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Final Review of Fiscal Year 2002 Project Proposals for the Columbia Plateau Province

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ISRP Final Review of Fiscal Year 2002 Proposals for the Columbia Plateau Province

Index of Proposals by Project ID

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Introduction and Review Process

This report is the Independent Scientific Review Panel's (ISRP) final review of proposals submitted for Fiscal Year 2002 funding in the Columbia Plateau Province. It contains final recommendations and detailed comments for each proposal submitted.

The review process to develop these recommendations and comments included several steps. On June 15, the ISRP released a preliminary review of Columbia Plateau proposals (ISRP 2001-6; www.nwcouncil.org/library/isrp/isrp2001-6.pdf). The review process for that report included several elements that are the foundation of the provincial review process. Each proposal received review by at least three reviewers and discussion by the larger review team to reach consensus. Presentations were given on each proposal. Following each presentation, an opportunity was provided for a question and answer session between reviewers and the proponents. In addition, the ISRP review teams visited most of the subbasins in the province and were provided slide presentations for the subbasins they were unable to visit.

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 responses from 100 of the 104 proposals for which a response was requested and from several proposals for which a response was not requested. Only those responses that were requested were reviewed. 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 Columbia Plateau Province Work Plan, as scheduled on August 3, 2001 (www.cbfwa.org/files/province/plateau/subsum.htm), 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 fourth iteration of the provincial review process. The ISRP continues to be enthusiastic about the new approach and notes improvement in the process. Specifically, the site visits and presentations were well organized, informative, and demonstrated an improving trend over those in the Gorge, Inter-Mountain, and Mountain Columbia province workshops. This is evidence that the review process is generating benefits towards better organization, coordination, and scientific emphasis to projects.

With the exception of a programmatic statement regarding monitoring, this report does not include a programmatic section with identification of general issues that cut across subbasins and provinces. Although many such issues arose, the ISRP ran out of time to

reach consensus recommendations on these broad issues. In addition, the ISRP was unable to complete the response review of the Lower Snake River Compensation Plan proposals in the Columbia Plateau. Rather than delay release of this report, the ISRP plans to include discussion of these issues and reviews in later reports.

Monitoring, Evaluation, and Reporting of Results

This programmatic statement on monitoring and evaluation (M&E) should be considered a work in progress. It is included here because the issue of adequate monitoring arises in many proposal reviews.

A primary review function of the ISRP is to determine if projects will benefit fish and wildlife. Integral to this determination is whether projects monitor and evaluate progress and report results. The ISRP has found a pattern of inadequacy in these areas and offers the following observations.

Evaluating the adequacy of the monitoring and evaluation component is still difficult in the present generation of proposals. Project proposals often lack detailed plans for the kind of monitoring and evaluation that is generally judged to be necessary by the ISRP. Part of the difficulty lies in the narrow focus of some of the projects compared to the larger spatial scale on which an ecological response can reasonably be expected. This is particularly true of many proposals for which the target species to be benefited is an anadromous fish. Part of the solution may be found by treating monitoring more carefully and explicitly in subbasin summaries, and eventually in subbasin plans. 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 effectiveness of the projects in that subbasin.

At the level of particular projects, monitoring should test for the proximate effectiveness of the project's activities. The large scale aspects of monitoring may best be addressed by distinct projects that have the explicit objective of monitoring ecological conditions and stock status for a large area, e.g., a subbasin, basin, or region, while the more particular aspects of project-specific monitoring need to be built into many of the individual projects. Eventually the adequacy of the monitoring for a project will be judged in terms of the combined project-specific monitoring in the proposal and the linkage (which should be described in the proposal) to the larger scale monitoring in the subbasin. For now, 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 data 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.

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. The standard applied to review has been to ask for an M&E plan or a project link to a larger M&E program that can help determine whether an action provides biologically measurable results, ultimately in terms of fish or wildlife numbers. The ISRP is not recommending major research-level data collection for all 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 procedures that can be easily replicated by new personnel. Monitoring and evaluating at the basin, province, or subbasin scale may realize additional savings among cooperating projects. Proponents of related projects would benefit from collectively designing their monitoring and evaluation activities.

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 to evaluate the survival rates of adult salmonids caught and released from tangle nets? Monitoring can be categorized as Tier 1, Tier 2, or Tier 3, as defined in the NMFS All-H document (*Conservation of Columbia Basin Fish:* Final Basinwide Salmon Recovery Strategy, Volume 1, Table 4). Bisbal (2001) defined Tier 1 monitoring as *trend monitoring*, which "tracks the variability of a particular parameter over a long period of time, and relies on obtaining data from revisits to a single site." Tier 2 monitoring requires probabilistic selection of study sites and repeated visits to provide inductive inferences to large areas and long time periods. Tier 3 monitoring is intended for those projects or groups of projects where the objectives include establishment of mechanistic links between management actions and salmon or other fish or wildlife population response. Bisbal (2001) defines this level of effort as *effects* or *response monitoring*; the repetitive 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 monitoring qualify as research and are publishable in the refereed scientific literature. The ISRP does not expect expensive Tier 3 monitoring for most small individual projects, although a project could certainly contain Tier 3 level monitoring objectives. The ISRP does expect each individual proposal to include at least Tier 1 or Tier 2 monitoring, and this monitoring often can be both simple and inexpensive. Tier 1 monitoring may be adequate for projects such as culvert replacement or water addition (e.g., are fish found upstream of the culvert after replacement? Have fish colonized once-dry creeks after water addition?). For any monitoring, the data gathered should be summarized, analyzed, and reported regularly to allow interpretation of the effects or effectiveness of project techniques or efforts.

Tier 1 "trend" monitoring on individual sites does not establish cause and effect relationships, does not provide inductive inferences to larger areas or time periods, and in general, the results do not qualify as research. However, Tier 1 monitoring on similar projects replicated over time and space can provide compelling evidence for general

conclusions. An example of Tier 1 monitoring would be trend monitoring after culvert replacement to provide observations of whether or not adults pass through it – understanding that it might take a year or two or a cycle of abundance before surpluses of fish below encourage them to move upstream. Stream reaches above replaced culverts might be visited on a rotating basis rather than every year.

Tier 2 "statistical" level monitoring requires the use of probabilistic sampling to provide inductive inferences to larger areas or time periods than can be surveyed with funding in many individual projects. For example, the Oregon Plan for Salmon and Watersheds Monitoring Program (Nicholas 1997a, 1997b, 1999) as implemented in the Oregon coastal coho streams is a Tier 2 level monitoring and evaluation program. This program, successfully implemented for estimation of coho distribution and abundance, applies a rigorous sampling design to answer key monitoring questions, provides integration of sampling efforts and has greatly improved coordination among state, federal, and tribal governments, along with local watershed groups. This program is a good model for Tier 2 level monitoring in Provinces and Subbasins of the Columbia Basin. The model can easily be modified for Tier 2 level monitoring of terrestrial projects. The ISRP would also recommend that individual proposals support overall Tier 2 level monitoring projects to collectively monitor the effectiveness of, for example, habitat improvements in a subbasin. Most larger projects should implement sampling designs of the Tier 2 type.

After the response review, two projects, *Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Plateau (25088)* and *Regional Stream Conditions and Stressor Evaluation (25010)* offer to implement a coordinated approach to fish population and habitat monitoring using the Oregon Plan for Salmon and Watersheds Monitoring Program. This approach has successfully been implemented in Oregon's coastal watersheds to apply a rigorous sampling design (EPA EMAP design) and has greatly improved coordination among state, federal, and tribal governments, along with local watershed groups. These two projects could be used as model Tier II level monitoring projects for the rest of the Columbia Basin.

