucus indicated that much of the data that would be collected as described within Table 1, Phase 1 and 2a (occurrence of non-natives and natives in watersheds and habitat/landscape characteristics) has been collected for the Clearwater National Forest. The Resident Fish Caucus expressed concern relative to whether this project addresses the important issue. The Resident Fish Caucus acknowledges that the science appears sound, but are unsure whether the results will have management implications? The most significant possibility of a project like this would be to develop models to help prioritize management alternatives (e.g., habitat restoration) that would benefit native species while not benefiting exotic species. The goals and objectives as stated in the proposal do not address this issue. The proposal should be rewritten to address management implications, and submitted through the innovative process. The Resident Fish Caucus questions whether the BPA is the appropriate source of funding for the proposed work.

Assessment of Spring/Summer Chinook Habitat in the Grande Ronde and Salmon Subbasins

1. Project ID: 27007
Assessment of spring/summer chinook salmon habitat within the Grande Ronde Subbasin.
Sponsor: USDA Forest Service, USDI Bureau of Land Management, U.S. Geological Survey, Utah State University
FY02 Request: $205,000 (CBFWA Recommendation: $0)
3 YR Estimate: $235,000 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: *Merged with Mountain Snake project 28005
ISRP Comparison with CBFWA: Disagree - Not Fundable

and

2. Project ID: 28005
Assessment of spring/summer chinook salmon habitat within the Salmon River Subbasin.
FY02 Request: $395,000 (CBFWA Recommendation: $115,750)
3 YR Estimate: $440,000 (CBFWA Recommendation: $115,750)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
Short Description: 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.
ISRP Final Review Comments:
Not fundable. The main project goal would be to link an extensive habitat database to existing population status information for chinook populations, endeavoring to look at habitat attributes and salmonid distributions at finer scales than are typically investigated. This would be a very intensive examination of potentially important habitat elements; all presently known stream-salmonid habitat variables (and some other variables, such as macroinvertebrates and periphyton) seem to be included in the study. Measurements would extend back into the riparian zone.

Although the proposals are clearly written and their authors are recognized leaders in habitat research, reviewers felt that a large volume of data, similar to what is sought here, presently exists in agency and researcher files. The subbasin summaries note numerous aquatic assessments already completed. Additionally, reviewers believe the reasons for differences in chinook smolt production among subwatersheds are currently more clearly understood than the proposal would suggest. . At the suggestion of the ISRP, the authors in their response propose a pilot study intended to relate the presence of chinook salmon to habitat conditions in Snake River tributaries. A full proposal including a budget for the pilot study was not provided. The cost for the project was set at $100,000 but further details were not provided. Even for the pilot study, the authors have not satisfactorily addressed major shortcomings that were a problem with the original proposal. The original proposal was largely a detailed description of habitat methodology and the authors' responses to the ISRP's questions have done little to obviate this weakness.

This project has little chance of producing useful information. In particular, the biological component of the research is weak. The authors have failed to adequately address the ISRP's question concerning the biological dataset that will be used. The proposal would be stronger if it specified what fish dataset was intended for use, and how better measurement of habitat parameters would help that dataset yield new relationships. A critical element of the proposed research is the definition of occupied and unoccupied sites. The authors do not provide operational definitions of these terms. Furthermore, the approach of comparing habitat that is "occupied" with that "not occupied" may not be meaningful because the rearing habitat is not close to being fully seeded. Presence or absence of juvenile chinook salmon depends not only on habitat conditions but also on other factors including whether successful spawning of adults had occurred in the area, whether a significant storm event occurred during incubation, and, for naturally produced fish, whether fish have been stocked in the area. The authors do not consider these and other out-of-basin factors in their proposal.

What would be the measure of "run strength" or "smolt outmigration?" What is the nature of the "index of chinook populations" that would be derived? Tasks A and B remain unclear and would require much further elaboration.

The authors could develop their approach more fully and submit future proposals. Subsequent proposal should more specifically address land-use-related habitat hypotheses such as that recently identified by Paulsen and Fisher (Transactions of the American Fisheries Society, May 2001) regarding chinook parr-to-smolt survival. The panel suggests that proponents consider making future aquatic habitat data measurement protocols consistent with recommendations provided in:

Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211 pp.

CBFWA Project Review Comments:
Although this proposal has been identified as a pilot project by the sponsor, select components are presently implemented through a USFS project that exists in the upper Columbia Basin. In addition, the sponsor indicated that the USFS spends $500,000/year collecting such data. Although the USFS has been in communication with the IDFG, the USFS has not discussed the proposed work with the SBT due in part to the fact that the proposed work will be performed on federal lands. Due to the innovative nature of the project the reviewers recommend that the project sponsor submit the proposal for consideration in the Innovative Project process.

Adult Salmon Monitoring (19970300, 27019, 28052)

1. Project ID: 199703000
Chinook Salmon Adult Abundance Monitoring
Sponsor: Nez Perce Tribe/Pacific Northwest National Laboratory
Subbasin: Salmon
Short Description: Implement state-of-the-art technologies to accurately quantify chinook salmon spawner abundance in the Secesh River, Lake and Marsh creeks. Adult abundance data would allow a measure of recovery threshold abundance of a listed species (NMFS 2000).
FY02 Request: $1,033,000
3 YR Estimate: $2,719,000
ISRP Final Recommendation: Fundable in Part (consider with 27019, 28052)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part. The review team considered projects 199703000 (hydroacoustic system in the Secesh River, video in Lake Creek, and video and Vaki equipment in Marsh Creek), 27019 (hydroacoustic equipment in Minam River), and 28052 (Johnson Creek – weir and hydroacoustic equipment) as a unit. Reviewers concluded that existing monitoring elements (e.g., Lake Creek video, weir and redd counts in Johnson Creek) should be continued, and installation of a single experimental "high tech" application is fundable. The type of installation to be tested, however, remains a question. Team members with experience in "high-tech" applications, are convinced that existing information shows resistivity counters have the greatest promise for applications such as those identified in these proposals. Given expert opinion regarding the relative value of present alternatives, the sponsors need to provide a convincing case for eliminating a resistivity counter as the installation to be evaluated at the chosen experimental site.

The installation needs to viewed as experimental, and should address problems of site selection, methods for getting fish into the target area at high flow, variable water conditions, cost, and practicality. The counts need to be rigorously verified. The technology has not yet proven to be an accurate, dependable method for solving the fish enumeration problems identified by project sponsors. If the method is not very accurate, say <95%, some rigorous method for assessing detection probability and the factors that influence the bias are necessary, and should be described in the proposal.

Verification reliant upon video is not likely to be successful, particularly given the flow conditions expected. An alternative plan for verification should be considered.

The ISRP strongly recommends that the NPT select one representative site and conduct a 3-year pilot study.

CBFWA Project Review Comments:
This project addresses RPAs 180 and 193.

2. Project ID: 27019
Adult Salmon Abundance Monitoring
Sponsor: Nez Perce Tribe/Pacific Northwest National Laboratory
Subbasin: Grande Ronde
Short Description: Implement state-of-the-art technologies to accurately quantify chinook salmon spawner abundance in the Minam River. Adult abundance data would allow a measure of recovery threshold abundance of a listed species (NMFS 2000).
FY02 Request: $531,182
3 YR Estimate: $1,688,213
ISRP Final Recommendation: Fundable in Part (consider with 19970300, 28052)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
See comments under 199703000. The ISRP recommendation of fundable in part on this set of proposals refers to the ISRP recommendation that the NPT select one representative site (either Johnson Creek or the Minam River) and conduct a 3-year pilot study. Thorough responses were provided to each question. The ISRP continues to have a couple of concerns that the proponent should address in their work: comment 2b verification; and a longer-term budget concern. Verification reliant upon video is not likely to be successful, particularly given the flow conditions expected and used to support the hydroacoustics methodology. An alternative plan for verification should be considered. The budget issue concerns the longer-term use of contracting to PNNL at the projected level of cost. If technical expertise is developed within NPT, then purchase of the equipment maybe a more efficient means to implement such programs.

CBFWA Project Review Comments:
The sponsors suggest estimation of spawning escapement based on redd counts are biased and provide imprecise approximations of true escapement (abundance). The sponsors indicated that the hypothesis is based on PATH and other literature that have reviewed the limitations of redd count accuracy and redd count expansion methods to estimate abundance. The inaccuracy in an abundance estimate is also reflected in other parameters (growth rate, smolt to adult ratios, recruits per spawner, adult to adult returns, etc). The NMFS (2000) Biological Opinion, Viable Salmonid Population paper and other conservation literature call for performance standards at the population level to be evaluated in terms of abundance and call for more accurate counts of adult abundance. The current project is designed to provide adult salmon abundance information. There is concern about the impacts of the fish counting station on adult migrations; however, the reviewers agree that developing a non-invasive, passive monitoring technique for monitoring adult salmon escapements is a high priority. This project addresses RPA 180. Discussion and coordination with co-managers will continue on the final plans for validation monitoring in the Minam River, monitoring and evaluation, and risk management.

3. Project ID: 28052
Adult Snake River steelhead monitoring in the South Fork Salmon River Basin.
Sponsor: Nez Perce Tribe/Pacific Northwest National Laboratory
Subbasin: Salmon
Short Description: We propose to initiate collection of baseline steelhead adult abundance information critical for determining population status and viability in addition to identifying potential management actions needed for Snake River steelhead in Johnson Creek.
FY02 Request: $708,000
3 YR Estimate: $1,677,000
ISRP Final Recommendation: Fundable in Part (consider with 19970300, 27019)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
See comments under 199703000. See comments under 199703000. The ISRP recommendation of fundable in part on this set of proposals refers to the ISRP recommendation that the NPT select one representative site (either Johnson Creek or the Minam River) and conduct a 3-year pilot study. This is a proposal to 1.) attempt installation and maintenance of a hydroacoustic counting station in Johnson Creek, and 2.) assess whether or not the system will yield accurate counts of steelhead entering the system for spawning.

CBFWA Project Review Comments:
Presently, adult steelhead monitoring (i.e., abundance trends of Snake River steelhead ESUs) occurs only at Lower Granite Dam. Reviewers suggested that population specific information (e.g., status and viability) is needed for the development of management actions. The NMFS BiOp (2000) also identified the need for accurate population abundance. This project addresses RPAs 179, 180 and 193.

Four-Step Safety-Net Process and Associated Proposals
(projects 28012, 28015, 28055, 28056, and 28057)

Do not fund projects 28012, 28015, 28055, 28056, and 28057; there is need for documentation that the Four-Step Safety-Net Process is well coordinated, scientifically sound, and consistent across the basin.

Data available for extinction risk assessments are going to provide no more than crude estimates of risk. Caution is needed with statements and models that include carrying capacity, since it is itself a dynamic value. Confidence in risk estimates will be very low and a source of disagreement. The process must be developed via methods that will ensure buy-in by all agencies. There must be agreement as to what confidence levels are acceptable before an action is taken. Standards need to be defined for the type and quality of data minimally required for such assessments, including population and sub-population structure. Proposing to obtain only review and comment by the associated agencies cannot be expected to produce support for the process.

The process is meant for critically depressed populations. Some populations seem to have been identified for consideration before any process was specified to identify "critically

depressed stocks." The process, if initiated, should be designed to include a systematic process for identifying these stocks across the basin.

The process assumes that artificial propagation can provide a safety net for critically depressed stocks when identified. What database is available from the Snake River to provide that confidence? Recent reports including project 199102800 in the Mountain Snake Province, suggest that survival of migrants to Lower Granite Dam declines with increasing abundance. These results may implicate artificially high densities caused by release of hatchery fish as an additional cause for decline of wild fish.

Use of donor stocks was identified in one proposal as a possible need. How can a donor stock be considered for use under a program designed to preclude extinction of a local population? Another proposal indicated that the process was going to help increase abundance in the target population, and it was described as any other project trying to cause increase in population size with hatchery fish.

Fish populations in the Middle Fork Salmon River have declined as a result of problems in the migration route or ocean. These problems should be solved rather than acting (use of hatchery fish) to further jeopardize fish populations in the Middle Fork. If, at some time in the future it can be demonstrated that these populations are in imminent danger of extinction, and at the same time it can be shown there will be immediate action to fix conditions in the migration route or ocean, it may make some sense to cryopreserve gametes or use short-term propagation as "last ditch" efforts to save some of the genetic material, but a sound technical basis for the required assessment does not exist.

The last step in the process is development of a HGMP for each propagation program. The ISRP's opinion is that the template for preparation of these documents provides little confidence that the strict requirements needed for artificial propagation of endangered species will result. The template calls for detailed information concerning how a hatchery presently operates and some inquiries as to how the potential impact of the program will be reduced. If the 4-step process is to proceed, detailed guidelines for operation of these facilities must be developed.

In summary, the ISRP concludes that the 4-step process is not ready to go forward, and may even be a flawed strategy. Its technical credibility depends on objective selection of populations for safety net consideration, on the availability of information to permit development of strategies that will do more good than harm, and on standards for management of artificial production. In addition, the process does not seem to be coordinated with the subbasin planning effort. None of these elements are in place.

This process would need to be consistent with NMFS's effort post-Hogan and the Council's subbasin planning effort. They need to do a review of what is possible, to demonstrate with data. As proposed and described in the response, the methods are not described in adequate detail for scientific review. Given the uncertainty associated with hatchery intervention, the region needs an agreed upon standard and approach that is subjected to independent peer review and applied across the basin. No agreement exists regarding viability analyses. Intervention should include a wide spectrum of management activities including harvest management, habitat restoration, etc. The tools chosen should depend on the stock status.

Project ID: 28061
Safety-Net Artificial Production Program (SNAPP)
Sponsor: Idaho Department of Fish and Game, Nez Perce Tribe, Columbia River Intertribal Fish Commission, Washington Department of Fish and Game, Shoshone-Bannock Tribes
Subbasin: Blue Mountain and Mountain Snake Provinces
Short Description: Establish contingency action plans, using best available propagation techniques, to prevent extinction of key populations of ESA-listed salmon and steelhead while necessary improvements to main-stem passage and tributary habitats are effectuated.
FY02 Request: $523,000
3 YR Estimate: $823,000
ISRP Final Recommendation: Not Reviewed
CBFWA Category: High Priority
ISRP Comparison with CBFWA: NA - Not Reviewed
ISRP Review Note:
This proposal was submitted after the response deadline and was not reviewed by the ISRP. The proposal combines all 4-step process proposals into one unified effort to with the goal to ensure that overlap and redundancy are avoided.

Salmon Subbasin

Project ID: 28057
Four-Step Safety-Net Plan for Lower Salmon River A-Run Steelhead
Sponsor: Columbia River Inter-Tribal Fish Commission
Subbasin: Salmon
Short Description: This project is identified under hatchery RPA 175. The goal of this project is to determine whether intervention is necessary to prevent the decline or immediate extirpation of Lower Salmon River A-run steelhead, and to identify management alternatives.
FY02 Request: $73,422 (CBFWA Recommendation: $0)
3 YR Estimate: $89,220 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Withdrawn, defer to SNAPP proposal
ISRP Comparison with CBFWA: NA - Not Fundable
ISRP Final Review Comments:
See general comment on Four-Step Safety-Net Plan proposals.

2. Project ID: 28056
Four-Step Safety-Net Plan for South Fork Salmon River B-Run Steelhead
Sponsor: Columbia River Inter-Tribal Fish Commission
Subbasin: Salmon
Short Description: This project is identified under hatchery RPA 175. The project goal is to determine whether intervention is necessary to prevent the decline or immediate extirpation of South Fork Salmon River B-run steelhead, and to identify management alternatives.
FY02 Request: $73,422 (CBFWA Recommendation: $0)
3 YR Estimate: $89,220 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Withdrawn, defer to SNAPP proposal
ISRP Comparison with CBFWA: NA - Not Fundable
ISRP Final Review Comments:
See general comment on Four-Step Safety-Net Plan proposals.

3. Project ID: 28012
Four-Step Planning to Identify Safety-Net Projects for Idaho Steelhead
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: This proposal addresses RPA 175. Planning process identified by NMFS to prioritize populations and determine strategies to alleviate near-term extinction risk.
FY02 Request: $206,200 (CBFWA Recommendation: $0)
3 YR Estimate: $656,200 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Withdrawn, defer to SNAPP proposal
ISRP Comparison with CBFWA: NA - Not Fundable
ISRP Final Review Comments:
See general comment on Four-Step Safety-Net Plan proposals.

4. Project ID: 28015
Benefit/Risk Analysis to Promote Long-Term Persistence of Chinook Salmon in the Middle Fork Salmon River
Sponsor: Nez Perce Tribe
Subbasin: Salmon
Short Description: Assess relative benefits and risks associated with current population status, genetics and potential for management actions
and implement appropriate action to ensure long-term persistence of chinook salmon in the Middle Fork Salmon River subbasin.
FY02 Request: $156,726
3 YR Estimate: $181,726
ISRP Final Recommendation: Not Fundable
CBFWA Category: Withdrawn, defer to SNAPP proposal
ISRP Comparison with CBFWA: NA - Not Fundable
ISRP Final Review Comments:
See general comment on Four-Step Safety-Net Plan proposals.

CBFWA Project Review Comments:
The Middle Fork Chinook population is regarded by the managers as depressed. In 2000, IDFG initiated a process to use a population viability model developed by the University of Idaho (UI). The UI model was not referenced in the proposal. The IDFG suggests that some of the proposed work has been performed by the IDFG. There is a current effort to combine all Four-Step process proposals (the Four-Step process is mandated in the BiOp) into one unified effort to ensure that overlap and redundancy are avoided.

Defer to the consolidated SNAPP proposal, in which the unique tasks from this proposal have been maintained. If the consolidated SNAPP proposal does not received funding, this proposal should be considered as a stand alone proposal for funding, as it was the only "original RPA 175/SNAPP type proposals" specifically addressing chinook salmon. The IDFG PVA analysis was not coordinated with NPT and was not available at time of proposal submittal.

Clearwater Subbasin

5. Project ID: 28055
Four-Step Safety-Net Plan for Upper Lochsa River B-Run Steelhead
Sponsor: Columbia River Inter-Tribal Fish Commission
Subbasin: Clearwater
Short Description: This project is identified under hatchery RPA 175. The goal of this project is to determine whether intervention is necessary to prevent the decline or immediate extirpation of upper Lochsa River B-run steelhead, and to identify management alternatives.
FY02 Request: $73,422 (CBFWA Recommendation: $0)
3 YR Estimate: $89,220 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Withdrawn, defer to SNAPP proposal
ISRP Comparison with CBFWA: NA - Not Fundable
ISRP Final Review Comments:
See general comment on Four-Step Safety-Net Plan proposals.

CBFWA Project Review Comments:
The five SNAPP proposals address RPA 175. There is a current effort to combine all 4-step process proposals into one unified effort to ensure that overlap and redundancy are avoided. Refer to Safety Net Artificial Production Program proposal.

Project ID: 28026
Develop HGMP's for LSRCP Programs to address artificial production reforms identified in the FCRPS Biological Opinion and other regional processes.
Sponsor: US Fish and Wildlife Service, Lower Snake River Compensation Plan
Subbasin: Blue Mountain and Mountain Snake Provinces
Short Description: Assess LSRCP Programs to identify needed artificial production reform measures, coordinate proposed reforms among co-managers, select and define potential reforms, and develop funding implementation.
FY02 Request: $856,292
3 YR Estimate: $1,755,399
ISRP Final Recommendation: NA
CBFWA Category: High Priority
ISRP Comparison with CBFWA: NA
ISRP Final Review Comments:
A scientific review is not applicable. This does not lend itself to technical review, but from a scientific point of view the ISRP is not convinced that HGMP's will actually provide guidance on protecting ESA listed stocks. See general comments on 4-step process.

CBFWA Project Review Comments:
Development of the HGMP's (for the LSRCP program) are directed specifically to address hatchery reforms identified in the FCRPS BiOp (RPA 169). These reform measures are identified as reform measures that go beyond existing (or non-existing since they have not completed their hatchery production BiOp.) NMFS jeopardy criteria (related to hatchery production programs) to obtain additional (off-site mitigation) benefits to get the hydrosystem out of jeopardy. The HGMP was chosen by NMFS, NWPPC, and Federal Caucus as the format for addressing those reforms. These reform actions (unless developed in the normal LSRCP process and fundable under our existing budget) are now mandated to the hydrosystem action agencies (not the LSRCP program). The proposal outlines a coordinated approach to 1) assess our existing programs, 2) identify potential reform measures, 3) coordinate those measures with the other ongoing regional processes (ESA, US v Oregon, NWPPC, etc. along with our tribal trust and compensation responsibilities), and 4) develop HGMP's for agreed upon reform measures. Presently, funding does not exist in the LSRCP budget to accomplish this task (and it is not a LSRCP funding responsibility). This proposal would provide all of the LSRCP co-managers the staff to accomplish the above objectives within the processes we are legally mandated to participate in to address off-site mitigation. Existing LSRCP programs are not legally mandated to develop HGMP's.

Project ID: 199703800
Preserve Salmonid Gametes and Establish a Regional Salmonid Germplasm Repository
Sponsor: Nez Perce Tribe Department of Fisheries Resources Management
Subbasin: Blue Mountain and Mountain Snake Provinces
Short Description: Preserve Salmonid Gametes through cryogenic techniques to maintain genetic diversity in populations with low levels of abundance and at high risk of extirpation. Establish a Regional Salmonid Germplasm Repository for populations listed under the ESA.
FY02 Request: $1,279,000
3 YR Estimate: $4,383,000
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part, continuing sperm preservation at a level similar to current efforts, but not to expand and elevate this to a Regional Center without strong evidence that it truly is scientifically sound and broadly supported by a number of groups and agencies. This needs a high level scientific review such as by the ISAB that focuses on the state of the science of this strategy and its application in the FWP. It is time for a thoughtful analysis of what the FWP wants to accomplish in gene conservation, whether or not cryopreservation continues to be a useful tool, and whether an ever-increasing commitment to this program is consistent with that goal.

To date, the project has cryopreserved male gametes from over 2,700 chinook salmon and steelhead. The proposal would continue and expand that program roughly four-fold after construction of a new building, evaluating additional basins for gamete collections from salmonids (resident and anadromous), other fishes such as lamprey and burbot, and amphibians.

CBFWA Project Review Comments:
Academic, management, and regulatory agencies have discussed and conferred the merits of a regional program such as what is proposed in this work. This project addresses RPA 177. The significant increase in budget is due to capital construction of a regional germ plasm repository facility.

Idaho Supplementation Studies

Background

Supplementation of natural stocks is not a mandated mitigation objective, but has become an important part of the hatchery programs. Idaho has outplanted (i.e. off-site releases) over 5.5 million chinook fry, approximately 8 million smolts, and 8,000 adults into the Salmon River drainage since 1977 (IDFG et. al. 1990). During the same period, over 17 million fry, 3 million smolts, and 2,000 adults were outplanted into the Clearwater River drainage (Nez Perce Tribe et. al. 1990). In spite of widespread outplanting activities there has been little scientific evaluation of the efficacy of supplementation on rebuilding or influencing natural salmon populations both in Idaho and basin wide. Furthermore, despite these hatchery mitigation efforts, anadromous fish stocks in Idaho continued to decline.

The Idaho Department of Fish and Game (IDFG) spearheaded development of the Idaho Supplementation Studies (ISS) to address questions identified in the Supplementation Technical Work Group (STWG) Five Year Workplan (STWG 1988), as well as help define the potential role of supplementation in managing Idaho's anadromous fisheries and as a recovery tool for the basin. The goal of the Idaho Supplementation Studies is to evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook salmon and steelhead populations in Idaho and to develop recommendations for using supplementation to rebuild naturally spawning populations.

Projects directly involved in the ISS are:

1. Project ID 198909800. Idaho Supplementation Studies. **Sponsor:** Idaho Department of Fish and Game and Idaho Office of Species Conservation.
Subbasin: Salmon.

2. Project ID 198909801. Evaluate Supplementation Studies in Idaho Rivers (ISS).
Sponsor: U.S. Fish and Wildlife Service - Idaho Fishery Resource Office.
Subbasin: Clearwater.

3. Project ID 198909802. Evaluate Salmon Supplementation Studies in Idaho Rivers- Nez Perce Tribe. **Sponsor:** Nez Perce Tribe.
Subbasin: Salmon.

4. Project ID 198909803. Salmon Supplementation Studies in Idaho- Shoshone-Bannock Tribes. **Sponsor:** Shoshone-Bannock Tribes.
Subbasin: Salmon

5. Project ID 199005500. Steelhead Supplementation Studies in Idaho Rivers.
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation.
Subbasin: Clearwater

6. Project ID 199604300. Johnson Creek Artificial Propagation Enhancement Project.
Sponsor: Nez Perce Tribe
Subbasin: Salmon.

ISS coordinates field activities and data collection efforts with the Idaho Habitat/ Natural Production Monitoring project (199107300). ISS also coordinates with and transfers data to projects in the Salmon River subbasin including the Monitoring Smolt Migration of Wild Snake River Spring/Summer Chinook Salmon (199102800), Salmon River Habitat Enhancement (9405000), and Salmon River Production Program (199705700). ISS also works closely with the Lower Snake River Compensation Plan (LSRCP) to coordinate on hatchery supplementation treatments and evaluations.

Presently, there are eleven state and federal anadromous hatcheries operating in Idaho: Clearwater, Oxbow, Rapid River, McCall, Sawtooth, Pahsimeroi, Dworshak, Kooskia, Hagerman National, Niagara Springs, and Magic Valley. There are also three satellite rearing ponds: Powell, Red River, and Crooked River operated in conjunction with the Clearwater

Hatchery. These hatcheries have the combined capacity to produce 8.5 million spring chinook smolts, 2 million summer chinook smolts, 6.7 million A-run steelhead *O. mykiss* smolts, and 4 million B-run steelhead smolts annually.

ISS Study Design

The ISS study design called for a minimum of 15 years (three generations) of research (Bowles and Leitzinger 1991). Sampling was initiated in 1991, and implementation began in 1992. Supplementation effects are monitored and evaluated by comparing juvenile production and survival, fecundity, age structure, and genetic structure and variability in treatment and control streams of similar ecological parameters.

Due to the large geographic scope of this study, study streams were partitioned among four resource management entities for implementation. These include Idaho Department of Fish and Game, Nez Perce Tribe, Shoshone-Bannock Tribe, and the U.S. Fish and Wildlife Service-Idaho Fishery Resource Office. Allocations were based on interest, integration with ongoing programs, cost efficiency, logistics, and, to a lesser extent, relative equity. Approximately one-half of the study will be implemented by Idaho Department of Fish and Game through the ISS contract with BPA. The Nez Perce Tribe and Shoshone-Bannock Tribe have similar commitments to ISS, each comprising approximately 20% of the study. Both of these components rely heavily on integration of existing or proposed tribal programs. The U.S. Fish and Wildlife Service-Idaho Fishery Resource Office implements about ten percent of the project. The Idaho Department of Fish and Game is the lead agency regarding project development, coordination, and implementation.

The ISS Experimental Design was completed and published in 1991. Baseline data collection and development of supplementation brood stocks (**Phase I**) began in 1991. Over a period of about five years, supplementation brood stocks were developed for seven hatchery trap/release locations as identified in the experimental design:

Artificial Production Facilities

1. Sawtooth Fish Hatchery – Upper Salmon River
2. Pahsimeroi Fish Hatchery – Pahsimeroi River
3. McCall Fish Hatchery – South Fork Salmon River

Clearwater Fish Hatchery Satellites

4. Crooked River
5. Red River
6. Powell (Colt-killed Creek)
7. Clear Creek – Kooskia National Fish Hatchery

As adult fish began to return from the **Phase I** supplementation brood stock juvenile releases, the project progressed into **Phase II**. **Phase II** utilizes the returning adults to supplement natural origin recruits in treatment streams and maintains supplementation broodstocks for juvenile production and release. Juvenile fish releases through brood year 1996 include 1,281,755 fish in the Clearwater River basin and 1,954,048 fish in the Salmon River basin.

This project is now transitioning from **Phase II** to **Phase III**, monitoring the effects of supplementation. In **Phase III** juvenile releases from supplementation brood stocks are to be eventually terminated, returning adults from prior juvenile releases are released to supplement spawning of natural origin recruits, and monitoring of production and productivity response variables in control and treatment streams continues. In 2000, juvenile releases were maintained at levels similar to releases in 1999.

Treatment (e.g. supplementation in general, supplementation with a particular life stage, supplementation with a particular brood source) effects will be tested directly by hypotheses. In general, treatments will be applied for one to two generations (5-10 years) following approximately one generation of pretreatment data. Population responses to supplementation will be monitored a minimum of one generation (5 years) following supplementation. **It is important that the original study design be maintained.** Reducing sample size (number of treatment streams) can potentially impair the sensitivity of the design. Reducing to five treatment streams provides only a 60% chance of detecting a 25% change in production, whereas we would still have over 95% chance of detecting a 50% change.

Related projects
Several additional projects are related to the ISS. The monitoring and evaluation portion of the Johnson Creek Artificial Propagation Enhancement project (199604300) conducts the juvenile emigration and survival, adult escapement (weir and spawning ground surveys), and genetic monitoring associated with the ISS project in Johnson Creek. The Nez Perce Tribal Hatchery Monitoring and Evaluation project (198335003) collects the data associated with the ISS project in Lolo Creek, Eldorado Creek, and Newsome Creeks in the Clearwater River subbasin. The Nez Perce Tribe Monitoring of Listed Stock Chinook Salmon Escapement project (BPA Number 199703000) operates a video camera and weir to passively monitor and enumerate adults returning to Lake Creek and upper Secesh River. This project collects data on adult abundance and migration timing of chinook salmon.

ISRP Final Recommendation:
Not fundable until the ISRP concerns are adequately addressed. The experimental design has not been adhered to over the years and from the response to our preliminary review, the ISRP is not confident it will be in the future. In fact, the current experimental design is not adequately defined. There does not appear to be commitment to treatment durations, particularly to the Phase III portion of the study design, where supplementation ceases, so that treatment effects can be analyzed.

From communications that occurred during the ISRP site visit, it appears the project sponsors should be able to specify timelines for termination of the treatments for each treatment stream. A table needs to be developed for Phase III implementation that describes when the treatments will stop on a stream-by-stream basis. In the past, sponsors have not stuck with agreed upon control streams. How confounded are the treatment and control streams? This points to the need for submittal of a certified statistical design.

Projects 198909800 through 198909803 and 199005500 are fundable after adequately addressing the following constraints.

1. A written protocol for complete statistical analysis, certified by an independent statistician team should be presented to Council during the contracting period. The ISRP is not comfortable with the implications that "problems" with the study design can be "fixed" during the statistical analysis stage. Considerable thought and effort should be placed in planning the statistical analyses of these potentially controversial data before final decisions are made on criteria for stopping supplementation and before data are available.

2. The protocol for statistical analysis must indicate how straying of hatchery fish into "control streams" and "partial treatments" will be analyzed. For example, the response to the ISRP preliminary review indicated that the straying rate of hatchery fish into the Secesh River from 1996-2001 varied from 0.83% to 14.71%. This is in fact, de facto supplementation. It is unclear to the ISRP how partial treatment and de facto supplementation of control streams will be addressed in the statistical analysis of the ISS.

3. Development of a specific stream-by-stream protocol and timetable for implementation of Phase III of the ISS. Included in this is the immediate cessation of supplementation activities in Johnson Creek (see comments below on proposal 199604300) and inclusion of Johnson Creek once again as a control stream in the ISS experimental design.

1. Project ID: 198909800
Idaho Supplementation Studies
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook salmon populations in Idaho. Develop recommendations for using supplementation to rebuild naturally spawning populations.
FY02 Request: $996,726
3 YR Estimate: $2,971,726
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable until the ISRP concerns are adequately addressed. See ISRP comments on the set of Idaho Supplementation Studies above.

2. Project ID: 198909801
Evaluate Supplementation Studies in Idaho Rivers (ISS)
Sponsor: U.S. Fish and Wildlife Service - Idaho Fishery Resource Office
Subbasin: Clearwater
Short Description: 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.
FY02 Request: $126,320
3 YR Estimate: $406,320
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable until the ISRP concerns are adequately addressed. See ISRP comments on the set of Idaho Supplementation Studies above.

3. Project ID: 198909802
Evaluate Salmon Supplementation Studies in Idaho Rivers- Nez Perce Tribe
Sponsor: Nez Perce Tribe
Subbasin: Salmon
Short Description: Evaluates hatchery supplementation as a recovery - restoration tool for spring and summer chinook salmon. Quantifies key population status and performance variables, including early-life history and smolt- to adult survival rates.
FY02 Request: $676,476
3 YR Estimate: $1,998,214
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable until the ISRP concerns are adequately addressed. See ISRP comments on the set of Idaho Supplementation Studies above.

4. Project ID: 198909803
Salmon Supplementation Studies in Idaho- Shoshone-Bannock Tribes
Sponsor: Shoshone-Bannock Tribes
Subbasin: Salmon
Short Description: 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.
FY02 Request: $213,569
3 YR Estimate: $683,658
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable until the ISRP concerns are adequately addressed. See ISRP comments on the set of Idaho Supplementation Studies above.

5. Project ID: 199005500
Steelhead Supplementation Studies in Idaho Rivers
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Clearwater, Salmon
Short Description: 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.
FY02 Request: $686,307
3 YR Estimate: $2,009,759
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable until the ISRP concerns are adequately addressed. See ISRP comments on the set of Idaho Supplementation Studies above. Excellent proposal. Presentation, which was articulate and clear, could have been superb through the use of better presentation materials and graphics. The ISRP remains concerned about non-marked hatchery fish confounding monitoring and experiments.

CBFWA Project Review Comments:
The five projects above address RPAs 174, 182 and 184.

6. Project ID: 199604300
Johnson Creek Artificial Propagation Enhancement Project
Sponsor: Nez Perce Tribe
Subbasin: Salmon
Short Description: Enhance and monitor a weak but recoverable stock of native summer chinook salmon in Johnson Creek. Construct facilities for adult collection and holding, juvenile rearing and smolt acclimation.
FY02 Request: $4,410,100
3 YR Estimate: $6,740,688
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Do not fund, except for the monitoring and evaluation portion needed to tie in with Idaho Supplementation Studies. See ISRP comments on the set of Idaho Supplementation Studies above.

Comments specific to this proposal are as follows:
Do not fund, except for the monitoring and evaluation portion needed to tie in with Idaho Supplementation Studies. Monitoring and evaluation should be funded at an appropriate level so that the Johnson Creek 'control' stream data continue to be integrated into the ISS experimental design. As initially planned, the Idaho Supplementation Study (ISS) was probably the best supplementation study among the Provinces. It should be continued. It is important that the Idaho Supplementation Studies be completed following a rigorous approved experimental design that is little changed from the original design.

The ISRP recommends that supplementation activities in Johnson Creek cease immediately at least for the duration of the ISS study design, allowing Johnson Creek to continue to be used as a 'control' stream, even given the recent limited supplementation of it. Johnson Creek was switched from a control stream to a treatment stream in 1996 on the basis of very low adult returns, the calculated high risk of local demographic risk of extinction, and severe underseeding of available habitat. Supplementation activities in Johnson Creek are planned for approximately 25 years. The proposal notes that adult carrying capacity for Johnson Creek is estimated at 1,681 summer chinook. While on the site tour this summer, we were told that 1,700 adult chinook returned to Johnson Creek this year. Thus, supplementation does not appear warranted in Johnson Creek at this time on the basis of low adult numbers and underseeding of available habitat at least through the duration of the ISS experiment.

In 2001, the first returning fish from the limited Johnson Creek supplementation effort (1998 – 2000) returned; however, we note that all returning hatchery-produced salmon were jacks and they constituted only a portion of the 2001 returning jacks. Next year (2002), two-ocean adults including products of the supplementation efforts will be returning to Johnson Creek. However, the Johnson Creek weir can be used to intercept returning adults, and allow passage only of wild naturally spawned chinook salmon into Johnson Creek. This will allow Johnson Creek to remain in the ISS study as a control stream. As currently planned in project #199604300, Johnson Creek is neither a treatment, nor a control stream in the ISS because the criteria for stopping supplementation has been changed and do not appear to match the timetable in the ISS.

CBFWA Project Review Comments:
This project is considered a BASE project by NMFS.

Salmon River Subbasin Proposals

Project ID: 199107300

Idaho Natural Production Monitoring and Evaluation
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Identifies limiting factors and recommends methods to improve adult-to-smolt and smolt-to-adult survival of chinook salmon and steelhead. Provides long-term monitoring data to determine the effectiveness of recovery actions and population status.
FY02 Request: $831,000 (CBFWA Recommendation: $831,000)
3 YR Estimate: $2,526,000 (CBFWA Recommendation: $2,745,000)
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The proponents addressed the need for development of a long-term Columbia River Basin (including the Salmon subbasin) probabilistic sampling plan(s) for monitoring anadromous fishes, resident fishes, water quality, and other habitat quality parameters. The proponents also provided assurance that common monitoring methods are being used in the Salmon subbasin (e.g., project #199405000) and that data and metadata will be provided to Streamnet and other databases. Given the importance of following a more appropriate sampling strategy, this amended project should be assigned priority status.

The implementation of a high-level coordinated monitoring and evaluation plan for aquatic resources throughout the Columbia River Basin would likely be an unprecedented advance in research and a distinct advantage to the resource. Collocation of study sites for fish counts, aquatic habitat, and water quality would enhance the region's ability to draw meaningful statistical conclusions from the array of M&E projects currently underway. The Nez Perce Tribe and the IDFG Department could have lead roles in development of such a plan (see the response to the initial ISRP review of Project 28051 Assess and Monitor Steelhead in the Middle Fork Salmon River Subbasin).

The proponents should interact closely with Project 199801600 in the Columbia Plateau (Jim Ruzycki and Richard Carmichael, ODFW, "Monitor Natural Escapement and Productivity of John Day Basin Spring Chinook Salmon." ODFW revised this proposal to create a comprehensive plan to include all monitoring and evaluation for all anadromous salmonid lifestages and habitats in the John Day Basin. The M&E program in the John Day Basin is apparently developing as a model for the Oregon section of the Columbia Basin and is being carefully reviewed by agencies in Washington. The ISRP recommends that the proponents consider using aquatic habitat data protocols recommended in Johnson et al. (2001) (Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211pp).

The ISRP continues to believe that the project needs to undergo a programmatic review, perhaps in conjunction with review of similar projects in Oregon, Washington, and Montana. Monitoring and evaluation needs may be satisfied by the current subjectively selected survey sites and monitoring program during a period of low seeding levels, but the ISRP doubts that the project will meet the expectations and needs of the Province in the long term if anadromous fish abundance increases. It would be foolish to abandon the current design in the short term, but likewise foolish to not start integrating components of a design that allows statistical inferences to be made to the entire Snake Subbasin, other Idaho Subbasins, and the Columbia Basin.

The ISRP strongly supports the commitment in the amended proposal to work with the Oregon, Washington, and Montana Provinces to develop monitoring and evaluation procedures with common field procedures and probabilistic site selection for the entire Columbia Basin.

CBFWA Project Review Comments:
This project addresses RPAs 180 and 190.

Project ID: 199102800

Monitoring smolt migrations of wild Snake River sp/sum chinook salmon
Sponsor: National Marine Fisheries Service
Subbasin: Salmon
Short Description: Collect time series information to examine migrational characteristics of wild ESA-listed Snake River spring/summer chinook salmon stocks. PIT tag wild chinook salmon parr annually; and subsequently monitor as parr/smolts at stream traps and river dams.
FY02 Request: $350,000
3 YR Estimate: $1,050,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. All concerns and suggestions were adequately addressed in the response. We appreciate the care in responding to our initial review and assurance of co-operation between the referenced projects. We apologize for some misunderstanding on our part in the initial review. This is a good smolt-monitoring project that provides invaluable basic data for management decisions affecting the stocks involved.

The presenter indicated that the project recorded two to three times higher parr-to-smolt survival when parr densities in the streams were lower. This finding, if replicated in time and space, has major implications for management of hatchery supplementation outplanting and monitoring of adult escapement. This component of the project should be given high priority.

CBFWA Project Review Comments:
Reviewers question the duration of projects of this type and its duplicative nature. In addition, the reviewers question how much this type of work should be continued. These

concerns have also been expressed, in the past, by the Fish Passage Center. This project addresses RPA 190.

Project ID: 199902000

Analyze the Persistence and Spatial Dynamics of Snake River Chinook Salmon
Sponsor: USDA Forest Service- Rocky Mountain Research Station
Subbasin: Salmon
Short Description: Results will advance current understanding of the relationship between the distribution, pattern, and persistence of chinook salmon and landscape patterns. **Note: the most appropriate RPA for this project is RME Action 180.
FY02 Request: $112,410 (CBFWA Recommendation: $215,194)
3 YR Estimate: $351,242 (CBFWA Recommendation: $645,582)
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part. The intent of the project is to understand the factors determining the distribution of spawning chinook salmon, based on observations made in the Middle Fork Salmon River. The proposition is that spawning distribution depends on the amount of habitat, the quality of habitat, and its proximity to other habitat. This project has been underway since 1995, and has received BPA funding since 1999.

The proposal contained no description of results obtained to date and the response's brief repeat of results from the proposal and a copy of a technical report published in a conference proceedings in 2000 are minimally acceptable. Reviewers' support for the proposal might have been strengthened by a discussion of results obtained to date and plans for publication. More importantly, the proposal states that the project would require additional years of field work, through 2004, to follow a complete generation or more of spawning fish to complete the analysis of spatial structure. The scientific justification for such continuation of this project is weak. The current seven years of data on distribution of spawning activity contains substantial variation in total numbers of spawners. This variation seems to be a necessary component for study of the author's hypotheses, not a limiting factor. There is no assurance that the number of spawners will continue to increase beyond that in 2001, and thus the data collected through 2001 may be the best available in the near term to meet the author's objectives. The ISRP recommends that funding should not be provided for additional on the ground data collection.

Reviewers recommend funding in part, to conduct aerial surveys in support of project 28001 and to analyze and prepare for publication the data from 1995-2001.

CBFWA Project Review Comments:
This project addresses RPA 180. During this past year, this project has been funded at 1/2 the required budget (i.e., $50,000 of the needed/approved $100,000). The sponsors indicated is they only receive $50,000/year in the upcoming years the funding level will be insufficient to allow them to continue the proposed work in the original proposal. Reviewers suggest that the Project meets critical needs for long-term monitoring, indexing, acquisition of life history information, and analysis of the spatial structure of a wild chinook

salmon population. The reviewers identified simulates between Objective 4 and work proposed in proposal 28035. Sponsors of Project 199902000 recognized that the existing tasks (i.e., strategies to achieve the task) were inadequate to meet Objective 4. Although completing the existing tasks under Objective 4 would produce useful preliminary information, the analysis would be incomplete and difficult to defend in the physical sciences community. As a result, Objective 4 was refined into a Proposal 28035. The refined approach for addressing Objective 4 examines the physical controls of basin hydrology and sediment supply on spawning habitat availability at watershed scales. The extensive spawning habitat data available for the Middle Fork Salmon River through Project # 199902000 provides an excellent test site for the physical model. The model is robust, however, and once validated can be applied to any river basin. The model could have immediate use for identifying critical habitats and examining scenarios for best management practices for maintaining or optimizing spawning habitat. Moreover, the model would provide a physically based, defensible method for assessing spawning habitat and prioritizing management actions at watershed scales.

Per the reviewers' request, the following tasks from Proposal 28035 should be considered for funding through Objective 4 of 199902000:

Objective 4. Relate the location, size, and quality of spawning patches to basin geomorphic features.
Task a. Compile databases to describe basin landscape features.

Task b. Develop models to predict patch distribution and empirically validate models.

Subtask b.1. Predict grain size and the spatial distribution of suitable spawning habitat as a function of channel hydraulics and boundary shear stress.
b.1.1. Determine baneful flow depth and channel slope at watershed scales.
b.1.2. Determine grain sizes suitable for chinook spawning.

Subtask b.2. Modify predictions of grain size and spawning habitat availability to account for channel type and consequent hydraulic roughness.
b.2.1. Predict and field verify channel type, hydraulic roughness, and consequent modification of surface grain size.

Subtask b.3. Quantify the effects of sediment supply on surface grain size and spawning habitat availability.
b.3.1. Identify sources and magnitudes of sediment supply.
b.3.2. Model the long-term effects on spawning habitat availability due to sediment input and routing through the channel network.

Subtask b.4. Validate predictions of grain size and spawning habitat availability.

The cost savings resulting from the merger of these two Projects would total $30,841 ($18,636 for Project # 28035 and $11,845 for Project # 199902000). If this project is not fully funded, Objective 4 is the lowest priority task.

Project ID: 28035

Geomorphic Controls on Watershed-scale Availability of Chinook Salmon Spawning Habitat in the Salmon River
Sponsor: University of Idaho, USDA Forest Service Rocky Mountain Research Station
Subbasin: Salmon
Short Description: Quantify geomorphic controls on watershed-scale availability of sediment sizes suitable for chinook spawning.
FY02 Request: $133,625 (CBFWA Recommendation: $0)
3 YR Estimate: $400,875 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Do not fund as stand alone project. See project 199902000.
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The project proposes to quantify geomorphic controls on the availability of sediment sizes in the Middle Fork Salmon River by assessing validation of a geomorphic model that incorporates sediment grain size, relationship to slope and shear stresses. Scientifically the proposal appears sound and would likely result in the ability to more rapidly assess, by remote sensing, the presence/absence of suitable-sized spawning gravel (in this case for chinook salmon). Project sponsors provided in the response additional discussion of the general applicability of the results, and how the results might be used to address several different management situations. That said, reviewers were not convinced that the approach would have substantial utility in the Columbia system, where there is a relatively high level of awareness of the location of available spawning substrate, to the extent that most individual chinook redds are located by ground or aerial survey. A revised proposal may be appropriate for the systemwide solicitation.

CBFWA Project Review Comments:
This project should be incorporated into project number 199902000. See the comments for project 199902000.

Project ID: 28001

Evaluate Factors Influencing Bias and Precision of Chinook Salmon Redd Counts
Sponsor: USDA Forest Service- Rocky Mountain Research Station
Subbasin: Salmon
Short Description: Results will assess redd count bias and precision and will have important implications for improving chinook salmon redd surveys across the Snake River basin.**Note: the most appropriate RPA for this project is RME Action 180.
FY02 Request: $198,738
3 YR Estimate: $626,522
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable as amended with high priority. Project sponsors provided thoughtful responses to reviewer comments. We note that success of this project apparently depends on funding some tasks in project #199902000.This is an excellent research proposal to evaluate biases and variation in common methods of conducting redd counts. The proponents appropriately

identify their objectives as meeting the intent of Action 180 in the 2000 Biological Opinion that specifically calls for funding of Tier 1 and Tier 2 studies to collect data for population status monitoring.

The insights derived from this research could have important applications for improving redd counts and assessing adult escapements currently conducted by other entities across the Snake River basin and, in fact, for the entire Columbia Basin.

In 1999, two of the current proponents submitted a proposal entitled "Evaluation of a Mark-Resight Survey for Estimating Numbers of Redds" with BPA Project #20055. The ISRP recommended the project for funding and commented: "A strong proposal that provides a comparison between aerial and ground surveys of redds. This research is much needed and should result in improved technique." We continue to support this improved proposal. Funding for the project was deferred, in part, because of the extremely low escapements in 1999 and 2000. With anticipated increased escapements in the future, the proponents should be able to meet their objectives.

CBFWA Project Review Comments:
RPA 180 - Over 50% of the redd counts in the Middle Fork of the Salmon River are conducted via air. This ongoing research is allowing for the estimation of the precision that is associated with aerial and ground counts. The ability to identify the factors that could be influencing the precision of the counts is essential due to the fact that an aerial approach to counting redds is the only feasible method to count redds in the Middle Fork. The managers have identified this research as essential for future management activities.

Project ID: 28034

Chinook Salmon Smolt Survival and Smolt to Adult Return Rate Quantification, South Fork Salmon River, Idaho
Sponsor: Nez Perce Tribe
Subbasin: Salmon
Short Description: Monitor smolt production and adult escapement in the South Fork Salmon River with PIT-tag detections to provide SARs and R/S ratios as performance measures.
FY02 Request: $660,000
3 YR Estimate: $1,890,000
ISRP Final Recommendation: Fundable (med priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable but Medium Priority
ISRP Final Review Comments:
The proponents adequately addressed the ISRP concerns. This is a good research proposal with the primary goal to calculate and monitor smolt-to-adult returns (SARs) and recruits per spawner ratios (R/S) of summer chinook salmon in the upper South Fork Salmon River basin. Study design has been carefully considered including obtaining statistical estimates of the necessary sample sizes to achieve useful results. Completion of this study, integrated with other ongoing studies in the basin, should allow estimation of South Fork Salmon River Basin (SFSB) juvenile survival, adult returns, SARs, and R/S (recruits per spawner). -The

proponents should ensure that their data and metadata are made available via STREAMNET or other suitable electronic database.

CBFWA Project Review Comments:
This project addresses RPA 180.

Project ID: 28051

Assess and Monitor Steelhead in the Middle Fork Salmon River Subbasin
Sponsor: Nez Perce Tribe
Subbasin: Salmon
Short Description: Assess current population status, dynamics and genetics of steelhead in the Middle Fork Salmon River subbasin.
FY02 Request: $416,147
3 YR Estimate: $1,250,402
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not Fundable – A similar program, managed by IDFG, has existed in the basin for many years although it does not sample at as many sites as planned in the present proposal. Sponsors, however, did not provide a convincing argument that additional samples are necessary. Sponsor's insist there is need for data to estimate population viability, but no detailed outline of methods for obtaining these data was provided. Details of how the genetic information is to be used in such an analysis were not provided. Problems associated with such an analysis when sub-populations are severely depressed were not considered. Viability estimates require definition of population structure (distribution and abundance of sub-populations), and quantification of the interaction between sub-populations, but strategies and detailed methods for obtaining these data were not described. Absent the above, the proposal cannot be considered technically sound.

The ISRP recommends that sponsors of this project and researchers from IDFG consider working together to develop a new, collaborative proposal based on the information that IDFG and others have accumulated, that is directed to goals and objectives that are generally accepted as key to management of Middle Fork steelhead, and is designed to redirect the present and any new sampling found to be necessary to a strategy that includes probabilistic site selection (see The Oregon Plan for Salmon and Watersheds Monitoring Program, Nicholas 1997a, 1997b, 1999, for a helpful model).

The ISRP strongly supports development of a combined program for Idaho, Oregon, Washington, and Montana Provinces for compatible monitoring and evaluation procedures with common field procedures and probabilistic site selection for the entire Columbia River Basin. Implementation of such a high-level coordinated plan throughout the Columbia River Basin would likely be an unprecedented advance in research and a distinct advantage to the resource. Co-location of study sites for fish counts, aquatic habitat, and water quality would enhance the region's ability to draw meaningful conclusions from the array of M&E projects currently underway.

Proposals should be developed in close collaboration with Project 199801600 in the Columbia Plateau, "Monitor Natural Escapement and Productivity of John Day Basin Spring Chinook Salmon." ODFW revised this proposal to create a comprehensive plan to include all monitoring and evaluation for all anadromous salmonid life-stages and habitats in the Oregon portion of the Columbia River Plateau Province. The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Although the IDFG has completed genetic analyses in this area, this project would complement and expand what has been completed to date. This project addresses RPA 179 and 180.

Project ID: 28009

Smolt Condition and Adult Returns: An Indirect Method of Assessing the Potential Mitigation Benefits of Nutrient Enhancement Projects
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Proposes the development of a standard weight equation for chinook salmon and steelhead trout smolts. The equation will provide a method to determine if the condition of Snake River smolts is poor due to the lack of marine-driven nutrients.
FY02 Request: $44,600
3 YR Estimate: $44,600
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The sponsors acknowledge that population density, and many other variables are likely to affect smolt size and condition, but they did not show how they would assess their relative influences; an assessment that must be addressed before the project is technically credible. The data could be examined and assessed, in at least a preliminary way to see if they show some promise given the plethora of confounding variables. Such an examination should be possible in much less than a year and within the agency's existing program. If that analysis shows some real promise and attracts the attention of managers, a proposal to develop a more rigorous analysis could be developed. Establishing a relative weight equation is a good idea, but it would be better done by one of the more comprehensive nutrient enhancement projects.

CBFWA Project Review Comments:
Although the reviewers expressed concern regarding a lack of reference (in the proposal) as to how the results from this work would be transferred, the sponsors indicated that it was an oversight. The sponsors acknowledged that cooperation from the states, federal agencies, and tribes will be required to collect the required data. As a result, dissemination of the information to the cooperators as well as the rest of the Columbia River Basin will be expected. Project addresses RPA 190.

Project ID: 28054

Evaluation of Pisces Fish Protective Guidance and Monitoring System
Sponsor: Balaton Power, Inc.
Subbasin: Salmon
Short Description: Guide fish and monitor water conditions and fish passage
FY02 Request: $1,060,000 (CBFWA Recommendation: $0)
3 YR Estimate: $1,060,000 (CBFWA Recommendation: $0)
ISRP Final Recommendation: Not Fundable
CBFWA Category: Defer to Upper Snake Province
ISRP Comparison with CBFWA: NA - Not Fundable
ISRP Final Review Comments:
Not fundable. Although proposed testing of the device would occur in a tributary of the middle Snake River (thus the basis for the CBFWA suggestion to defer to Upper Snake Province), it appears that it would be better served in a systemwide or innovative review. This proposal needs to identify guidance problems that can be overcome by using this equipment. A convincing argument needs to be made that this equipment has benefits that are not available with other technology. Both proposal and presentation focused nearly exclusively on the technology rather than the application.

CBFWA Project Review Comments:
Not part of this province - referred to Upper Snake Province. Project sponsor should resubmit proposal in the Upper Snake Province solicitation.

Project ID: 28011

Incidental Mortality in Selective Sport Fisheries
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Conduct literature review and scoping for a contemporary study of incidental mortality rates in selective sport fisheries.
FY02 Request: $200,000
3 YR Estimate: $700,000
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Do not fund. This is a request for funding to develop a proposal for estimating impact of catch and release fishing on non-hatchery salmon and steelhead in the Snake River. The background includes a statement that "Early work in the Snake River basin led to the conclusion anadromous adults could be released in selective fisheries with acceptable impacts (Pettit 1977)." The present proposal should have included what about that assessment is faulty and how its shortcomings (and shortcomings of other studies) will be overcome with a new study.

This issue has systemwide implications and a cooperative Columbia Basin wide study may be more appropriate. The mainstem and systemwide solicitation will begin in late fall and winter of 2001. A detailed proposal could be prepared in cooperation with other interested parties for the mainstem or systemwide solicitation.

CBFWA Project Review Comments:
Addresses RPA 167. The reviewers believe this proposal should be submitted for review through the Systemwide/Mainstem Province review due to systemwide implications.

Project ID: 28006

Tag and evaluate PIT-tag retention in sub-yearling chinook salmon
Sponsor: Biomark, Inc.
Subbasin: Salmon
Short Description: We propose to PIT tag 12,000 sub-yearling chinook salmon as part of an IDFG NATURES study being conducted in 2002. Additionally, we will determine the rate of PIT-tag shedding in sub-yearling salmonids from 24 hours post-tagging to 30 days post-tagging.
FY02 Request: $82,044
3 YR Estimate: $82,044
ISRP Final Recommendation: Fundable (Medium Priority)
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (Medium Priority)
ISRP Final Review Comments:
Fundable at medium priority. They should sub-sample with a group held longer; e.g. at least 6 months. The study will apparently provide information on tag loss over time for one realization of levels of these factors (i.e., one species, a fixed hatchery practice, limited range on size, etc.). The rate of tag loss and time at which tag loss becomes negligible may depend on these factors. If data are collected on individual fish (size, fat content, etc.) there may be sufficient variation to evaluate the effects of some of the factors, but not all. The present study may serve as a pilot project, but apparently a more comprehensive experimental design is needed for full evaluation of the problem.

CBFWA Project Review Comments:
Thousands of fish of this size are tagged and released on a yearly basis; however, the managers have not expressed a concern regarding tag retention during this time period. Some reviewers suggest that research similar to what is being proposed may have already been performed by the agencies or tribes. Addresses RPA 174.

Project ID: 199700100

Captive Rearing Project for Salmon River Chinook Salmon
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Develop captive rearing techniques for chinook salmon and evaluate the success and utility of captive rearing for maintaining stock structure and conservation levels of adult spawners in three drainages.
FY02 Request: $750,482
3 YR Estimate: $4,050,482
ISRP Final Recommendation: Fundable (low priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable but Low Priority
ISRP Final Review Comments:
Fundable, but low priority – Sponsors provided reasonable and detailed answers to reviewers' questions and comments. Questions remain, however, about the need to alter the performance traits of the captive brood to make them similar to fish in nature. These characters are largely dependent on environment so characteristics of fish reared in hatcheries will reflect those conditions, and of fish produced in nature will reflect those conditions. Detailed and careful work to produce fish with similar characteristics from either set of conditions is certain to require a continuing, and long-term effort, and in the view of some reviewers, perhaps a flawed strategy. Sponsors need to reassess what they are doing in his project. It appears from the review that the project will never be "complete."

CBFWA Project Review Comments:
The results from this work will significantly benefit the target populations. This project has had significant peer review and is guided by a technical oversight committee. This project is considered a BASE project by NMFS in regards to the 2000 Biological Opinion. This project should eventually be tied into the Safety Net Artificial Production Program (SNAPP) process.

Redfish Lake Sockeye Program

All projects underway to preclude extinction of Stanley Basin sockeye salmon should be subjected to review by "outside experts." An oversight committee exists, but they are viewing the program as a series of funded projects that need to be forged into a recovery strategy. An independent review could attempt to answer several questions including the following. Is it now possible to depend on Sawtooth Hatchery to supplement production from the associated lakes? Does the captive broodstock program remain a critical part of the program? After several years, attempts to increase survival of sockeye salmon via lake fertilization cannot provide convincing evidence that fertilization should continue; should it continue?

1. Project ID: 199107200

Redfish Lake Sockeye Salmon Captive Broodstock Program
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Establish captive broodstocks of Redfish Lake sockeye salmon. Spawn captive adults to produce eggs, juveniles, and adults for reintroduction and future broodstock needs. Evaluate juvenile out-migration and adult returns by release option.
FY02 Request: $853,229
3 YR Estimate: $3,044,520
ISRP Final Recommendation: Fundable (low priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable (but Low Priority)
ISRP Final Review Comments:
Fundable, but low priority -- The project sponsors prepared detailed and responsive answers to reviewer questions and comments. The program benefits from the authors' participation in the program.

The ISRP does not question the credentials of the technical oversight panel or of experts brought in to provide input on specific aspects of the program. The ISRP does, however, remain committed to a detailed and rigorous review of this large and expensive program by a team of outsiders directed to address the performance and continuing need for each element of the program.

CBFWA Project Review Comments:
This project is considered a BASE project by NMFS since it contributed to the baseline survival of sockeye salmon during the generation of the Biological Opinion. Some managers believe the project goals/target could be firmer.

2. Project ID: 199204000

Redfish Lake Sockeye Salmon Captive Broodstock Rearing and Research
Sponsor: National Marine Fisheries Service
Subbasin: Salmon
Short Description: Provide a safety net captive broodstock program for Redfish Lake sockeye salmon. Provide prespawning adults, eyed eggs, and smolts to aid recovery of this ESA-listed endangered species in Idaho
FY02 Request: $1,600,000
3 YR Estimate: $3,191,200
ISRP Final Recommendation: NA
CBFWA Category: High Priority
ISRP Comparison with CBFWA: NA
ISRP Final Review Comments:
Not applicable. Scientific issues are not central to the decision. This is the NMFS captive rearing program in support of the Stanley Basin sockeye salmon program. The need for this project is integrally linked to that program. Part of the request is to purchase a freshwater hatchery that is presently leased, near Manchester, WA, to support the program. The

expectation on behalf of project sponsors is that they will need this facility for the sockeye program during the next decade. Sponsors feel that the property owner can cancel the present leasing arrangement at any time, thus jeopardizing the program.

CBFWA Project Review Comments:
This project is considered a BASE project by NMFS since it contributed to the baseline survival of sockeye salmon during the generation of the Biological Opinion. The NMFS is currently under a lease that has contract language that allows for the lease to be terminated with a 90 day notice, language that subsequently gives the owner flexibility for purposes of selling the property. Presently, the owner of the property is actively marketing the property as "for sale." The property, which has been identified as desirable for development, is located in Kitsap County, one of the fastest growing counties in the Washington. The NMFS conducted a survey of other existing facilities throughout western Washington and identified this site as the most acceptable based on issues such as water availability, water quality, etc. The market analysis by NMFS indicated that the property is worth $850,000 for a lease purpose. Presently, there are no other hatcheries that could provide the facilities required to raise this particular group of fish.

3. Project ID: 199107100

Snake River Sockeye Salmon Habitat and Limnological Research
Sponsor: Shoshone-Bannock Tribes
Subbasin: Salmon
Short Description: Enhance and monitor freshwater rearing habitat for juvenile Snake River sockeye. Evaluate the effects of nutrient addition and fish stocking on the lake's ecosystems and growth and survival of planted juvenile sockeye.
FY02 Request: $441,369
3 YR Estimate: $1,370,558
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part at a reduced level to develop and implement an operational plan based on what they judge can be concluded from the results obtained to date. Further research is not likely to produce substantial additional information in the near future. Results are highly variable, some suggesting a benefit and others no-benefit. Stanley Lake is mentioned as a reference location, but the data for that lake are limited to limnological observations.

CBFWA Project Review Comments:
This project addresses RPAs 184 and 185.

Salmon River Subbasin Habitat Restoration and Protection Proposals

Project ID: 199401500

Idaho Fish Screen Improvement
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Enhance passage of juvenile and adult fish in Idaho's anadromous fish corridors by consolidation and elimination of irrigation diversions. Minimize adverse fish impacts of irrigation diversion dams by screening pump intakes and canals.
FY02 Request: $1,000,000
3 YR Estimate: $3,148,050
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable if the proponents include the monitoring data shown at the presentation and, if they report on the maintenance protocols. A response to the ISRP was not requested; the ISRP concerns can be addressed by the Council in the project selection process or BPA in the contracting process. The Washington program has an established protocol for effectiveness monitoring that may provide a good model. This would ensure consistency across the basin. The proposal is adequate for multiyear funding or until completion in 2005.

This is an excellent proposal to continue an expensive fish-screening program. There appears to be good collaboration among agencies and landowners. The proposal notes that screening should be complete by 2005.

The primary criticism in the FY00 review by the ISRP was the lack of monitoring and evaluation of results. The reviewers suggested incorporating monitoring and evaluation protocols and benchmarks into the project. The current proponents state that several screens were monitored by catching all fish diverted from the irrigation canal back to the river via the by-pass pipe. Six fish screens on the Lemhi River by-passed 841 fish in 150 days of the 1997 irrigating season. Two screens passed 632 (98%) steelhead during the irrigation season on the Pahsimeroi River. However, there is no indication of an appropriate consistent monitoring and evaluation protocol (e.g., systematic sample survey for screen effectiveness) that can be repeated over time. Perhaps a systematic sample of projects could be visited each year such that all are surveyed over a 5-year period. The ISRP does not expect a research level monitoring and evaluation scientific study. Tier I monitoring for effectiveness of the project, as described in the introduction to this report, should be sufficient. It may be sufficient to have a regular schedule for checking effectiveness of previous projects, some periodic search of irrigation ditches downstream of screens, monitoring of water temperature returning from irrigation ditches, etc. The Washington protocol may serve as a good model.

CBFWA Project Review Comments:
A new position has been established/filled to develop and implement an M&E program. In addition, an element of the program will be to construct and maintain fences around the

screening facilities. This program is essential to the continued protection/management of protected species/populations. This projects addresses RPAs 149 and 500.

Salmon Basin Soil and Water Conservation Proposals

1. Project ID: 199202603

Upper Salmon Basin Watershed Project Administration/Implementation Support
Sponsor: Idaho Soil Conservation Commission and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Provide local coordination and guidance for implementation of on-the-ground projects that improve and enhance anadromous and resident fish habitat.
FY02 Request: $285,364
3 YR Estimate: $870,364
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
This collection of numbered proposals are fundable in part for support of the administrative objectives under 199202603. The other objectives and five new proposals are too premature to be reviewed from a scientific point of view at this point in time. Necessary funds and direction should be provided for project 199202603 so that over the next 3 years prioritization of projects and planning, including watershed assessments, are completed.

An analysis of the amount of water and bank protection that realistically can be restored should be made. Specialists, such as those presently being consulted, could use this information and attempt to predict what channel characteristics and dynamics might be expected from the expected water and bank restoration. Such an analysis can also show where actions are needed to facilitate development of more favorable fish habitat, and provide a basis for prioritizing projects. Responses to reviewer comments indicated that the proponents are working with channel specialists from the University of Idaho to complete the first steps described above. Successful demonstration that these initial steps have been completed and incorporated into the program should be prerequisite to continued funding.

The ISRP appreciates the commitment to develop a more unified monitoring and evaluation program. These attempts should be coordinated among other projects with aquatic and terrestrial monitoring responsibilities. See the ISRP reviews and proponent's responses to ISRP initial concerns on project proposal #28018. The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

The Lemhi has laudatory involvement from local stakeholders, as well as a functioning technical committee in place.

In the review of project 28019, the ISRP recommends that projects dealing with animal feeding operations in the Upper Salmon basin be considered for funding as part of Project

#199202603 and related proposals submitted by the Custer and Lemhi Soil and Water Conservation Districts. Those projects either have or are developing criteria for effective prioritization of projects for benefit of fish in the subbasin. The ISRP recommends that the Upper Salmon Basin Watershed Project give priority to identifying key feeding operations and to coordinating remediation with their owners and with the ISDA and IOSC and other funding sources.

CBFWA Project Review Comments:
This project addresses RPAs 152 and 154. The reviewers are curious how the administrative costs in this proposal tie in with the significant administrative costs included in project numbers 28036, 28037, 28038, 28039, and 28040. Watershed assessments have been requested for the past several years. Are those assessments being completed?

2. Project ID: 28036

Holistic Restoration of Critical Habitat on Non-federal Lands in the Pahsimeroi Watershed, Idaho
Sponsor: Custer Soil & Water Conservation District / Idaho Governor's Office of Species Conservation
Subbasin: Salmon
Short Description: Collaborative effort to implement projects on non-federal lands that are effective at improving habitat conditions (and survival rates) for native anadromous and resident salmonids in the Pahsimeroi watershed, Idaho.
FY02 Request: $2,606,341
3 YR Estimate: $7,926,041
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
See comments on project 199202603.

CBFWA Project Review Comments:
Addresses RPA 149, 150 and 154. Similar to the ISRP's review, the CBFWA reviewed Proposals 28036, 28037, 28038, 28039, 28040 and 199901900 as a collection of proposals. Except for proposal 28039, all the proposed work would protect and enhance spawning habitat. Proposal 28039 would protect a migration corridor that is also characterized by the presence of rearing habitat, habitat types that do not exist in the other watersheds. The reviewers and project sponsors are in agreement with the ISRP regarding the development of a well-defined watershed assessment; however IDFG expressed concern that landowner support could be lost if additional planning efforts were required during the next couple of years at the expense of implementation. Recognizing that nearly 90% of the spawning activities occur on private lands, IDFG realizes landowner participation is essential to the management and conservation of the resources. As a result, managers have spent over a decade developing working relationships with private landowners through extensive planning processes. Based on their working relationships with the landowners, the managers indicated that requiring the development of assessments prior to implementing actions that have already been discussed/planned with the landowners will result in the loss of public support and subsequently the inability to manage the areas that have been identified as

critical through a decade of planning. Although the proposals have new project numbers they are ongoing projects (i.e., 199401700, 199306200, 19960700). The BPA COTR, who was present during the review, indicates that these proposals are not characterized by a change of scope. Although the tasks are considered a high priority, there is concern among CBFWA reviewers about the size of the proposed budgets and the ability to implement actions at the proposed rate. In each proposal, a professor, graduate student and writing contractor are identified. Are these separate individuals for each project? Could cost savings be achieved through coordination of these projects during funding? The budget for the implementation phase should be refined, as appropriate, based on the results of the assessment. The budget needs reconciling in terms of cost of assessments and scheduling of implementation tasks.

3. Project ID: 28038

Holistic Restoration of Critical Habitat on Non-federal Lands, East Fork Salmon Watershed, Idaho
Sponsor: Custer Soil & Water Conservation District / Idaho Governor's Office of Species Conservation
Subbasin: Salmon
Short Description: Collaborative effort to implement projects on non-federal lands that are effective at improving habitat conditions (and survival rates) for native anadromous and resident salmonids in the East Fork Salmon watershed, Idaho.
FY02 Request: $2,608,084
3 YR Estimate: $7,879,984
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
See comments on project 199202603. Descriptions given during field tour convinced reviewers that Shoshone Bannock Tribe has been doing a good job of communicating with East Fork landowners. This suggests that this program would be more effective with their involvement.

CBFWA Project Review Comments:
Addresses RPA 149, 150, and 154. See comments for Project Number 28036.

4. Project ID: 28040

Holistic Restoration of Critical Habitat on Non-federal Lands, Upper Salmon Watershed, Idaho
Sponsor: Custer Soil & Water Conservation District / Idaho Governor's Office of Species Conservation
Subbasin: Salmon
Short Description: Collaborative effort to implement projects on non-federal lands that are effective at improving habitat conditions (and survival rates) for native anadromous and resident salmonids in the Upper Salmon watershed, Idaho.
FY02 Request: $2,567,545
3 YR Estimate: $7,847,045
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
See comments on project 199202603.

CBFWA Project Review Comments:
Addresses RPA 149, 150, and 154. See comments for Project Number 28036.

5. Project ID: 28039

Holistic Restoration of Habitat on Non-federal Lands, Middle Salmon-Panther Watershed, Idaho
Sponsor: Lemhi Soil & Water Conservation District / Idaho Governor's Office of Species Conservation
Subbasin: Salmon
Short Description: Collaborative effort to implement projects on non-federal lands that are effective at improving habitat conditions (and survival rates) for native anadromous and resident salmonids in the Middle Salmon-Panther watershed, Idaho.
FY02 Request: $1,863,326
3 YR Estimate: $5,688,526
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
See comments on project 199202603.

CBFWA Project Review Comments:
Addresses RPA 149, 150, and 154. See comments for Project Number 28036.

6. Project ID: 28037

Holistic Restoration of Critical Habitat on Non-federal Lands in the Lemhi Watershed, Idaho
Sponsor: Lemhi Soil & Water Conservation District / Idaho Governor's Office of Species Conservation
Subbasin: Salmon
Short Description: Collaborative effort to implement projects on non-federal lands that are effective at improving habitat conditions (and survival rates) for native anadromous and resident salmonids in the Lemhi watershed, Idaho.
FY02 Request: $3,238,682
3 YR Estimate: $9,839,182
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
See comments on project 199202603.

CBFWA Project Review Comments:
Addresses RPA 149, 150, and 154. See comments for Project Number 28036.

Project ID: 199901900

Holistic Restoration of the Twelvemile Reach of the Salmon River near Challis, Idaho
Sponsor: Custer Soil & Water Conservation District/Idaho Governor's Office of Species Conservation.
Subbasin: Salmon
Short Description: Work holistically to restore the channelized Salmon River corridor to a natural meandering form in balance with watershed processes that will restore geomorphic diversity, reduce bank erosion, lower summer temperatures and improve critical fish habitat.
FY02 Request: $1,844,000 (CBFWA Recommendation: $1,844,000)
3 YR Estimate: $5,158,000 (CBFWA Recommendation: $5,412,000)
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part for study of the importance of temperature as the potential limiting factor in the proposed study reach and to pursue passive activities such as purchase of priority easements and fencing projects. Temperature modeling similar to that alluded to in items 5 & 6 of the response, as well as additional physical and biological watershed assessment, will be crucial in assessing potential benefits of the project, including components of the heavy construction work.

It is clear that the agencies involved have indeed done a nice job in getting local landowners poised to "collaborate on a single vision and to consider the reach in a holistic sense". Unfortunately, it is not clear to the ISRP that enhancement of anadromous fish populations will necessarily follow from all of the tasks.