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 level 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. The objectives of these projects can only be met with Tier 2 level monitoring using probabilistic selection of survey sites with limited replication. The ISRP recommends that the proponents of such projects immediately begin to modify the current proposals to allow for valid inductive inferences to the target areas. Surveys of sites and methods used in the past should overlap surveys of sites and methods for new Tier 2 level monitoring for a few years.

Tier 3 "research-level" monitoring for "establishment of mechanistic links" and "to detect changes caused by external influences" is usually conducted as part of a research program to rigorously determine the effects of management actions. Tier 3 monitoring is often not needed by individual FWP projects, although projects for Tier 3 monitoring can certainly be proposed and funded. The actions required to isolate cause and effect relationships would be *inappropriate* for many individual projects. However, project sponsors should be aware of and include references to past or current research or Tier 3 monitoring that support their proposal. 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 migrating juveniles 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 ISRP recommends that principal investigators identify an appropriate level of monitoring: Tier 1, Tier 2, or Tier 3, and include details for incorporation of the monitoring and evaluation in their proposals or their responses to reviews. It is helpful in designing a monitoring program to consider the role and importance of evaluation in the fish and wildlife program. 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 other forms of mitigation. Thus, each project should explicitly state both its local, specific, and short-term goals and the ways in which these contribute to the larger 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. Bisbal (2001) provides some useful guidelines for developing fish and wildlife evaluation plans. He notes the utility of first including consideration of possible indicators, management needs, planning of the evaluation component, the importance of sampling design, which includes consideration of the statistical analyses that are anticipated, and the value of pilot studies to test techniques and performance standards. Further, the ISRP envisions long term monitoring and evaluation with the following characteristics: data are unbiased; monitoring is cost-effective; responsibility for monitoring and evaluation is specifically assigned; data have long-term, in addition to, immediate management value; data are adequate to evaluate how well a project or technique is meeting goals; methods are not changed over time unless techniques overlap; reports and databases document methods, times, and location of samples; and reports are issued regularly and on time.

References.

Bisbal, G.A. 2001. Conceptual design of monitoring and evaluation plans for fish and wildlife in the Columbia River ecosystem. *Environmental Management* (In press).

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

Recommendation Categories

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 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 proposal for an ongoing project that may offer benefits to fish but does not include provisions for monitoring and evaluation or report past results. Another 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. 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, and some 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.

Preliminary Recommendation and Comments on Each Proposal

The ISRP's final recommendations and a brief description of each proposal are provided below. In cases where the ISRP and CBFWA recommendations differ, CBFWA comments are also provided.[1] The ISRP comments begin with sets of grouped proposals: Yakima Fisheries Program proposals; Umatilla and Walla Walla Hatchery and Passage proposals; CRP, CREP, and Buffer related proposals; lamprey proposals; bull trout proposals; Hanford Reach proposals; and several proposals funded through the Action Plan solicitation. The proposals are grouped this way so readers can readily refer to general ISRP comments on the sets, can identify potential coordination between projects, and see the extent of effort or potential effort for the particular topic. These sets include proposals from the various subbasins across the entire Plateau.

Following these sets, remaining proposals are provided in three basic sets: ISRP "fundable," "fundable in part," and "not fundable." Within each set, the comments are arranged by level of agreement with the CBFWA prioritization. Then proposals are

[1] CBFWA's comments include those made by CBFWA reviewers of the proposal and managers on the budget, and were not drafted for inclusion in the ISRP's report. These comments are included because they are what the ISRP reviewed as it compared its recommendations with CBFWA's.

arranged by subbasin starting on the south side of the Columia River with the Deschutes River Subbasin and going east to the Tucannon River Subbasin, then starting on the north side of the Columia River with the Yakima River Subbasin and going east to the Crab Creek Subbasin.

Yakima/Klickitat Fisheries Project (YKFP) Proposals

CORE PROPOSALS IN THE YKFP:
The core group of proposals that constitute the YKFP for the Yakima Basin are reviewed in this section. The YKFP is co-managed by the Yakama Nation (YN) and the Washington State Department of Fish and Wildlife (WDFW), and has a long history of development beginning in 1982 (NPPC 1982). Ultimately, the stated purpose of the YKFP is:

> "to test the assumption that new artificial production can be used to increase natural production and to improve harvest opportunities, while maintaining the long-term genetic fitness of the native salmonid populations and keeping adverse ecological interaction within acceptable limits" (BPA 1996)

The specific objectives of the YKFP are to:

- enhance production of upper Yakima spring chinook production through supplementation;
- re-introduce stocks formerly present in the basins;
- provide increased harvest opportunity; and
- to provide knowledge about the use of supplementation, so that it may be used to mitigate effects on anadromous fisheries throughout the Columbia River Basin

(objectives stated in Project #198812025 YN and #199506425 WDFW).

The proposals included and funding recommendations are summarized below:

Proposal number	Title (Agency)	FY02 $$ Request	Recommendation
#198812025	YKFP Management (YN)	$1,262,548	Fundable, projected future costs are similar
#198811525	YKFP Design & Construction (YN)	$1,595,000	Fundable, major increases in costs projected pending outcome of investigations
#199701325	YKFP Operations & Maintenance	$2,549,774	Fundable, projected future costs are similar
#199506325	YKFP Monitoring & Evaluation	$3,883,332	Fundable but see detailed review of tasks included, similar future costs projected
#199506425	Policy/Technical Involvement (WDFW)	$187,800	Fundable, very similar future costs projected
#199705100	YKFP Yakima Side Channels	$2,320,624*	Fundable, small reduction in future costs projected
#199803400	YKFP Safe Access into Tributaries	$0, costs deferred	New project, substantial increase in expected costs

* $2.1 million of cost for acquisition of two properties.

The total funds requested for FY02 are $11.8 million and future costs may increase substantially depending on the ability to re-establish coho and fall chinook in the basin, and supplement production of steelhead. Clearly this project alone has been, and will continue to be, a major investment of BPA funds.

General Comments on the YKFP:

Overall, the ISRP was favorably impressed with the facilities visited, the staff and procedures observed, and generally by the preparation of these proposals. A few of them are very large and included many tasks, both past and proposed, that had to be summarized and presented (detailed comments follow the general text). While the ISRP review was favorably impressed with much of the YKFP accomplishments (as detailed below) we are very concerned that the experimental design proposed to assess supplementation of upper Yakima River spring chinook is inadequate.