A watershed assessment should indicate the priorities of tasks in this project. For example, if high stream temperature generated upstream is the key limiting factor, the heavily engineered approach proposed in project may be secondary in priority. Evidence that this reach provides a number of high quality thermal refuges and assessment of the potential to provide more should be given.

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Addresses RPA 149 and 152. Similar to the ISRP's review, the CBFWA reviewed Proposals 28036, 28037, 28038, 28039, 28040 and 199901900 as a collection of proposals. These budgets are a significant portion of the total Salmon subbasin budget and need additional scrutiny. The reviewers and project sponsors are in agreement with the ISRP regarding the need for the development of a well-defined watershed assessment; however the managers expressed concern that landowner support could be lost if additional planning efforts were required during the next couple of years at the expense of implementation. Recognizing that nearly 90% of the spawning activities occur on private lands, the managers realize landowner participation is essential to the management and conservation of the resources. As a result, the managers have spent over a decade developing working relationships with private landowners through extensive planning processes. Based on their working relationships with the landowners, the managers indicated that requiring the development of assessments prior to implementing actions that have already been discussed/planned with the landowners will result in the loss of public support and subsequently the inability to manage the areas that have been identified as critical through a decade of planning. Although the proposals have new project numbers they are ongoing projects (i.e., 199401700, 199306200 19960700). The BPA COTR, who was present during the review, indicates that these proposals are not characterized by a change of scope, however there was significant disagreement with this statement. Although the tasks are considered a high priority, there is concern among CBFWA reviewers about the size of the proposed budgets and the ability to implement actions at the proposed rate. In each proposal the same writing contractor and the University of Idaho is identified. Are the U of I employees separate individuals for each project? Baseline M&E (i.e., juvenile counts and redd counts since 1998 and physical data collection since 1985) data is being collected through IDFG activities. Detailed M&E plans have not been developed to date but will be developed as the project moves forward. Data collected to date show that rearing populations are higher then elsewhere and that by opening the side-channels the population will greatly benefit. The sponsor understands a watershed assessment is important and indicated that other agencies are working towards performing the activity. Considering the magnitude of implementation proposed, the sponsor should seek CREP implementation funding as cost share as has been done by similar SWCD proposals in the Columbia Plateau Province. See comments for Project 28036.

Project ID: 28016

Restoration of the Yankee Fork Salmon River
Sponsor: Custer Soil & Water Conservation District, Idaho Governor's Office of Species Conservation
Subbasin: Salmon
Short Description: Restore the natural river channel characteristics, floodplain function, sediment regime, and aquatic habitat within the dredged reach of the Yankee Fork. Reconnect the remaining quality habitat, thereby increasing the biological integrity of the basin.
FY02 Request: $799,785
3 YR Estimate: $3,213,505
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable at low priority subject to existence of a conservation easement that limits future development of lands associated with the stream channel restoration and completion of a watershed analysis that continues to support the feasibility of the project. The ISRP appreciates the detailed and straightforward responses to our questions and concerns. The fishery benefits on this project may be relatively low. The impacted area is a relatively short stretch of moderately high gradient. The primary chinook salmon rearing area is upstream, and passage doesn't seem to be impeded. This is an expensive project and the ISRP questions whether BPA funding is appropriate.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Although IDFG identified the Yankee Fork as a major source of sedimentation to the mainstem Salmon River, reviewers question the benefit/cost issue. The reviewers suggest that the proposed work appears expensive and are concerned about the ability to achieve proposed goals in a timely manner. The work proposed is high priority, there are some concerns about the cost of implementation.

Project ID: 28008

Riparian Conservation Easement Purchase of Scarrow Property on Lake Creek a Tributary to the Secesh River, Idaho.
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Salmon
Short Description: Acquisition of sensitive riparian area to protect water quality above wild summer chinook spawning grounds.
FY02 Request: $68,500
3 YR Estimate: $68,500
ISRP Final Recommendation: Fundable (medium priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable but Medium Priority
ISRP Final Review Comments:
Fundable - medium priority. This acquisition offers marginal immediate benefit to anadromous fish but would provide fairly good long term protection to this riparian area, the last private land in the subwatershed. There is apparently some misunderstanding on the part of the ISRP or CBFWA. The CBFWA response indicates that the property would be purchased, but the ISRP understanding is that the project would provide a conservation easement on part of the property. The ISRP would recommend higher priority for this project if a conservation easement could be purchased on the entire 60 acres. If funded, the project should have a plan for Operations and Management of the property with indication of required funding if any. In addition, plans should be included for monitoring and evaluation of the effectiveness (Tier 1) of the conservation easement over time with indication of required funding if any.

CBFWA Project Review Comments:
This proposal addresses RPA 150. The reviewers identified this proposal as important because it would provide for the purchase of the last piece of private land in the watershed. Water quality parameters are expected to improve significantly through cost effective actions that would result due to the purchase.

Lower Salmon Habitat Protection and Restoration Proposals

1. Project ID: 28044

Protect and Restore Deer Creek Watershed
Sponsor: Nez Perce Tribe Fisheries/Watershed
Subbasin: Salmon
Short Description: Protect and restore valuable fluvial aquatic habitat by improving riparian and watershed conditions in upper watershed through watershed assessment and restoration activities in Deer Creek watershed.
FY02 Request: $155,213
3 YR Estimate: $669,213
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. This is a proposal to primarily improve habitat for resident fish and wildlife along Deer Creek above the falls. Reviewers question the value provided by stream habitat restoration if the dominant benefactor is brook trout, as appears to be the case here.

According to the proposal, the Nez Perce Tribe currently owns 27% of the watershed and proposes to conduct an Ecosystem Analysis at the Watershed Scale (EAWS) to describe current conditions and make management decisions. There is an apparent lack of current management consensus with the Idaho Department of Fish & Game, which owns half of the watershed, and the EAWS is proposed as a method to enable consensus. Reviewers saw no indication that completion of an EAWS would provide substantial additional valuable information in this situation. The proposal and response do not adequately describe alternative management options. We suggest that in future the proponents reconsider all available options, including buying out the grazing rights, conservation easements, fencing of the riparian zone, use of the CRP program, and purchase of private property.

The ISRP reiterates its recommendation that Lower Salmon (and Little Salmon) proposals (such as this, the following IDFG's proposal #28018 and the Nez Perce Tribe's proposal #28010) need to be better coordinated with consensus on approaches to protection of fish and wildlife habitat.

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 154. This proposal will directly benefit redband trout; however, the presence of bull trout was not identified. Improved water quality will benefit anadromous fish located below the falls. The reservoir project is not currently planned for this area.

2. Project ID: 28018

Lower Salmon River Tributary Protection and Enhancement
Sponsor: Idaho Department of Fish and Game
Subbasin: Salmon
Short Description: Protect and enhance important aquatic and terrestrial habitats in Salmon River tributaries.
FY02 Request: $101,000
3 YR Estimate: $1,048,000
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part to develop and complete planning and prioritization effort. The work in the Lower Salmon should be treated as a geographic region with project selection and prioritization at that geographic scale. The proposal and the responses show this to be largely a planning effort with little included for technical review. Specific proposals need to be prepared for each project (easement, purchase, etc.). Sponsors are referred to the Confederated Salish and Kootenai Tribes' Habitat Acquisition and Restoration Plan – Project 19910600. Monitoring and Evaluation plans should be made consistent with a state/national sampling plan such as the National Resources Inventory. See the ISRP reviews and proponent's responses to ISRP initial concerns on project proposals 28018, 28010, 199202603, 28036, 28038, 28040, 28039, 28037. The proponents are also referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 154. This proposal is linked to project 28010. Reviewers identified this proposed work to be a high priority if managers and stakeholders agree as to which easements should be purchased or are in agreement relative to the section of the plan that tentatively identifies properties that could be purchased. When funding this project, project 28010 funding levels should be considered. The development of the restoration plan should be a priority for this project. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands.

3. Project ID: 28010

Nez Perce Salmon River Terrestrial
Sponsor: Nez Perce Tribe
Subbasin: Salmon
Short Description: Protect, enhance, and restore native canyon grassland, and associated riparian habitats within the Lower Salmon and Little Salmon River Watersheds, along with high elevation wet meadows, which are the headwaters and water storage systems for the same.
FY02 Request: $2,801,996
3 YR Estimate: $8,826,742
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part to develop and complete planning and prioritization effort. The work in the Lower Salmon should be treated as a geographic region with project selection and prioritization at that geographic scale.

The proponents are referred to the ISRP Review of the Confederated Salish and Kootenai Tribes' Habitat Acquisition and Restoration Plan (19910600). The project was reviewed in the Mountain Columbia Province to determine whether it provided scientifically sound criteria and protocol to prioritize habitat acquisitions. The ISRP found that document described a good plan for habitat acquisition and restoration of wildlife habitat in mitigation for lost aquatic and riparian habitat due to the Kerr Project No. 5 located on the Flathead River and could serve as a useful model to other habitat and restoration proposals with some minor revision of the monitoring and evaluation (M&E) component of the plan. The M&E component has subsequently been reviewed and approved subject to minor modifications in ISRP report (www.nwcouncil.org/library/isrp/isrp2001-4AlbeniFalls.pdf). The proponents are also referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

This is a proposal addresses a clear set of general needs in those areas. Nevertheless, the proposal is not amendable to scientific review. More attention to planning and criteria for prioritization of possible acquisitions (including ties to anadromous fish habitat where appropriate) are needed.

CBFWA Project Review Comments:
The sponsors have identified several properties that could be purchased. The funding of this proposal would allow for the immediate implementation of habitat work following the purchase. The NPT and IDFG will coordinate at the technical and policy level throughout the life of the project. When funding this project, project number 28018 funding should be considered. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands.

4. Project ID: 28050

Protect and Restore Little Salmon River
Sponsor: Nez Perce Tribe Fisheries/Watershed
Subbasin: Salmon
Short Description: Protect valuable riparian corridor and fluvial aquatic habitat while increasing habitat quality and quantity within the mainstem Little Salmon river basin.
FY02 Request: $262,896
3 YR Estimate: $560,538
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in Part; objective 2 only. The proposal would "partner" with landowner group to improve riparian habitat, and demonstrates good interactive potential between NPT and landowners. The 2.5 miles of restored riparian habitat, the primary restoration project, would not be accessible to the public.

The proposal provided little information on fish resources in the immediate project area. The response indicates that no sensitive or federally listed species inhabit the reach, and that habitat exists for rainbow and cutthroat trout but it is not clear that these species are present. Because the property is 1 mile above the Little Salmon Creek falls, benefit to anadromous fish is very indirect and a weak case is made for any such benefit. The response states that "it is the Tribe's as well as Idaho Fish and Game's opinion that inadequate habitat exists above the barrier" and "restoration of the upstream habitat above the falls is targeted for the eventual establishment of passage… ".

Because of these factors the ISRP recommends that the primary proposed action, to conduct riparian restoration on the Circle C property (Objective 1), and its associated monitoring (Objective 3) not be funded.

An assessment of conditions in the watershed, identification of what natural processes are being interrupted, what, if anything, can be done to let these processes work as expected, and reasonable predication of fishery gains all need to be completed before any proposal for active restoration can be given adequate technical review. Therefore the ISRP recommends that the watershed assessment preparation component only (Objective 2) be funded with the stipulation that it emphasize existing and future desired fish populations and fish habitat.

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 149 and 154. The goal is to eventually establish anadromous fish populations above the falls where good habitat would have been established through this project. Although no biological monitoring is identified, it has been proposed for this site through Proposal 28045. The existing monitoring appears to be of low intensity and may

not be sufficient since it is performed downstream of the implementation. Reviewers expressed concerns that there needs to be more intensive monitoring (e.g., fish presence/absence and abundance). Monitoring of biological characters is important due to the due to the presence of resident fish (e.g., redband trout) at the site of implementation. The sponsors indicated that a plan to monitor biological parameters is currently being developed.

5. Project ID: 28049

Restore and Protect Slate Creek Watershed
Sponsor: Nez Perce Tribe Fisheries Watershed
Subbasin: Salmon
Short Description: Restore and protect the Slate Creek Watershed for the benefit of both resident and anadromous fish using an overall watershed approach. Restoration and protection efforts will be done cooperatively with the Nez Perce National Forest.
FY02 Request: $231,841
3 YR Estimate: $966,099
ISRP Final Recommendation: Fundable (medium priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable but Medium Priority
ISRP Final Review Comments:
Fundable - medium priority. This is a clearly written proposal that targets specific restoration activities, primarily to reduce sedimentation, and shows good familiarity with Slate Creek. Benefits should accrue to chinook, steelhead, and bull trout. Excellent collaboration between the Nez Perce Tribe and the Nez Perce National Forest that administers 93% of the watershed is evident. The ISRP compliments the proponents for a nicely planned project.

An Ecosystem Analysis at the Watershed Scale has recently been completed by the Nez Perce National Forest and was provided to reviewers. The project response clarified the need to complete one of the restoration activities.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Slate Creek is a known production site for anadromous and resident fish. This project addresses RPA 400.

6. Project ID: 28058

Restore Fish Passage and Habitat in the Upper East Fork of the South Fork of the Salmon River

Sponsor: Idaho Department of Environmental Quality - Idaho Office of Species Conservation

Short Description: Restoration of fish passage and aquatic and riparian habitat through a historic open pit mine, which created a migration barrier in the middle of the east Fork of the South Fork of the Salmon River (EFSFSR)

FY02 Request: $842,000

3 YR Estimate: $894,000

ISRP Final Recommendation: Fundable (Medium Priority)

CBFWA Category: Recommended Action

ISRP Comparison with CBFWA: Agree - Fundable (Medium Priority)

ISRP Final Review Comments:

Fundable - medium priority. The project would restore fish passage by remediating a Stibnite mine "legacy". The site is no doubt a major source of sediment in the basin that should have been stabilized long ago. It seems reasonable to expect that the 7 miles of habitat available above the Glory Hole barrier would be useable for spawning and rearing by anadromous stocks, cutthroat and fluvial bull trout and therefore will provide fish benefits if the barrier were removed. However, the proposal and response were not definitive in describing such benefits, and the ISRP notes (and shares) CBFWA reviewers concern over this issue. BPA should examine whether this is appropriate offsite mitigation.

Monitoring and evaluation also remains a significant issue. Although the response indicates that appropriate monitoring would be done jointly by a number of agencies, details of methodology were not provided. Thus ISRP support of this project is conditional on the completion of an M & E design. The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:

Addresses RPA 149. Although monitoring does not exist in the proposal, activities would take place through other projects funded outside the BPA process. Removal of the passage barrier would allow passage to areas suitable for anadromous fish spawning as well for use by fluvial bull trout. This project will immediately provide information for the management of bull trout and cutthroat trout and eventually anadromous fish. Reviewers question why the removal of this barrier is now a desire of the sponsor. The IDFG, NPT, and NMFS support the concept that has been proposed but NPT questions the priority of the removal versus other proposed actions that have been submitted by proposal sponsors.

The Resident Fish Caucus expressed concern relative to the lack of inclusion of fisheries information. The Resident Fish Caucus suggests that without specific goals and objectives related to fisheries benefits this project should not be funded. If specific fisheries goals and objectives can be determined than this project could be considered as a recommended action if the proponents address information about downstream effects and hazards as a result of this large scale project. Until downstream effects are better addressed the Resident Fish Caucus questions whether possible downstream damage might out weigh up stream gains.

In addition, the Resident Fish Caucus questions whether the work could be completed in one year as proposed. The Resident Fish Caucus believes the tie to the Federal Hydropower system is unconvincing.

Project ID: 28019

Improve Stream Habitat by Reducing Discharge from Animal Feeding Operations
Sponsor: ISDA, IOSC
Subbasin: Salmon
Short Description: Enhance tributary and main stem fish habitat and water quality by reducing direct discharge and run-off from Animal Feeding Operations by supporting on-farm improvement with cost-share funding and technical assistance.
FY02 Request: $2,026,000
3 YR Estimate: $2,026,000
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. This proposal is a request for funds to identify streamside animal feeding operations and to improve water quality and fish habitat by funding 70% of the cost of remedial actions for landowners, especially those with smaller herds. The proposal is similar to several others that request funds for an activity that has no specific objectives other than identifying and fixing problems.

On the other hand, the ISRP agrees the problem of animal feeding operations in the Salmon subbasin is real in a biological sense and notes a similar observation from the CBFWA reviewers. Also "real" is landowner apprehension regarding the threat of "taking" fish listed under ESA if their operations are found to cause impact. However, the ISRP agrees with CBFWA reviewers that it is important to target those feeding operations that pose the greatest problems in key portions of the subbasin where fish would benefit the most. As written, the proposal does not do that and specific actions are not identified, making it impossible for reviewers to support the proposal in its current form.

The ISRP recommends that projects dealing with animal feeding operations in the Upper Salmon basin be considered for funding as part of Project #199202603 and related proposals submitted by the Custer and Lemhi Soil and Water Conservation Districts. Those projects either have or are developing criteria for effective prioritization of projects for benefit of fish in the subbasin. The ISRP recommends that the Upper Salmon Basin Watershed Project give priority to identifying key feeding operations and to coordinating remediation with their owners and with the ISDA and IOSC and other funding sources.

CBFWA Project Review Comments:
Sponsors suggest that the proposed work will provide the tool needed to reach the private landowners, a tool that is currently absent. Based on experience elsewhere in Idaho, the sponsors indicated that $10,000-20,000/feedlot would be required to implement the prescribed corrective measures; however, the sponsors are unsure of the number of unregulated feed lots that would require corrective measures in the Salmon River subbasin and thus are unable to calculate the reduction of inputs that will occur until the cattle

operations are identified. Based on conversations with the owners of the cattle operations, the sponsors anticipate the ability to address approximately 80% of the unregulated sites. Because the number of feedlots that may need corrective measures is unknown, the reviewers expressed concern whether the requested amount would be enough to correct all the identified operations. The sponsors indicated that they were unsure if the requested amount would be sufficient but also suggested that the funding request may exceed their needs. The sponsors indicated that there are no out-year costs associated with the proposed work since landowners and other programs are responsible for maintenance costs. Reviewers questioned why a needs assessment was not proposed as the first step for this proposed project. The sponsors suggested that implementing an assessment process could disturb the synergy that exists among the existing regulatory programs. The sponsors further stated that the Governor of Idaho has asked what actions could be taken relative to livestock that would immediately benefit fish and wildlife. The sponsors indicted that the fencing of unregulated feedlots is considered the best solution to addressing livestock induced problems. Although monitoring was not identified in the proposal, monitoring activities will be performed through other ongoing programs. The reviewers suggest there this a lack of coordination and believe the prioritization process could be enhanced through coordination with the state and tribes. The managers acknowledge that if the right operations are selected the tagged species will significantly benefit from the activity. Until the reviewers can be assured the work occurs in areas that the managers have identified as key areas, the reviewers are unable to recommend the proposal as a high priority. The reviewers suggest that through the TMDL process there is EPA money for this type of activity. Furthermore, reviewers question the benefit/cost issue and subsequently believe the proposed work appears expensive and are concerned about the ability to achieve the proposed goals in a timely manner.

Project ID: 199405000

Salmon River Habitat Enhancement M & E
Sponsor: Shoshone-Bannock Tribes
Subbasin: Salmon
Short Description: Maintain habitat improvements and evaluate benefits; monitor salmonid populations and habitat parameters; coordinate land and water stewardship activities; coordinate planning, implementation, monitoring, and evaluation of new improvements and protections
FY02 Request: $249,500
3 YR Estimate: $755,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable subject to a commitment to provide the data and metadata to STREAMNET or other database available to the public.

This project continues to focus on monitoring and evaluation of results of previously completed and ongoing restoration work. Ongoing projects are adequately justified with references to methods and results, however, this project should begin to plan for change to probabilistic site selection so that inferences can be drawn to the entire watershed. See the

reviews and responses of Project #199107300 "Idaho Natural Production Monitoring and Evaluation."

The proponents seem to be unaware of the requirement for data generated by BPA funded projects to be made available to the public. The ISRP assumes that STREAMNET is the appropriate database for storage of data and metadata, but other arrangements might be agreed upon with the Council during the contracting phase.

The ISRP appreciates the commitment to development and adoption of common habitat survey methods on a Columbia Basin-wide basis and to corroborate with other principal investigators working with M&E projects throughout the Columbia Basin to ensure that results are comparable among projects and areas. See ISRP reviews and proponent responses to project proposals 199107300, 28051. Collocation of study sites for fish counts, aquatic habitat, and water quality would enhance the region's ability to draw meaningful conclusions from the array of M&E projects currently underway.

The proponents should interact closely with Project 199801600 in the Columbia Plateau (Jim Ruzycki and Richard Carmichael, ODFW, "Monitor Natural Escapement and Productivity of John Day Basin Spring Chinook Salmon." ODFW revised this proposal to create a comprehensive plan to include all monitoring and evaluation for all anadromous salmonid lifestages and habitats in the John Day Basin. The M&E program in the John Day Basin is apparently developing as a model for the Oregon section of the Columbia Basin and is being carefully reviewed by agencies in Washington. Also, the ISRP recommends that the proponents consider using data protocols recommended in Johnson et al. (2001) (Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211pp). The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPAs 150, 152 and 183.

Clearwater Subbasin Proposals

Project ID: 28004
Lawyer Creek Subwatershed-Steelhead Trout Habitat Improvement Project
Sponsor: Lewis Soil Conservation District
Subbasin: Clearwater
Short Description: Reduce sedimentation to improve instream habitat in Lawyer Creek and the lower Clearwater River, and improve upland water storage by implementing best management practices for sediment reduction and water retention.
FY02 Request: $246,500
3 YR Estimate: $679,500
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The proponents need to complete a watershed assessment that allows identification of critical salmonid life stage usage in the watershed and geographic portions of the basin that warrant restoration and protection activity, but the proposal does not lay out the objective of doing a watershed assessment in sufficient detail. This project is of low priority. It was not demonstrated in the review process that Lawyer Creek has the potential for significant fish production. No work should continue until a watershed assessment is complete and there is clear indication of how this project will be monitored. No work on limiting factors to salmonid life stages has been conducted, or seems in the plans, but such work should follow from the fish habitat assessment as part of an overall watershed assessment. Clearly defined and acceptable WA procedures are required, standardized for the subbasin and basin. For M&E, the advice of a biometrician and experimental analyst is recommended, along with a cooperative effort from a school of agriculture/land use or school of ecology for more detailed work. Monitoring and evaluation by means of modeling approaches, as suggested in the proposal, can be instructive, but a control and treatment comparison of flow regimes, temperature, sedimentation and the fish response must be included, along with a clear indication of this project's connection with a basinwide program of M&E. Likewise, an analysis of risk and uncertainty would aid reviews and planning (i.e., indicate the amount of work required before a positive impact is measurable, and indicate the likelihood of failure).

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Significant cost share is described in the narrative portion of the proposal although it is not mentioned in the budget portion of the proposal.

Selway Falls

1. Project ID: 28013
Renovate Selway Falls Anadromous Fish Passage Tunnel
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Clearwater
Short Description: The Selway River anadromous fish tunnel was constructed in the late 1960' in an effort to provide improved passage conditions through the Selway Falls complex. Since that time the infrastructure has deteriorated and requires renovation.
FY02 Request: $344,700
3 YR Estimate: $344,700
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part to do an expert appraisal to include a site review and feasibility report by independent hydrological engineers and biologists, with recommended action, including alternatives. There is currently no firm basis for concluding that passage is either satisfactory or unsatisfactory. Reviewers were not convinced that the falls were an obstruction; benefits to fish were not adequately demonstrated. The reviewers were impressed by the fact that during the 1999 radio-tracking 5 of the marked steelhead did surmount the falls (and no evidence exists that all or most of the 13 fish that used the tunnel could not have gone over the falls instead if the tunnel were absent).

CBFWA Project Review Comments:
This is a one-year budget proposal that will not require out year funding.

2. Project ID: 28017
Monitoring the Selway Falls renovation project for passage of spring chinook salmon and steelhead
Sponsor: Pacific Northwest National Laboratory
Subbasin: Clearwater
Short Description: The Selway River anadromous fish Tunnel is being considered for renovation; To fine tune the fishway and manage it optimally, swimming behavior within the fishway will be monitored using electromyogram (EMG) radio transmitters.
FY02 Request: $134,350
3 YR Estimate: $413,992
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. This proposed investigation does not appear to offer a quick and reasonably priced answer to the question of fish passage at this site, if passage is indeed a problem (see recommendation for 28013). Details of the tunnel design and current condition were lacking in this and the previous proposal. Other options for fish passage may be possible.

CBFWA Project Review Comments:
(none)

Project ID: 28020
Nez Perce Tribe Harvest Monitoring Program
Sponsor: Nez Perce Tribe Department of Fisheries Resource Management
Subbasin: Clearwater
Short Description: The objective is to develop and implement a comprehensive, biologically sound monitoring program for the Nez Perce Tribe for the Columbia River Basin and tributaries.
FY02 Request: $326,646
3 YR Estimate: $1,030,006
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. A well-designed sampling of harvest should be possible. The data currently being collected may not be adequate to estimate harvest with the precision required. This information is fundamental to stock assessment. Adequate catch statistics are essential to stock assessment and management. We endorse the consultation with a Columbia River Intertribal Fish Commission (CRITFC) biometrician to establish and implement monitoring strategies for the NPT for the Columbia River Basin and tributaries. An output of the project should include annual harvest calculations with the degrees of uncertainty of the estimates, and peer-reviewed catch reports.

CBFWA Project Review Comments:
This project is important for assessment of harvest impacts and the development of run reconstructions. Accuracy and completeness of past reporting has been inconsistent. This project should address the previous problems and ensure a statistically valid sampling design. The projected returns for 2002 indicate that significant sampling effort will be required.

Project ID: 28021
Lower Clearwater Habitat Enhancement Project
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: Acquire, protect, enhance and restore a total of 10,000 acres of wildlife habitat on the Lower Clearwater River emphasizing habitats that will enhance recovery opportunities for listed fish stocks and/or NPTH Hatchery restoration efforts.
FY02 Request: $1,428,000
3 YR Estimate: $10,026,000
ISRP Final Recommendation: Fundable in part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part to acquire lands in portions of the targeted area where a watershed assessment is complete and there is potentially productive habitat. At present, the Lapwai Creek watershed alone meets those qualifications. Other portions of the proposals are not fundable without completion of an adequate "fish-centered" watershed assessment with demonstration of habitat potential. The detailed watershed assessment and prescription must be conducted, then used to provide a plan that addresses the high priority habitat issues first.

The latter should clearly indicate priorities for rehabilitation work and outline land tracts desired, and why, i.e., justification is required that is related to fish production benefits. The link of this project (see 199706000 and 199608600) with priorities within the Clearwater system is also required (indicate priority within the subbasin, and expected benefits), along with the tie to a comprehensive monitoring and evaluation program (see comments on 28004) to document benefits. The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

The proposal, field tour, and presentation showed that the project has great merit in terms of identifying habitat abuses to remedy. More work is required to incorporate these land acquisitions into a subbasin M&E program. The ISRP endorses the commitment of the proponents to cooperate in the development and use of standardized site selection procedures and data collection protocols. See the reviews of project 28045.

CBFWA Project Review Comments:
The intent of this project is to acquire riparian properties or highly erosive soil properties that will be available for cost share programs (i.e. CRP). This project addresses RPA 154 and possibly 153. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands.

Project ID: 198709900
Dworshak Dam Impacts Assessment and Fisheries Investigation
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Clearwater
Short Description: Evaluates the impacts of drawdowns and routine dam operations on resident fish populations. Also, determines ways to minimize entrainment losses of fish into Dworshak Dam.
FY02 Request: $468,801 (CBFWA Recommendation: $344,200)
3 YR Estimate: $1,085,801 (CBFWA Recommendation: $991,200)
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part. This has been an on-going project to study efficacy of strobe-lighting for remedying kokanee entrainment. The project has demonstrated that this works, therefore should do its reporting and be concluded, not prolong the present study or start further objectives. It is time to halt testing and for the U.S. Army Corps of Engineers to apply the method. The proposal had two new objectives: study of bulltrout entrainment and study of prospects for lake fertilization. The bulltrout objective was dropped after preliminary ISRP review, the sponsor agreeing that it did not fit in with the project, and suggesting that it might be submitted as a separate proposal in the future. The same should be done with the lake fertilization objective. Omitting these new objectives and putting the project in a conclusion phase should enable considerable budget reduction.

CBFWA Project Review Comments:
The proper project number for this project is 198709900. This is an ongoing project that received a new project number for an unknown reason. Although this project would address the primary threat to the Dworshak reservoir kokanee population, kokanee are not a listed species and therefore received a NO for this criterion. There is a significant increase in the revised budget submitted to the ISRP.

This project has a long history of past accomplishments and publications. Past work has focused on testing strobe lights in off-site lakes with high densities of kokanee, and the results are encouraging. Currently, the principal investigators are testing the use of strobe lights on one turbine of the dam. Results of this study will demonstrate if future mitigation efforts should include installing strobe lights on the reservoir outlets, and ultimately full implementation on the dam. Therefore, it is important to complete Objective 1 in order to direct future mitigation efforts.

Objective 2 will determine if bull trout are being entrained through the dam, assess if strobe lights repel bull trout, and correlate dam operations with the abundance and distribution of bull trout in the reservoir. The contention that bull trout are vulnerable to entrainment when kokanee are concentrated near the dam seems intuitively logical and needs further investigation. The objective would be more justified if the authors could cite a reference for the statement that "entrainment losses of bull trout may exceed 30% of the population per year.

Objective 3 requires collection of limnological data to characterize the productivity of the reservoir to assess the feasibility of improving growth and average size of kokanee. This objective seems logical and funding is warranted; however, a more detailed description is needed to determine the feasibility of nutrient enhancement to improve growth and survival of kokanee. As stated, this should be clarified in the future as information is obtained and analyzed.

Project ID: 28025
Potlatch River Watershed Restoration
Sponsor: Latah Soil and Water Conservation District
Subbasin: Clearwater
Short Description: To restore ecosystem functions, restore degraded habitat and protect natural habitat within the Potlatch River watershed in Idaho thereby improving water quality and quantity throughout the drainage.
FY02 Request: $505,125
3 YR Estimate: $1,302,625
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments
Fundable in part to complete a watershed assessment centered around the watershed's fish resources. However the proposal was marginal in terms of describing what would be done in the watershed assessment - see ISRP programmatic comments. A better proposal would clearly describe the tasks and methods for watershed assessment and for planning and prioritizing prospective treatments, also with defined monitoring and evaluation.

Much work remains to be done on watershed assessment, the project's initial step. Thus, the basis for action is still far from clear. The project should be restricted to Objective 1, which covers watershed assessment. Objective 2, implementing "best management practices" (BMPs), cannot logically be undertaken until, in a proposal for the next funding cycle, the BMPs are described on the basis of the completed watershed analysis.

The procedure outlined for watershed assessment in sponsor's response needs to be better directed and organized. A major shortcoming is that the ties to fish are weak. The watershed assessment should identify needs for ecosystem protection and restoration to benefit specified, critical salmonid life stages within specified geographic portions of the watershed. Also, the watershed assessment and resultant planning need to be tied in with development of a master plan for lower Clearwater steelhead and salmon spawning and rearing.

The ISRP endorses the sponsor's proposal to initiate discussions with the Latah NRCS Field Office NRI specialist. The intent of the ISRP recommendation is not necessarily to use the existing database at the Potlatch River watershed or Clearwater River subbasin scales, though this may be possible for variables currently measured by NRI. Rather, the reviewers are suggesting that data collected as part of project 28025 (at the local level for local inferences) might be collected at sites selected as an intensification of current NRI sites, using common data measurement protocols so results could be more easily combined and compared at larger scales, e.g., to compare the Crooked River and Potlatch Subbasins, or the Clearwater and Salmon subbasins. Also, see the review remarks on Project 28043.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 152 and 154. This project occurs in a priority watershed for Snake River steelhead. Budget should be scrutinized; cost share contributions are unclear.

Project ID: 28029
Restore Lawyer Creek Habitat Targeting Steelhead and Chinook Salmon
Sponsor: Clearwater Economic Development Association
Subbasin: Clearwater
Short Description: Restore physical and biological process in seven miles of anadromous and resident fish habitat in the Lawyer Creek watershed based on reach prioritization determined from a watershed assessment.
FY02 Request: $342,750
3 YR Estimate: $1,895,311
ISRP Final Recommendation: Fundable in Part
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part. The project is of low priority. It was not demonstrated in the review process that Lawyer Creek has potential for significant fish production. This project should

complete a watershed assessment that identifies critical life stages and habitat of the anadromous salmonids involved that warrant restoration and protection—and specific geographic portions of the watershed where work needs to be done to accomplish this. Therefore, only the first two of the project's goals should be funded: (1) complete a watershed assessment and (2) draft a master plan for . . . watershed (this omits the proposal's specification of only the lower "7 miles of the watershed"). Also, the watershed assessment and resultant planning need to be tied in with development of a master plan for lower Clearwater steelhead and salmon spawning and rearing. The project implementation phases should be based on results of the watershed assessment and included (with an improved M&E section) in a proposal for the next funding cycle.

In any future proposal, it would be advisable to discuss in more detail the methods for monitoring fish, e.g., justify the type of electrofishing gear and sizes of reaches to be inventoried. It would be better to estimate fish populations by mark-and-recapture rather than by a depletion method. Second opinions from bona fide fluvial geomorphologists experienced in matters of Pacific Northwest anadromous fishes should also be sought on plans for stream habitat works. Although the present proposal has definite positive aspects, it and the response to ISRP comments do not demonstrate familiarity with developments in knowledge about *anadromous* salmonid habitat.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project partially addresses RPA 154. Comprehensive watershed assessment should be completed prior to implementation.

Project ID: 28031
Evaluation of Unclipped Hatchery Steelhead Released in the Clearwater and Salmon River Basins
Sponsor: U.S. Fish and Wildlife Service
Subbasin: Clearwater
Short Description: Determine if outplanted unclipped steelhead: (a) return at higher rates than fish from other artificial propagation programs, (b) spawn where intended, and (c) increase the natural juvenile population.
FY02 Request: $484,993
3 YR Estimate: $1,038,029
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Fundable in Part
ISRP Final Review Comments:
Beginning in the year 2000, unclipped (and unmarked) hatchery steelhead smolts were released in both the Clearwater and Salmon basins. Some 700,000 fish were released in this manner in 2000, apparently about the same in 2001, and the practice will continue indefinitely unless something changes. Unclipped A run adults from those releases appear to have comprised about 2.4% of the year 2001 run over Lower Granite dam, and B run adults

will arrive upriver beginning in 2002. The ISRP agrees with CBFWA that this is a time-critical issue.

The ISRP is very concerned about the release of unclipped fish, and questions if this project is appropriate for FWP funding. The ISRP suggests that the Council review the issue, along with the possibility that sufficient information is currently being gathered, primarily by Nez Perce Tribal staff, to assess whether the program is having net positive or negative consequences.

As a last resort the ISRP would reluctantly view as fundable Objective 1 (estimating adult return rate) and Objective 2 (determining distribution of adult returns). In the panel's view, Objective 3 (determining if juvenile densities change) would have enough risk of returning ambiguous results to make it of marginal utility. Objective 4 (document Lower Granite dam fall-back) is a separate issue unrelated to the rest of the proposal.

CBFWA Project Review Comments:
This is a time sensitive study to evaluate returning fish that were released in previous years. Deferral of this task would sacrifice potential data. This project addresses RPA 107. Monitoring of unmarked fish was a priority in the 2000 Fish and Wildlife Program. US v OR Fall fishery agreement recommends securing funding for monitoring this production.

Project ID: 28032
Assessment of A-Run Steelhead Populations in the Clearwater River Basin
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: An assessment of the current status and performance of the A-run steelhead population in the Clearwater Subbasin (i.e., population abundance, productivity, spatial structure, and diversity).
FY02 Request: $686,800
3 YR Estimate: $1,723,690
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. ISRP reviewers seriously question whether this new project is needed, especially for the intended 5-10 years. Much is questionable because it shows redundancy with NPT proposals for steelhead assessment and habitat work in Lapwai, Big & Little Canyon creeks, and because it appears the concerted effort through the Fish and Wildlife Program to restore habitat in those lower Clearwater tributaries seems to be producing few results. There is a need for comprehensive stock assessment and evaluation of current habitat conditions (especially temperature) through all the tributaries used by A-run fish. Only then would it be possible to evaluate potential gains and where best to begin. This is being done, for example, by the Yakama Nation in the Yakima basin, with EDT.