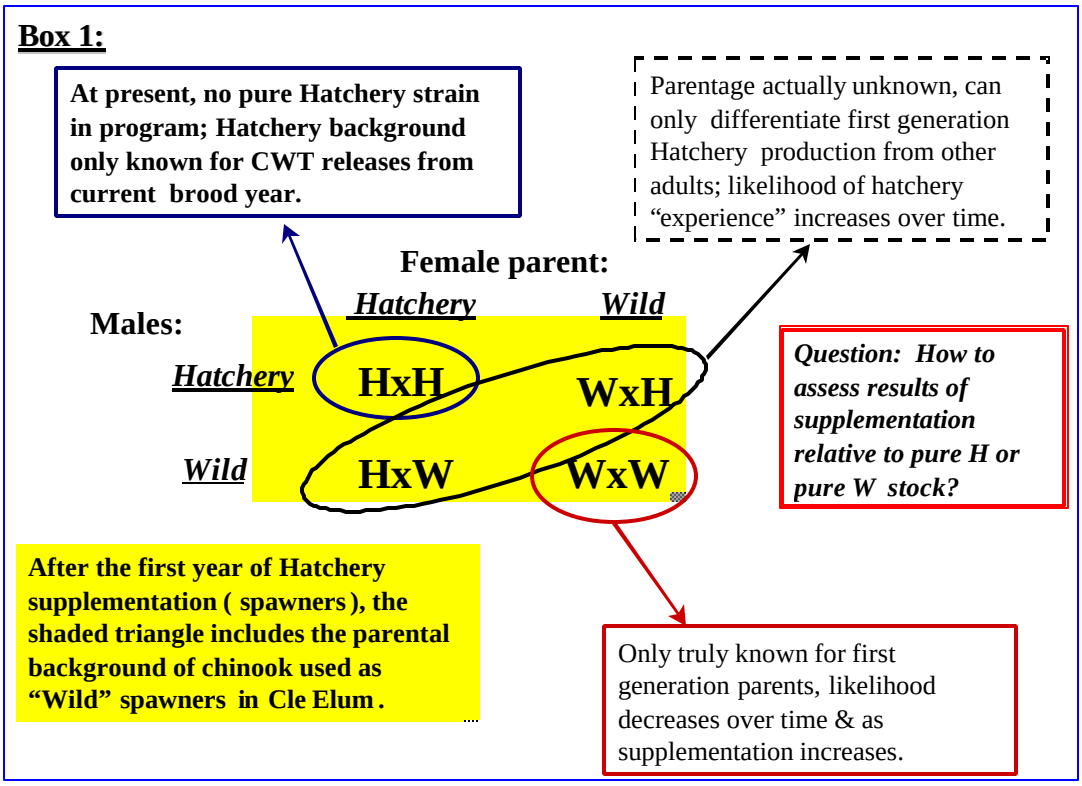
Extensive monitoring and evaluation facilities and programs have been developed for the project but much of the design work has been focused on evaluating two rearing treatments with an objective of producing more "natural-like" spring chinook within a hatchery environment. In our opinion, the type of rearing treatment is secondary to larger questions about supplementation in the Basin, such as genetic change in new hatchery stocks, relative fitness of hatchery populations versus wild populations, and how to assess supplementation in the natural environment. We believe that a unique opportunity to study these major questions could be lost if there is not immediate attention given to the experimental design as presented. We provide more detailed comment on this issue below. In terms of process and accountability, the region should carefully consider how this situation developed, how to respond rapidly, and how to learn from this important experiment while still working towards the goals of the YKFP.

After years of planning, design work, and consultations, the ISRP finds it unacceptable that such an important experiment does not involve controls to maximize the information gained from our investments. As presented, the experimental design will not test the fundamental purpose of the YKFP (as quoted above), and define what we can learn and apply elsewhere in the basin.

After years of design and planning, the Cle Elum Supplementation facility is complete and producing spring chinook for supplementation of the naturally spawning stocks. The first adult returns were Jack (Age-3 male) chinook in 2000. Male and female adults are returning now in 2001. Extensive tagging programs have been designed to monitor survival of juveniles, harvest by tag groups, adult returns to Roza Dam facilities (brood stock collection and sorting); and to test the efficacy of semi-natural rearing to increase the survival of hatchery-reared salmonids. Many detailed assessments will be conducted on survival by release group, treatment type, phenotypic expression in the hatchery, genetic monitoring of the juvenile production, and spawning behavior of hatchery and wild parents. However, with the volume of information collected and the number of studies that can be conducted, we are concerned that the detail has obscured the essential questions about supplementation in this basin (and as identified in the fourth objective of the YKFP as stated above).

For example, does hatchery rearing result in genetic divergence from the wild stock used to establish the hatchery brood stock? If so, how rapidly can this occur and what are the mechanisms? Do hatchery-reared fish used to supplement a natural population result in a sustained growth in the natural population? Is the reproductive fitness of a hatchery-reared fish equal to that of a wild fish? Cle Elum Hatchery is a new facility designed for supplementation of natural populations, but most hatcheries in the basin are older with established stocks. The central debate concerning those hatcheries is the utility of their fish for restoration of natural populations (do the genetic risks outweigh the increase in stock size?). Further, while extensive tagging of production in Cle Elum allows identification of hatchery fish from one brood year, production from these "hatchery" fish can not be differentiated from wild production in the next generation. Genetic monitoring of nuclear markers may allow assessment of parentage in small, closed populations (such as the hatchery) but are not likely applicable in large open natural populations that may also be responding to environmental variation.

To clarify our concerns, the review committee has prepared the figures in Boxes one and two. Box 1 represents the parentage of chinook that maybe used in the Cle Elum facility. In the initial generations, all brood stock will be from wild (W) parents and half of the progeny will be reared under one of two treatment conditions (OCT vs. SNT, not indicated in Box 1). All of the hatchery production will be coded-wire tagged so that first generation hatchery returns can be excluded from Cle Elum brood stock (HxH adults excluded from hatchery brood stock in Box 1). The importance of these hatchery fish is that they will supplement the natural spawning population in the upper Yakima River. However, once these hatchery fish begin mixing with the wild spring chinook the parentage of fish used as the W spawners will become uncertain (the incidence of these "mixed" parents will begin to increase from 2003 and onward). The yellow triangle and text box in Box 1 is intended to represent this situation. The likelihood of selecting a parent of mixed background will increase with the number of hatchery fish returning in the brood years, in 2001 alone approximately one-third of the spring chinook adults returning to Roza Dam were from hatchery production. If the hatchery is successful in producing adults then the mixing rate will increase, and a high proportion of the returning adults will have been produced from a small sample of the population (i.e., the genetically effective population size of the stock will be much less than the number of spawners observed). We emphasize that the ISRP is not speculating that there will necessarily be a negative impact of supplementation … the important issue is whether we can assess supplementation under these conditions and design, and will the Basin learn from our substantial investment in this experiment?

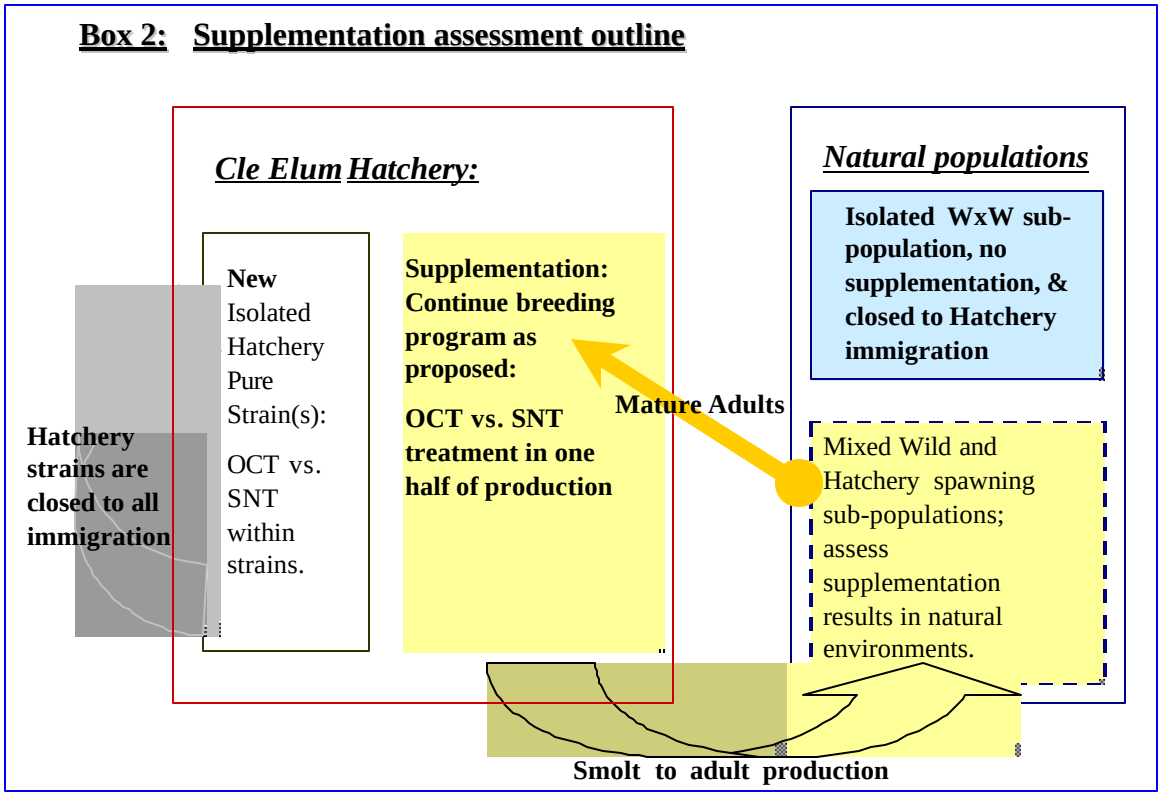


To assess supplementation and to apply the Cle Elum experience more broadly in the basin, the ISRP strongly recommends two fundamental additions to the study design (Box 2):

- the establishment of one or more isolated WxW sub-populations in the natural environment (as wild controls); and
- the development of pure HxH control lines within the Cle Elum facility.

The design proposed by the YKFP would assess supplementation by monitoring the productivity and growth of the naturally spawning spring chinook population throughout the upper Yakima River. These results, however, will be confounded with variation in environmental conditions and do not truly assess supplementation, except for the net effect of all spawners (hatchery produced or natural). If a wild sub-population could be identified and not supplemented, then the experiment could at least compare trends in production and productivity over time … replicates of these sub-populations would of course be ideal. The ISRP acknowledges that such a recommendation could be difficult to monitor and maintain, however, the hatchery sub-population within Cle Elum Hatchery can be established (although likely at some expense to the present rearing capacity). We believe, though, that significant questions concerning domestication could be investigated with associated benefits to other production programs in the basin. The

Basin is quickly losing the opportunity to investigate this important issue and this unique opportunity should not be missed. *We also note that discussion about investigating domestication selection within the facility is being considered by the YKFP but that a process has not be agreed upon (Task 3.c; project #199506325 YKFP monitoring and evaluation).*



Since the first generation of hatchery production is returning to the basin in 2001, a decision on this program is needed immediately. We would strongly recommend over the next 2 to 3 years of returns that a few pure HxH lines be developed in the Cle Elum Hatchery and that these lines then be closed to immigration from outside of these lines. These lines could receive only the semi-natural rearing treatment (to save space) but would be closely monitored to investigate genetic changes within the lines. If genetic problems develop within a line then crossing between lines would be used to prolong the comparisons. It is noteworthy that the Cle Elum Hatchery has been equipped with single-family rearing tanks that can be used for quantitative genetic investigations. However, no proposals were received to use these tanks.

ISRP Advice: It is the ISRP's advice that without these additions to the experimental design there is a significant risk of not learning from this large-scale hatchery experiment. It is also not evident how the YKFP defines success in the natural populations and when

supplementation should be stopped. For example, is there a guideline concerning what portion of the naturally spawning population can be comprised of hatchery-produced fish? Presumably, this decision will involve assessments of population growth rates over time and the capacity of freshwater habitats but the process is not adequately described in these proposals. The ISRP recommends that such criteria be developed and that discussions between co-managers begin immediately to address them. Further, spring chinook in the Naches and American rivers are not being supplemented, creating the potential for a mixed stock fishery problem. How is this being addressed in harvest plans?

YKFP Response to ISRP's General Comments:

The response of the Yakama Nation to the ISRP's general comments focused on the above paragraph (**ISRP Advice**). Their comments addressed three issues identified above: defining success of supplementation, commenting on the example of limiting the number of hatchery-produced adults in the natural spawning population, and the potential for a mixed-stock fishery problem. **Unfortunately, we find the response to these issues to be inadequate.** The ISRP does not agree that the success of supplementation can be defined by a definition of supplementation (RASP 1992 cited). Measuring success requires specific measurable objectives, which would be based on the general components of the definition. A definition could become a goal statement, but as presented in the response it does not identify measurable objectives. Further, the comments about when supplementation will be stopped are equally vague and without objectives. The response about termination centered on three statements:

- **"When it is *clear* that we will be unable to accomplish supplementation success as defined by RASP (1992).**
- **When *properly functioning* habitat conditions have been restored.**
- **When the learning benefits of a supplementation research program *are completed*."**

None of these termination statements involve measurable objectives and each actually involves a high degree of subjectivity. The comments provided also introduce two additional concerns: the "political climate around the issue of limiting hatchery-origin fish on the spawning grounds" and the potential use of supplementation to adjust for mixed-stock fishery problems. The former concern is a broader issue than this one supplementation experiment but could threaten our ability to control an experimental treatment. For example, if during initial generations in a new hatchery, the hatchery returns overwhelm the number of wild fish … what will we learn from comparing hatchery fish with hatchery fish? This is an issue that the co-managers need to address and prepare a response to. The latter concern re-introduces an old response … uses of more enhancement to correct an enhancement related problem. The response from the Yakama Nation indicates that the managers have considered the mixed-stock fishery problem and that they will monitor this issue.

Their response to comments concerning data management is adequate.

Project ID: 199506325

Yakima/Klickitat Fisheries Project Monitoring and Evaluation
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $3,883,332
3YR Estimate: $12,914,597
Short Description: Monitors YKFP in terms of natural production, harvest, ecological and genetic impacts, guides adaptive management within the project and provides detailed information on supplementation to the region.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part. To briefly summarize the ISRP comments on the YKFP responses by tasks, the bolded comments were originally from the ISRP review, and the text following is the current ISRP reply to the YKFP responses provided.

OBJECTIVE	ISRP COMMENT
1.Natural Production	
1a. Natural Production & Modeling:	**YKFP managers should clarify why EDT data collection and modeling is not described in more detail and/or included under a separate proposal.** While the response provided was extensive, it very definitely demonstrated why a more comprehensive proposal and review for this activity is necessary in the future. The ISRP identified numerous technical questions about the material received, but do not wish to initiate another series of reviews and responses. Fundable
1b. Yakima Fall chinook survival study	**This task is not adequately described, particularly if feasibility work has been conducted.** The response agreed with the ISRP comments and provided adequate clarification. Fundable
1c. Spring chinook micro-habitat use	**This task is likely to be largely descriptive but may also be useful in EDT assessments… proceed given the modest cost.** Fundable
1d. Spring chinook PIT tagging & CWT application	**Recommend continuation**. **Further, authors must also clarify the basis of the tagging cost projected.** The response noted the error in presentation and provided adequate response. The ISRP noted though that the power to detect a 50% effect size indicates that their procedures are going to be fairly insensitive to change. Whether this is adequate depends on the management application. Fundable
1e. Roza PIT tagging of W & H spring chinook	Re-state and clarify the hypothesis … as stated it is not clear how this hypothesis relates to the task. **Recommend continuation.** Response provided a series of simple hypotheses that were more correctly stated. Fundable
1f. Chandler monitoring	**Recommend continuation and refinement of smolt estimation procedures**. Adequate response. Fundable
1g. Accelerated rearing of Fall chinook	The response provided a correctly stated hypothesis and we agree with the additional comments provided. Fundable
1h. Coho stock and date of release study	**Clarify the present intent of this study**. The response agreed that there had been an error in the description of this project and provided adequate response. Fundable