The work on genetic structuring (microsatellite analysis) seems of especially low priority. Probably enough has already been done. And what if the project were to find a difference? How would that information be applied? At least one reviewer was unconvinced that A run

and B run are distinct; the apparent distinction may only be a function of ocean growth and survival. Why wouldn't there have been gene flow in the past?

Reviewers feel the dialog provided by the response process has enabled them to pass a number of technical comments and suggestions to the proposal authors. Undoubtedly, Clearwater systems are functioning below capacity, since adult returns are low. If parr or smolts are at 35% of capacity, what then? Does this imply adult returns were, say, 10% of capacity (smolt yield may be higher due to the density dependent response at low adult density)? Is this a danger zone that triggers management actions, as it should? More importantly, are they below capacity and also below replacement? It is that information that is required from stock status, thus the need for reliable adult and smolt data. Reviewers feel it is unfortunate that the good advice on better methods of smolt estimation and adult enumeration based on published successes elsewhere on the Pacific coast and in Atlantic salmon studies were not incorporated. A revised and more focused proposal would be welcome in the future that is complete with data review, analysis and reporting, and clearly states tasks that are supported by the Focus Group.

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 179 and 180. This project compliments other proposed work in the Potlatch drainage. The genetic work may be redundant and could possible be deferred.

Project ID: 28033
Monitoring and evaluating coho salmon reintroduction in the Clearwater River Basin
Sponsor: Nez Perce Tribe, Department of Fisheries Resources Management
Subbasin: Clearwater
Short Description: Monitor and evaluate the results of the reintroduction of coho salmon to the Clearwater River Subbasin so that operations can be adaptively managed to optimize hatchery and natural production, sustain harvest and minimize ecological impacts.
FY02 Request: $676,752 (CBFWA Recommendation: $240,000)
3 YR Estimate: $1,882,256 (CBFWA Recommendation: $720,000)
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority/ Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
It was the consensus of the ISRP that this work is not fundable, at least until the time when the coho reintroduction program shows some reasonable promise of being able to contribute to the Clearwater fishery program. In the meantime dam counts should suffice. Reviewers are not convinced that the Clearwater provides the appropriate setting for a significant coho resource and its habitat (unlike, for example, the Grand Ronde) is not conducive for coho. Reviewers also note that SARs to date for releases since 1995, while a preliminary indication, have been so low as to portend poor performance. All in all, the ISRP feels it is premature to fund this effort at the present.

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Coho supplementation is ongoing and data collection is needed to evaluate those efforts. Monitoring of juvenile survival, SAR, and adult return abundance of the hatchery origin coho is considered a high priority. The remaining tasks could be deferred.

Recommend that the priority ranking of HP be given to a reduced scope of this proposal that would focus M&E efforts on: (1) juvenile survival, (2) SAR's, and (3) adult return abundance of the hatchery origin component. Reduced budget of $240,000 required. Co-management commit through US vs Oregon fall fishery agreement to "use their best efforts to secure funding for monitoring and evaluation programs to implement the production actions in this agreement". NMFS 1999 BiOp on Artificial Propagation Recommends the Clearwater River Coho Restoration program determine the most effective strategies for restoration, including marking and subsequent evaluation.

Project ID: 28041
Dworshak Zooplankton Entrainment
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: Apply hydroacoustic technology to monitor zooplankton density and depth distribution at the Dworshak Dam forebay and apply this information to outlet selector gate operation to minimize or avoid zooplankton entrainment.
FY02 Request: $434,463
3 YR Estimate: $1,182,926
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. A response was not requested for this project. This endeavor needs much more pre-proposal background research of literature and better interaction with those doing other related Dworshak work. That research might well indicate futility of trying to regulate Dworshak Reservoir withdrawals to significantly reduce entrainment of zooplankton. The proposal fails to indicate review of the extensive basic literature on diel vertical migration of zooplankton. Several local reports concerning studies on Dworshak reservoir itself were referenced in the proposal text, none of them listed in the proposal's reference section (it was empty). The basic literature might reveal that diel zooplankton migration is commonly so rapid and extends so far vertically as to require changing draw-off level hourly or oftener to avoid their entrainment. This might be difficult even if the dam's outlet structures had been built for draw-off at many elevational increments over the depth of water that zooplankton traverse—and even if dominant competing requirements for water of special temperature (necessitating draw at certain levels) did not exist. The Dworshak rule curve is already extremely complex. Questioning of the presenters indicated that structural and prior-need constraints would likely prevent the draw-off-level flexibility needed to cope with diel migration of zooplankton. If the prospects for managing the draw-off for the intended purpose are not good, studying the zooplankton as outlined would have no value. Sponsor

should more thoroughly research zooplankton ecology, and if reasonable prospect of successful management is then seen, submit a revised proposal in a future year.

CBFWA Project Review Comments:
Entrainment of zooplankton through Dworshak Dam has not been identified as a limiting factor on kokanee populations in the reservoir. There is some information available that shows entrainment is occurring, but it is not clear how that is affecting the fish populations. The impact of strobe lights on the zooplankton populations should be investigated under project 28024.

This project uses hydroacoustic technology to monitor zooplankton movements in the forebay above Dworshak Dam, and then proposes to apply the information to manage dam operations to curtail zooplankton entrainment. The proposal further links zooplankton loss to problems with kokanee management, and ultimately suggests this as an impediment to bull trout recovery. The problem (zooplankton loss), is referenced as a "potential" negative impact, and was "suggested" as a "possible" explanation for poor kokanee growth in '91 and '92 in the proposal. The Resident Fish Caucus suggests that the proposal fails to discuss the excellent kokanee growth rates observed in Dworshak in the past 5 years. As a result, the acceptance of zooplankton loss as a management issue is not compelling. There are questions as to whether the proposed methods will be able to differentiate Cladocerans from other zooplankters, suspended detritus, small fish, or Chaoborus spp.

The Resident Fish Caucus believes that the proposal reads as a concept paper rather than a project proposal and suggest that the proposal be rewritten so that more detail is provided and a stronger argument is presented as for why entrainment is a limiting factor to the system.

The Resident Fish Caucus suggests that a more acceptable approach to this issue may be to first conduct a problem assessment using conventional methods by sampling zooplankton drift in the tailrace. Loss could be quantified and related to gatewell selectors, and diel movement patterns could be inferred (see Novotny and Faler, 1982). An approach such as this could be done for less than ¼ of the existing project's cost as proposed, and then analyzed to see if corrective measures are needed or feasible.

Novotny, J. and M. P. Faler. 1982. Diurnal Characteristics of Zooplankton and Macroinvertebrates in the Tailwater Below a Kentucky Flood Control Reservoir. Journal of Freshwater Ecology, Vol. 1, No. 4, April, 1982.

Project ID: 28042
Timing and location of spawning by pure and introgressed cutthroat trout in the North Fork Clearwater River
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: The goal of this project is to precisely identify spawning areas and accurately determine the timing of spawning for pure and introgressed westslope cutthroat trout using state-of-the-art radio telemetry systems.
FY02 Request: $311,878
3 YR Estimate: $937,698
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. A response was not requested for this project. The project emphasizes performance of a technique (EMG radiotelemetry) but lacks adequate investigational design and management ties. In its current form the work would neither answer the introgression question nor aid in reducing the impacts of non-native salmonids. Project PI's are very active researchers and leaders in EMG telemetry, but the proposal is lacking in population and genetic considerations which should form the heart of the project and the questions it is attempting to address.

Previous studies have established that hybridization between westslope cutthroat trout (WCT) and introduced rainbow trout (RBT) is widespread in the drainage, and that some pure WCT still exist there. Therefore, WCT are obviously spawning with RBT, and three related types of fish must be present: pure WCT, pure RBT, and hybrids (perhaps also others, as mentioned below). The sponsor proposes to radiotelemetrically track WCT and hybrids to find out where and when they spawn "since the mechanisms that limit the potential for hybridization between cutthroat trout and rainbow trout include aggressive spawning behavior and spatial separation between spawning sites." No clear justification emerges from that statement. It is not stated why only WCT and hybrids—and not also RBT, the source of the hybridization—would be tracked. Most importantly, it is not stated how the study's results could be applied, i.e., what management the hoped-for findings could lead to that might remedy the hybridization threat to pure WCT populations.

CBFWA Project Review Comments:
This project could be improved if it were more closely tied to the new stocking strategy employed by the IDFG for Dworshak reservoir. IDFG would place a higher priority on identifying solutions to the introgression problem.

The objective of the proposed research project is to identify the timing and location of spawning by pure and introgressed westslope cutthroat trout (WCT) using radio-telemetry in the North Fork Clearwater drainage, Idaho. The project objectives will aid with recovery efforts and is consistent with the goals of the Northwest Power Planning Council's 2000 Columbia Basin Fish and Wildlife Program, Idaho Fish and Game, and the Nez Perce Tribe.

The construction/implementation budget seems high for the proposed work statement, especially since only 40 fish will be monitored annually. It is unclear why the supporting

agency needs to contract out these services to a subcontractor for $227,774 during FY2002 and 2003; possibly hiring a well-trained seasonal technician will reduce costs. A more detailed justification is needed to address the cost breakdown. Clearly, the PI's are well-established authorities in the field of radio-telemetry. The sponsor should reconsider using a subcontractor to perform the described duties. The Resident Fish Caucus views the concept of the proposal as a High Priority.

Project ID: 28043
Crooked River Ecosystem Assessment at the Watershed Scale
Sponsor: Nez Perce Tribe Fisheries/Watershed
Subbasin: Clearwater
Short Description: Assess watershed conditions and develop and prioritize watershed restoration activities
FY02 Request: $131,213
3 YR Estimate: $601,213
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in Part to conduct EAWS only (objective 3 of Planning & Design phase). The proposal would conduct terrestrial and aquatic surveys, conduct a watershed assessment following U.S. Forest Service procedure, and perform activities such as road closures and prescribed burning in a part of the Nez Perce National Forest. Crooked River supports strong populations of bull and westslope cutthroat trout in headwaters and a run of naturalized spring chinook, with a dredge mining "legacy" in the lower several miles. Reviewers felt this proposal, while fundable in part, merits a low funding priority, lower than all similar projects on Forest Service lands in the subbasin. The upper half of the watershed is unroaded, grazing was terminated in 1993, and only 8 miles of road have been built in the last decade.

The proposal makes a logical case for the need for the EAWS assessment of the Crooked River and for the development of criteria to prioritize watershed restoration alternatives. Once a final set of implementation actions is identified, and before the time and expense of the NEPA preparation occurs, the proposed implementation plan should be reviewed by an independent scientific group. As project sponsors note in their response, re-restoration of the dredged areas (a 1980's restoration project is generally viewed as being unsuccessful) probably will not be appropriate.

The proposal seeks funding for one year of surveys prior to EAWS preparation. The review panel feels that some of those surveys (such as sensitive plant surveys, wildlife habitat/population surveys) are not amenable to Bonneville funding and recommends that they be supported by the USFS if really needed for the EAWS. If such funding is not available and the survey work is deemed critical for the EAWS, the ISRP recommends that the EAWS be deferred to a later funding cycle. The ISRP agrees with CBFWA that the watershed assessment should be completed prior to funding implementation activities. It may be that the best restoration plan for Crooked River is to simply leave it alone.

The ISRP endorses the proponent's proposal to investigate the possibility of linking terrestrial surveys to a national effort. The intent of the ISRP is not necessarily to provide data to the current NRI. Rather, the intent of the review comment was to suggest that data collected as part of project 28043 (at the local level for local inferences) might be collected at sites selected as an intensification of the current NRI sites using common data measurement protocols so that results could be more easily combined and compared at larger scales, e.g., to compare the Crooked River and Potlatch subbasins or the Clearwater and Salmon subbasins. Also see, the review of Project 28025.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Some habitat restoration efforts are proposed for implementation prior to completion of assessments, for these efforts the criteria would be yes. This project addresses RPA 150 and 154. The watershed assessment should be completed prior to funding implementation activities. The budget for the implementation phase should be refined, as appropriate, based on the results of the assessment.

Project ID: 28045
Evaluating stream habitat using the Nez Perce Tribe Fisheries/Watershed Watershed Monitoring and Evaluation Plan
Sponsor: Nez Perce Tribe Fisheries and Watershed
Subbasin: Clearwater
Short Description: WME will implement habitat surveys and fish snorkel stations in order to characterize quantity and quality of available spawning and rearing habitat and will evaluate stream response to watershed restoration and/or management activity.
FY02 Request: $381,108
3 YR Estimate: $1,190,708
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part to develop a more detailed statistical design and with the assistance of a senior biometrician that is reviewed and endorsed by independent scientific reviewers (perhaps by the ISRP). Also required for the above review is a justification of the choice of each physical parameter chosen to monitor. This proposal reflects much thought in some portions but does not describe an adequate comprehensive M and E plan for habitat monitoring in the Clearwater, although the need for such a project is substantial. A comprehensive M&E program for habitat monitoring should include common probabilistic procedures and data collection protocols throughout the Mountain Snake and Blue Mountain Provinces, and indeed the entire Columbia Basin.

As proposed, the Watershed Monitoring and Evaluation Plan would be implemented by the Fisheries/Watershed Department to evaluate habitat quality and water quality throughout the Mountain Snake Province where the Nez Perce Tribe has ongoing or proposed

watershed restoration projects. Department staff would also monitor "fish metrics" (species, age class, and size range) in the lowest reach of each monitored stream. In the Clearwater subbasin the plan would be implemented in four of the eight assessment units where projects exist or are planned. Apparently ten streams would be selected for the first year's monitoring (together with some reference streams), and then six monitoring streams would be added annually.

This is the core project for the NPT habitat projects in both Clearwater and Salmon subbasins, but some detail is understandably in the process of evolution, and hence reviewers would need to take on faith that this would be well implemented. A specific concern is that the proposed protocol would not effectively assess the success of many habitat projects; for example, the possible migration of "new" fish above a newly replaced culvert would not be monitored.

A major issue involves what physical habitat parameters should be systematically gathered that (a) show how the habitat has changed after, say, riparian vegetation is re-established and (b) indicate that important fish habitat attributes have (or haven't) changed. Proponents seem only to have thought about category (a), and seem to dismiss the need to include category (b) attributes because they "link" to existing fish enumeration (from other monitoring projects). Reviewers disagree that there is adequate fish linkage. Also, reviewers would like to see a justification for the inclusion of the nine physical habitat parameters listed in objective 2, task D.

The proposal states that "this extensive data collection effort would support the effort to validate the Ecological Diagnosis Treatment model (EDT)" and "much of the subbasin scale restoration recommendations developed by the FWP will be based on the EDT model". However reviewers did not see further mention of how that might occur, or of the staff that would be involved, in this or any other proposal currently being reviewed in the Province. The proposal's response indicates that Watershed staff have no plans to be directly involved in the modeling effort

The ISRP emphasizes our support of the proponents of projects in the Mountain Snake Province to work with all Idaho, Oregon, Washington, and Montana Provinces to develop compatible monitoring and evaluation procedures with common field procedures and probabilistic site selection for the entire Columbia River Basin. A proven model for this effort is the Oregon Plan for Salmon and Watersheds Monitoring Program.

The implementation of such a high-level coordinated plan throughout the Columbia River Basin would likely be an unprecedented advance in research and a distinct benefit to the resource. Collocation of study sites for fish counts, aquatic habitat, and water quality would enhance the region's ability to draw meaningful conclusions from the array of M&E projects currently underway. The Nez Perce Tribe and the Idaho Department of Fish & Game could have lead roles in development of such a plan (see final reviews and the responses to the initial ISRP reviews of Projects 28051 "Assess and Monitor Steelhead in the Middle Fork Salmon River Subbasin" and 199107300 "Idaho Natural Production Monitoring and Evaluation").

The proponents should interact closely with Project 199801600 in the Columbia Plateau (Jim Ruzycki and Richard Carmichael, ODFW, "Monitor Natural Escapement and Productivity of John Day Basin Spring Chinook Salmon." ODFW revised this proposal to create a comprehensive plan to include all monitoring and evaluation for all anadromous salmonid lifestages and habitats in the John Day Basin. The M&E program in the John Day Basin is apparently developing as a model for the Oregon section of the Columbia Basin and is being carefully reviewed by agencies in Washington.

The ISRP recommends that the proponents consider using aquatic habitat data collection protocols recommended in Johnson et al. (2001) (Johnson, D. H., N. Pittman, E. Wilder, J. A. Silver, R. W. Plotnikoff, B. C. Mason, K. K. Jones, P. Roger, T. A. O'Neil, C. Barrett. 2001. Inventory and Monitoring of Salmon Habitat in the Pacific Northwest - Directory and Synthesis of Protocols for Management/Research and Volunteers in Washington, Oregon, Idaho, Montana, and British Columbia. Washington Department of Fish and Wildlife, Olympia, Washington. 211pp).

CBFWA Project Review Comments:
(none)

Project ID: 28046
Impacts of Salmon Carcasses on Chinook Salmon and Watershed Restoration in Subbasins of the Clearwater River
Sponsor: Nez Perce Tribe Fisheries and Watershed
Subbasin: Clearwater
Short Description: We propose to study critical first steps in evaluating the effects of MDN on inland watersheds in the Clearwater River Basin where recent subbasin summaries have determined that salmon numbers are low and nutrient limitation exists.
FY02 Request: $179,002
3 YR Estimate: $756,502
ISRP Final Recommendation: Fundable in Part
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part as amended. A pilot study would be more appropriate, starting at a smaller scale (e.g., small tributary or stream channels with control and treatment, or mesocosm). The isotope study is to be omitted and funding should be reduced. The proponents responded with a thoroughly revised proposal that addressed our concerns and suggestions adequately, including partnerships. The project would increase the sample size of the NMFS study, but because this project is a repeat of NMFS studies and those elsewhere the ISRP views it as low priority. It may be advisable to wait a few years for the results of the other studies. The budget needs review.

Project ID: 28047
Restore and Protect Red River Watershed
Sponsor: Nez Perce Tribe Fisheries Watershed
Subbasin: Clearwater
Short Description: Restore and protect the Red River Watershed for the benefit of both resident and anadromous fish using an overall watershed approach. Restoration and protection efforts will be done cooperatively with the Nez Perce National Forest.
FY02 Request: $199,567
3 YR Estimate: $770,962
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The project will conduct watershed analysis (actually EAWS, Ecosystem Analysis at the Watershed Scale), then plan remedies for problems revealed in that process. Most of the watershed assessment and planning was proposed for 2002, 2003, and 2004. In response to ISRP comment, the watershed assessment process will be accelerated for completion in 2002. The construction/treatment phase is to begin in 2004 (restricted at first to obvious needs for road rehab and culvert replacement) and last at least through 2006. It is not clear how the out-year budget can be set before watershed assessment and planning are completed, so the construction proposal should be deferred to the next funding cycle.

M&E is proposed for 2005 and 2006. The reviewers recommend, however, that monitoring start before construction, so as to compare pre- and post-project conditions (sponsor did not respond on this issue) and be coordinated with Project 28045 as sponsor's response indicates will be done.

The reviewers recommend that the sponsor key the watershed analysis closely to habitat needs of critical life stages of the fishes involved. (In this regard, the reviewers alert the sponsor that an ISRP programmatic statement concerning watershed assessment—including EAWS—may soon be issued to help the process.) There is something different (and apparently more costly) about the approach in the Red River subbasin compared to others, e.g., Hood River.

The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 154 and 400. The watershed assessment should be completed prior to funding implementation activities. The budget for the implementation phase should be refined, as appropriate, based on the results of the assessment.

Project ID: 28048
Protect and Restore Crooked Fork Creek to Colt Killed Analysis Area
Sponsor: Nez Perce Tribe Fisheries and Watershed
Subbasin: Clearwater
Short Description: This project will protect, restore, and return critical spawning and rearing habitat using a holistic approach beginning with a comprehensive watershed assessment, which will target restoration projects. Projects coordinated with USFS and PCTC.
FY02 Request: $423,365
3 YR Estimate: $1,557,065
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. This proposal to protect and restore fish habitat in a system of streams is thorough, detailed, and well supported with references. Deficiencies of organization in the proposal were corrected in the response. Watershed analysis is not finished (USFS started it for some drainages; it may be about 1/3 complete), and EAWS (Ecosystem Analysis at the Watershed Scale) is proposed within the project. Previous analyses of habitat problems (including road and culvert alteration needs) serve as a sound basis for the proposal in the meantime. Thus, although results from the EAWS must be the basis for the full project, approval of the initial work proposed appears more justified than in some other projects where watershed analysis has not been finished. The watershed analysis should be closely keyed to habitat needs of critical life stages of the fishes involved. (In this regard, the reviewers alert the sponsor that an ISRP programmatic statement concerning watershed assessment—including EAWS—may soon be issued to help the process.) Regarding M&E, in the long term, fish-monitoring data will be crucial in determining efficacy of the restoration. Therefore, the project needs to demonstrate close ties to the NPT and other fish monitoring projects in the watershed and province (e.g. NPT projects 1988335003, 199703000, IDFG project 199107300, and the ISS studies). There must also be clear coordination with Project 28045. The response addressed those issues.

To assist in establishing a sound basinwide monitoring program, proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
There is a 5% personnel cost share by the USFS for FY2002 that was not listed in the budget portion of the proposal. This project addresses RPA 150 and 154.

Project ID: 28060
Assess Stream Quality for Salmonid Recovery in the Lower Clearwater Subbasin
Sponsor: Nez Perce Soil and Water Conservation District
Subbasin: Clearwater
Short Description: Complete a stream health assessment in order to identify priority areas for fish habitat restoration.
FY02 Request: $95,148 (CBFWA Recommendation: $95,148)
3 YR Estimate: $145,648 (CBFWA Recommendation: $164,648)
ISRP Final Recommendation: Fundable (Low Priority)
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (Low Priority)
ISRP Final Review Comments:
Fundable (relatively low priority) if local watershed councils are formed as part of this project in conjunction with the Clearwater Focus Program and the Clearwater Subbasin Focus Watershed Program. The project goal is to complete a stream health assessment in order to identify priority areas for fish habitat restoration using the SVAP – stream visual assessment protocol (NRCS) – in six small lower Clearwater mainstem tributaries. The Clearwater Watershed Assessment does not get to the needed resolution on these small streams.

The primary value of the project is educational, performing the sorely-needed role of involving private landowners who will be pivotal in any continued rehabilitation of these six streams that produce wild A-run steelhead. An earlier demonstration project in Hatwai Creek has proven to be very effective in engaging local landowners.

The SVAP may be a good educational and public involvement tool, but elsewhere by itself its snapshot approach has added virtually nothing to what is already known. To keep that from occurring, proponents of this project have secured a significant collaborative commitment by the Idaho Department of Fish and Game to concurrently assess fish populations. That significantly enhances the proposal in the reviewers eyes.

CBFWA Project Review Comments:
(none)

Project ID: 198335000
Nez Perce Tribal Hatchery
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: Complete construction and begin operation of Nez Perce Tribal Hatchery supplementation program to assist in the recovery and restoration of non-listed spring chinook and ESA listed Snake River fall chinook in the Clearwater Basin.
FY02 Request: $3,485,000
3 YR Estimate: $10,245,000
ISRP Final Recommendation: Fundable in Part at the Phase 1 level only.
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree with CBFWA. Low Priority. Fundable at the Phase 1 level only.
ISRP Final Review Comments:
Fundable at the Phase 1 level only. Future funding likely to be contingent upon proposals better addressing longstanding ISRP concerns from previous reviews.

The proposal and response did not sufficiently address longstanding ISRP concerns. The applicant relies on "policy decision" rather than on scientific justification for the project. Specifically, the ISRP's previous questions were, (1) "This project focuses on a largely untested concept on too large a scale", (2) "the conditions primarily responsible for limiting the resource (the salmon population in this case) be identified, and (3) that it be demonstrated that the proposed project will remove those limiting conditions or circumvent them."

The NPTH has two phases of construction management. These phases are the result of issues arising during the Final Design process. During that process, the NPPC approved construction of a smaller scale, more temporary NPTH program, based on concerns by the ISRP in their FY2000 review. Implementation of the full-scale production program (Phase Two) will be dependent on M&E results from the first phase of the program. Initial production numbers were decreased and facility infrastructure was designed to meet a reduced cost. It is important that the NPTH production remain at the reduced Phase I level throughout this initial review and evaluation period.

The ISRP remains concerned that planning for the hatchery and its M&E include all possible management and response alternatives including termination of the program due to either success or failure in achieving program objectives. A noted in FY00 review, the ISRP recommends that a full and consistent decision tree be developed as the program moves forward. The tree should specify all triggers, including intermediate levels and timelines that if not achieved would forestall Phase 2 construction, or even lead to termination of the program itself. The history of fisheries management in the Columbia River Basin is replete with projects that failed to achieve their objectives in part or even completely. Thus, in spite of the need for this project, and the enthusiasm of its implementers, it would seem prudent to plan for all possible outcomes.

Another lingering concern is that the project focuses on a largely untested concept on too large a scale. We note that Phase I production objectives have been scaled down in response to this concern from the ISRP. Over the last decade, the Basin has entered into 3 substantial

programs that were intended to serve as experimental tests of supplementation (NEOH, Idaho, and Yakima projects); but have not yet had time to yield reliable findings. The scientific foundation for the NPT large-scale project has therefore, not been provided. The proposed activities should more directly address or at least circumvent factors that limit salmon production.

Many of the asserted "innovative" approaches (i.e., the NATUREs concept) are presently supported by a small literature base that is limited in the scale of studies and by the subsequent inferences to overall hatchery practices. In general, the approaches have not been proven to yield greater survival to adulthood of released fish than standard practice. Project advocates also claim that, by keeping within natural "carrying capacities," they will avoid negatively impacting populations in nature. Carrying capacity has proven difficult to measure, and altering density at any population level with propagated fish will no doubt influence the population in nature. On the positive side, it appears the sponsors have undertaken surveys to determine carrying capacity and appear to be undertaking habitat improvement projects to absorb the hatchery-produced fish.

Project ID: 198335003
Nez Perce Tribal Hatchery Monitoring and Evaluation
Sponsor: Nez Perce Tribe Department of Fisheries Resources Management
Subbasin: Clearwater
Short Description: Monitor and evaluate results of the Nez Perce Tribal Hatchery so that operations can be adaptively managed to optimize hatchery and natural production, sustain harvest, and minimize ecological impacts.
FY02 Request: $1,884,430 (CBFWA Recommendation: $1,974,430)
3 YR Estimate: $6,087,194 (CBFWA Recommendation: $6,177,194)
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part (at level consistent with Phase 1)
ISRP Final Review Comments:
Fundable in part, the response was adequate. Should be funded at a level appropriate to the Phase 1 effort of the Nez Perce Tribal Hatchery Project 198335000.

CBFWA Project Review Comments:
Fall chinook monitoring only.

Project ID: 198740700
Dworshak Integrated Rule Curves/M&E
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: Refine the Dworshak Rule Curve Evaluation Model, use the model as a tool to help identify appropriate integrated operation (Integrated Rule Curve), and develop a comprehensive long-term monitoring and evaluation plan for Dworshak Reservoir.
FY02 Request: $201,291
3 YR Estimate: $541,291
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. A response was not requested. The reviewers concerns are similar to those expressed in the FY2000 review. In addition, evidence was presented that reservoir operation is driven by the BiOp and by the power system emergency, rather than being regulated by a rule curve. It will not be useful to undertake the proposed efforts (which were not clearly expressed) to adjust a process that is already burdened by too many conflicting influences. No significant improvement is likely.

CBFWA Project Review Comments:
The Resident Fish Caucus suggests that past investments in this project would be lost if the model were not completed. The resulting tool will be useful in assessing tradeoffs between biological impacts in Dworshak Reservoir and the river downstream. Although the federal Biological Opinions (BiOps) and electrical generation tend to drive the system, models of this type have been useful in the development and implementation of BiOps on the operation of the Federal Columbia River Power System.

Project ID: 199303501
Enhance Fish, Riparian, and Wildlife Habitat within the Red River Watershed
Sponsor: Idaho County Soil and Water Conservation District
Subbasin: Clearwater
Short Description: Restore physical and biological processes to create a self-sustaining river/meadow ecosystem using a holistic approach and adaptive management principles to enhance fish, riparian, and wildlife habitat and water quality within the Red River watershed.
FY02 Request: $561,000
3 YR Estimate: $1,666,000
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority/ Recommended Action
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in Part. The project relocates artificially ditched parts of a creek into former meanders, plants riparian vegetation, and excludes livestock from stream banks. In addition, it has major research and communication/education components. Need for the three elementary managements in such situations is generally obvious and well understood in the field of salmonid habitat restoration. They have been practiced and evaluated elsewhere for years, but should be based on a watershed analysis—which still is not complete here. The

EAWS (Ecosystem Analysis at the Watershed Scale) proposed in project 28047 should be done sooner.

The project's communications component should be discontinued as non-essential. The ISRP also recommends against more construction at this point and against any other new work (except improved biological monitoring) in this funding cycle. Instead, future submission for such might be appropriate after the EAWS is completed and M&E (including scrutiny of fish response) has proceeded. The project is fundable in part for the EAWS, for activities that Council staff would identify in the O&M budget as necessary to "preserve investment in project", for implementation and effectiveness monitoring for phases I-IV, and for finishing evaluation of the four treatments and producing peer-reviewed reports/papers.

Most of the project's research is unwarranted. The reviewers recommend that it be reduced to basic M&E, and that M&E deficiencies in biological monitoring be corrected. The project is particularly lacking in biological concept, planning, direction, and analysis. These shortcomings are notable in view of the project title's words: "Enhance Fish, Riparian, and Wildlife Habitat." The project goal is described as restoring "natural physical and biological processes," but, except for revegetation, the processes discussed in the proposal are almost solely physical. Biological *processes* would involve survival, growth, reproduction, and behavior, which are not addressed in the project. The project needs guidance from ecologists. It remains a concern of reviewers that the M&E design depends almost solely on detecting trends rather than having adequate experimental controls. Some of the monitoring for trends began only after the treatments were done, thus missing pre-treatment data.

Reviewers recognize value of the program in furthering interactions among groups and agencies, including private landowners, and in evaluating some restoration techniques. However, because the project includes only minimal attention to the biotic community, especially fish, we are concerned that project performance does not provide a satisfactory template for expansion here or for work elsewhere.

The ISRP reviewers note concurrence by CBFWA comments that "The results of the EAWS . . . should guide any future instream work for this project. Until that assessment is completed, restoration of the lower channel should be considered a 'Recommended Action' [low ranking]."

CBFWA Project Review Comments:
CBFWA supports the acquisition of the conservation easements and continuation of O&M and M&E for the first phases of this project. These tasks should be considered High Priority. The results of the EAWS developed through project number 28047 should guide any future instream work for this project. Until that assessment is completed, restoration of the lower channel should be considered a Recommended Action.

Project ID: 199501300
Resident Fish Substitution Program
Sponsor: Nez Perce Tribe
Subbasin: Clearwater
Short Description: Increase fish harvest opportunities to partially mitigate for anadromous fisheries losses resulting from the "permanent" migration blockage posed by Dworshak Dam on the North Fork Clearwater River.
FY02 Request: $243,355
3 YR Estimate: $1,072,186
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part to maintain the fish stocking and identify sites that could produce better results than the present ponds. This project continues to need significant remedial work. The ISRP would consider the project fundable only after submission of a response that fully addresses ISRP preliminary-review comments and present comments.

This project's purpose is to provide stocked trout for angling in ponds as partial substitution for destroyed salmon fisheries. The project's record of performance is poor. Its efforts have been extremely inefficient. The program buys hatchery trout of table-food size and stocks them in three ponds. Two of the ponds are poor fish habitat and are yielding very poor results—far less pounds of trout harvested than pounds stocked. The third provides somewhat better conditions, but still less harvested than stocked. The long-term plan is to build 6 to 12 more ponds, but whether truly suitable sites exist is questionable.

The sponsor submitted a revised proposal but did not deal with ISRP comments on a point-by-point basis. Some specifics on the sponsor's response and remaining deficiencies in the revised-but-still-inadequate proposal include: The proposal should clearly summarize in tables and graphs the results of all of the project's past monitoring. The revised proposal showed improvement in monitoring components. However, the ISRP recommendation was and remains that monitoring fish harvest should be omitted for at least the next two years because such monitoring has already amply shown what the results are. Rather than follow the recommendation, the sponsor outlined a reduced level of harvest monitoring without justifying it. The sponsor should respond to the ISRP comments point by point.
Sections 3, 4, 5, 6, and 7 are confusing, perhaps mainly because each of these sections contains tasks (zero-budgeted) that are appropriate only for other sections, thus obscuring meaning with extraneous material. In other words, only objectives and tasks truly involved in a section should be listed there. Section 8 shows personnel at 2.1 FTEs, but Section 10 shows 3 "full time" personnel.

Although costs are not central to this scientific review, reviewers felt compelled to raise the issue of costs and benefits on this project. The harvest is costing around $30 or more per pound of fish harvested, assuming the FY 2000 expenditure was a bit less than the requested FY 2002 budget. Costs toward building new ponds contribute to the apparent inefficiency, but those planning and design costs have persisted for years, these and construction costs would continue under the present plan, and they could not be amortized to bring total cost per pound down to a reasonable level for many, many more years, if ever. The budget of the

revised proposal shows a decrease for FY 2002 and then a jump over the original for the out-years. This should be justified.

CBFWA Project Review Comments:
(none)

Project ID: 199607702
Protect and Restore Lolo Creek Watershed
Sponsor: Nez Perce Tribe Fisheries Watershed Program
Subbasin: Clearwater
Short Description: Protect, restore, and enhance the Lolo Creek Watershed to provide quality habitat for anadromous and resident fish. This will be accomplished by watershed restoration projects such as culvert replacement, road obliteration, and streambank stabilization.
FY02 Request: $502,192
3 YR Estimate: $1,924,921
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. According to the sponsor's response, general watershed analysis was completed in September 2001, and refined EAWS (Ecosystem Analysis at the Watershed Scale) is proceeding. The EAWS must allow identification of critical salmonid life stage usage in the watershed and geographic portions of the basin that warrant restoration and protection activity. Factors limiting salmonid life stages should be identified. Further work should not continue until the EAWS is complete and there is clear indication of how this project will be monitored.

The response seems to indicate that the M&E procedures will be upgraded, in that they will be done by or coordinated with the appropriate monitoring projects, such as 28045 and 198335003. The reviewers caution that it is essential to have the advice of a biometrician and experimental analyst. Monitoring and evaluation by means of modeling approaches, as suggested, can be instructive, but a control and treatment comparison of flow regimes, temperature, sedimentation and the fish response must be included. Problems of probably confounding with results of supplementation are evident in the projects M&E. Likewise, an analysis of risk and uncertainty would aid reviews and planning (i.e., indicate the amount of work required before a positive impact is measurable, and the likelihood of failure).

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Project addresses RPA 500. Completion of a watershed assessment should be prioritized. The budget for the implementation phase should be refined, as appropriate, based on the results of the assessment.

Project ID: 199607703
Protecting and Restoring the Waw'aatamnima (Fishing)(Squaw) Creek to 'Imnaamatnoon (Legendary Bear)(Papoose) Creek Watersheds Analysis Area
Sponsor: Nez Perce Tribal Fisheries Watershed Program
Subbasin: Clearwater
Short Description: Protecting and restoring the Waw'aatamnima (Fishing) Creek to 'Imnaamatnoon (Legendary Bear) Creek Watersheds Analysis Area by using a holistic approach, based on a completed watershed analysis, is the overall goal of this on-going project.
FY02 Request: $489,300
3 YR Estimate: $1,518,500
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The proposal was generally good, the responses adequate. Note that this project is apparently guided by a completed watershed assessment, as CBFWA has commented. The project has demonstrated an excellent ability to decommission roads. Future proposals should also show results in terms of fish for the work done since 1996.

Response to comment #3 and communications on the field tour indicate project personnel may have an unjustified degree of concern that logs across streams block passage of anadromous salmonid adults. Some of this concern might be alleviated by learning the actual leaping and squirming abilities of these fish from first-hand observation and primary literature sources (not relying on agency “manuals” and such, which often contain out-dated and illusory material). Surveying old artificial habitat devices is great for learning what not to do in the future, but staff ought not be needlessly nervous about presence of failed structures and should save money when possible by not bothering to demolish them. None of the proposal’s references was a primary literature source on structural habitat for salmonids; future proposals should contain relevant discussion of comprehensive information from such sources.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 500. The implementation activities for this project are guided by a completed watershed assessment.

Project ID: 199607705
Restore McComas Meadows/Meadow Creek Watershed
Sponsor: Nez Perce Tribe Fisheries Watershed Program
Subbasin: Clearwater
Short Description: Protect and restore critical riparian/stream habitat in Meadow Creek thru streambank stabilization, riparian re-vegetation, road decommissioning, culvert replacement/repair, and native plant restoration.
FY02 Request: $573,832
3 YR Estimate: $1,221,301
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable but adequacy of M and E is tied into ability of project 28045 to develop a sound monitoring plan. They did not clearly define the experimental design for monitoring and evaluation, but, like others, referred to the NPT M&E plan, which is dominated by supplementation evaluation and not habitat rehabilitation effectiveness, or a mix of several treatments in some of the subbasins. It is unclear how these will be separated in the analysis. Although M and E linkages ("tiers") are provided in the set of NPT habitat proposals, this proposal and the set of NPT habitat proposals need to demonstrate closer ties to the NPT and other fish monitoring projects in the watershed and province (e.g. NPT projects 1988335003, 199703000, IDFG project 199107300, and the ISS studies). In the long term, fish-monitoring data will be critical in determining the efficacy of the restoration activities. There is a need to describe clear coordination between this proposal, proposal 28045, and the NPT fisheries and other entities' monitoring programs; and demonstrate how data and analysis will be shared between the projects. In addition, see the ISRP's comments on 28045 and programmatic comments on M&E at the beginning of this report. Project 28045, to which the response referred, does not indicate a clear treatment-control approach to evaluation of projects like 199607705. Snorkel counts for recruits based on parr density or redd counts do not represent adequate response variables for this type of work unless adjusted for density dependence and based as a function of spawner density. There is no clear indication of success from past efforts, which should be complete by now.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPA 500. The implementation activities for this project are guided by a completed watershed assessment.

1. Project ID: 199608600
Clearwater Focus Program
Sponsor: Idaho Soil Conservation Commission
Subbasin: Clearwater
Short Description: Complete subbasin assessment develop subbasin plan, coordinate public review and input, and coordinate implementation projects
FY02 Request: $103,626
3 YR Estimate: $310,878
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
See 199706000 below – same comments apply.

2. Project ID: 199706000
Clearwater Subbasin Focus Watershed Program - NPT
Sponsor: Nez Perce Tribal Fisheries/Watershed Program
Subbasin: Clearwater
Short Description: Manage and implement a comprehensive system to coordinate multiple jurisdictions, agencies, and private landowners within the Clearwater River Subbasin. These efforts will protect, restore, and enhance anadromous fisheries habitat.
FY02 Request: $218,000
3 YR Estimate: $702,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable, but they need to raise their level of effort in coordinating assessments, prescriptions, rehabilitation works, and particularly in monitoring and evaluation. The PAC has broad membership and could be a lead in the Subbasin Planning effort, including M&E, which is missing here. This project should demonstrate performance by the next review cycle otherwise it should be terminated. Help from a contract biometrician must be obtained in planning the overall M&E as well as stock assessment work.

CBFWA Project Review Comments:
These two projects coordinate assessment and implementation activities in the Clearwater subbasin. The project does not fit the criteria well since most of the implementation activities that are coordinated by this project are implemented through other projects. This project addresses RPA 152 and 154.

Project ID: 199901400
Little Canyon Creek Subwatershed-Steelhead Trout Habitat Improvement Project
Sponsor: Lewis Soil Conservation District
Subbasin: Clearwater
Short Description: Reduce sedimentation to improve instream habitat in Lower Little Canyon Creek and the lower Clearwater River, and improve upland water storage by implementing best management practices for sediment reduction and water retention.
FY02 Request: $236,500
3 YR Estimate: $649,500
ISRP Final Recommendation: Fundable (low priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable but Low Priority
ISRP Final Review Comments:
Fundable but low priority. This proposal would continue to work with private landowners to implement agricultural and ranching best management practices in Little Canyon Creek, a tributary to Big Canyon Creek. Closely linked proposals are 199901500 for Big Canyon by the Nez Perce SCD and 199901600 by the Nez Perce Tribal Watershed program.

On the positive side, a planning document (Big Canyon Aquatic Assessment) has been done within the past few years by the Center for Environmental Education of Washington State University as part of project 199901600. Also, there is evidence of good interagency cooperation and enthusiastic, effective staff.

On the other hand, the aquatic assessment mentioned above (that was supplied to the ISRP in the response process) was never intended as a watershed assessment and does not function as such. It instead follows the guidelines of the Oregon Watershed Assessment Manual that "uses a cookbook approach that walks the user through procedures that assess natural processes or features related to fish habitat and water quality. It was designed to be used by the average citizen interested in watersheds". While providing good insight into the geography and land-use patterns of the drainage, it is nearly all generic when discussing potential limiting factors and includes no fish or fish habitat data. In the view of the ISRP it does not even marginally function as a standard watershed assessment. However the ISRP felt that work on this project was justified (at low priority) by the planning done in preparation of the 1995 Big Canyon Creek Environmental Assessment by the Nez Perce County Soil and Water Conservation District, and by the fact the watershed appears to have reasonable fish production potential.

The monitoring still needs to be described in finer detail; see ISRP programmatic statement.

CBFWA Project Review Comments:
This project is one component of a watershed approach to habitat restoration and therefore there is significant cost share that was not reported in the proposal.

Project ID: 199901500
Restoring Anadromous Fish Habitat in Big Canyon Watershed
Sponsor: Nez Perce Soil and Water Conservation District
Subbasin: Clearwater
Short Description: Implement agricultural and fish habitat Best Management Practices in the Big Canyon watershed with the goals of reducing sediment and nutrient delivery, improving water retention in uplands, reducing stream temperature, and restoring riparian function.
FY02 Request: $193,452 (CBFWA Recommendation: $203,452)
3 YR Estimate: $600,356 (CBFWA Recommendation: $610,356)
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Project staff demonstrated enthusiasm for working with private landowners in the watershed to implement best management practices for agriculture and ranching. Twelve contracts involving 1,960 acres were entered into in the years 2000 and 2001 as part of this program.

Nevertheless, reviewers encountered several red flags in evaluating this work. Supplemental material was requested and received during the response process for project 199901500. The 1995 Big Canyon Creek Environmental Assessment helped reviewers appreciate the "groundwork" involved in the planning process by the Soil and Water Conservation District. However, that EA included a 1994 report by Interfluve Inc. (funded by BLM) regarding geomorphologic measures needed to fix a problem in Big Canyon Creek: 7 miles in the central portion of the drainage goes dry every summer. The report indicates this was the result of a 1965 flood that removed fine sediment from the valley floor, and now the lack of fines results in subterranean flow, with those two factors now also limiting establishment of new riparian vegetation. Reviewers were not aware of this situation prior to the response process, and are now concerned that establishing a program to reduce sediment input from headwaters (via this proposal) will do relatively little to fix the real problem for Big Canyon anadromous fish populations.

Watershed assessment is another red flag. As part of a companion project, a planning document (Big Canyon Aquatic Assessment) has been prepared by the Center for Environmental Education of Washington State University. However, this report (examined by the ISRP in the response process) was never intended as a watershed assessment and does not function as such. It instead follows the guidelines of the Oregon Watershed Assessment Manual that "uses a cookbook approach that walks the user through procedures that assess natural processes or features related to fish habitat and water quality. It was designed to be used by the average citizen interested in watersheds". While providing good insight into the geography and land-use patterns of the drainage, it is nearly all generic when discussing potential limiting factors and includes no fish or fish habitat data. In the view of the ISRP it does not even marginally function as a standard watershed assessment.

An ongoing concern of reviewers is being able to attribute improvements in soil and water management to fish and to fish habitat; the proposal and response do not show evidence that this difficult issue is satisfactorily resolved. See ISRP programmatic statement on M&E.

Project ID: 199901600
Protect and Restore Big Canyon Creek Watershed
Sponsor: Nez Perce Tribal Fisheries Watershed Program
Subbasin: Clearwater
Short Description: This project will protect, restore and return critical spawning and rearing habitat using a ridge top to ridge top approach, based on a completed watershed assessment
FY02 Request: $355,000
3 YR Estimate: $1,588,300
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Continuation funding is requested for the replacement of culverts, obliteration of roads, and fence construction. Reviewers initially encountered many difficulties in reading this proposal, such as repeated reference to Lapwai Creek rather than Big Canyon. A revised proposal was submitted that provided clarification, but many concerns, primarily regarding the assessment approach and potential gains for fish, remain.

This project has been underway for three years and funded preparation of a planning document (Big Canyon Aquatic Assessment) by the Center for Environmental Education of Washington State University. However, this report (examined by the ISRP in the response process) was never intended as a watershed assessment and does not function as such. It instead follows the guidelines of the Oregon Watershed Assessment Manual that "uses a cookbook approach that walks the user through procedures that assess natural processes or features related to fish habitat and water quality. It was designed to be used by the average citizen interested in watersheds". While providing good insight into the geography and land-use patterns of the drainage, it is nearly all generic when discussing potential limiting factors and includes no fish or fish habitat data. In the view of the ISRP it does not even marginally function as an adequate watershed assessment.

The proposal shows virtually no direct ties to anadromous or resident fish and reviewers are uncertain of the streams potential to produce steelhead. Supplemental material requested from the Nez Perce SCD during the response process for project 199901500 included a 1994 report by Interfluve Inc. (funded by BLM) regarding geomorphologic measures needed to fix a problem in Big Canyon Creek: 7 miles in the central portion of the drainage goes dry every summer. The report indicates this was the result of a 1965 flood that removed fine sediment from the valley floor, and now the lack of fines results in subterranean flow, with those two factors now also limiting establishment of new riparian vegetation. The ISRP is concerned that this issue was not discussed on the field tour or in the proposal, and is confused further when the Big Canyon Aquatic assessment states that the greatest densities of juvenile steelhead occur in the central portion of Big Canyon Creek. Overall, the ISRP sees little in this proposal that argues effectively for its continuance.

An ongoing concern of reviewers is being able to attribute improvements in habitat management to fish and to fish habitat; the proposal and response do not show evidence that this difficult issue is satisfactorily resolved. See ISRP programmatic statement on M&E.

CBFWA Project Review Comments:
A significant cost share is identified in the narrative of the proposal but not in the budget portion of the proposal. The implementation activities for this project are guided by a completed watershed assessment. This project addresses RPA 154 and 500.

Project ID: 199901700
Protect and Restore Lapwai Creek Watershed
Sponsor: Nez Perce Tribal Fisheries Watershed Program
Subbasin: Clearwater
Short Description: This project will protect, restore and return critical spawning and rearing fish habitat using a ridge top to ridge top approach, based on a completed watershed assessment.
FY02 Request: $436,600
3 YR Estimate: $1,669,900
ISRP Final Recommendation: Fundable (high priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. Continuation funding is requested to focus on the following on-the-ground activities: participate in replacing a bridge, replace three culverts, obliterate approximately 10 miles of road per year, build 2 miles of fence, and plant 5 acres of riparian vegetation per year. Replacing the bridge will be of great benefit to fish by reestablishing stream access for anadromous fish.

Reviewers felt that funding this project should be highest priority of all the lower Clearwater fish habitat proposals. An aquatic assessment and other NPT stream survey reports have been completed and reviewed by the ISRP. The panel feels that although this analysis falls short of the watershed assessment template typically expected, under the circumstances for Lapwai Creek there is adequate, if not ideal, rehabilitation guidance. CBFWA reviewers also felt there was adequate watershed assessment for proposed activities to continue.

Reviewers concur with project sponsors that the Lapwai Creek system has a great potential for increasing anadromous smolt production if habitat is restored. Many opportunities for that effort currently exist, including for stream segments where fish access is blocked and for those riparian resources adjacent to the former Camas Prairie Railroad. Good working cooperation among project proponents was evident.

Monitoring issues remain. Further, the reviewers note that transects only 50 m long are probably too short for obtaining meaningful fish population results. The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
The implementation activities for this project are guided by a completed watershed assessment. This project addresses RPA 400 and 500.

Project ID: 28059
Restoring anadromous fish habitat in the Lapwai Creek watershed.
Sponsor: Nez Perce Soil and Water Conservation District
Subbasin: Clearwater
Short Description: The project will implement BMPs on agricultural lands to reduce sediment, nutrients, and stream temperature. In addition, the project will improve low summer flows by installing BMPs for water retention in the uplands.
FY02 Request: $372,060
3 YR Estimate: $961,116
ISRP Final Recommendation: Fundable (high priority) (move 28059 below this)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. This is a high priority tributary for rehabilitation efforts because of production potential. Lapwai Creek system has a great potential for increasing anadromous smolt production if habitat is restored; this new project should help accelerate progress toward that goal. An adequate watershed assessment has been completed for the watershed (see comments for proposal 199901700). Proceed first with the implementation of those BMPs that are in closest proximity to stream-courses and will have the most effective and direct instream or riparian benefits. There should be a stronger indication of comprehension and summary of the M&E task (e.g., response variables, methods) then what was indicated. Manuals of standard procedures for all phases of watershed assessment, prescription, rehabilitation, and evaluation are required here and throughout.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project compliments the activities proposed in project number 199901700. This project focuses on the water quality affects by private landowners.

Project ID: 199901800
Characterize and quantify residual steelhead in the Clearwater River, Idaho
Sponsor: U.S. Fish and Wildlife Service
Subbasin: Clearwater
Short Description: Describe unsuccessful hatchery smolts released into the Clearwater basin. Assess potential negative interactions with wild steelhead and recommend modifications to hatchery practices to produce more effective smolts and reduce hatchery/wild interactions.
FY02 Request: $101,950
3 YR Estimate: $134,950
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. This project commenced in 1999 to monitor the emigration success of Dworshak National Fish Hatchery steelhead smolts and to assess the ecology and potential impacts of those fish that do not emigrate. The proposal is to complete data gathering in the 2002 field season and write up results in 2003. Despite its long-standing concerns and critical comments regarding experimental design in this year's preliminary review, the ISRP recognizes that there is value to be gained in completing the study and making its results available to biologists and managers in the region.

CBFWA Project Review Comments:
This project addresses RPA 184. This project was required by a previous biological opinion.

Project ID: 200002800
Evaluate Status of Pacific Lamprey in the Clearwater River Drainage, Idaho
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Clearwater
Short Description: To determine distribution, population status, and life history information for Pacific Lamprey in the Clearwater River subbasin.
FY02 Request: $144,550
3 YR Estimate: $464,550
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. No response was requested. The methods, which are reasonably well detailed, are aimed at evaluation of background information for various life history stages of the animal. This proposal addresses a need for information in a systematic way. It provides good scientific/technical background and justification, and appears to be well coordinated with other projects. The proposal requests "full" ($160K) funding through FY 04 and then reduced funding for FY05. However, this study should be complete in no more than three field seasons (00 – 02) with some wrap-up on the end. At the presentation it was noted that a UI grad student will be on the project. If they have not yet started it might be reasonable to go another year, but this is approaching a point where the Council and CBFWA may want to consider if the project is too expensive for the information gained.

Project ID: 200003400
Protect and Restore the North Lochsa Face Analysis Area Watersheds
Sponsor: Nez Perce Tribal Fisheries/Watershed Program
Subbasin: Clearwater
Short Description: Protect and Restore the North Lochsa Face Watershed by working within an overall watershed approach, based on comprehensive studies of the analysis area. The overall goal of this project is to increase anadromous fish populations.
FY02 Request: $285,835
3 YR Estimate: $996,862
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. Responses adequate—except ISRP still has reservations about adequacy of the M&E. Sponsor should take measures to improve M&E. This is a road obliteration project on a massive scale. The project is well organized. Mass wasting is primary contributing factor to sedimentation input. Justification for project location was a good addition to the presentation and should be included in other presentations. The NPT is in a lawsuit against FS over an EIS counting joint NPT/FS road obliteration and improvements as mitigation for proposed building of new FS roads; the NPT position is that BPA funding should not be used to promote FS roading and logging.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
CBFWA's concern with transfer of information from this project has been adequately addressed in the response to the ISRP.

Project ID: 200003500
Rehabilitate Newsome Creek Watershed - South Fork Clearwater River
Sponsor: Nez Perce Tribe Fisheries Watershed
Subbasin: Clearwater
Short Description: Protect and enhance Newsome Creek Watershed for the benefit of both resident and anadromous fish using an overall watershed approach. This project is a cooperative project between the Nez Perce Tribe and the Nez Perce National Forest.
FY02 Request: $287,732
3 YR Estimate: $1,424,334
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The proposal was extremely well written, so logically organized and clearly put that it made review a pleasure. The writing should serve as an example to others. Responses to ISRP comments were adequate except on the M & E issue. This is a road decommissioning and culvert remedy project that includes possible stream channel

restructuring to remedy dredge mining damage. The latter objective is laudably planned to be abandoned if feasibility study shows it to be warranted. Nevertheless, the Council should look at budget carefully; 1.4M for the channel work seems excessive. Logically, funding cannot be estimated until study and planning are done.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Completion of the watershed assessment should be prioritized. Partially addresses RPA 154. The budget for the implementation phase should be refined, as appropriate, based on the results of the assessment.

Project ID: 200003600
Protect & Restore Mill Creek
Sponsor: Nez Perce Tribe Fisheries Watershed Program
Subbasin: Clearwater
Short Description: Enhance critical riparian areas through re-vegetation and maintaining the cattle exclusion fence, and replacing/repairing culverts, which pose a fish/aquatic barrier to restore quality habitat for chinook salmon, steelhead trout, bull trout and resident fish.
FY02 Request: $105,560
3 YR Estimate: $482,511
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable
ISRP Final Review Comments:
Fundable. The project is basic habitat management and protection, with a little rehabilitation to correct bad practices of the past. It focuses on riparian exclusion of cattle, on revegetation, and on remedying culverts that block fish passage. This proposal marginally met the review criteria and received a fundable primarily because of the focus of restoration activities on well accepted methods that will likely provide fish benefits. Also, the response did refer to a larger-scale "landscape assessment" that identified Mill Creek as a high priority for restoration and specified the types of work being done. Beyond that, a fish passage assessment will be done for the creek to guide culvert work. Thus, the project does not appear to be based on a watershed assessment at a detailed enough scale. The M&E plan should also be bolstered, and coordinated with the overall subbasin effort in this regard. The response indicates that this will be done. The proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Implementation activities should closely follow results from the South Fork Clearwater Landscape Assessment.

Blue Mountain Province Proposals

Asotin

Project ID: 199401805
Continued Coordination and Implementation of Asotin Creek Watershed Projects
Sponsor: Asotin County Conservation District
Subbasin: Asotin
Short Description: Coordinate, assess, protect, restore and monitor holistically based fish habitat cost-share programs in Asotin Creek watershed. Continue "grass-root" public and agency cooperation and collaboration for identified priority projects benefiting ESA species
FY02 Request: $297,285
3 YR Estimate: $990,285
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable, however, the ISRP continues to have some reservations about the no-till operations, and the need to develop a more analytical approach toward evaluating (rather the demonstrating) the potential benefits and costs of the program. Project sponsors should refer to the programmatic comments in the beginning of this report for additional ISRP comments on the need to examine agricultural economic aspects of no-till operations. A solid economic analysis of the larger no-till program would lead to insights and likely a real demonstration project that can be held up across the basin. The biological components of the project are sound, particularly as coupled with the WDFW biological monitoring.

The level of involvement by all stakeholders in the subbasin in the planning and implementation of restoration is impressive and could serve as a model for many other locations in the basin. It is reminiscent of the stakeholder involvement and cooperation we observed in the Hood River and John Day subbasin tours.

The project sponsor's response contained some useful information, but was somewhat rambling, making it difficult to determine the main points occasionally. The response did not entirely allay the ISRP's concerns from the preliminary review concerning the role of active vs. passive stream restoration in projects. What role are natural processes going to take in the restoration programs, e.g., building stream meanders back into a system? What happens when a big flood arrives and moves the stream out of its newly engineered channel? This and many other projects are restructuring channelized and degraded streams into newly engineered meandering stream channels. A concern of the reviewers is that while these initial steps may help jump start stream rehabilitation and shoreline revegetation, future hydrologic events and geomorphic processes may move the stream out of the newly engineered channel to interact with the larger local landscape and form new unanticipated stream courses. Efforts to retain the stream in the engineered channel, such as reinforcing or riprapping banks run counter to the present desire to reestablish normative process in stream and river corridors.

CBFWA Project Review Comments:
Addresses RPA 153, which requires a connection to CREP and commitments of at least 15 years. Although there is no specific reference to sediment and temperature monitoring in the proposal, the work is being performed through this project by the USFS and WDFW. Species that benefit from the proposed work include all life stages of spring chinook, bull trout, and steelhead. The sponsors indicated that there are 15+ CREP commitments (15 year commitments) in place.

Project ID: 27001
Asotin County Riparian Buffer and Course and Tenmile Creeks Protection and Implementation Project
Sponsor: Asotin County Conservation District
Subbasin: Asotin
Short Description: Implement BMP's to protect and enhance watersheds in Asotin County with ESA listed steelhead and chinook. Utilize cost-share from USDA, WCC and SFRB as match to BPA Funds to implement riparian buffers under the CREP Program (RPA Actions 152 & 153).
FY02 Request: $294,200
3 YR Estimate: $882,600
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable, however, the ISRP continues to have some reservations about the no-till operations, and the need to develop a more analytical approach toward evaluating (rather the demonstrating) the potential benefits and costs of the program. Project sponsors should refer to the programmatic comments in the beginning of this report for additional ISRP comments on the need to examine agricultural economic aspects of no-till operations. A solid economic analysis of the larger no-till program would lead to insights and likely a real demonstration project that can be held up across the basin. The biological components of the project are sound, particularly as coupled with the WDFW biological monitoring.

The level of involvement by all stakeholders in the subbasin in the planning and implementation of restoration is impressive and could serve as a model for many other locations in the basin. It is reminiscent of the stakeholder involvement and cooperation we observed in the Hood River and John Day subbasin tours.

The project sponsor's response contained some useful information, but was somewhat rambling, making it difficult to determine the main points occasionally. The response did not entirely allay the ISRP's concerns from the preliminary review concerning the role of active vs. passive stream restoration in projects. What role are natural processes going to take in the restoration programs, e.g., building stream meanders back into a system? What happens when a big flood arrives and moves the stream out of its newly engineered channel? This and many other projects are restructuring channelized and degraded streams into newly engineered meandering stream channels. A concern of the reviewers is that while these initial steps may help jump start stream rehabilitation and shoreline revegetation, future hydrologic events and geomorphic processes may move the stream out of the newly

engineered channel to interact with the larger local landscape and form new unanticipated stream courses. Efforts to retain the stream in the engineered channel, such as reinforcing or riprapping banks run counter to the present desire to reestablish normative process in stream and river corridors.

CBFWA Project Review Comments:
The proposed work would allow for stabilizing channel conditions in Tenmile and Couse creeks (creeks which are major producers of sediment to the Snake River). With increased water quality resulting from this work, the WDFW suggests there would be an increase in listed fall chinook spawning at the mouths of the creeks; however, reviewers expressed concern that measurable outcomes are absent from many of the objectives. Although the proposal lacks monitoring for temperature and sediment the work, such parameters are being monitored. The CREP leases will be for 15 years. Reviewers suggest results from this work would aid management from a long-term standpoint; however, the work may not be critical at this time. Project addresses RPA 400 and partially addresses RPA 153.

Project ID: 27014
Protect and Restore the Asotin Creek Watershed
Sponsor: Nez Perce Tribal Fisheries Watershed Program
Subbasin: Asotin
Short Description: Contribute to an on-going watershed restoration effort by working in collaboration with private and federal entities to address sedimentation into stream and tributaries from road related sources on forested ground within the watershed.
FY02 Request: $121,000
3 YR Estimate: $374,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. Adequate response; however, project needs to pay strong attention to monitoring the post-implementation results from the obliteration projects. Literature results from obliteration projects have ranged from very positive to very negative, the latter actually compounding the original problems of run-off and sedimentation. Thus, careful monitoring through this or a companion project and subsequent evaluation of results is critical. To assist in formulating a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
The proposal addresses RPAs 152 and 400. Monitoring for the proposed work will be performed through Project 199401805 and the LSRCP.

Project ID: 27009
SSHIAP - Blue Mountain Province
Sponsor: Washington Department of Fish and Wildlife
Subbasin: Asotin and other subbasins in the WA portion of the Blue Mountain Province.
Short Description: Project will provide routed & segmented hydrolayer, and collate and synthesize data on 19 aquatic habitat variables over an estimated 10,000 mi of streams in 2 salmonid-bearing subbasins in the WA portion of this Province.
FY02 Request: $200,000
3 YR Estimate: $260,000
ISRP Final Recommendation: Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response adequately addressed the ISRP's concerns from the preliminary review. This is an important program to compile stream habitat data relating to the salmonid resource. The proposal is thorough, clearly presented, and describes a well-established set of methods, referencing pertinent basic literature on the subject. The staff appears highly qualified for and experienced in the work involved.

To assist in formulating a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Proposal addresses RPA 154. The reviewers question whether the 75-80% accuracy rate is acceptable and whether the work would be performed at the correct scale. The reviewers express concern that the results may be too coarse and that there should be "ground truthing" before implementing the proposed work. In addition, the reviewers suggest that other techniques (e.g., GAP analysis) provide similar data. The reviewers indicated that there was a lack of coordination with other managers.

Project ID: 27002
Assess Salmonids in the Asotin Creek Watershed
Sponsor: Washington Department of Fish and Wildlife
Subbasin: Asotin
Short Description: Evaluate the current productivity and survival rates of anadromous and resident salmonids in Asotin Creek. Develop a habitat based spring chinook reintroduction plan and determine if supplementation is required to sustain a wild steelhead population.
FY02 Request: $316,885
3 YR Estimate: $775,915
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. High Priority. Adequate response. Reviewers remain concerned that sampling sites for fish population estimates should be much longer than 50 meters—more like 200 meters, so that representative stream channel features, such as pools and riffles, occur within

the sample reach more frequently. This should lead to statistically more accurate sampling and inferences. Project sponsors need to consider winter habitat as well as other seasons. They should be coordinating with the monitoring plans and protocols being used in the John Day basin developed through the Oregon Plan. To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This proposal represents an attempt to address the concerns that the ISRP has had for the last 3-5 years relative to Project 199401805. Project 199401805 has provided field measurements of water flows and temperatures, and extensive riparian and upland measurements coupled with WDFW data on salmonid rearing and spawning distribution and abundance. With the extensive planning document and preliminary habitat improvements, the proposed work would build from baseline monitoring and focus on collecting data to address more specific concerns about naturally produced steelhead and general salmonid productivity in Asotin Creek. These data are key elements necessary for watershed and fish stock restoration planning and implementation within the subbasin. The proposed work provides monitoring for proposal 27014. Project addresses RPA 180.

Project ID: 27025
Acquire South Fork Asotin Creek Property
Sponsor: Rocky Mountain Elk Foundation
Subbasin: Asotin
Short Description: Acquire and protect the 8,500-acre Schlee property in southeastern Washington. This shrub-steppe habitat harbors elk and mule deer, while its streams provide a critical link in the Asotin Creek watershed for federally endangered anadromous fish.
FY02 Request: $3,489,500
3 YR Estimate: $3,559,500
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The proposal with the added information from the presentation justifies the acquisition of the properties as well chosen and a priority. This proposal is for acquisition of 8500 acres of land, in two parcels, which will extend a current WDFW wildlife area and contribute to goals of maintaining (and perhaps increasing) elk populations. The initial budget has refreshingly little O&M, and plans for M&E are presented in detail. The cost of the land is reasonable and its location and type are very appropriate for the subbasin and its fish and wildlife goals, as well as well in line with criteria for prioritization of purchases.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Proposal addresses RPA 150 and 153. The sponsor indicated that the landowner is serious about selling the property. In addition, there is a letter of intent and that the landowner has been approached by another party that has indicated that they are interested in purchasing the property if the RMEF purchase does not materialize. The reviewers indicated that the property would not be available for purchase in another three years. The RMEF is actively looking for matching funds to aid in purchasing the property; however, the sponsor indicated that the uncertainty of receiving BPA funds has limited the sponsors ability to secure matching funds. Although the sponsor has coordinated the efforts with the WDFW and has received support from local sports groups, there has been a lack of coordination with the NPT. The sponsor submitted an addendum to the NWPPC staff during the project presentation in LaGrande, OR; however, the reviewers did not have an opportunity to review the addendum. According to the sponsor, the addendum possessed modified M&E plans as well as a modified budget. Fish and wildlife populations could significantly benefit from the purchase and management of this property. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands. There are potential benefits for listed steelhead. The RMEF is actively seeking to reduce the amount requested from BPA by pursuing landowner tax incentives, cost sharing, and/or multiyear funding of the property.

Snake River Hells Canyon Proposals

Project ID: 199700900
Evaluate Potential Means of Rebuilding Sturgeon Populations in the Snake River Between Lower Granite and Hells Canyon Dams
Sponsor: Nez Perce Tribe
Subbasin: Snake Hells Canyon
Short Description: Evaluate the need for and identify potential measures to protect and restore white sturgeon between Hells Canyon and Lower Granite dams to obtain a sustainable annual harvest.
FY02 Request: $290,510
3 YR Estimate: $1,065,510
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable - adequate response. The project is conducting good basic biological research, however, reviewers are concerned that current efforts need to lead to an analytic, quantitative assessment rather than to a qualitative assessment. The project would benefit by external advice on experimental design and analysis while the project is still in a formative stage.

A Management Plan for Implementation will be developed by 2003. Before implementation of the plan, it should be reviewed by the BRT (Biological Risk Assessment Team) or another independent review group, if the BRT cannot provide an independent assessment.

Other specific concerns are:

1. The sponsor's response with respect to confidence intervals on marking and sampling was not adequate.
2. The project team does not deal adequately with problems of aging errors and partial recruitment

The assessment of flow impacts on sturgeon populations is not yet well defined. Researchers would be relating demographic parameters to flow patterns within the Snake.

CBFWA Project Review Comments:

The development of a management plan will follow the completion of field activities in 2002. Reviewers question whether the harvest value is correct.

The RFC suggests the timeframes in out years look long. In addition, a closer working relationship needs to be developed with IDFG, either by including a subcontract for their participation in analyzing and interpreting data or by a separate contract as in proposal 27015. The RFC expressed concerns that there may be opportunities for simultaneous work that are not mentioned. The harvest goal in the proposal is a NPT goal and is not shared by IDFG. A working group that monitors this project's progress should be formed (IDFG, ODFW, NPT, IPC). Or they may be able to cooperate with the IPC WSTAC.

The BRAT Review identified catch and release fishing in the Hells Canyon reach as one of the major potential limiting factors for sturgeon here. Future proposals should clarify why this is not being investigated. USGS has put forth proposals to investigate these fishery effects, and this is the reach that seems most appropriate for the investigation.

Food availability was also listed in the BRAT review as a potential limiting factor. Bioenergetics work to describe available resources compared to those needed for sturgeon production seems appropriate but is not being pursued. While comments from the ISRP are probably valid given they have no contact with the project proponents, the RFC has confidence in the described methods and analyses. The RFC indicated that progress by project personnel in completing reports, making population information available, etc., is unclear.

Project ID: 27015
Develop Long-Term Management Plan for Snake River (Hells Canyon Reach) White Sturgeon
Sponsor: Idaho Department of Fish and Game and Idaho Office of Species Conservation
Subbasin: Snake Hells Canyon
Short Description: The project will cooperate with the Idaho Power Company and the Nez Perce Tribe to develop a long-term management plan for white sturgeon in the Hells Canyon reach of the Snake River.
FY02 Request: $116,500
3 YR Estimate: $161,500
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Do Not Fund. A response was not warranted. The proposal, asking for support to apply a previously developed model and thereby assess management options for white sturgeon, is inadequate. Lacking are detailed description of the model, its validity, and availability of data needed for the model. It is not clear how the demographic data collected in NPT project 199700900 would be incorporated into the model. The ISRP briefing did not indicate the simulation model involved or the capabilities of the model to assess management options. The proposal seems to be for one IDFG person (a full FTE) to apply this model during a FREC re-licensing application for the Hells Canyon reach of the Snake River; it is not evident why this would be a BPA/NPPC responsibility.

CBFWA Project Review Comments:
Because the reviewers are unfamiliar with the model and the fact that there were no responses to the ISRP, the reviewers question whether the model is valid/appropriate for the plan. This work needs to be coordinated with ODFW and the NPT.

The RFC suggests the proposed work could complement management actions and should be performed jointly with Project 199700900 (potential cost savings).

Project ID: 199801003
Spawning distribution of Snake River fall chinook salmon
Sponsor: U.S. Fish and Wildlife Service
Subbasin: Snake Hells Canyon
Short Description: Monitor the status and distribution of Snake River fall chinook salmon, determine if yearling-released supplemented hatchery fish spawn where intended, and gather information on the spawning distribution of fish released as subyearlings and natural fish.
FY02 Request: $174,162
3 YR Estimate: $435,962
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable - adequate response. The ISRP recommends that this project be terminated within the three-year funding duration as the project has reached its objectives. The next logical step would be to develop an M&E program for the naturally spawning population to determine whether or not it is sustainable.

This project includes telemetric monitoring of movements of returning adult fall chinook from the three acclimation facilities described in 199801005 and from Lyons Ferry releases. The proposal and response include excellent cost sharing and presentation of some data and results. The proposal and presentation addressed previous comments that better description and interpretation of results to date was needed to support continued funding. The response explains the high loss of tagged fish as including elevated loss of recycled tags. Although the cost of tags is relatively high, the use of recycled tags seems to be a false economy as it significantly increases the error in the data (due to high proportion of unknown fates) and thus makes the data significantly less conclusive and convincing. Distinguishing whether a result is within acceptable bounds of a target and distinguishing between competing interpretations of results [or competing hypotheses] are problematic in monitoring of anadromous fishes. If the error could be significantly reduced to a significantly more discriminating level for a needed evaluation, then the use of recycled tags and higher loss of tracked fish would be a bad move.

We note that the project's "big picture goals" go well beyond what can be understood and reviewed from the proposal and response. It would be very useful to reviewers to have more concrete information on ultimate project goals that are mentioned in the response: success of supplementation, developing indicators for de-listing, and potential harvest options. Although these are ultimate goals for evaluation, neither the conceptual framework against which data are to be evaluated nor the formal evaluation procedures (e.g., tests and interpretations of possible outcomes) are presented in adequate detail for reviewers to offer useful comments. How data will be tested to draw conclusions as to ultimate goals is an important element of experimental design and needs to be better presented in this and many other proposals.

CBFWA Project Review Comments:
This project addresses RPA 184.

Project ID: 199801004
Monitor and Evaluate Yearling Snake River Fall Chinook Released Upstream Of Lower Granite Dam
Sponsor: Nez Perce Tribe
Subbasin: Snake Hells Canyon
Short Description: Monitor and evaluate survival and performance of yearling fall chinook from Pittsburg Landing, Big Canyon, and Captain John acclimation facilities (Project 199801005) to maximize success of the fall chinook supplementation program above Lower Granite Dam.
FY02 Request: $330,241
3 YR Estimate: $1,020,741
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not Fundable. Inadequate response. Given the ISRP's continued questions about this proposal, the ISRP recommends not funding this proposal again until a comprehensive response is provided – PI's may need help generating that response. The ISRP clearly recognizes the need to continue these types of assessments but on the basis of this proposal, the ISRP cannot conclude that a sound scientific program is in place. This proposal addresses the M&E portions of the fall chinook assessments related to the acclimation ponds in the NPT area (Big Canyon, Captain John Rapids, Pittsburg Landing). M&E include inspections for fish health, tagging with PIT tags and elastomer tags, and a radio-tracking study to examine the emigration behavior of fall chinook smolts.