1i. Spring chinook juvenile behavior	**We place a lower priority on this work compared to other tasks.** The brevity of the ISRP comments obviously lead to a misunderstanding … for this we apologize. Our comment centered on identifying one behavioral trait that can be associated with a change in overall survival. We certainly do not contest the issue of behavioral differences between treatments, but what is the likelihood that one trait can be directly associated with smolt-to-adult survival? This is particularly true when the comparisons are made after release and adjustment of smolts to the riverine environment. Consequently, as described, we continue to place a lower priority on this project. The study design does not ensure that they will produce valuable results. They will likely be chasing hypotheses. They need to describe an explicit set of hypotheses to test at the onset of the experiment, these were not adequately presented. Not fundable.
1j. Spring chinook morphometric and coloration	Comparison of body morphology and coloration in wild fish and hatchery fish reared under OCT and SNT. As in task 1i. **We place a lower priority on this work compared to other tasks** (but these costs are substantially less than for task 1i.). No response. Fundable at low priority
1k. Smolt physiology	Not considered in this proposal. No money requested for this task in this proposal.
1l. Adult monitoring at Prosser Dam	**Recommend continuation.** No additional comments. Fundable
1m. Adult monitoring at Roza and Cowiche dams	**Recommend continuation.** No additional comments. Fundable
1n. Spawning ground surveys	**While the ISRP strongly supports this task, we question whether sufficient resources are assigned to this task.** This response is inadequate as the surveys as described cannot answer the hypotheses (or issues) stated as examples. Further, the response does not address other spring stocks, coho, or steelhead. **This task is central and critical to the YKFP but we continue to recommend that the YKFP review these programs to ensure they provide the necessary data. Consideration of whether indices and trends are adequate or more quantitative data are needed is critical in this review. Fundable, but a report from these considerations is recommended.**
1o. Natural spawning observations	Response is adequate, presuming that this work is conducted. No associated budget was requested.
1p. Spring chinook residuals & precocial study	**Recommend completing this investigation.** No further comment. Fundable

1q. Hatchery / Wild reproductive success	**Recommend proceeding with research on spring chinook.** **We do not support the coho task as presently described.** The response acknowledged the need to clarify the coho portion of this project and identified two activities: identification of spawning and acclimation sites, and evaluation of reproductive success of introduced hatchery coho salmon. The initial challenge for coho salmon is simply to get naturalized spawners back into the Yakima system … and initial returns have been encouraging. The study of how a "domesticated hatchery" coho stock could re-adjust to natural conditions would be an interesting investigation but the baseline for such a study should already have been collected (or being so). The ISRP continues to recommend proceeding with the spring chinook work (Fundable), and we continue to have many comments on the coho project (Not fundable without further review). For example, the approach to use one large acclimation site does not seem designed to match the life history and behavior of coho. The approach of using numerous, small-scale, local, temporary acclimation facilities on tributaries is better suited to coho life history patterns. In this final review, we have two suggestions for the coho project: separate this restoration activity into a separate project description so that the basis of the plan can be more fully described and reviewed, and as part of the YKFP annual program review, organize a comprehensive review of the coho restoration program. This program could then be submitted to Council for review and funding.
1s. Scale analysis	Response is adequate. Fundable
1t. Fish Health	Not included in the budget, work coordinated with samples already available from Chandler facility and analyzed by USFWS
1w. Sediment impacts on habitat	This task is poorly described. **Authors must clarify before support is recommended.** The response notes that this program is basically a monitoring program … but is the data collected incorporated into any restoration programs. Once an area of sediment problem is identified how is it addressed, or is it simply incorporated as a limiting factor into the EDT model. Clarification of how this data will be used would strengthen this project. **The ISRP recommends proceeding with this task. Fundable**
2. Harvest	
2a. Out-of-Basin monitoring	While there are no costs associated with this task, are there information needed by investigators that they presently do not have? The response noted it is "difficult" to obtain data but did not comment on whether there is data that is necessary and not provided by outside agencies.
2b. In-basin monitoring	The response is adequate but we have two comments: a 10% sampling rate is less than conducted in many other fisheries but could be appropriate in these fisheries if the marking rate is high, the need for incidental mortality information depends on the management requirements. **We would recommend that** the number of tags being recovered with a 10% sampling rate be reviewed to ensure that objectives are being met, and that a program to examine incidental mortality rates be implemented. The latter will soon be required under the total mortality management provision of the Pacific Salmon Treaty. **Fundable**
3. Genetics	
3a. DNA data collection & analysis	**Recommend funding for analyses but reporting required before continued funding is provided … however we would expect this monitoring to continue beyond the "first full cycle of adult returns" as suggested in the text.** The response is adequate but we note that no comment is provided on the publication of results, and that only 250 "returnees" will be sampled under this budget. How can this be an adequate sample size to determine the pedigree data? **We would strongly recommend a review of sample allocation within this budget to ensure that the priority tasks are being addressed first. Fundable, following review of sample allocation.**

3b. Stray recovery …	**Recommend a preliminary investigation for the suggested budget.** A good response was provided for this task, the ISRP recommends proceeding. Fundable
3c. Domestication study	**As the ISRP has commented above, we believe there is an immediate need to establish a pure hatchery stock within the Cle Elum facility in order to study domestication and contrast with the supplementation groups currently being reared in the facility.** The response acknowledged the importance of this issue, and the ISRP appreciated the detailed response. However, we feel the response misrepresented an important point of the original review. Within the comments on project 3c (Domestication), the ISRP recommended HxH control lines … but in our general comments on supplementation the ISRP strongly recommended both a HxH and WxW comparisons. The ISRP in **NOT** recommending only a HxH line, nor the HS design as stated. The response identified three concerns about domestication research: direct measurement, disruption to supplementation effort, and limitations due to life history. While direct comparison is the essence of our comments and is essential, none of the other comments are really limitations to implementing what the ISRP recommended. While we acknowledge that the WxW "line" will not be a fully controlled experiment as the HxH line could be, we continue to recommend this as an essential feature of the experimental design. **NOT FUNDABLE UNTIL AN ADEQUATE EXPERIMENTAL DESIGN IS ACHIEVED THAT INCLUDES A HXH AND WXW CONTROL, OR FULLY JUSTIFIES WHY NOT.**
4. Ecological Interactions	**Most of these tasks could be considered individual research studies and may be more thoroughly described in a separate project.** Our concern was that such a brief statement does not provide any insight into the activity or provide any technical basis for review. We agree that potential impact of supplementation on non-target species is an important issue and merits investigation … but our task is to advise on the science applied to assess these impacts. A project proposal must provide the basis for review. Given the scope and costs of projects under Ecological Interactions, we suggest that one comprehensive proposal would be more informative and appropriate for this process. Fundable in concept but the methods must described in detail sufficient to allow for scientific review.
4a. Avian predation index	**Recommend support for a few years, but the need for an on-going continual program is uncertain.** The response agreed with ISRP comments. Fundable
4b. Fish predation index	The response agreed with ISRP comments and the YKFP has been developing plans to "implement experimental management" of fish predators. Fundable
4c. Indirect predation	**We place a lower priority on this work compared to other tasks.** The ISRP comments about the budget stemmed from not fully understanding the procedures to be used. Again this is an example of providing limited information on procedures due to combining all activities into one large project. **The response adequately clarified our concerns and we recommend support.** Fundable
4d. Competition / Prey index	No further comments. Fundable
4e. NTTOC	**We do not have adequate information upon which to evaluate methods, impacts, etc.** Good response, Fundable.
4f. Pathogen sampling	This seems to be an obvious source of concern in an otherwise comprehensive set of tasks … **and should be clarified**. Adequate response, Fundable.

The ISRP is increasingly concerned about funding supplementation experiments if the project sponsors have not fully thought about the design and evaluation of these programs. To us, these programs must, at least, express:

a) a comprehensible and relevant statement of hypotheses that address key questions,
b) a thorough design capable of testing these hypotheses,
c) a technically acceptable assessment of the size of the effect that the design is capable of resolving,
d) a credible argument that the design is sufficient to test these hypotheses, and
e) a clear statement of how supplementation will be evaluated and how "success" or "failure" in the experiment will be determined.