While the authors have responded to most of the original review comments, the reviewers remain concerned about aspects of this proposal and its response. Nevertheless, this monitoring needs to continue, so further clarification is requested.

1) The response provides a summary of data and analysis to date. It should also include a discussion of problems of interpretation or shortcomings apparent in the data or how they are being used to address ultimate goals.

2) The response gives much useful information about the tagging procedures and purposes, but does not answer the question about consequences of tag loss or negative effects of tagging.

3) The response does not answer all of comment 3: How does M&E address maintenance of genetic integrity of natural populations. What was the base level of genetic integrity defined and how is it now being estimated?

4) It is also not clear what is meant by the emphasis on maximizing program efficiency through adaptive management to achieve delisting. This use of the data should be more clearly described, including both rationale and procedures to be used in evaluation. What adaptive management plan has been developed or are the authors simply referring to "trial and error"?

CBFWA Project Review Comments: This project addresses RPA 184.

Project ID: 199801005
Pittsburg Landing (199801005), Capt. John Rapids (199801007), Big Canyon (199801008) Fall Chinook Acclimation Facilities
Sponsor: Nez Perce Tribe
Subbasin: Snake Hells Canyon
Short Description: Supplement natural production of Snake River fall chinook above Lower Granite Dam through acclimation and final rearing of Lyons Ferry yearling and subyearlings at two sites on the Snake River and one site on the Clearwater River.
FY02 Request: $722,000
3 YR Estimate: $2,246,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. This is a hatchery O&M proposal, the M&E for which is in the two above proposals. The target population is Snake River fall chinook. The overall project has clear and measurable biological objectives. The goal of current operations and proposals is to test whether release of acclimated yearling fish reduces straying problems and increases successful return of spawning fish to specific streams and reaches. Both yearling vs subyearling and acclimation (vs direct releases at Lyons Ferry) effects are of interest. Those two M&E proposals reported appropriate results indicating that M&E is underway. Results to date do not suggest a need for radical or short-term rethinking of operations. The program should continue efforts to disseminate results in the form of peer-reviewed publications. Overall Lower Snake program concerns remain, but data are being gathered to address questions of program success. Complete returns for all three acclimation facilities will occur in 2002, at which time results should be thoroughly examined and reported and evaluated.

CBFWA Project Review Comments:
Monitoring is performed through Project 199801003 and 199801004. This project is considered BASE by NMFS.

Project ID: 27016
Evaluate the effects of hyporheic discharge on egg pocket water temperature in Snake River fall chinook salmon spawning areas
Sponsor: Pacific Northwest National Laboratory
Subbasin: Snake Hells Canyon
Short Description: Evaluate the relationships among river discharge, hyporheic zone characteristics, and egg pocket water temperature in Snake River fall chinook salmon spawning areas; evaluate the potential for improving Snake River fall chinook salmon smolt survival
FY02 Request: $154,136
3 YR Estimate: $691,776
ISRP Final Recommendation: Fundable (High Priority)
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Fundable at High Priority
ISRP Final Review Comments:
Fundable. Responses to ISRP questions were reasonable. This is an innovative and high priority proposal. Summer flow augmentation to benefit downstream migrating fall chinook has been a contentious issue within the basin. The investigators hypothesize that extending the period of stable flows below the Hell's Canyon complex well into the egg incubation period could provide more favorable conditions for incubation and decrease the time required for the eggs to hatch. Earlier emergence would make it possible for juvenile fall chinook to migrate downstream sooner than they currently do and thus enter the Snake River reservoirs earlier in the summer, when water temperatures and stream flows are more beneficial for survival. This change in migration timing could reduce the need for summer flow augmentation. A clear and reasonable line of logic backs the proposal. The investigators are exceptionally well qualified to conduct this work.

Idaho Power is supportive, but apparently is unwilling to commit further at this point. This is understandable and should not preclude funding for the project.

Reviewers suggest that the project be funded for a finite term within the three-year funding duration and that project results be analyzed and presented in that time frame. The final report should include recommendations for flow management, and monitoring and evaluation of benefits.

CBFWA Project Review Comments:
The overall objective of this project is to evaluate the potential for improving juvenile Snake River fall chinook salmon survival by modifying the discharge operations of Hells Canyon Dam. The potential for improved survival would be gained by increasing the rate at which early life history events proceed (i.e., incubation and emergence), thereby allowing smolts to migrate through downstream reservoirs during early- to mid-summer when river conditions are more favorable for survival. This proposal is in response to an ISAB report in which they asked for alternatives that could be affecting migration timing. Reviewers expressed concern about the potential benefits from this project because realized benefits will be dependent on Idaho Power (would assist in the funding of this proposed work) agreement to adjust the flows. The reviewers acknowledge that the proposal is well written by a respected researcher; however, the proposal may be more suitable for consideration through the Innovative Project process.

Project ID: 27010
Snake River Hells Canyon Tributary Enhancements
Sponsor: Idaho Department of Fish and Game
Subbasin: Snake Hells Canyon
Short Description: Protect and enhance important aquatic and terrestrial habitats in Snake River tributaries in the Idaho portion of the Snake Hells Canyon subbasin.
FY02 Request: $101,000
3 YR Estimate: $2,048,000
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable; inadequate submittal. Little specific justification of the benefits the projects was provided for Snake River salmon restoration. Were these areas historically significant production areas? How much would the restoration efforts in these areas increase overall Snake River production? Details for accomplishing the objectives are insufficient for judging the soundness or potential benefits of the project.

CBFWA Project Review Comments:
This project addresses 400. Reviewers indicate that there are watershed assessments completed for some of the areas. Although an objective/strategy exists for FY02, there is a lack of specific details regarding implementation. In addition, the objectives are not clearly stated for the out-years. The reviewers note that the proposal was insufficient, but believe the concept is a recommended action.

Imnaha

Project ID: 199701501
Imnaha Smolt Survival and Smolt to Adult Return Rate Quantification
Sponsor: Nez Perce Tribe Department of Fisheries Resources Management
Subbasin: Imnaha
Short Description: Quantify juvenile emigrant abundance, determine smolt survival from the Imnaha River to Lower Granite and McNary dams, quantify smolt-to-adult return rate (SAR) of wild/natural chinook salmon at Lower Granite Dam and back to the Imnaha River
FY02 Request: $466,802
3 YR Estimate: $2,334,258
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response to ISRP questions was adequate. This project proposes to estimate survival and arrival times to Lower Snake River dams from near the mouth of the Imnaha. It includes year-round monitoring of fish, with associated construction of a permanent emigrant trap. The project includes a large increase in scope and budget (almost doubled). This is an excellent proposal with strong historical perspective, some data presentation, good

rationale explained in section 9c, and timely data management, reporting and availability (both published and integration with FPC).

The authors responded to each of the ISRP's questions but the ISRP has a few comments for future consideration. The ISRP continues to be uncertain about the likelihood of tagging 20,000 chinook smolts but the response identifies that the impact of not achieving this goal would likely be reduced precision. Further, the tagging goal was set based on a very low average SAR (0.15%) and may be inflated by that value. However, the ISRP agrees with the author's suggestion to solicit statistical advice on the number of smolts to tag in order to minimize impacts on the fish and to provide realistic program objectives. Secondly, the response provided values for trap efficiency but not methods. These methods must be more carefully described and data provided given the importance of this parameter to the program's methods. Given the time between provincial reviews, it would be advisable for the authors' to document these methods, summarize the data, and seek peer review of these methods.

CBFWA Project Review Comments:
This project addresses RPA 184, 185 and 189.

Project ID: 27021
Adult Steelhead Status Monitoring - Imnaha River Subbasin
Sponsor: Nez Perce Tribe
Subbasin: Imnaha
Short Description: Quantify adult steelhead abundance, population growth rate, spatial distribution, and genetic stock structure in all tributaries of the Imnaha River subbasin through the operation of adult spawner escapement monitoring facilities
FY02 Request: $1,055,449
3 YR Estimate: $2,564,551
ISRP Final Recommendation: Fundable (high priority)
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The authors provided adequate responses to each question and this work is of high priority. This is a good proposal, well justified, and provides good supporting background. The investigators propose to install weirs to quantify adult abundance of adult steelhead, obtain demographic data, and collect tissues to analyze genetic stock structure of steelhead in Imnaha River tributaries. The work is an important component of steelhead population monitoring.

However, we remain unconvinced about the sampling design, especially the weiring of all streams. Given the high temporal variability in anadromous fish populations, the argument that very intensive short-term monitoring can provide the best data seems questionable. A random sample of streams maybe a preferable design and would be less reliant on fixed weir structures. Even from the authors' response, we suggest that the critical parameter to estimate is the portion of radio-tags entering the streams that are to be enumerated. An unbiased estimate of P_d will provide an accurate estimate of the total aggregate escapement even if a small sample of the streams were enumerated. This is an innovative approach to

estimating steelhead spawning escapements, but we need to consider the most cost efficient means to conduct this annual program.

CBFWA Project Review Comments:
This project addresses RPA 179 and 180. This proposal addresses a need for improved adult escapement; however, the reviewers suggest the level of detail that is provided may exceed what is necessary for making critical management decisions and deterring population/recovery status. The reviewers suggest the work could be "scaled back" yet still provide adequate population data. Although the sponsors suggested the work will provide information where data gaps (especially as related to 174 and 184) exist, the reviewers suggested an urgent issue would not be addressed. The proposed work would provide more accuracy to the current approach and provide information for recovery efforts.

Grande Ronde

Project ID: 199608000
NE Oregon Wildlife Mitigation Project -- "Precious Lands"
Sponsor: Nez Perce Tribe
Subbasin: Grande Ronde
Short Description: Continue operation of the NE Oregon Wildlife Mitigation Project -- "Precious Lands" to protect, restore, and enhance canyon grassland habitats and associated riparian and forest communities to benefit fish and wildlife.
FY02 Request: $439,803
3 YR Estimate: $1,279,903
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable in part; inadequate response. The response lacked specific answers to many review questions and also provided some answers that fail to address the question asked. The project is fundable for one year only, to develop a management and M&E plan, which should be provided for independent scientific evaluation. Continued funding should be contingent on positive scientific review of those plans, which should clearly describe the work to be done for the rest of the funding period, complete with biological objectives, rationale, and methods.

This project should not receive long-term funding without a management plan that includes clear objectives and M&E. The response does not provide critical information for scientific review. Reviewers have previously noted that the project should provide a management plan that states targets, provides rationale for actions to meet these targets, and provides for evaluation of actions. This plan still has not been provided, the response clarifies that it is in only an early stage of development, and its absence generates many problems for evaluating the scientific soundness of the proposed management expenditures. The response clarifies why a management plan has been viewed as a low priority to date, but that does not solve the current problem of scientific evaluation of the proposal, which requires more substantial presentation of goals and methods of management and evaluation of outcomes. The project

has many strong points, but the management and evaluation plans should be subject to independent scientific review.

Further, the description of monitoring is sketchy. Management actions are still being confused with management objectives (e.g. question 2 response). Specific answers are lacking to questions about how long term management objectives will be developed, whether in fact fish objectives will be added to the plan, which cultural components will be monitored, whether monitoring will be made consistent with the NRCS National Resource Inventory. Responses rely on “to be developed”, “could be added”, “efforts will be made”, rather than providing specific answers to reviewer questions. The response continues to miss the point that long-term objectives are needed before monitoring takes place, so that progress toward achieving objectives can be monitored, rather than just monitoring activities.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring and the specific comments on Terrestrial Monitoring and Evaluation.

The response also leaves several budgetary matters unexplained. The response does not provide justification for a full time manager, just explains that it is the lead project biologist. The response regarding expenditures on the NPT offices does not address the indirect cost question explicitly. The question is whether these expenditures are a normal component of indirect costs or whether a separate line is justified. These are BPA contracting matters.

CBFWA Project Review Comments:
Proposal addresses RPA 150 and 153. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands. Expansion of this project has been submitted under Project Number 27023.

Project ID: 27023
Precious Lands Wildlife Habitat Expansion
Sponsor: Nez Perce Tribe
Subbasin: Grande Ronde
Short Description: Expand the operation of the NE Oregon Wildlife Mitigation Project -- "Precious Lands" to protect, restore, and enhance up to 16,500 acres of additional grassland, riparian and ponderosa pine habitat to benefit fish and wildlife.
FY02 Request: $3,373,974
3 YR Estimate: $10,151,474
ISRP Final Recommendation: Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The acquisition activities are well justified. A response is not needed. The procedures and priorities for land purchase are well justified, as is the choice of canyon grassland as target habitat to acquire. Longer-term funding for management should follow provision of reviewed and approved management plan that includes M&E.

This is the acquisition component of the wildlife proposal above. It is for funding to double the area for wildlife habitat. The target habitat is canyon grassland and the area targeted for acquisition encompasses all the quality canyon grassland habitat in the Blue Mt province. The process of prioritizing potential purchase parcels was not described in the proposal but was described in the presentation. It would consist of an identification of available parcels, an evaluation of habitat values (riparian, wetlands, 303d listed streams, number of listed species present, ponderosa pine communities and canyon grasslands preferred), ecological condition and restorability, consideration of the size of the parcel, and assessment of the relationship to other conservation areas, economic value. A third-party appraisal would be conducted. The Council's program includes a Land and Water Acquisition, how would this project fit in?

The project proposes over the long run to improve land use practices, restore degraded communities, protect and enhance habitat values, monitor and evaluate management practices, and provide habitat quality for wildlife. As with the proposal above, these longer-term management goals and actions are not yet well justified in terms of science, as concrete and detailed management plans and objectives are yet to be completed. According to the presentation, a management plan would specify the desired outcomes and include measurable objectives for species composition. How will these objectives be derived? Some economic uses of this land may be allowed, but no specifics were given. These should be included in the management plan and the management plan should itself be subject to outside scientific review.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Proposal addresses RPA 150 and 153. Reviewers believe the acquisition of parcels and the development of assessments will likely take at least one year and thus question whether implementation could be initiated during the first year. Although there are no cost-shares identified in the proposal, the sponsors indicate that they are working with TPL to develop cost-shares. Not all parcels that should/could be purchased have been identified. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands. This project is an expansion of Project Number 199608000. If funded, the additional objectives presented in this proposal would likely be brought under the existing project.

Project ID: 200002100
Securing Wildlife Mitigation Sites - Oregon, Ladd Marsh WMA Additions
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
Short Description: Protect and restore wetland and riparian habitats on parcels acquired and added to the Ladd Marsh Wildlife Area.
FY02 Request: $193,185
3 YR Estimate: $658,685
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Fundable for 1 year to develop a long-term management plan, after which the management plan should be submitted for review and subsequent funding should be contingent on that plan being found to be scientifically sound.

The proposed purchases are justified to extend the wetland, and the property is of high priority to migrating waterfowl. The project is clearly significant to regional programs, and well tied in with other projects. An extensive project history is provided that illustrates the collaboration among various entities to acquire contiguous lands and restore them as wetlands. This project is clearly tied to wildlife mitigation goals and to limiting water quality and quantity factors in the Grande Ronde Subbasin. The technical background of the proposal gives a good justification of the value of the restoring more of the historic wetlands, which once exceeded 20,000 acres as Tule Lake. Ladd Marsh has been identified as a priority restoration site by many different planning efforts.

However, the proposal and response still fail to address the previously noted scientific deficiency that the management plan, including the M&E component, needs to be better described. This project should not receive long-term funding without a management plan that includes clear objectives and M&E. The response addresses many review comments, and a good description of the general components of the M&E plan that will be developed is provided in the response. The response to the recommendation to make terrestrial monitoring efforts compatible with national surveys conveys openness to this approach and a willingness to develop it as part of the M&E plan.

To assist in establishing a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Although a large amount of wetland habitat has been lost in this area, the reviewers are unsure whether the proposed work is urgent. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands. ODFW will gain support from appropriate co-managers (Tribes and States) for proposed use of Lower Snake River dam wildlife losses to support Ladd Marsh Project prior to NWPPC funding decisions in January.

Project ID: 27020
Grande Ronde Subbasin Water Right Acquisition Program
Sponsor: Oregon Water Trust
Subbasin: Grande Ronde
Short Description: Acquire 3 cfs of existing Grande Ronde Subbasin water rights on a voluntary basis and transfer to instream water rights under Oregon state law; target acquisitions to maximize fulfillment of habitat objectives for instream flows.
FY02 Request: $62,620
3 YR Estimate: $205,322
ISRP Final Recommendation: Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response addresses the review comments with sufficient detail. Attention has also been paid to answering the intent of the comments. Descriptions of the methods used to value both temporary water leases and permanent water right acquisition are sufficient. The approach is reasonable. The response provides adequate detail on how impacts of water acquisition are monitored in partnership with ODFW and CTUIR. The response to questions about the ecological benefits of water acquisition provides a justification for the incremental approach and an explanation of how this approach is taken in conjunction with ecological planning and monitoring. Additional detail is provided on the crop enterprise budget used to value temporary water leases, monitoring approaches to in-stream flow, and monitoring strategies for measurable in-stream water rights. This level of explanatory detail should be included in future OWT proposals for acquisition of in-stream water rights.

CBFWA Project Review Comments:
This project addresses RPA 150. The sponsor suggests that 3 cfs would be secured through the work. The reviewers indicate that the 3 cfs is significant if it occurs in a small to moderate-sized stream; however, 3 cfs is not a critical limiting factor throughout most of the subbasin. NMFS needs to assess biological impact on fish (see ISRP responses).

Project ID: 198402500
Grande Ronde Basin Fish Habitat Enhancement Project
Sponsor: ODFW
Subbasin: Grande Ronde
Short Description: Protect and enhance 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.
FY02 Request: $456,416
3 YR Estimate: $1,438,850
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response is adequate. This proposal is to continue work on a 15 year-old project that includes 40 individual habitat enhancement projects. The technical background provided in the proposal is again excellent, providing good explanation of the problems and the choice of approaches to address those problems. The project has strong ties with other

projects. The project history is thorough and includes summaries of monitoring results.

In response to earlier ISRP comments, more detail on the monitoring data is provided and some evaluation of results is also presented, although the examples are limited by the data presented (i.e., max and min values). The ISRP was encouraged by the response and supports the effort to analyze existing data in this long-running project. As noted by the P.I., much more data have been collected than have been analyzed. The frustration of trying to balance landowner cooperation and implementation with the collection of monitoring data and evaluation of monitoring results is evident.

The P.I. proposes to do some internal reallocation of funds to support a contract for analysis of monitoring data. The ISRP recommends additional funding support for up to two years to hire a data analyst with strong quantitative skills dedicated fulltime to the analysis of the past 15 years' monitoring data. The analyst should produce a database on historical information and a report on the adequacy of the existing data. The results of this analysis should be clearly and comprehensively presented in the next proposal.

The evaluation need, however, is not limited to the analysis of the large amounts of data that are being collected and stockpiled. It also includes using the results of these analyses in an annual evaluation of progress toward meeting project goals. It is still not clear why summaries of progress are not routinely prepared using an index approach.

To assist in formulating a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Project may address RPA 153 and 400. The reviewers questioned the lack of data analysis. The sponsors indicated they have only had time/funding to collect, error check and store the majority of the data. Statements of Work and Budgets dating back to the early 1990's routinely included statements such as "These (M&E) tasks will be accomplished only if adequate time and funds are provided by BPA." Additional correspondence over the years with BPA contracting officers clearly indicated that monitoring and evaluation were a distant third in priority behind O&M and Implementation. The sponsors indicated that a more thorough, and preferably independent evaluation of the program is worthwhile; however, Oregon State law prevents the sponsors from making requests for new funds, or increasing existing program funds without legislative approval. As a result, the sponsors have proposed to reallocate personnel funds in the proposed 2002 budget by shifting funds that would normally be dedicated to administrative activities such as program supervision and clerical assistance to allow for the development of a contract to compile, review, analyze and publish the results of their habitat restoration efforts. The sponsors have initiated efforts to identify an individual to perform the analysis. Reviewers indicated that in FY2000 project sponsors agreed that any new work would go through the Grande Ronde Model Watershed Program rather than directly through BPA. There would be potential cost savings if implementation activities were processed through the GRMWP.

Project ID: 199202601
Implement the Grande Ronde Model Watershed Program Administration and Habitat Restoration Projects
Sponsor: Grande Ronde Model Watershed Program
Subbasin: Grande Ronde
Short Description: Continue the Grande Ronde Model Watershed Program Administration and Habitat Restoration. Develop and oversee coordinated, sustainable resource management in the Grande Ronde Subbasin. Plan, design and implement salmonid habitat restoration projects.
FY02 Request: $1,376,000
3 YR Estimate: $5,088,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response is adequate. Monitoring is built into the 20-30 individual projects funded under the GRMWP, in terms of documenting actions taken and qualitative change in habitat (through photopoints). The cumulative basinwide effect of projects is not monitored.

Several comments in the response indicate that basin-scale monitoring is difficult because of the relatively small proportion of the basin comprised by projects under the GRMWP, and that it is difficult to relate changes in species production directly to changes in habitat resulting from projects. Despite these comments, the GRMWP contracted a review of monitoring and are implementing some of its recommendations. A monitoring coordinator is being hired and a basin-wide monitoring plan is planned through the use of "indicator watersheds."

Methods are now provided for habitat restoration objectives. The project solicitation and review process is now described in adequate detail. Target funding areas are based on watershed and habitat assessments. Projects are targeted at specific areas and are also the result of opportunities that arise to work with landowners. Details on the project review process, review criteria, and the technical review committee are also provided. The process as described is appropriate for critical review.

In future, the level of detail provided in this response should be provided in the proposal. The ISRP looks forward to evaluative information from the basin-wide monitoring plan in the FY03 proposal.

CBFWA Project Review Comments:
In an attempt to show that the money spent on habitat work has led to a positive fish population response, monitoring of fish population status/response is performed through 199202604. This project addresses RPA 400.

1. Project ID: 199403900
Watershed Restoration Planner
Sponsor: Nez Perce Tribe
Subbasin: Grande Ronde
Short Description: Act as the liaison between the Nez Perce Tribe and Wallowa County. Help coordinate watershed restoration efforts in Wallowa County between the Tribe, County, Grande Ronde Model Watershed Program, local landowners, and state and federal agencies.
FY02 Request: $64,289
3 YR Estimate: $202,670
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The response is inadequate. This 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. In response to the request for more detail for scientific review, the responders return responsibility to the ISRP to provide suggestions about the information they should present. ISRP comments list several items of necessary information, including a plan for targeted improvements, strategies for prioritizing and implementing improvements, and some evaluative outcome assessment. The response provides justification as to why this position is not amenable to scientific review. However, the FWP seeks work that is scientifically sound and is subject to scientific review.

The response lists a number of documents that will be used to prioritize projects, but what is lacking is an integrated plan for the watershed coordinator. The need for such a plan, and the assistance provided to the watershed coordinator of having such a plan, are illustrated by the comments made about a watershed coordinator's time not being his own, and having to be available on request. Some way to prioritize these requests is needed, and a plan is one tool. The need for evaluative assessment is similar – with so many small individual activities in place, the coordinator should track whether overall, these activities are making a difference, or whether efforts are being fragmented to such a degree that the benefits are dissipated. The project proponent makes clear that he finds no need for monitoring or evaluation.

The explanation provided for why a hatchery objective is included in this proposal is that a person employed on 199403900 was an author of a habitat section of the NEOHP Spring Chinook Master Plan and will provide technical help to this plan. This objective is more appropriately placed in the NEOHP project, with budget amounts sufficient to pay for these services.

CBFWA Project Review Comments:
This project addresses RPA 152. Although M&E does not exist in this proposal, M&E activities are performed through individual projects. Reviewers suggest that this project could possibly be combined with 199202601.

2. Project ID: 199702500
Implement The Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan
Sponsor: Nez Perce Tribe
Subbasin: Grande Ronde
Short Description: Maintenance and/or restoration of salmon habitat through cooperative and voluntary methods is a stated goal in the Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan. Funding of this project will help to implement the Plan.
FY02 Request: $45,675
3 YR Estimate: $132,025
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The response is inadequate. The response is fairly uniformly negative to ISRP review comments. In response to the review comment that the proposal should provide information about the past year's allocation of funds and the level of cost share received in each project, the response indicates only that there is no place on the BPA form to provide the requested cost-share information. This information could logically be included in the narrative portion of the proposal that discusses the cost-share approach, in a summary table.

Preliminary review comments indicated that there are monitoring opportunities in small projects to provide useful information. The response is negative about providing any level of monitoring except for monitoring expected outcomes of each project. Additional monitoring is seen as an unnecessary expense.

Proponents indicated that in 2001 the project will put more emphasis on selected watersheds, provide up-front money for project development, to install stream gages, and to continue to find small projects that fall outside the normal funding cycle. Reviewers noted that although the project may provide effective funding leverage for small projects, the response should develop technical justification for the methods used, better describe how projects are prioritized and selected, and develop a better comprehensive evaluation procedure. This information is not provided.

CBFWA Project Review Comments:
This project addresses RPA 400. The NMFS expressed concern about the lack of biological monitoring activities to address fish population responses to habitat activities. Although there is a desire to have biological, fish related, monitoring variables to measure the impact of habitat improvements, it is very difficult to develop a statistical based sampling design that is able to accomplish that.

Project ID: 199608300
CTUIR Grande Ronde Subbasin Restoration
Sponsor: Confederated Tribes Umatilla Indian Reservation
Subbasin: Grande Ronde
Short Description: Protect, enhance, and restore riparian, floodplain, and instream habitat to benefit anadromous fish.
FY02 Request: $200,000
3 YR Estimate: $585,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. A response was not needed. This project to restore McCoy meadow and relocate the creek from a straight ditch into a former natural, meandering course began in 1996. Passive restoration is emphasized. The proposal is thorough, detailed, and clearly written. It contains excellent scientific/technical background and excellent project history.

The project area lies in the ceded territory of CTUIR. The CTUIR is a participant in the GRMWP. Besides channel relocation, activities include placing large woody debris, planting riparian vegetation, and replacing culverts (in at least one place with a bridge). Projects with landowners are trying to focus on key life history areas for fish such as over-wintering rearing habitat and spawning areas. Data on water temperature and fish populations are presented.

The descriptions of tasks and of methods used to achieve the objectives are a bit general and could have more information on how specifically the objectives will be met, and how success or failure to meet them will be assessed. A description of the type of monitoring and evaluation that is done, and of results to date is presented, but the relative progress toward achieving the biological objectives is not described.

Overall, this is a strong proposal with competent staff.

CBFWA Project Review Comments:
This project addresses RPA 150 and 400. In the past, M&E activities have focused on aquatic parameters. Sponsors indicated that they have coordinated with OSU to perform terrestrial M&E activities. Reviewers indicated that in FY2000 project sponsors agreed to that any new work would go through the Grande Ronde Model Watershed Program rather than directly through BPA. Potential cost savings if implementation activities are processed through the GRMWP.

Project ID: 27012
Restore and Enhance Grande Ronde Valley Deciduous Riparian Habitat
Sponsor: Oregon Department Fish and Wildlife
Subbasin: Grande Ronde
Short Description: Protect, restore and enhance deciduous riparian habitat adjacent to the Grande Ronde River and its tributaries in the Grande Ronde Valley
FY02 Request: $156,000
3 YR Estimate: $551,000
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not Fundable. A timely response was not provided and concerns with objectives and methods remain. This is a proposal to establish cooperative arrangements with Grande Ronde riparian owners to set up long-term easements for protection and enhancement of riparian habitat. Habitat emphasis is on birds and juvenile Chinook and steelhead.

The technical background is excellent, providing detail on context for this project, and putting the problem of riparian habitat protection in perspective. It discusses riparian mitigation priorities in the context of several subbasin planning and watershed assessment documents. The rationale for the project is embedded in this technical background section. The proposal provides a long list of projects to which it would be related.

Despite this good beginning, the proposal gets a little vague starting with the goals and objectives. The proposal lists general goals that the project will help achieve: are these taken directly from the Grande Ronde Subbasin summary or are these goals specific to this project? Below the list of goals, the proposal contains lists of actions to be taken under various categories: again, are these tasks for this project or actions listed in the Subbasin Summary?

Objectives and tasks are listed, but without any detail. There is no explanation of methods, e.g., as to how habitat will be restored once easements are signed, or what information will be acquired to provide the NEPA analysis. No explanation of methods for weed control, buffer management, bird surveys, stock assessment are given beyond “write the subcontract” to have the activity performed. With regard to M&E, the methods for Task 1a and for Objectives 2 and 3 are missing.

The idea of reconnecting old river oxbows is particularly laudable from the standpoint of regaining fish and wildlife habitat. However, arrangements with landowners for this could be very difficult, and the physical work could be complicated. What method(s) will be used to relocate the channel?

There appear to be good working relationships with landowners in the valley.

To assist in formulating a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
This project addresses RPAs 150 and 400. Reviewers questioned why the proposed work was not added to Project 198402500. By combining the proposed work with Project 198402500, a potential cost savings could be realized. The reviewers suggest that the proposal does not illustrate coordination with other entities and other on-going work. In addition, NMFS questions how the restoration efforts will affect the status of fish populations. The reviewers suggest the sponsors consider alternative funding options (e.g., OWEB and the Grand Ronde Model Watershed Program). The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands.

Project ID: 27013
Grande Ronde River Stream Restoration - La Grande, Oregon
Sponsor: Union County and Union Soil and Water Conservation District
Subbasin: Grande Ronde
Short Description: 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.
FY02 Request: $816,080
3 YR Estimate: $841,080
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not Fundable. The proposed project would artificially harden a river reach that the Corps of Engineers straightened in 1959 on the outskirts of the town of La Grande. The basic purpose is to forestall channel headcutting that threatens to undermine a bridge and irrigation ditch. The proposed measures to accommodate fish and wildlife aspects are secondary, are minimal compared with what could be done (perhaps at greater expense), and include little or no benefit to fish and wildlife beyond what will have to be done to comply with the ESA anyway, when work is done to protect the bridge. If the bridge and ditch are to be protected (the necessity of which the reviewers do not question), the project must, quite understandably, lock the channel into a “stable” shape, but this will prevent river processes forming and reforming fish habitat as would be natural, so the project cannot be construed as a net-benefit fish habitat measure. The proposal remains poorly substantiated with regard to fishery aspects. The requested $841,000 can be better spent on projects of more benefit to fish and wildlife. Overall, the responses fail to alleviate the review concern that the focus of the project is not fish benefits and that the cause of fish habitat problems, the channel straightening, would be perpetuated by this project.

The CBFWA comments in general complement the ISRP concerns and opinion. The ISRP reviewers note in particular the CBFW comments that the project “is not designed as a fish and wildlife project, would not remedy the problems of the cause” and that “The trajectory of the fish population would not benefit from the project.”

CBFWA Project Review Comments:
The proposed work will allow for the stabilization of a streambed that will subsequently prevent a bridge from collapsing. The reviewers expressed a concern that there was no

mention of arrangements with the landowners to allow for continued protection. The managers suggest the proposed work, which is not designed as a fish and wildlife project, would not remedy the problems of the cause. The trajectory of the fish population would not benefit from the project. This project addresses RPAs 400 and 500.

Project ID: 27008
Grande Ronde River Riparian Restoration
Sponsor: Department of the Interior, Bureau of Land Management, Vale District Office, Baker Field Office
Subbasin: Grande Ronde
Short Description: Enhance and restore riparian and native vegetation along the Wallowa and Grande Ronde Rivers to reduce sedimentation and improve riparian and instream habitat. Map of general project area is included under the narrative.
FY02 Request: $307,730
3 YR Estimate: $768,020
ISRP Final Recommendation: Fundable (Low Priority)
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (Low Priority)
ISRP Final Review Comments:
Fundable, but low priority. This proposal is to perform riparian restoration on land acquired by the BLM in 1993. The BLM wants to control noxious weeds, establish native species, fence riparian areas, and continue maintenance of existing exclosures on this land. Both the Grande Ronde and Wallowa Rivers are on the 303d list for various factors. However, the land being considered for restoration does not appear to be in need of immediate active remedial action so this work cannot be viewed as of high priority. The land has been secured protection from active degradation. Nothing in the proposal, response, or presentation convinced the ISRP that the land was in need of immediate active restoration. Further, the response states that M&E plans will be set up in FY 2002, so the work currently lacks the required M&E component. The response suggests that the proponents anticipate success of their methods so plan primarily to document that success. The response emphasizes that proactive attention to small degraded areas will produce larger benefits overall by preventing further degradation. However, it does not convince reviewers that riparian degradation will necessarily increase on land for which harmful practices have ceased.

Regarding the question of why this project is a BPA, rather than BLM, responsibility, the justification is offered that acquired land only augments existing land managed by BLM for some time. No detail on the proportions of these two types of land is given; however, the larger point remains that BLM is in the position of looking for soft money to perform restoration activities for riparian damage incurred under their management. Is the implication of this situation that there would be no assurance of continuity in BLM riparian restoration without continuing FWP funding?

To assist in formulating a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring and the specific comments on Terrestrial Monitoring and Evaluation.

CBFWA Project Review Comments:
Although an M&E plan was absent from the proposal, the sponsor indicated that efforts would be undertaken to develop such a plan following the completion of NEPA activities. Reviewers suggest the work, which will occur entirely on BLM property, would not provide benefits in the mainstem; however, significant results could be realized in Courtney Creek. Reviewers suggest that this work could be implemented/coordinated through Project 199202601. The NMFS indicated that they would like to see an attempt to evaluate the effectiveness of these activities relative to the abundance/status of fish populations. This project may address RPA 400.

Project ID: 27011
Lookingglass Creek land purchase for watershed protection (spawning and rearing habitat continuity and water quality at Lookingglass Hatchery).
Subbasin: Grande Ronde
Sponsor: Confederated Tribes of the Umatilla Indian Reservation
Short Description: Protect 2.5 miles of stream and riparian areas in Lookingglass Creek to improve water quality and provide continuity of spawning and rearing areas for spring chinook, summer steelhead, and bulltrout.
FY02 Request: $2,263,400
3 YR Estimate: $2,274,400
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The response was inadequate. A specific plan for future land uses was not presented and was judged to be a critical omission from the proposal and response.

This proposal is to purchase an identified parcel of land along Lookingglass Creek for the purpose of riparian protection. The relationship of this project to other projects comes primarily through the issue of water supply to the Lookingglass Hatchery. The Lookingglass Creek purchase is justified in terms of value to Lookingglass Hatchery, and it could very well lead to benefit to fish and wildlife. Further, the area to be acquired is in good condition and should require little if any active restoration. The response adds detail to the basic fish and wildlife value of the property, which apparently includes good quality and relatively limited habitats. The major weakness in the proposal remains the lack of a specific plan for use of the expensive property after purchase. The possibility of reselling after easements are in place is mentioned in the response. However, the response does not explain the restoration plans for fish above the hatchery and so does not justify the value of the property acquisition that is proposed. There are no solid plans for resolving the conflict the project proponents see between water supply to the hatchery and availability of the above-hatchery habitat they propose to acquire to fish. The methods remain very sketchy and are not adequate for review of scientific soundness. It is not adequate to simply state that EMAP or NRI sampling will be used. The specific sample areas, methods, and sampling frequency and intensity (i.e., how many samples of what type where and when) need to be specified. The biological objectives are vague and it is not clear how they would be addressed and evaluated. There is no management plan.

Responses are vague as to how the overall management goal – the "desired future condition" – will be determined, and how management alternatives to reach this goal will be identified.

CBFWA Project Review Comments:
This project is consistent with RPAs 150 and 400. This proposal will allow for the protection and enhancement of property that is contributing sediment to the system which is inhabited by bull trout, steelhead and chinook. Based on their experience with the land owner, the sponsors indicate that if the property is not purchased by a fish and wildlife manager the property will be available for purchase by others. The existing conditions have resulted in a 303d listing. The reviewers expressed concern because sponsors did not indicate intentions relative to habitat rehabilitation and that there has been a lack of coordination with local managers. The Wildlife Committee rated the project as having significant wildlife benefits using the criteria of permanence, size, connectivity to other habitat, and juxtaposition to public lands.

Project ID: 27005
Increase CREP Enrollment and Enhance Riparian Protections in the Grande Ronde and Imnaha basins
Sponsor: Oregon Watershed Enhancement Board
Subbasin: Grande Ronde and Imnaha
Short Description: This project will increase enrollment in the CREP program and improve the program to add permanent protection to the restored riparian areas.
FY02 Request: $170,880
3 YR Estimate: $521,720
ISRP Final Recommendation: Not Fundable
CBFWA Category: Do Not Fund
ISRP Comparison with CBFWA: Agree - Not Fundable
ISRP Final Review Comments:
Not fundable. A timely response was not provided to address the ISRP concerns. This proposal is brief and provides too little detail to evaluate the need, the relationship to the FWP, or the methods. The presentation was helpful in expanding on the basic idea and proposed actions, but a response must provide more detail. For example, the abstract is a single sentence. The rationale to the FWP is not well developed; the proposal describes some of the program environment but does not provide rationale for the proposed work. Three objectives are provided, with very short descriptions of methods under each. Under the 1st objective to "develop a permanent protection mechanism", it states that OWEB needs to develop an economic methodology for acquiring permanent easements, but does not say what that methodology would look like or how it would be developed. The proposal adds staff to 2 county SWCDs in order to increase enrollment through the provision of technical assistance. The PIs did not provide adequate detail on methods of implementation.

CBFWA Project Review Comments:
Proposed work would address RPA 153 if it involves CREP. Although the proposal presented a potentially good concept, the proposal was not developed well enough to assess the technical and management merits. The reviewers suggest the project needs to be implemented consistent with limiting factors and problem locations identified in subbasin summaries and eventually subbasin planning to ensure fisheries benefits to target species.

Project ID: 27004
Grande Ronde and Imnaha Stream Channel Complexity and Fish Passage Barrier Inventory, Prioritization and Remediation
Sponsor: Oregon Watershed Enhancement Board
Subbasin: Grande Ronde and Imnaha
Short Description: This project will complete an inventory of the channel simplification of the Grande Ronde and Imnaha stream channel and inventory each fish passage barrier in each basin. The data will be used to develop restoration priorities and early implementation.
FY02 Request: $191,580
3 YR Estimate: $753,540
ISRP Final Recommendation: Not Fundable
CBFWA Category: Do Not Fund
ISRP Comparison with CBFWA: Agree - Not Fundable
ISRP Final Review Comments:
Not fundable. A timely response was not provided to address the ISRP concerns. More detail on the prioritization methods and effort was needed.

This is a proposal to inventory stream channel simplification and fish passage barriers in each basin, and to prioritize restoration activities. The conceptual basis of the project is straightforward and logical.

The proposal provides very little technical background, although important primary literature is referenced. The rationale is similarly sparse in detail. The objectives are reasonable, but methods are lacking in detail. For example, what is the standard inventory method for fish passage barriers developed by OPSW? Only a reference to "see websites" is given in the proposal. Details on "other available data" were lacking.

The area in which the lack of detail about methods is most critical is in the development of a prioritization strategy. How will basin characteristics be analyzed? How will the significance of barriers to fish utilization of upstream habitat be evaluated? What are the criteria for prioritization? Additionally, detail on how the prioritization process will be coordinated with various interests should be given as well as a description of the M&E that will be done and the methods that will be used.

Overall, the proposal provides too little detail to evaluate the proposed work in terms of need, methods, or relationship to the FWP.

The prioritization process was described in the presentation. The focus will be on historical range, access to productive habitat, and significance of the barrier.

The project would put staff in SWCDs to inventory streams in coordination with USFS and other parties. Historical work will be contracted to the Oregon Natural Heritage Foundation using railroad surveys as the primary documents. This is a methodology similar to one used for coastal lowlands. Maps will be available through the State GIS site.

A joint publication with FWS is planned. Willamette historical mapping is available now through Oregon Natural Heritage Foundation on their website.

CBFWA Project Review Comments:
Although the proposal presented a potentially good concept, it was incomplete and as a result the reviewers could not evaluate the technical and management merits. The reviewers identified a need for coordination between this proposal and Proposal 27022 and suggested that a funding decision should be deferred until the subbasin planning process is complete. In addition, the reviewers indicate that an inventory of fish passage barriers is not warranted since barriers to fish passage have already been identified. The managers indicated that there has been a lack of coordination with the management agencies.

Project ID: 27018
Oregon Plan Blue Mountain Province Fish Screening/Fish Passage.
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
Short Description: Protect all species of fish by replacing 6 screening systems that do not meet the NMFS design criteria.
FY02 Request: $153,314
3 YR Estimate: $153,314
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. A response is needed if proponents wish to adopt the ISRP's suggestion that the proposal be expanded to address the additional screens and their related O&M that were discussed in the site review presentation. This proposal is for an excellent, practical project with good (4X) cost share from NMFS and OWEB. It proposes to build 6 rotary drum fish screens to replace temporary portable installations and in-place screens that do not meet current NMFS screening criteria. It represents ongoing work in the replacement of screens.

The technical background provides an adequate explanation of the need for screen replacement and work done to date. The project has significance to regional programs and has clear connection to other recovery projects in the Grande Ronde Subbasin. The objectives and task are appropriate to the work described. However, some of the project's objectives are expressed as activities ("ongoing construction and installation") rather than as intended outcomes, i.e., fish saved.

After the replacement of these 6 temporary fish screens, new fish screens will still be needed in the Subbasin. It would seem reasonable to increase the budget of this project to allow the fabrication shop to increase their production of screens to full capacity (15-20 per year), and to fund the personnel required for the maintenance of these screens. Why isn't the proposal asking for funding sufficient to upgrade passage at the diversions remaining after the initial 6 are completed? If these other diversions interact with listed steelhead and bull trout as the PI indicated, then they should also be addressed during this project cycle rather than waiting to submit another proposal three years from now.

Reviewers learned during the presentation that funding for the operation and maintenance of installed fish screens is limiting the full production of new screens. NMFS is currently funding ODFW to monitor the performance of these screens once installed and to maintain

them in good working order, but is no longer funding the construction of new screens. It is unlikely that the NMFS would fund the expanded maintenance requirements associated with the installation of additional screens.

The ISRP recommends that the proposal be expanded to budget for screening all necessary diversions and to support the FTEs needed for O&M.

CBFWA Project Review Comments:
This project addresses RPA 149. The NMFS identified a lack of biological monitoring.

Project ID: 27022
Wallowa County Culvert Inventory
Sponsor: Nez Perce Tribal Fisheries/Watershed Program
Subbasin: Grande Ronde
Short Description: Prioritize on county, state, federal, and private land, culverts that either need maintenance or replacement to meet resource needs.
FY02 Request: $170,603
3 YR Estimate: $548,619
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. A response to the ISRP is not necessary, but if funded ISRP concerns should be addressed in the contracting process. This is a proposal to identify and prioritize culverts that restrict fish passage or fragment habitat. In addition, some culverts carry a risk of increased sedimentation due to washing of road fill into streams. An inventory of tributary barriers is clearly important to regional programs.

Objectives and tasks are sparse in the proposal, although some attempt is made to describe the methods used. The estimates of numbers of culverts to be surveyed aren't consistent with numbers given for the field period or the time taken for each survey. The statement is made that it takes an average of 2 hours to survey a culvert, and that during one field season (June to October) two crews can survey 400 culverts working 40 hour weeks. At 2 hours per culvert, this is only a 10-week, rather than 16-week season. What accounts for the time difference? Is it training and data entry?

Under Objective 6 ("breakdown of project information and peer review"), what kind of peer review will be performed? The project should contain a better protocol for providing the inventory to fish managers and the public. It should develop an information transfer activity that is more proactive than doing presentations "upon request".

CBFWA Project Review Comments:
This effort may be best addressed during the subbasin assessment effort. The proponent should verify with ODFW and ODOT whether 1998 inventories are available for Wallow County. Any cost savings achieved by using existing inventories should be applied to implementing corrective actions. This project addresses RPA 154.

Project ID: 199202604
Investigate Life History of Spring Chinook Salmon and Summer Steelhead in the Grande Ronde River Basin and Monitor Salmonid Populations and Habitat
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
Short Description: Investigate the abundance, migration patterns, survival, and life history strategies of spring chinook salmon and summer steelhead from distinct populations and implement fish population and habitat monitoring in the Grande Ronde and Imnaha River basins.
FY02 Request: $1,412,651 (CBFWA Recommendation: $1,382,766)
3 YR Estimate: $4,393,253 (CBFWA Recommendation: $4,248,421)
ISRP Final Recommendation: Fundable in Part
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Fundable in Part
ISRP Final Review Comments:
Early Life History Studies – Ongoing Project
Fundable in part, except for objective 12 - EMAP, which is an important approach, but the methods are not adequately described in the response to justify funding.

This proposal provides a comprehensive evaluation of spring chinook salmon and summer steelhead life-history variation. The proposal interacts with essentially all other NEOH proposals and is well integrated with the co-managers. Previous research has provided useful information on early life history diversity, egg-smolt survival, and smolt survival to LGR. The investigators propose to expand the project to include studies of the early life history of steelhead and an assessment of winter habitat for chinook. These additions are reasonable and in line with the BiOp and the F&W Program.

The proposal has been modified to reflect recent changes in the direction of salmon restoration within the Columbia Basin as indicated in the BiOP, the Basinwide Recovery Strategy (the All H paper), and the F&W program. These changes in direction include a greater emphasis on protection and restoration of tributary habitat. The authors addressed the ISRP's comments on the need to relate habitat conditions to life histories by proposing extensive habitat surveys within the Minam, Lostine, Grande Ronde, and Catherine Creek basins. They will attempt to relate egg-smolt survival estimates to habitat conditions. The authors also propose to develop a study plan for assessing limiting factors. This is an appropriate response to the limiting factors question because careful thought and planning will be required to address this difficult issue.

The ISRP notes that Objective 12 (EMAP) is a "new" objective in an on-going proposal. The response justifies why this incremental program should be supported but it requires a substantial increase in funds. The methods and data do not have appropriate level of documentation in the proposal. The study design, parameters that will be measured, sampling methods, sampling frequency, and data analysis were not adequately described. The cost of this new activity is very large (half a millions dollars annually). The ISRP notes that the development of EMAP sampling is likely to be a frequent new activity. Costs associated with implementing this sampling procedure should be carefully assessed for efficient implementation. How results of the work will be integrated with a basin-scale monitoring program should also be discussed. Implementing a detailed new program in one

specific area may have limited over-all benefit, unless the local issues justify this level of investment. The John Day may be a good location to test the use of EMAP for the F&W Program.

To assist in formulating a sound basinwide monitoring program, the proponents are referred to the programmatic section of this report on Monitoring, the specific comments on Aquatic Monitoring and Evaluation, and the specific comments on Terrestrial Monitoring and Evaluation.

Project ID: 27026
Wallowa Lake Project - New Proposal
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
FY02 Request: (CBFWA Recommendation: $132,444)
3 YR Estimate: (CBFWA Recommendation: $265,511)
ISRP Final Recommendation: Not Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The response, a newly submitted proposal, was inadequate. The research is necessary to establish a management plan for kokanee in Wallowa Lake and to provide essential background assessments for consideration of sockeye re-introduction. While the research has the potential to be useful and interesting, the proposal lacks necessary detail in several key areas. If this proposal was submitted for the preliminary review it would warrant response.

The bioenergetics model will be a key decision tool for assessing predatory and competitive impacts. There needs to be a more comprehensive treatment of the modeling approach and how it will be verified and used. The authors should also consider use of alternative ecosystem models such as Ecopath. Since studies of these interactions have been conducted in several Pacific Northwest lake ecosystems, the ISRP suggests the authors solicit advice on critical information needs before implementing the sampling program, and before selecting the assessment model. Potentially, a focused workshop with experienced researchers would be the most effective planning process.

Assessment of the potential for reintroduction of sockeye to Wallowa Lake is used to justify the research. The authors do not acknowledge or discuss difficulties with sockeye reintroductions in other areas of the northern Pacific. Without the re-introduction component, the proposal becomes a study of interactions between introduced species and it is unclear how the work would extend what is already known about interaction among kokanee, lake trout, and *Mysis*. Scientifically, the authors do not identify any new hypotheses about this interaction that will be tested. In a management context, these studies are likely necessary for this specific environment in order to establish an appropriate response. Further, the timing of this proposal is important given current planning to replace or rehabilitate the Wallowa Lake dam.

There are a number of that should have been considered in this new proposal:

a) The spawning abundance and reproductive potential of the kokanee and lake trout will be important to assessment modeling, how will quantitative estimates of these populations be determined?
b) Creel surveys are included in the proposal but the funding seems limited given the months involved in these surveys, are these funds incremental to a core program?
c) Bioenergetics models imply information on growth and survival by species, how will these parameters be estimated by species? Aging errors will be involved in these studies but how will it be assessed?
d) What other species may be involved in the lake ecosystem? Bull trout are referred to in the proposal but the assessment process for this species, and others, are not commented on.
e) Sampling via gillnets may not be adequate for species composition; other sockeye/kokanee studies use a closing-trawl net to selectively sample at depth. Have these sampling tools been examined?
f) Hydroacoustic surveys need to be conducted in a repeatable manner, who will conduct these and how will abundances be extrapolated to the lake area?
g) The text makes very limited comment on physical parameters including chlorophyll, how will primary productivity be determined and biomass incorporated?
h) What control measures for lake trout have been used elsewhere, and are there associated data needs that should be included in these initial studies.

CBFWA Project Review Comments:
This ongoing project addresses RPA 180 and 184. A significant new addition to this project involves EMAPing tasks under Objective 12. This new objective should be implemented as part of a comprehensive regional monitoring plan. Discussion of this monitoring plan is ongoing and coordination continuing with co-managers on the development of protocols for biological and habitat monitoring. The Wallowa Lake component has been resubmitted as a stand-alone project.

Project ID: 27024
Life history strategies in Oncorhynchus mykiss: interactions between anadromous and resident forms.
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
Short Description: To aid in conservation efforts for O. mykiss and alternative approaches within hatchery programs, evaluate the relationship between anadromous and resident forms.
FY02 Request: $237,474
3 YR Estimate: $684,182
ISRP Final Recommendation: Not Fundable
CBFWA Category: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Review Comments:
Not fundable. The proposal and response lack sufficient technical detail in the experimental design and genetic analysis that the ISRP believes to be essential to these investigations. The response provided good background material and results but not methods that are essential to the genetic analyses. Nevertheless, the reviewers were intrigued by the proposal and suggest that the proposal and response together comprise a good start on a potentially worthwhile project.

CBFWA Project Review Comments:
This project addresses RPA 184. This proposal evaluates the potential for using local stocks of resident rainbow trout to supplement steelhead broodstock at NE Oregon Hatcheries. The RFC suggests the study design, methods, and data analysis for each objective in the proposed project need to be strengthened.

For Objective 1, more detail is needed to describe the study design, methods and data analyses. For example: What conditions will mimic a steelhead smolt program? What times and locations will the author sample? What morphological and physical characteristics will be measured to assess smolt development? What kind of data analysis will be conducted (e.g. ANOVA, MANOVA, Chi-square goodness of fit)? Perhaps citations may be needed to demonstrate the strategies and techniques involved. The objectives are clearly defined, but there is little reference to how the tasks will be measured.

Objective 2 focuses on examining the relative proportions of known-origin anadromous and resident O. mykiss and unknown-origin juveniles that are produced by anadromous and resident forms. The RFC applauds the use of otolith microchemistry analyses to identify life history strategies and determine maternal origin and encourages the sponsor to summarize the microchemistry pilot work to strengthen the argument that otolith microchemistry would be a useful tool to address the objective. Again, the author should better define the study design, methods and data analysis in the tasks to strengthen the proposed objective. The approach is conceptually an excellent idea; however, more detail is needed to demonstrate the best use of the techniques and principles to address the objective.

Northeast Oregon Hatchery Program

Hatchery production in the Blue Mountain Province involves the Lower Snake River Compensation Program and a program referred to as the Northeast Oregon Hatchery program (NEOH). The latter program developed in the late 1980s since salmon returns to local rivers continued to decline even following development of the LSRCP. Several proposals reviewed by the ISRP address programs in the NEOH program and specifically the production of spring chinook to supplement natural production in the Grande Ronde River. To clarify the inter-relation of these proposals a brief history of the NEOH has been extracted from project proposal #198805031 and a diagram prepared to summarize the proposals involved (Figure 1). Currently there are no hatchery releases in the Asotin watershed of the Blue Mountain province. LSRCP activities deal with fall chinook in the Snake River, and steelhead in the Imnaha and Grande Ronde rivers, and contributed to rearing and monitoring components of the Grande Ronde programs.

Section 9e, NEOH Master Plan (prepared by B. Ashe, NPT)

"The initial measure for establishing the Northeast Oregon Hatchery (NEOH) was adopted in the Northwest Power Planning Council's 1987 Columbia River Basin Fish and Wildlife Program. First steps in this process began in 1988 when the NPPC authorized the Nez Perce Tribe (NPT), the Bonneville Power Administration (Bonneville) and the Oregon Department of Fish and Wildlife (ODFW) to submit a master plan for review. At that time, the request to those agencies was a master plan that addressed not only salmon (spring chinook) and steelhead, but also coho, sockeye, and fall chinook ("*that the facility need not necessarily be limited to spring chinook, as originally proposed, if other stocks would benefit from hatchery supplementation*").

Under the 1994 Fish and Wildlife Program, this project is related to Measure 7.4L1, which directs the Bonneville to:

> Fund planning, design, construction, operation, maintenance and evaluation of artificial production facilities to raise chinook salmon and steelhead for enhancement in the Hood, Walla Walla, Grande Ronde and Imnaha rivers and elsewhere.

As can be seen in the program language quoted above, the Northeast Oregon Hatchery Project was an initial planning effort by the fishery co-managers to restore anadromous fish runs throughout Northeast Oregon. Restoring spring chinook in the Grande Ronde Subbasin was a discreet segment of that larger initiative. In March 1996, this Grande Ronde spring chinook portion of the NEOH initiative was given special status -- it was approved by the Council as one of the 15 high-priority supplementation projects.

Unfortunately, even with Council's high-priority status, co-managers could not agree on an appropriate production strategy for Grande Ronde spring chinook, given issues including ESA requirements, Oregon's Wild Fish Policy, Lower Snake River Compensation Plan requirements, Treaty and trust responsibility requirements, and other considerations. Co-manager disagreements were resolved through the United States v. Oregon dispute resolution, the co-managers agreed to ask an ad-hoc independent scientific panel to review

their respective proposed production strategies in the Grande Ronde basin, and provide a determination on what would be appropriate. The panel offered several options and recommendations, one of which was that an endemic broodstock should be developed for supplementation uses in the Grande Ronde Subbasin.

The co-managers proposed two strategies to implement an endemic broodstock approach for Grande Ronde spring chinook: captive broodstock and conventional broodstock. In 1994, the co-managers agreed on the strategy for implementation of the captive broodstock component and initiated an emergency program. This captive broodstock component became the Grande Ronde Captive Broodstock project and the Council approved emergency funding in the fall of 1997 for this effort. This captive brood component consisted of an expansion at Bonneville Hatchery and improvements to Lookingglass Hatchery.

As the Grande Ronde captive brood project evolved, other projects under NEOH evolved with it and were modified to encompass the development of the conventional broodstock component of the overall endemic broodstock approach for Grande Ronde River, which was initiated in 1997. The need for the endemic component became the Grande Ronde Basin Endemic Spring Chinook Supplementation project *(GRESCP)* and was approved by Council on June 10 1998. The approved action recommended funding for the construction of adult collection weirs and juvenile acclimation facilities at three sites — Catherine Creek, Upper Grande Ronde River and Lostine River.

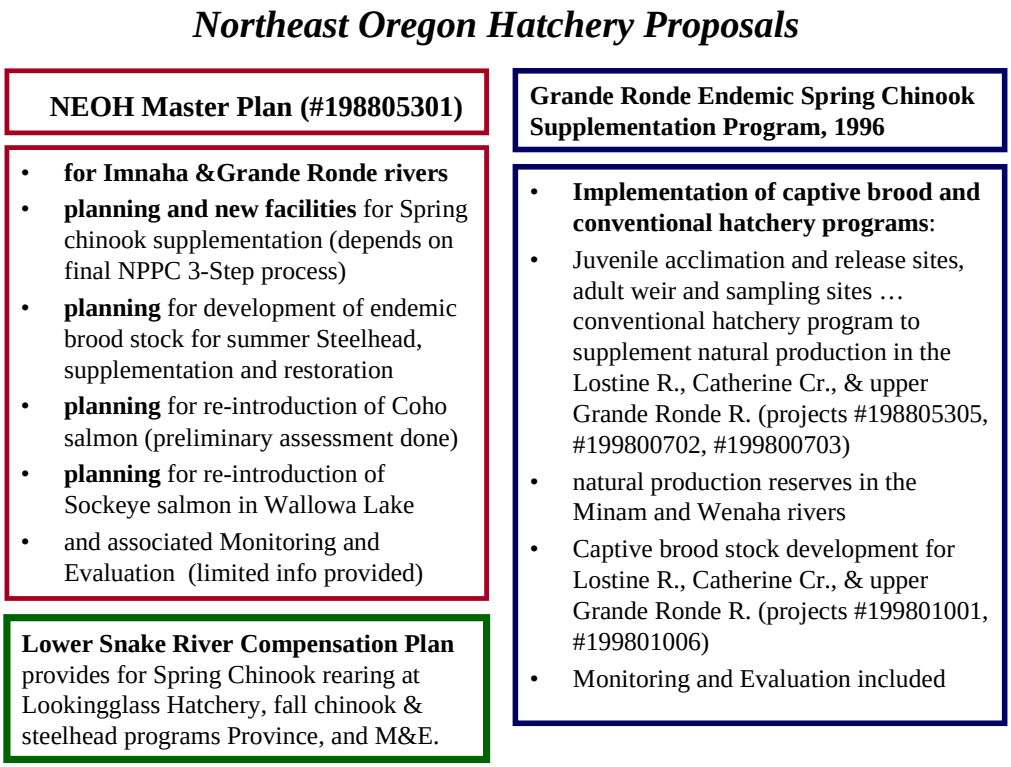
In 1998, the master planning development refocused on how to more realistically phase in rebuilding goals given limited regional funding and broodstock limitations related to low numbers of available returning fish. The original concept for the NEOH Master Plans called for "new" production that would be additional to the LSRCP production currently occurring at Lookingglass Hatchery. However, with the continuing decline of salmon runs and the subsequent overload this caused on Lookingglass (i.e. with the additional burdens placed on the facility), as a tool to forestall extinction of Northeast Oregon chinook, the NPT concentrated their planning efforts on alleviating stress at the facility and restructuring where existing production would occur. The goal was not new production, but address the current levels of production (i.e. currently permitted program) under LSRCP using new and improved techniques.

As a result, the Grande Ronde and Imnaha Spring Chinook Master Plan (Ashe et al. 2000) was developed with this new focus and submitted to the NPPC in April, 2000. Upon approval of the Spring Chinook Master Plan the NPPC also authorized the NPT to reinitiate the original planning scope of the project by completing a master plan for Grande Ronde coho salmon and Grande Ronde and Imnaha steelhead."

This text provides an excellent background for the tasks included in the current NEOH proposal (NEOH Master Plan, proposal #198805301) and introduces the programs included in the GRESCP. While the NEOH proposals is described as the "planning" component of supplementation and restoration programs, the GRESCP are spring chinook programs "implemented" due to their extremely depressed returns in the mid-1990s. Future progress for tasks included in the Master Plan require review through the NPPC's 3-Step process. Many of the costs must be considered "place holders" assuming successful completion of

these planning and review tasks. Five other proposals constitute the supplementation activities for spring chinook in the Grande Ronde River (Fig 1).

Figure 1. Inter-relation of the NEOH and GRESCP proposals reviewed in the Blue Mountain Province, September 2001. Color-coded boxes denote related proposals and activities.



A notable component of the GRESCP is the natural production reserves maintained in the Minam and Wenaha rivers. Spring chinook production in these rivers has not been supplemented with hatchery production but have received strays from past programs. These systems may serve as "controls" for comparison with trends in the supplemented streams in the Grande Ronde system but limited data was presented on returns in the Minam or Wenaha rivers. Monitoring of spawning escapements to these systems is included in a LSRCP project (#200109, LSRCP-Oregon Evaluation Studies; see ISRP 2001-12B) but is not included in the GRESCP activities listed above.

The artificial production programs in the Province involve four co-management agencies: Oregon Department of Fish and Wildlife, the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, and U.S. Fish and Wildlife Service (the latter as managers of the LSRCP). Significant resources are apparently required to achieve the cooperation and coordination to conduct these programs. However, based on the ISRP tour and their proposals, these co-managers seem to have been successful in achieving this.

Review of Specific Proposals

1. Project ID: 198805301
Northeast Oregon Hatchery Master Plan
Sponsor: Nez Perce Tribe
Subbasin: Grande Ronde
Short Description: Plan and develop conservation production facilities in the Imnaha and Grande Ronde rivers necessary to implement salmon recovery programs for native, ESA listed, spring chinook and steelhead, and reintroduction of coho and sockeye salmon.
FY02 Request: $2,714,740
3 YR Estimate: $24,232,740
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response addressed ISRP concerns but was somewhat dismissive of ISRP review comments. For example, regarding the concern for potential competition between coho and steelhead, the response misses the point. The question is one of the competition effects of reintroduction when one stock is depressed. Other differences reflect perspectives on what activities have already been endorsed by the Council. These differences however are not scientific issues and any concerns for technical issues can be addressed during the 3-Step Planning process. See the ISRP review of the NEOH Step 2 submittals that is part three of the three reports submitted December 21, 2001 (ISRP 2001-12C) for more detailed comments on technical issues pertaining to this project.
ISRP Preliminary Review Comments: (included for reference)
Response required. As described NEOH section above, this proposal is a continuation of past planning and design efforts to develop conservation production facilities in the Imnaha and Grande Ronde rivers necessary to implement salmon recovery programs for native, ESA listed, spring chinook and steelhead, and reintroduction of coho and sockeye salmon. The tasks by species are each at different levels of preparedness with the spring chinook plans significantly in advance of the other species (NPPC Step-2 proposal submitted). The proposal contains some very good background information and description of relations to Regional Programs and other projects. Unfortunately, the more technical sections concerning objectives and methods are weaker, and monitoring and evaluation tasks similarly undefined or described (even though a large budget was identified). The ISRP identified similar concern for the objectives in their last review. We recognize though that for spring chinook these concerns for objectives and methods were addressed in the Step-One NEOH Master Plan (Ashe et al. 2000) and accepted following the ISRP review (ISRP 20000-6). ISRP questions concerning monitoring and evaluation have been addressed in the Step-2 Submittal to the NPPC (August 2001) but have not be fully reviewed at this time. We plan to complete our preliminary review in late October. Following our Provincial review though, the ISRP requests response to some general issues for consideration:

1) This proposal addresses four species for eventual restoration either through supplementation (spring chinook and steelhead through development of endemic brood stocks) or re-introduction of extirpated species (coho and sockeye salmon). NPPC authorized development of master plans for coho (November 2001) and steelhead

(October 2002). For coho salmon, a feasibility analysis (Cramer and Witty 1998) concluded that "the prospect for successful introduction was good, however, annual supplementation would likely be necessary to sustain the adult return goals, due to limiting factors out of the subbasin". The ISRP does not wish to comment on the desire of local agencies for these resources but an "implied" priority that concerns us. Do the co-managers intend to proceed with coho before or simultaneously with the steelhead programs? If so, we note that the listing of steelhead requires a higher priority on this species and, biologically we note a concern for potential competition between these species … particularly when production of natural steelhead is depressed. Coho salmon are extremely opportunistic in their habitat use and may generate an additional impact on steelhead that has not been acknowledged. The co-managers should comment on the timing of these events and/or their understanding of these potential interactions. Our recommendation would be to defer coho re-introduction until steelhead is well established and natural populations more secure. Further, the re-introduction of sockeye salmon to Wallowa Lake should be deferred until studies of the lake ecosystem demonstrate an understanding of why kokanee production is declining. Re-introduction of sockeye will be very unlikely to succeed if the inter-specific competition in the lake is not favorable to kokanee. At this time, resources should be directed to studying this ecosystem instead of planning enhancement facilities.

2) As in the past review, the committee continues to be concerned about the emphasis on hatchery-oriented production to support recovery without some balanced approach to correcting the root problems. Two concerns should be addressed, these include the expectation of harvest on these recovering stocks and the absence of a habitat restoration plan incorporated into the master plan. As expressed previously, are we "treating the symptoms, not solutions"? The implementation of harvest must be conducted carefully to avoid the obvious conflict with allowing these listed species to spawn and recovery … the co-managers should establish precautionary guidelines for when harvest is allowed and at what rates. The habitat issues are large, but must be addressed before our investments in facilities are likely to show sustained benefits for natural production. Many habitat projects were reviewed by the committee, but within the master plan, do the co-managers have a plan to monitor the overall watershed "health" or productivity of the stocks? The sum of the individual habitat projects should be evaluated to assess success and ensure harvest rates are compatible with stock productivities in their current environments.

3) Past ISRP reviews were critical of this proposal for "failing to clearly develop a rationale for their goals and objectives (many of the latter were in fact simply tasks, not biological objectives) which were very broad and general. Most remain vaguely presented and justified. Because alternatives to development of proposed facilities will be addressed in the master plan document, it is impossible to evaluate the scientific merit of the various alternatives until the document is available for review. The Fish and Wildlife Plan does not constitute scientific justification for planning and development for coho and sockeye salmon reintroduction and steelhead supplementation." In the current proposal, objectives 5 and 6 (Section 9f) are not included in the budget summary, and four of the objectives involve monitoring and evaluation but without any clarification of tasks, methods, or intended uses. This panel continues to share the concerns expressed

previously. We recognize that this likely results from the scope of activities included in one proposal but given our task of evaluating the scientific basis of the proposals … this format of presentation is unlikely to receive positive reviews without addressing the concerns expressed. Can the co-managers address these concerns or is an alternative format of necessary? For example, four proposals with the necessary detail maybe required for technical review.

4) While the spawning escapement monitoring in the Minam and Wenaha rivers are not included as an activity in this NEOH Master Plan, the comparability of monitoring programs in these treated streams and those control streams is of concern. For a valid comparison between systems, similar evaluation programs should be conducted in each system. At present, our understanding of the surveys in the Minam and Wenaha rivers is that visual index surveys are conducted; whereas in the Lostine, Catherine, and Grande Ronde rivers more quantitative surveys are now conducted (weirs and mark-recapture). The co-managers should comment on the comparability of these surveys and/or how they could evaluate this concern.

At present, this review panel is unable to support the proposal, and its large budget, due to its uncertain scientific basis. Based on the need for a "sound scientific basis" to the proposals, the committee can not adequately review these proposals due to a lack of biological or quantitative goals, measurable objectives, and methodology. Our experience with the Step-1 process for spring chinook indicated that these can be developed but they are not present in this submission. Our suggestion would be to defer final comment until the Step processes begin but the issue of allowing for substantial budgets (without a strong basis presented) would have to be addressed by the Council.

CBFWA Project Review Comments:
The sponsors indicated that the M&E plan is still in development (will be completed in the third step of the Three-Step process). This project is considered BASE by NMFS.

The objectives describe in the 2002 proposal are for planning, not specifically for HGMP. If the Step process recommends proceeding to the next step the funds to develop HGMP or Master Plans further (which involve much of the same information) would proceed. This differs from the ongoing LSRCP tasks or responsibilities, which deal with existing production programs and NEOH deals with modified or expanded steelhead production that would require a new/different HGMP.

2. Project ID: 198805305
Northeast Oregon Hatcheries Planning (ODFW)
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
FY02 Request: $79,376
3 YR Estimate: $248,187
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable

and

3. Project ID: 199800704
Northeast Oregon Hatcheries Implementation (ODFW)
FY02 Request: $206,048
3 YR Estimate: $633,197
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
Short Description: Work with co-managers to implement the Grande Ronde Endemic Spring Chinook Supplementation Program (GRESCSP).
ISRP Final Review Comments:
Fundable, response was adequate. These proposals provide for ODFW to work with co-managers to implement the Grande Ronde Endemic Spring Chinook Supplementation program. The activities are largely related to operating and maintenance expenses for program coordination, the safe transport of juveniles and brood adults from field sites to the Lookingglass Hatchery, and assistance to the Fish Health Pathologist (USFWS). Minimal funds are requested for M&E but the activities seem more involved than would be provided by the limited M&E budget ($20,973 in FY02). A very strong cost sharing budget is included in this proposal: $3 million per year from the LSRCP for Lookingglass and Irrigon hatcheries, M&E and fish health inspections, plus $70,000 for the ODFW District Biologist. The activities are well integrated with the associated proposals (#199800702 and #199800703) and captive brood program. A response was received, concerning the activities to be included in M&E (Objective 4, section 9f). As noted in project #198805301, final monitoring plans will be developed as the Step 2 process proceeds.

CBFWA Project Review Comments:
M&E plan still in development (will be completed in the third step of the Three-Step process). This project is considered BASE by NMFS.

4. Project ID: 199800702
Grande Ronde Supplementation: Lostine River O&M and M&E
Sponsor: Nez Perce Tribe
Subbasin: Grande Ronde
Short Description: Operate adult trapping and juvenile acclimation facilities and conduct monitoring and evaluation in the Lostine River to implement the Lostine component of the Grande Ronde Basin Endemic Spring Chinook Supplementation Program (GRESP).
FY02 Request: $609,302
3 YR Estimate: $1,902,671
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. This NPT proposal coupled with the matching CTUIR proposal (#199800703) provides the core activities for the GRESCP. The Nez Perce Tribe is responsible for implementation, coordination, and facilitation of the Lostine River component of the GRESCP. Tasks included in the proposal include projection co-ordination with the co-managers (ODFW, CTUIR, USFWS), operation and maintenance of the Lostine River acclimation site, operation and maintenance of the adult weir and trapping site, extensive M&E programs, and reporting. The proposal is well written providing good background and relationships to other projects, annual summaries of work since 1997 including past costs, and detailed goals and objectives. Minor comments on the report include that adult population sizes for 1999 and 2000 return years were not included in the result section (section 9e), and that more detailed information on the mark-recapture estimates of population sizes in the river should be provided (Objective 6, sampling surveys, etc.). While the work seems well organized, reference to published reports or records of this work would have strengthened the technical presentation. For future proposals, the authors should report results of the genetic sampling and analyses. The proposal notes this task and contract for analyses but does not provide any insight into results to-date.

The proposal seems to have responded to many of the comments in the past ISRP review. For example, while the objectives continue to simply state tasks that might address biological goals, the goals of the program are stated in the beginning of section 9f. One continued limitation is the limited collection of habitat data (temperature and discharge information) at trap sites. During the tour, concerns were expressed about habitat quality in the lower Lostine River, but the proposal does not include any consideration of this as a limiting factor in smolt survival, etc.

Overall, the ISRP acknowledge a well-prepared proposal with a strong M&E component. We look forward to reviewing results and publication of this work.

CBFWA Project Review Comments:
M&E is performed through LSRCP. This project is considered BASE by NMFS.

5. Project ID: 199800703
Facility O&M and Program M&E for Grande Ronde Spring Chinook Salmon and Summer Steelhead
Sponsor: Confederated Tribes of the Umatilla Indian Reservation
Subbasin: Grande Ronde
Short Description: Develop, implement, and evaluate integrated conventional and captive brood hatchery projects to prevent extinction and stabilize populations of threatened spring chinook salmon and summer steelhead populations in the Grande Ronde River.
FY02 Request: $702,010 (CBFWA Recommendation: $683,398)
3 YR Estimate: $2,405,288 (CBFWA Recommendation: $2,374,249)
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable, adequate response and, as requested, the proposal has been substantially improved through reorganization and the provision of greater detail. This CTUIR proposal coupled with the matching NPT proposal (#199800702) provides the core activities for the GRESCP. The CTUIR is responsible for implementation, coordination, and facilitation of the Catherine Creek and upper Grande Ronde component of the GRESCP, plus this proposal involves some steelhead activities. Tasks included in the proposal include projection coordination with the co-managers (ODFW, NPT, USFWS), operation and maintenance of the two acclimation sites, operation and maintenance of the adult weir and trapping sites, extensive M&E programs, and reporting. In general the historical information and relations between projects are well described and informative. This proposal initially lacked the detailed information and tasks that were presented in proposal #199800702, but the revisions adequately addressed this concern.