It is very difficult to make a concluding comment on a project as large and complex as the YKFP Monitoring and Evaluation project. Many of the programs and monitoring sites are being well managed, and we believe that important information can be gained from these programs and in this system. At present, the YKFP has the potential to be the most comprehensive study of supplementation on the west coast. Unfortunately, the issue of the experimental design and the fundamental need to assess supplementation tends to overshadow these positive features. Since most of the M&E projects are related to the supplementation program, should the ISRP recommend not funding any projects until an acceptable experimental design is agreed and implemented? From a strictly scientific perspective this may be appropriate, but the Basin already has a major investment in the Cle Elum facility and this study. Consequently, we recommend tentative funding of this project (except for the tasks noted as not fundable in the above table), with funding contingent upon an immediate resolution of the supplementation evaluation design. The timeframe and review process should be determined by the responsible management and funding agencies. If an agreed design is not achieved within the fiscal planning cycle, then it is certainly possible to terminate production while maintaining some monitoring and evaluation programs.

CBFWA Review Comments:
CBFWA's review is consistent with the ISRP [preliminary] review and has been adequately addressed in the response to the ISRP for these projects. The Yakima Klickitat Fisheries Program (YKFP) is a collaborative, science-based resource management program. Funding of ongoing aspects should continue until complete.

Project ID: 199701325

Yakima/Klickitat Fisheries Project Operations and Maintenance
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $2,549,774
3YR Estimate: $8,567,865
Short Description: To implement and test supplementation-based measures in order to increase natural production and harvest opportunities. Supplementation measures will be evaluated using a systematic, experimental program. Test feasibility of coho reintroduction.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal covers all the YKFP's fish production activities and research facilities including: operation of the Cle Elum Supplementation and Research facility (CESRF), the Prosser Fish facility, and the Marion Drain Fish facility. The activities included are: brood stock collection, spawning, incubation, rearing, and acclimation/release for fall and spring chinook, and coho salmon. While this proposal is more limited in details provided, the tasks are clearly listed and costs are reasonable given their duration and activities (with two exceptions noted below). Costs projected through 2006 are very similar, increasing about 10% over this period.

Concerning technical content of the proposal, the ISRP note one statement we do not agree with. Concerning brood stock spawning at the Cle Elum facility, the proposal states:

"CESRF utilizes a factorial mating (minimum 2x2 crosses) design to ensure genetic diversity." (Section 2f, page 6)

Such a design cannot ensure diversity; but as described during the tour, is intended to reduce the risk of bottlenecks and reduce the rate of loss of genetic variation in the hatchery brood stock. The genetic relatedness of the brood stock is unknown, so a breeding design can not ensure diversity (although it could be maximized within the parent generation through genetic screening before mating). This criticism is mainly semantic but we should avoid misleading expectations.

The two exceptions noted above are: the cost of operations for the Prosser Fish Facility (objective 1) and the basis for the Indirect cost estimate of $450,546 in Part 1, section 8. The basis for the operational costs are not provided for any of the three fish facilities in this proposal but the cost for the Prosser activities seem large and it is unclear how this is separated from the costs included in the YKFP Monitoring and Evaluation proposal. For example, both this proposal and the Monitoring and Evaluation proposal refer to the coho acclimation ponds and include costs for operations. Contract managers should be aware of these potential overlaps but as reviewers of the technical program we are unable to comment further on these activities. The indirect costs in this proposal are large relative to the personnel costs … over 50% of the personnel costs compared to 19 to 20% in other proposals. This is again a task for a contract manager.

Project ID: 198811525

Yakima/Klickitat Fisheries Project (YKFP) Design and Construction
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $1,595,000
3YR Estimate: $8,286,000
Short Description: Design/Construction:
1. Nelson Springs Office and Research Facility
2. Interpretive Center
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part for FY02, and approve annually or at milestones after that.

For FY02 this proposal is limited to the replacement of YN office facilities ($1,375,000 in FY02) at Nelson Springs (Parcel "B") and construction of an Interpretative Center ($220,000 in FY02) at Cle Elum Supplementation and Research facility. The proposal provides good justification for the replacement of current offices at Nelson Springs and the ISRP advises that an Interpretative Center could provided substantial educational value given the research programs at that facility. The new office facility would provide secure housing of the YN research library, their Data Management Center, and presently eight staff members.

Future allocations under this proposal are contingent on the results of feasibility studies for coho and fall chinook restoration programs, and of the steelhead kelt re-conditioning program. The potential costs of these future construction projects are substantial and can only really be considered following review of the studies. Planning for the coho and fall chinook production programs were expected to begin in 2003 and 2004.

Project ID: 198812025

Yakima/Klickitat Fisheries Project (YKFP) Management
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $1,262,548
3YR Estimate: $5,295,760
Short Description: This proposal supports the Yakama Nation's (YN) policy, management and administrative activities related to YKFP operations in the Yakima and Klickitat River Subbasins, including all M & E, O & M and Design and Construction activities.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal provides for all Yakama Nation management functions associated with the Yakima/Klickitat Fisheries Project in the Yakima and Klickitat sub-basins. The Yakama Nation serves as the lead agency and is responsible for the implementation of programs and activities, in coordination with the Washington Department of Fish and Wildlife. Given the size and complexity of the YKFP, the project requires significant management and administrative resources. This proposal includes management of programs, data, and YN habitat planning activities, and includes the annual YKFP review of research programs.

The ISRP found the proposal to be well organized and were impressed with staff during the site tour. The ISRP notes, however, that the concern for a comprehensive experimental design for the supplementation experiment does not reflect well on this aspect of the YKFP management. We are uncertain where and/or why the problem of incomplete design developed but some review and consideration of this question is very appropriate and recommended. The review committee recognizes that decisions in the YKFP are made amongst the co-managers and technical advisory groups. By commenting in this project, we are certainly not attributing fault to any one body.

Approximately one-half of the budget is for salary of 13.75 FTE, charged out at 19% benefits and 19.5% indirect costs. Sub-contracting costs were not differentiated within task and could be more clearly identified by work activity. Annual costs were projected to remain similar between 2002 and 2006.

Project ID: 199506425

Policy/Technical Involvement and Planning in the Yakima/Klickitat Fisheries Project
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $187,800
3YR Estimate: $580,472
Short Description: Manage policy and technical oversight of the Yakima/Klickitat Fisheries Project via the project's Policy Group and Scientific and Technical Advisory Group as delineated in the agreed-upon project management structure.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The Washington Department of Fish and Wildlife (WDFW) and the Yakama Nation are co-managers of the YKFP. Project management is conducted through a policy group supported by a scientific and technical advisory committee. These joint groups are responsible for ensuring that all YKFP activities are implemented efficiently and effectively. This proposal describes WDFW participation in these co-manager responsibilities. The proposal is well organized and seems limited to the advisory role described

in the text. The budget for FY02 is reduced from the forecasted level and remains very similar through FY06 (less than a 10% increase).

The failure of the planning effort to produce a solid experimental design reflects poorly on this project.