CBFWA Project Review Comments:
This project is considered BASE by NMFS.

6. Project ID: 199801001
Grande Ronde Basin Spring Chinook Captive Broodstock Program
Sponsor: Oregon Department of Fish and Wildlife
Subbasin: Grande Ronde
Short Description: Rapidly increase numbers of chinook salmon in the Grande Ronde Basin while protecting genetic diversity, and develop and evaluate methodologies for captive broodstock programs.
FY02 Request: $739,096
3 YR Estimate: $2,329,994
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. This is a well-written proposal that focuses on research and evaluation of alternative approaches to supplementation through captive broodstock. The proposal presents a thorough technical background that puts the project in context, articulates conditions project success, and lists the operating assumptions behind the experimental captive broodstock program. The rationale and significance to regional programs is detailed

and clear. The project is well integrated with numerous other efforts in the Grande Ronde Subbasin. The project history section includes results to date, with interpretation of those results and publications produced.

The proposal would be structurally improved if the tasks were associated with specific objectives, rather than presenting a list of 8 objectives with tasks listed under "operation and maintenance" and "monitoring and evaluation." The presentation of methods is thorough.

Some minor comments for consideration are:

1) DNA samples are being collected but not processed apparently due to an uncertainty concerning what will be derived from this work. Information could be gained at several levels of detail. Samples of the juveniles collected for grow-out to brood stock could be examined to test whether many sibs were collected in the randomized samples. By sampling the brood adults, these data could be compared with the mature progeny (upon return) to investigate the numbers of parents represented in the population (an important determinant of the genetically effective population size of the natural stock). We would recommend the samples be processed and consultations with a population geneticist.
2) There is limited description of the spawning matrix referred to. A reference for more detail should be provided and more detail on the spawning protocols provided.
3) The reduced fecundity in the captive brood stock will reduce the F_1 progeny produced. The level of reduction is substantial but no response or investigation was proposed? It is not evident in the proposal if the fecundity was reduced due to reduced body size, or is there concern for the nutrition and health of these fish?
4) PIT tags are applied to study survival by family and/or treatment, but no indication was presented about how the number of tags applied was determined. This is an important project that merits careful evaluation. The principle investigators should ensure that adequate numbers of tags are being applied in order to assess the questions of interest. A statistical assessment of the number of tags applied should be undertaken and reported.
5) This is a unique opportunity to study the genetics of these fish. While the proposal is well prepared, there is an apparently lack of quantitative genetic interest. This aspect of the study may simply be under-stated in the text but if not, then an expert in this field should be consulted to review these procedures and ensure that opportunities will not be lost.

In conclusion, while we endorse this proposal and the need for a captive brood program when it was implemented, it is wise to re-state the advice from the ISRP's last review:

> Even though the proposal acknowledges that threats to adult survival, particularly habitat and passage, must be solved for the broodstock programs to be successful conservation or mitigation tools, to fund these captive broodstock programs without concomitant emphasis on solving the root problems seems financially foolish and futile.

This comment is not targeted at this particular proposal but is an ongoing consideration for the NEOH Master Plan and the need to balance culture activities with efforts to correct the original causes of the problem.

7. Project ID: 199801006
Captive Broodstock Artificial Propagation
Sponsor: Nez Perce Tribe Department of Fisheries Resources Management
Subbasin: Grande Ronde
Short Description: Implement and evaluate the captive broodstock project through the collection of juvenile salmon from the wild and maintaining them in captivity. The founding generation is spawned and the resulting F1 generation is released back to the parental stream.
FY02 Request: $170,177
3 YR Estimate: $526,000
ISRP Final Recommendation: Fundable
CBFWA Category: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Review Comments:
Fundable. The response comprehensively addresses the review comments. This proposal is for monitoring and evaluation of progeny of the captive brood stock collected and reared under project #199801001. The proposal involves co-ordination with state and federal agencies, assistance in the monitoring and evaluation of juveniles and brood adults reared at Bonneville Hatchery and Manchester Marine Laboratory, monitoring and evaluation of the F_1 generation juveniles and returning adults, and reporting. Like proposal #199801001, this is a well-written proposal that focuses on research and evaluation of alternative approaches to supplementation through captive broodstock. The proposal presents a thorough technical background that puts the project in context, the rationale and significance to regional programs is detailed and clear, and project history section includes results to date, with some comparisons between stocks and/or rearing treatments. Objectives are again stated as tasks, and not measurable comparisons or tests, but the intentions in this context are clear.

In a past review, there was a question concerning overlap between this program and M&E associated with the conventional hatchery production activities. Our understanding is that these M&E tasks are discrete. However, there is an important question associated with these marking programs. The comparison of natural, conventional, and captive brood production will obviously be based on the extensive use of PIT tags in many of the proposals reviewed. Have the co-managers considered the adequacy of marking rates to compare these three types of spring chinook production, and if so, what level of difference in performance may be detectable? This latter issue is not only relevant to this one proposal, but other NPT proposals have noted methods for estimating the numbers of PIT tags required for comparisons. A statistical basis to the tagging program would clearly strengthen this, and related, proposals.

CBFWA Project Review Comments:
This project is considered BASE by NMFS.

Table of Proposals: Sorted by ISRP Recommendation and Comparison with CBFWA Recommendation

Mountain Snake

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28001	Evaluate Factors Influencing Bias and Precision of Chinook Salmon Redd Counts	USDA Forest Service- Rocky Mountain Research Station	Salmon	Fundable	High Priority	Agree - Fundable	$198,738	$198,738	53
28020	Nez Perce Tribe Harvest Monitoring Program	Nez Perce Tribe	Clearwater	Fundable	High Priority	Agree - Fundable	$326,646	$326,646	82
28034	Chinook Salmon Smolt Survival and Smolt to Adult Return Rate Quantification, South Fork Salmon River, Idaho	Nez Perce Tribe	Salmon	Fundable (med priority)	High Priority	Agree - Fundable (Medium Priority)	$660,000	$660,000	54
28047	Restore and Protect Red River Watershed	Nez Perce Tribe Fisheries Watershed	Clearwater	Fundable	High Priority	Agree - Fundable	$199,567	$199,567	96
28048	Protect and Restore Crooked Fork Creek to Colt Killed Analysis Area	Nez Perce Tribe	Clearwater	Fundable	High Priority	Agree - Fundable	$423,365	$423,365	97
28049	Restore and Protect Slate Creek Watershed	Nez Perce Tribe Fisheries Watershed	Salmon	Fundable (med priority)	High Priority	Agree - Fundable (Medium Priority)	$231,841	$231,841	75

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28059	Restoring anadromous fish habitat in the Lapwai Creek watershed.	Nez Perce Soil and Water Conservation District	Clearwater	Fundable (high priority)	High Priority	Agree - Fundable	$372,060	$372,060	112
199102800	Monitoring smolt migrations of wild Snake River sp/sum chinook salmon	National Marine Fisheries Service	Salmon	Fundable	High Priority	Agree - Fundable	$350,000	$350,000	50
199107200	Redfish Lake Sockeye Salmon Captive Broodstock Program	IDFG - IOSC	Salmon	Fundable (low priority)	High Priority	Agree - Fundable (Low Priority)	$853,229	$853,229	60
199107300	Idaho Natural Production Monitoring and Evaluation	IDFG - IOSC	Salmon	Fundable	High Priority	Agree - Fundable	$831,000	$831,000	49
199401500	Idaho Fish Screen Improvement	IDFG - IOSC	Salmon	Fundable	High Priority	Agree - Fundable	$1,000,000	$1,000,000	62
199405000	Salmon River Habitat Enhancement M & E	Shoshone-Bannock Tribes	Salmon	Fundable	High Priority	Agree - Fundable	$249,500	$249,500	78
199607702	Protect and Restore Lolo Creek Watershed	Nez Perce Tribe Fisheries Watershed Program	Clearwater	Fundable	High Priority	Agree - Fundable	$502,192	$502,192	104
199607703	Protecting and Restoring the Waw'aatamnima (Fishing)(Squaw) Creek to 'Imnaamatnoon (Legendary Bear)(Papoose) Creek Watersheds	Nez Perce Tribe	Clearwater	Fundable	High Priority	Agree - Fundable	$489,300	$489,300	105

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
199607705	Restore McComas Meadows/Meadow Creek Watershed	Nez Perce Tribe Fisheries Watershed Program	Clearwater	Fundable	High Priority	Agree - Fundable	$573,832	$573,832	106
199608600	Clearwater Focus Program	Idaho Soil Conservation Commission	Clearwater	Fundable	High Priority	Agree - Fundable	$103,626	$103,626	107
199700100	Captive Rearing Project for Salmon River Chinook Salmon	IDFG - IOSC	Salmon	Fundable (low priority)	High Priority	Agree - Fundable (Low Priority)	$750,482	$750,482	59
199706000	Clearwater Subbasin Focus Watershed Program - NPT	Nez Perce Tribe	Clearwater	Fundable	High Priority	Agree - Fundable	$218,000	$218,000	107
199901700	Protect and Restore Lapwai Creek Watershed	Nez Perce Tribe	Clearwater	Fundable (high priority)	High Priority	Agree - Fundable	$436,600	$436,600	111
199901800	Characterize and quantify residual steelhead in the Clearwater River, Idaho	U.S. Fish and Wildlife Service	Clearwater	Fundable	High Priority	Agree - Fundable	$101,950	$101,950	113
200002800	Evaluate Status of Pacific Lamprey in the Clearwater River Drainage, Idaho	Idaho Department of Fish and Game and Idaho Office of Species Conservation	Clearwater	Fundable	High Priority	Agree - Fundable	$144,550	$144,550	113

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
200003400	Protect and Restore The North Lochsa Face Analysis Area Watersheds	Nez Perce Tribe	Clearwater	Fundable	High Priority	Agree - Fundable	$285,835	$285,835	114
200003500	Rehabilitate Newsome Creek Watershed - South Fork Clearwater River	Nez Perce Tribe Fisheries Watershed	Clearwater	Fundable	High Priority	Agree - Fundable	$287,732	$287,732	114
200003600	Protect & Restore Mill Creek	Nez Perce Tribe	Clearwater	Fundable	High Priority	Agree - Fundable	$105,560	$105,560	115
Total Agree - ISRP Fundable and CBFWA High Priority							**$9,695,605**	**$9,695,605**	
28008	Riparian Conservation Easement Purchase of Scarrow Property on Lake Creek a Tributary to the Secesh River, Idaho.	Idaho Department of Fish and Game and Idaho Office of Species Conservation	Salmon	Fundable (medium priority)	High Priority	Disagree - Fundable but medium priority	$68,500	$68,500	70
199901400	Little Canyon Creek Subwatershed-Steelhead Trout Habitat Improvement Project	Lewis Soil Conservation District	Clearwater	Fundable (Low Priority)	High Priority	Disagree - Fundable but low priority	$236,500	$236,500	108
28006	Tag and evaluate PIT-tag retention in sub-yearling chinook salmon	Biomark, Inc.	Salmon	Fundable (Medium Priority)	Recommended Action	Agree - Fundable (Medium Priority)	$82,044	$82,044	58

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28007	Causes and effects of nonnative trout invasions in the Salmon and Clearwater River subbasins	USDA Forest Service, Rocky Mountain Research Station	Salmon	Fundable (Low Priority)	Recommended Action	Agree - Fundable (Low Priority)	$64,900	$64,900	29
28023	Evaluate and Control Brook Trout Populations – Addressing Competition and Hybridization Threats in the Clearwater River Drainage, Idaho.	Idaho Department of Fish and Game and Idaho Office of Species Conservation	Clearwater	Fundable (Low Priority)	Recommended Action	Agree - Fundable (Low Priority)	$183,800	$153,800	25
28058	Restore Fish Passage and Habitat in the Upper East Fork of the South Fork of the Salmon River	IDFG - IOSC	Salmon	Fundable (Medium Priority)	Recommended Action	Agree - Fundable (Medium Priority)	$842,000	$842,000	76
28060	Assess Stream Quality for Salmonid Recovery in the Lower Clearwater Subbasin	Nez Perce Soil and Water Conservation District	Clearwater	Fundable (Low Priority)	Recommended Action	Agree - Fundable (Low Priority)	$95,148	$95,148	98
28010	Nez Perce Salmon River Terrestrial	Nez Perce Tribe	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$2,801,996	$2,801,996	73
28013	Renovate Selway Falls Anadromous Fish Passage Tunnel	IDFG - IOSC	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$344,700	$344,700	81
28016	Restoration of the Yankee Fork Salmon River	Custer Soil & Water Conservation District, IOSC	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$799,785	$799,785	69

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28018	Lower Salmon River Tributary Protection and Enhancement	Idaho Department of Fish and Game	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$101,000	$101,000	72
28021	Lower Clearwater Habitat Enhancement Project	Nez Perce Tribe	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$1,428,000	$1,428,000	82
28022	Evaluate Bull Trout Life History In Dworshak Reservoir, N.F. Clearwater River Drainage, ID	IDFG - IOSC	Clearwater	Fundable in Part	High Priority (Obj 4, see comments)\ Recommended Action (all else)	Disagree - Fundable in Part; Agree - Objective 4 is High Priority	$208,850	$133,000	24
28025	Potlatch River Watershed Restoration	Latah Soil and Water Conservation District	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$505,125	$505,125	84
28031	Evaluation of Unclipped Hatchery Steelhead Released in the Clearwater and Salmon River Basins	U.S. Fish and Wildlife Service	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$484,993	$484,993	86
28036	Holistic Restoration of Critical Habitat on Non-federal Lands in the Pahsimeroi Watershed, Idaho	Custer Soil & Water Conservation District / IOSC	Salmon	Fundable in Part	High Priority	Disagree - Not Fundable	$2,606,341	$2,606,341	64
28043	Crooked River Ecosystem Assessment at the Watershed Scale	Nez Perce Tribe Fisheries/ Watershed	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$131,213	$131,213	92

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28045	Evaluating stream habitat using the Nez Perce Tribe Fisheries/Watershed Watershed Monitoring and Evaluation Plan	Nez Perce Tribe Fisheries and Watershed	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$381,108	$381,108	93
28050	Protect and Restore Little Salmon River	Nez Perce Tribe Fisheries/ Watershed	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$262,896	$262,896	74
28052	Adult Snake River steelhead monitoring in the South Fork Salmon River Basin.	NPT/Pacific Northwest National Laboratory	Salmon	Fundable in Part (consider with 19970300, 27019)	High Priority	Disagree - Fundable in Part	$708,000	$708,000	35
198335000	Nez Perce Tribal Hatchery	Nez Perce Tribe	Clearwater	Fundable in Part (phase 1)	High Priority	Disagree - Fundable in Part (Phase 1 level only)	$3,485,000	$3,485,000	99
198335003	Nez Perce Tribal Hatchery Monitoring And Evaluation	Nez Perce Tribe	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part (at level consistent with phase 1)	$1,884,430	$1,974,430	100
198709900	28024* - Dworshak Dam Impacts Assessment and Fisheries Investigation	IDFG - IOSC	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$468,801	$344,200	83
199107100	Snake River Sockeye Salmon Habitat and Limnological Research	Shoshone-Bannock Tribes	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$441,369	$441,369	61

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
199202603	Upper Salmon Basin Watershed Project Administration / Implementation Support	Idaho Soil Conservation Commission and IOSC	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$285,364	$285,364	63
199303501	Enhance Fish, Riparian, and Wildlife Habitat Within the Red River Watershed	Idaho County Soil and Water Conservation District	Clearwater	Fundable in Part	High Priority/ Recommended Action	Disagree - Fundable in Part	$561,000	$561,000	101
199501300	Resident Fish Substitution Program	Nez Perce Tribe	Clearwater	Fundable in Part	High Priority	Disagree - Fundable in Part	$243,355	$243,355	103
199703000	Chinook Salmon Adult Abundance Monitoring	Nez Perce Tribe/Pacific Northwest National Laboratory	Salmon	Fundable in Part (consider with 27019, 28052)	High Priority	Disagree - Fundable in Part	$1,033,000	$1,033,000	33
199703800	Preserve Salmonid Gametes and Establish a Regional Salmonid Germplasm Repository	Nez Perce Tribe	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$1,279,000	$1,279,000	41
199901900	Holistic Restoration of the Twelvemile Reach of the Salmon River near Challis, Idaho	Custer Soil & Water Conservation District / IOSC	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$1,844,000	$1,844,000	67
199902000	Analyze the Persistence and Spatial Dynamics of Snake River Chinook Salmon	USDA Forest Service- Rocky Mountain Research Station	Salmon	Fundable in Part	High Priority	Disagree - Fundable in Part	$112,410	$215,194	51
Total ISRP Fundable in Part - CBFWA High Priority							**$22,401,736**	**$22,394,069**	

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28003	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Mountain Snake Province	Northwest Habitat Institute	Salmon	Fundable in Part	Recommended Action	Disagree - Fundable in Part	$375,935	$375,935	16
28029	Restore Lawyer Creek Habitat Targeting Steelhead and Chinook Salmon	Clearwater Economic Development Association	Clearwater	Fundable in Part	Recommended Action	Disagree - Fundable in Part	$342,750	$342,750	85
28046	Impacts of Salmon Carcasses on Chinook Salmon and Watershed Restoration in Subbasins of the Clearwater River	Nez Perce Tribe Fisheries and Watershed	Clearwater	Fundable in Part	Recommended Action	Disagree - Fundable in Part	$179,002	$179,002	95
28026	Develop HGMP's for LSRCP Programs to address artificial production reforms identified in the FCRPS Biological Opinion and other regional processes.	US Fish and Wildlife Service, Lower Snake River Compensation Plan	Salmon	NA	High Priority	NA	$856,292	$856,292	40
28061	Safety-Net Artificial Production Program (SNAPP)			Not Reviewed	High Priority	NA		$523,000	34
199204000	Redfish Lake Sockeye Salmon Captive Broodstock Rearing and Research	National Marine Fisheries Service	Salmon	NA	High Priority	NA	$1,600,000	$1,600,000	60
28030	Salmon River Native Resident Fish Assessment	IDFG - IOSC	Salmon	Not Fundable	High Priority (Obj 1)Recommended Action (all else)	Disagree - Not Fundable	$250,000	$250,000	28

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28032	Assessment of A-Run Steelhead Populations in the Clearwater River Basin	Nez Perce Tribe	Clearwater	Not Fundable	High Priority	Disagree - Not Fundable	$686,800	$686,800	87
28033	Monitoring and evaluating coho salmon reintroduction in the Clearwater River Basin	Nez Perce Tribe	Clearwater	Not Fundable	High Priority/ Recommended Action	Disagree - Not Fundable	$676,752	$240,000	88
28037	Holistic Restoration of Critical Habitat on Non-federal Lands in the Lemhi Watershed, Idaho	Lemhi Soil & Water Conservation District / IOSC	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$3,238,682	$3,238,682	67
28038	Holistic Restoration of Critical Habitat on Non-federal Lands, East Fork Salmon Watershed, Idaho	Custer Soil & Water Conservation District / IOSC	Salmon	Not Fundable	High Priority	Disagree - Fundable in Part	$2,608,084	$2,608,084	65
28039	Holistic Restoration of Habitat on Non-federal Lands, Middle Salmon-Panther Watershed, Idaho	Lemhi Soil & Water Conservation District / IOSC	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$1,863,326	$1,863,326	66
28040	Holistic Restoration of Critical Habitat on Non-federal Lands, Upper Salmon Watershed, Idaho	Custer Soil & Water Conservation District / IOSC	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$2,567,545	$2,567,545	66
28051	Assess and Monitor Steelhead in the Middle Fork Salmon River Subbasin	Nez Perce Tribe	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$416,147	$416,147	55
198740700	Dworshak Integrated Rule Curves/M&E	Nez Perce Tribe	Clearwater	Not Fundable	High Priority	Disagree - Not Fundable	$201,291	$201,291	101

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
198909800	Idaho Supplementation Studies	IDFG - IOSC	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$996,726	$996,726	45
198909801	Evaluate Supplementation Studies in Idaho Rivers (ISS)	USFWS - Idaho Fishery Resource Office	Clearwater	Not Fundable	High Priority	Disagree - Not Fundable	$126,320	$126,320	46
198909802	Evaluate Salmon Supplementation Studies in Idaho Rivers- Nez Perce Tribe	Nez Perce Tribe	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$676,476	$676,476	46
198909803	Salmon Supplementation Studies in Idaho- Shoshone-Bannock Tribes	Shoshone-Bannock Tribes	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$213,569	$213,569	46
199005500	Steelhead Supplementation Studies in Idaho Rivers	IDFG - IOSC	Clearwater	Not Fundable	High Priority	Disagree - Not Fundable	$686,307	$686,307	47
199604300	Johnson Creek Artificial Propagation Enhancement Project	Nez Perce Tribe	Salmon	Not Fundable	High Priority	Disagree - Not Fundable	$4,410,100	$4,410,100	47
199901500	Restoring Anadromous Fish Habitat in Big Canyon Watershed	Nez Perce Soil and Water Conservation District	Clearwater	Not Fundable	High Priority	Disagree - Not Fundable	$193,452	$203,452	109
199901600	Protect and Restore Big Canyon Creek Watershed	Nez Perce Tribe	Clearwater	Not Fundable	High Priority	Disagree - Not Fundable	$355,000	$355,000	110

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28002	Fluvial Bull Trout Migration and Life History Investigations in the upper Salmon River Subbasin	Shoshone-Bannock Tribes	Salmon	Not Fundable	Recommended Action	Disagree - Not Fundable	$163,440	$163,440	27
28004	Lawyer Creek Subwatershed-Steelhead Trout Habitat Improvement Project	Lewis Soil Conservation District	Clearwater	Not Fundable	Recommended Action	Disagree - Not Fundable	$246,500	$246,500	80
28005	Assessment of spring/summer chinook salmon habitat within the Salmon River Subbasin.	USDA Forest Service, BLM, USGS, Utah State University	Salmon	Not Fundable	Recommended Action	Disagree - Not Fundable	$395,000	$115,750	31
28009	Smolt Condition and Adult Returns: An Indirect Method of Assessing the Potential Mitigation Benefits of Nutrient Enhancement Projects	IDFG - IOSC	Salmon	Not Fundable	Recommended Action	Disagree - Not Fundable	$44,600	$44,600	56
28011	Incidental Mortality in Selective Sport Fisheries	IDFG - IOSC	Salmon	Not Fundable	Recommended Action	Disagree - Not Fundable	$200,000	$200,000	57
28017	Monitoring the Selway Falls renovation project for passage of spring chinook salmon and steelhead	Pacific Northwest National Laboratory	Clearwater	Not Fundable	Recommended Action	Disagree - Not Fundable	$134,350	$134,350	81
28019	Improve Stream Habitat by Reducing Discharge from Animal Feeding Operations	Idaho Department of Environmental Quality - IOSC	Salmon	Not Fundable	Recommended Action	Disagree - Not Fundable	$2,026,000	$2,026,000	77

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28041	Dworshak Zooplankton Entrainment	Nez Perce Tribe	Clearwater	Not Fundable	Recommended Action	Disagree - Not Fundable	$434,463	$434,463	89
28042	Timing and location of spawning by pure and introgressed cutthroat trout in the North Fork Clearwater River	Nez Perce Tribe	Clearwater	Not Fundable	Recommended Action	Disagree - Not Fundable	$311,878	$311,878	91
28044	Protect and Restore Deer Creek Watershed	Nez Perce Tribe Fisheries/Watershed	Salmon	Not Fundable	Recommended Action	Disagree - Not Fundable	$155,213	$155,213	71
28035	Geomorphic Controls on Watershed-scale Availability of Chinook Salmon Spawning Habitat in the Salmon River	University of Idaho, USDA Forest Service Rocky Mountain Research Station	Salmon	Not Fundable	Do not fund as stand alone project. See project 199902000.	Disagree - Not Fundable	$133,625	$0	53
28012	Four-Step Planning to Identify Safety-Net Projects for Idaho Steelhead	IDFG - IOSC	Salmon	Not Fundable	Withdrawn, defer to SNAPP proposal	NA - Not Fundable	$206,200	$0	38
28015	Benefit/Risk Analysis to Promote Long-Term Persistence of Chinook Salmon in the Middle Fork Salmon River	Nez Perce Tribe	Salmon	Not Fundable	Withdrawn, defer to SNAPP proposal	NA - Not Fundable	$156,726	$156,726	38
28054	Evaluation of Pisces Fish Protective Guidance and Monitoring System	Balaton Power, Inc.	Salmon	Not Fundable	Defer to Upper Snake Province	NA - Not Fundable	$1,060,000	$0	57

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
28055	Four-Step Safety-Net Plan for Upper Lochsa River B-Run Steelhead	Columbia River Inter-Tribal Fish Commission	Clearwater	Not Fundable	Withdrawn, defer to SNAPP proposal	NA - Not Fundable	$73,422	$0	39
28056	Four-Step Safety-Net Plan for South Fork Salmon River B-Run Steelhead	Columbia River Inter-Tribal Fish Commission	Salmon	Not Fundable	Withdrawn, defer to SNAPP proposal	NA - Not Fundable	$73,422	$0	38
28057	Four-Step Safety-Net Plan for Lower Salmon River A-Run Steelhead	Columbia River Inter-Tribal Fish Commission	Salmon	Not Fundable	Withdrawn, defer to SNAPP proposal	NA - Not Fundable	$73,422	$0	37
28014	Bull trout population assessment and life history characteristics in association with habitat quality and land use: template for recovery planning.	Utah Cooperative Fish and Wildlife Research Unit, USGS	Salmon	Withdrawn - See 27017	Withdrawn	Withdrawn - See 27017	$469,792	$469,792	NA

Blue Mountain

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
27001	Asotin County Riparian Buffer and Couse and Tenmile Creeks Protection and Implementation Project	Asotin County CD	Asotin	Fundable	High Priority	Agree - Fundable	$294,200	$294,200	117
27002	Assess Salmonids in the Asotin Creek Watershed	WDFW	Asotin	Fundable	High Priority	Agree - Fundable	$316,885	$316,885	119
27014	Protect and Restore the Asotin Creek Watershed	Nez Perce Tribe	Asotin	Fundable	High Priority	Agree - Fundable	$121,000	$121,000	118
27018	Oregon Plan Blue Mountain Province Fish Screening/Fish Passage.	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable	High Priority	Agree - Fundable	$153,314	$153,314	146
27021	Adult Steelhead Status Monitoring - Imnaha River Subbasin	Nez Perce Tribe	Imnaha	Fundable (high priority)	High Priority	Agree - Fundable	$1,055,449	$1,055,449	129
27022	Wallowa County Culvert Inventory	Nez Perce Tribe	Grande Ronde	Fundable	High Priority	Agree - Fundable	$170,603	$170,603	147
27025	Acquire South Fork Asotin Creek Property	Rocky Mountain Elk Foundation	Asotin	Fundable	High Priority	Agree - Fundable	$3,489,500	$3,489,500	120

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
198402500	Grande Ronde Basin Fish Habitat Enhancement Project	ODFW	Grande Ronde	Fundable	High Priority	Agree - Fundable	$456,416	$456,416	134
198805301	Northeast Oregon Hatchery Master Plan	Nez Perce Tribe	Grande Ronde	Fundable	High Priority	Agree - Fundable	$2,714,740	$2,714,740	155
198805305	Northeast Oregon Hatcheries Implementation (ODFW)	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable	High Priority	Agree - Fundable	$79,376	$79,376	158
199202601	Implement the Grande Ronde Model Watershed Program Administration and Habitat Restoration Projects	Grande Ronde Model Watershed Program	Grande Ronde	Fundable	High Priority	Agree - Fundable	$1,376,000	$1,376,000	136
199401805	Continued Coordination and Implementation of Asotin Creek Watershed Projects	Asotin County Conservation District	Asotin	Fundable	High Priority	Agree - Fundable	$297,285	$297,285	116
199405402	199405400 - Characterize the Migratory Patterns, Population Structure, Food Habits, Abundance of Bull Trout from Subbasins in the Blue Mountain Province.	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable (med priority)	High Priority	Agree - Fundable (Medium Priority)	$670,804	$402,611	20
199608300	CTUIR Grande Ronde Subbasin Restoration	Confederated Tribes Umatilla Indian Reservation	Grande Ronde	Fundable	High Priority	Agree - Fundable	$200,000	$200,000	139

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
199700900	Evaluate Potential Means of Rebuilding Sturgeon Populations in the Snake River Between Lower Granite and Hells Canyon Dams	Nez Perce Tribe	Snake Hells Canyon	Fundable	High Priority	Agree - Fundable	$290,510	$290,510	121
199701501	Imnaha Smolt Survival and Smolt to Adult Return Rate Quantification	Nez Perce Tribe	Imnaha	Fundable	High Priority	Agree - Fundable	$466,802	$466,802	128
199800702	Grande Ronde Supplementation: Lostine River O&M and M&E	Nez Perce Tribe	Grande Ronde	Fundable	High Priority	Agree - Fundable	$609,302	$609,302	159
199800703	Facility O&M And Program M&E For Grande Ronde Spring Chinook Salmon and Summer Steelhead	Confederated Tribes of the Umatilla Indian Reservation	Grande Ronde	Fundable	High Priority	Agree - Fundable	$702,010	$683,398	160
199800704	Northeast Oregon Hatcheries Implementation (ODFW)	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable	High Priority	Agree - Fundable	$206,048	$206,048	158
199801001	Grande Ronde Basin Spring Chinook Captive Broodstock Program	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable	High Priority	Agree - Fundable	$739,096	$739,096	160
199801003	Spawning distribution of Snake River fall chinook salmon	U.S. Fish and Wildlife Service	Snake Hells Canyon	Fundable	High Priority	Agree - Fundable	$174,162	$174,162	124
199801005	Pittsburg Landing (199801005),Capt. John Rapids (199801007), Big Canyon (199801008) Fall Chinook Acclimation Facilities	Nez Perce Tribe	Snake Hells Canyon	Fundable	High Priority	Agree - Fundable	$722,000	$722,000	126

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
199801006	Captive Broodstock Artificial Propagation	Nez Perce Tribe	Grande Ronde	Fundable	High Priority	Agree - Fundable	$170,177	$170,177	163
Total Consensus ISRP Fundable and CBFWA High Priority							**$15,475,679**	**$15,188,874**	
27016	Evaluate the effects of hyporheic discharge on egg pocket water temperture in Snake River fall chinook salmon spawning areas	Pacific Northwest National Laboratory	Snake Hells Canyon	Fundable (high priority)	Recommended Action	Disagree - Fundable at High Priority	$154,136	$154,136	127
27008	Grande Ronde River Riparian Restoration	BLM	Grande Ronde	Fundable (Low Priority)	Recommended Action	Agree - Fundable (Low Priority)	$307,730	$307,730	142
27009	SSHIAP - Blue Mountain Province	WDFW	Asotin	Fundable	Recommended Action	Agree - Fundable	$200,000	$200,000	119
27020	Grande Ronde Subbasin Water Right Acquisition Program	Oregon Water Trust	Grande Ronde	Fundable	Recommended Action	Agree - Fundable	$62,620	$62,620	134
27023	Precious Lands Wildlife Habitat Expansion	Nez Perce Tribe	Grande Ronde	Fundable	Recommended Action	Agree - Fundable	$3,373,974	$3,373,974	131

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
27017	Bull trout population assessment and life history characteristics in association with habitat quality and land use: template for recovery planning.	Utah Cooperative Fish and Wildlife Research Unit, USGS	Imnaha	Fundable in Part	High Priority	Disagree - Fundable in Part	$469,792	$469,792	22
27019	Adult Salmon Abundance Monitoring	NPT/Pacific Northwest National Laboratory	Grande Ronde	Fundable in Part (consider with 19970300, 28052)	High Priority	Disagree - Fundable in Part	$531,182	$531,182	34
199202604	Investigate Life History of Spring Chinook Salmon and Summer Steelhead in the Grande Ronde River Basin and Monitor Salmonid Populations and Habitat	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable in Part	High Priority	Disagree - Fundable in Part	$1,412,651	$1,382,766	148
199608000	NE Oregon Wildlife Mitigation Project -- "Precious Lands"	Nez Perce Tribe	Grande Ronde	Fundable in Part	High Priority	Disagree - Fundable in Part	$439,803	$439,803	130
200002100	Securing Wildlife Mitigation Sites - Oregon, Ladd Marsh WMA Additions	Oregon Department of Fish and Wildlife	Grande Ronde	Fundable in Part	High Priority	Disagree - Fundable in Part	$193,185	$193,185	133
Total - ISRP Fundable in Part, CBFWA High Priority							**$3,046,613**	**$3,016,728**	
27003	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Blue Mountain Province	Northwest Habitat Institute	Grande Ronde	Fundable in Part	Recommended Action	Disagree - Fundable in Part	$201,175	$201,175	16

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
27011	Lookingglass Creek land purchase for watershed protection (spawning and rearing habitat continuity and water quality at Lookingglass Hatchery).	Confederated Tribes of the Umatilla Indian Reservation	Grande Ronde	Not Fundable	High Priority	Disagree - Not Fundable	$2,263,400	$2,263,400	143
27026	199202604b - Wallowa Lake Study	ODFW	Grande Ronde	Not Fundable	High Priority	Disagree - Not Fundable		$132,444	149
199403900	Watershed Restoration Planner	Nez Perce Tribe	Grande Ronde	Not Fundable	High Priority	Disagree - Not Fundable	$64,289	$64,289	137
199702500	Implement The Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan	Nez Perce Tribe	Grande Ronde	Not Fundable	High Priority	Disagree - Not Fundable	$45,675	$45,675	138
199801004	Monitor and EvaluateYearling Snake River Fall Chinook Released Upstream Of Lower Granite Dam	Nez Perce Tribe	Snake Hells Canyon	Not Fundable	High Priority	Disagree - Not Fundable	$330,241	$330,241	125
27010	Snake River Hells Canyon Tributary Enhancements	Idaho Department of Fish and Game	Snake Hells Canyon	Not Fundable	Recommended Action	Disagree - Not Fundable	$101,000	$101,000	128
27012	Restore and Enhance Grande Ronde Valley Deciduous Riparian Habitat	Oregon Department Fish and Wildlife	Grande Ronde	Not Fundable	Recommended Action	Disagree - Not Fundable	$156,000	$156,000	140

Project ID	Title	Sponsor	Subbasin	ISRP Final Rec.	CBFWA Category	ISRP Comparison w/CBFWA	FY02 sponsor request	FY02 CBFWA rec.	Page
27013	Grande Ronde River Stream Restoration - La Grande, Oregon	Union County and Union Soil and Water Conservation District	Grande Ronde	Not Fundable	Recommended Action	Disagree - Not Fundable	$816,080	$816,080	141
27015	Develop Long-Term Management Plan for Snake River (Hells Canyon Reach) White Sturgeon	IDFG - IOSC	Snake Hells Canyon	Not Fundable	Recommended Action	Disagree - Not Fundable	$116,500	$116,500	123
27024	Life history strategies in Oncorhynchus mykiss: interactions between anadromous and resident forms.	Oregon Department of Fish and Wildlife	Grande Ronde	Not Fundable	Recommended Action	Disagree - Not Fundable	$237,474	$237,474	151
27004	Grande Ronde and Imnaha Stream Channel Complexity and Fish Passage Barrier Inventory, Prioritization and Remediation	Oregon Watershed Enhancement Board	Grande Ronde	Not Fundable	Do Not Fund	Agree - Not Fundable	$191,580	$191,580	145
27005	Increase CREP Enrollment and Enhance Riparian Protections in the Grande Ronde and Imnaha basins	Oregon Watershed Enhancement Board	Grande Ronde	Not Fundable	Do Not Fund	Agree - Not Fundable	$170,880	$170,880	144
27006	Establishing Baseline Key Ecological Functions of Fish and Wildlife for Subbasin Planning	Northwest Habitat Institute & WDFW	Grande Ronde	Not Fundable	Do Not Fund	Agree - Not Fundable	$153,500	$153,500	18
27007	Assessment of spring/summer chinook salmon habitat within the Grande Ronde Subbasin.	USDA Forest Service, BLM, USGS, Utah State University	Grande Ronde	Not Fundable	**Merged with Mountain Snake project 28005*	Disagree - Not Fundable	$205,000	$0	31

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