Project ID: 199705100

Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Yakima Side Channels
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $2,320,624
3YR Estimate: $6,281,719
Short Description: This project supports the Yakama Nation's (YN) activities related to YKFP habitat improvement and acquisition activities in the Yakima Subbasin. The project goal is to protect and restore off-channel rearing habitats in priority mainstem reaches.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. The stated project goal is to protect and restore off-channel rearing habitats in priority mainstem reaches, particularly those with good connectivity between the river channel and floodplain. Under current conditions, much of the mainstem Yakima River is sharply compromised because of flow regulation and diking that has removed large portions of the floodplain. The Yakama Nation has made significant progress in arranging land acquisitions in recent years and has arranged significant cost sharing agreements with the Nature Conservancy and NMFS ($700,000 for FY02). This proposal involves one Habitat Biologist, costs associated with the purchase of two land parcels (460 acres), plus limited funds for property maintenance and evaluation of fish and wildlife (95% of the BPA funds are for land acquisitions, total funds $2.32 million in FY02). Projections for future years (through FY06) are for similar, but slightly lower, costs. Future costs could change quickly if new opportunities were identified.

Project ID: 199803400

Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Reestablish Safe Access into Tributaries of the Yakima Subbasin
Sponsor: YKFP
Subbasin: Yakima
2002 Request: $0
3YR Estimate: $860,000
Short Description: This proposal supports the Yakama Nation's (YN) activities related to YKFP habitat improvement and acquisition activities in the Yakima Subbasin. The project rebuilds migratory passage into historically productive tributary habitats.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, but there is clearly need for a process to prioritize the numerous habitat restoration and purchase proposals in this basin.

The goal of this proposal is to assist in the rebuilding of spring and fall chinook, coho, bull trout, and steelhead populations in the Yakima River, by re-connecting productive tributary habitat that has been cutoff from the mainstem. Many tributaries have artificial barriers near the confluence and flow has been diverted into numerous irrigation channels. The tributaries identified in this proposal provided several hundred miles of habitat (pre-development) for anadromous species and continue to have excellent rearing potential in comparison with the mainstem habitats. Many of the tributaries still have healthy channel

sinuosity, width-to-depth ratios, and are more thermally benign during the winter. In contrast, the mainstem is heavily regulated for irrigation, which has resulted in high flows during the summer and lower flows during the winter. The specific tributaries identified in this proposal would reconnect over 100 miles of rearing habitat (in 10 tributaries) with the mainstem Yakima River.

Project ID: 25022

YKFP Big Creek Passage & Screening
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $175,280
3YR Estimate: $205,280
Short Description: The project would provide fish passage over a concrete dam with a series of weirs in combination with a short fishway, opening up 10 miles of habitat.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. From the response, it appears that streamflow availability will be adequate to restore the 10 miles of Big Creek to anadromous fish production. It is also clear that there would be no deleterious impacts on native resident fish stocks above the currently existing barrier. The response was persuasive in maintaining the review panel's view that this looks like a relatively inexpensive project that deserves higher priority (i.e., provide more fish production benefits per dollar) than most of the cohort of new fish-related Yakima tributary proposals.

Project ID: 25025

YKFP -- Secure Salmonid Spawning and Rearing Habitat on the Upper Yakima River
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $2,300,000
3YR Estimate: $2,438,000
Short Description: Purchase of 370 acres of upper Yakima River wetlands through fee simple acquisition to secure spawning and rearing habitat for salmonids.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, but at a low priority. Would purchase three land parcels in upper Yakima basin: two of 80 acres and 96 acres, part of wetland complexes with undefined anadromous fish use, and one parcel of 300 acres that is valuable for bull trout habitat.

This is a minimal proposal. There is surprisingly little information on their importance to fish production. There is no indication that these parcels rate high in subbasin priority. It is difficult to assess the level of support from other agencies and groups. These small, relatively expensive parcels by themselves would be higher priority if part of a coordinated "plan " but there is no indication of that at this point.

A related High Priority Proposal to acquire the two smaller parcels was previously reviewed by the ISRP and ranked at the C level. Review comments included: "Although the proposal meets the solicitation’s basic criteria, the proposal is inadequate and fails to provide adequate information on fish passage concerns into the restored area, stock status, and expected benefits from the proposed work". Those comments appear to remain appropriate for the current proposal.

Project ID: 25023

Yakima-Klickitat Fisheries Project - Manastash Creek Fish Passage and Screening
Sponsor: YKFP - WDFW
Subbasin: Yakima
2002 Request: $0
3YR Estimate: $1,055,473
Short Description: The project will provide fish passage and screening for 5 irrigation diversions and will enhance stream flow which is currently a limiting factor downstream of these diversions. This project could restore access to approximately 30 miles of good habitat.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. Good argument is put forth in support of funding this effort now rather than deferring to the next funding cycle. Because of uncertainties or limitations in future flow regimes and potential fish production, this seems a medium priority, lower than the Big Creek project. The map was helpful. It is evident that there would be no deleterious impacts on native resident fish stocks above the diversions.

Project ID: 25024

Yakima-Klickitat Fisheries Project - WILSON CREEK SNOWDEN PARCEL ACQUISITION
Sponsor: YKFP - WDFW
Subbasin: Yakima
2002 Request: $206,580
3YR Estimate: $206,580
Short Description: Proposal is to acquire a portion of Wilson Creek, and its associate floodplain at Ellensburg, Washington, and perform riparian restoration activities.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, but priority of this site is uncertain based on the materials provided. The response provided relatively little new insight into possible fish and fishery benefits from this project, except to reinforce how heavily altered the system is and how its remediation will be costly in terms of dollars and time. In the absence of a clear understanding of the potential of this project, its limiting factors, and especially how it fits into some overall plan for Wilson Creek, the reviewers feel they have little choice but to view this as fundable but at a low priority. The map was helpful.

Umatilla and Walla Walla Hatchery and Related Passage Proposals

Project ID: 198343500

Operate and Maintain Umatilla Hatchery Satellite Facilities
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $956,849
3YR Estimate: $3,948,549
Short Description: Acclimate juvenile salmon and steelhead prior to release in the Umatilla Basin. Collect, hold, and spawn steelhead, coho, and chinook salmon and provide eggs to ODFW and other hatcheries for incubation, rearing, and later release in the Umatilla Basin.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. (We have several suggestions relating to this proposal that are found in our comments on the Hatchery Evaluation Proposal, project # 199000500.) This project functions as part of the Umatilla Hatchery Project. There is an ongoing and probably increasing cost associated with O&M of these facilities. While one might argue that acclimation in the satellite facilities may or may not accomplish much in terms of producing a homing tendency of the adults to return to those satellite sites, the practicalities of the matter are that there is insufficient water at the hatchery proper to rear the number of fish resulting from the egg take, so some outside facilities are necessary. Monitoring and evaluation should be designed to address specific questions raised by assumptions involved in this project. (See our comments on the Hatchery monitoring and evaluation Proposal.)

Project ID: 198802200

Umatilla River Fish Passage Operations
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $343,979
3YR Estimate: $1,084,394
Short Description: Increase survival of migrating juvenile and adult salmon and steelhead in the Umatilla Basin by operating passage facilities, flow enhancement measures, trapping facilities, and transport equipment to provide adequate passage conditions.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal is a continuation of a 13-year project to operate fish passage facilities on the Umatilla River. The proposal is well written and complete. This appears to have been a successful project over a period of considerable evolution as fish populations have been progressively restored and water returned to the river. The long-range objective is to phase out this project as river flows improve and problems with in-river migration are dealt with.

The sponsors need to make the ties of how this fits with program's Monitoring and evaluation project 199000501. They state on page 6 that they participate in the Umatilla Management and Monitoring and Evaluation Oversite (sic) Committee. What we are looking for is a specific statement of how they work closely with both monitoring and evaluation projects to assure that any data collected are shared with them.

Project ID: 198903500

Umatilla Hatchery Operation and Maintenance
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $917,559
3YR Estimate: $2,833,809
Short Description: Restore Umatilla River chinook and steelhead fisheries and populations through release of subyearling and yearling smolts produced at Umatilla Hatchery
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. See comments on project # 199000500.

Project ID: 199000501

Umatilla Basin Natural Production Monitoring and Evaluation Project
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $300,716
3YR Estimate: $910,716
Short Description: Monitor and evaluate natural spawning, rearing, migration, survival, age and growth characteristics and life histories of adult salmon, steelhead, bull trout and mountain whitefish, and their naturally produced progeny in the Umatilla River Basin.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part. The ISRP clearly requested results on trends in abundance from data collections and offered several suggestions on experimental design and fish enumeration, but instead received details of methods with occasional mention of findings. The response was inadequate. This is a monitoring project, yet inadequate information was presented to show that benefits are accruing from past and present program activities, to permit assessment of the present strategy, and to justify continued funding.

Work to meet Objectives 2 and 7 is fundable. Work under Objectives 1, 3, 5, and 6 must show that it is not handicapped by the problem experienced with the Oregon coastal coho salmon monitoring as implemented from the 1950's to the 1990s, which was inadequate and gave inaccurate results. Oregon's protocols were changed to include random selection of sampling sites. If funded, protocols under this project must be consistent with those in the Oregon Plan as being implemented in projects 199801600 and 25088.

Work under Objective 4 needs to use more rigorous and reliable methods than telephone surveys to estimate harvest.

Project ID: 200003900

Walla Walla Basin Natural Production Monitoring and Evaluation Project
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $482,244
3YR Estimate: $1,470,244
Short Description: Monitor and evaluate natural spawning, rearing, migration, survival, age and growth characteristics and life histories of adult salmon, steelhead, bull trout and mountain whitefish, and their naturally produced progeny in the Walla Walla River Basin
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part: The response was not adequate. The project proposal identified accomplishments beginning in 1998, including spawning surveys, age and growth, rearing densities, etc. Since this review is of progress, reviewers would like to see what is happening in the system even if only a short data series is available. The response did not include any data to facilitate such a review, or to justify continued funding.

Work to meet Objectives 2, 6, and 7 is fundable. Work under Objectives 1, 3, 4, and 5 must show that it is not handicapped by the problem experienced with the Oregon coastal coho salmon monitoring as implemented from the 1950's to the 1990s, which was inadequate and gave inaccurate results. Oregon's protocols were changed to include random selection of sampling sites. If funded, protocols under this project must be consistent with those in the Oregon Plan as being implemented in projects 199801600 and 25088.

Project ID: 199000500

Umatilla Fish Hatchery Monitoring and Evaluation
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $626,178
3YR Estimate: $1,830,407
Short Description: Evaluate juvenile rearing, adult survival, stock life history, straying, fish health and sport fishing and catch contribution for salmon and steelhead reared in oxygen supplemented and standard raceways at Umatilla Hatchery.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable as stands. Fundable if a more detailed review of the project is provided that addresses the ISRP questions. ODFW responded to all of the ISRP questions. It would also assist reviewers if the goals were clearly stated based on a review of the available evidence and literature, presentation of available data, and with well-defined experimental designs to assess the achievement of these goals. What is the desired hatchery:wild ratio and why? Would wild adult returns remain constant (as they appear to have been from 1992 to 1999), increase, decrease or otherwise be unaffected by hatchery fish presence compared to controls? What is the number of replicates needed to answer this question? The monitoring should continue but there must be more effort in either the presentation of the evaluation process or in development of it. For example, an experiment to assess the contribution of hatchery fish to the natural spawning of summer steelhead (a goal of this proposal) may require some or all of the information that is proposed to be collected, but perhaps an alternative approach is available that addresses the numerical (abundance and survival) and biological (morphology and genetics) response, and population fitness in the longer term.

Investigators in the Tucannon have concluded that supplementation does not work, and this study shows that survival of hatchery fish relative to wild is low. The latter may also degrade natural production. How do these results influence the goals and objectives of this program?

Project ID: 198805302

Design and Construct Umatilla Hatchery Supplement
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $5,352,043
3YR Estimate: $5,352,043
Short Description: Build incubation/juvenile rearing capabilities at the existing South Fork Walla Walla spring chinook adult holding and spawning facility to rear spring chinook for acclimation/release in the Umatilla Basin.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not Fundable: A scientifically sound justification was not given for construction of this facility to increase hatchery fish production. It is a proposal to produce, as soon as possible, adult fish for harvest. The sponsors view waters in the Umatilla Basin as fish production areas that cannot produce the desired harvest, so a hatchery is needed. If the Umatilla Basin is to be viewed as a fish farming operation, there are few technical questions concerning the proposal. Natural production of spring chinook salmon in the Umatilla Basin is estimated by the sponsors to produce enough smolts to yield 2000 adults, but sponsors insist they cannot replace themselves (no data presented; part of the reason they cannot replace themselves may be excessive harvest – removal of 4000+1000 pre-spawners is equivalent to harvest [62%], a level that probably is excessive for a natural population). The sponsors want to harvest 4000 adults. If these desires are to be met, there is no choice but to add a large component of hatchery fish to the run. A kill of 5000 fish (4000 harvest, and 1000 other) would require improvement of conditions in the system to produce the smolts needed for more than 10000 adults. That level of production would be needed to keep the kill below 50%, but even that level of harvest is likely excessive for these fish. Present productivity would need to be increased by more than 5-fold. Given that need, it is likely that harvest of 4000 will require perpetual addition of hatchery fish.

If, however, self-sustaining natural stocks of Umatilla salmonids are to be restored and protected, this proposal is not fundable. The statement that "smolt-to-adult returns to the Umatilla River have been found to be up to four times lower for spring chinook produced at Umatilla Hatchery compared to those produced at Bonneville and Little White Salmon hatcheries" is a concern, since it is not clear that the proposed construction will improve that situation. More review is required here, considering the cost, and that review needs to be part of a basin-wide consideration and plan. The review must encompass risk and uncertainty in hatchery plans, weighing both benefits and costs (including potential costs to wild production).

We understand the goals are to achieve rebuilding of salmon populations to levels that would support harvest, with specified levels of hatchery and natural production. The tribe is particularly interested in restoring natural production. The proposal seems to reduce the issue to a simple matter of selecting a desired mix of hatchery and natural components, whereas the issue is in fact complicated by many factors, such as interactions of hatchery and naturally produced fish, relative survival rates of the two, effects of the fishery on survival rates, and limitations of habitat.

The ISRP has repeatedly advised the use of temporary rearing facilities, but we have yet to see an indication that this has been incorporated in any salmonid restoration plans. We understand BPA's reluctance to fund construction of facilities that are not designed for long-term use. On the other hand, long-term use of hatchery facilities could be counterproductive in the context of a plan that focuses on natural production.

Population biology theory and existing experimental data suggest that hatchery fish can compromise dynamics and structure of natural populations. Consequently, the scientific credibility of a program that includes restoration and protection of wild stocks, must be guided by carefully designed experiments to resolve the issues associated with these predictions and findings. Moreover, the 2000 Fish and Wildlife Program stipulates that artificial production must be approached experimentally. Some unresolved questions include: how will harvest be managed to prevent excess fish at the hatchery while at the same time prevent overexploitation of the natural fish population? (Under the 2000 Fish and Wildlife Program, even "harvest hatcheries" must be located and operated in a manner that do not lead to adverse effects on other stocks through excessive straying or excessive take of weak stocks in a mixed-stock fishery). What exploitation rate can the wild fish sustain? If overexploitation of natural fish is permitted (to take advantage of the hatchery fish production) thus requiring supplementation of the natural fish, how and by how much does that compromise "fitness" of the population? A donor stock was used to initiate the run, and fish from that run are taken into the hatchery program and subsequently used to supplement the natural run. How is adaptation of these fish to conditions in the Umatilla Basin compromised by the continued introduction of hatchery fish to the population?

CBFWA Review Comments:
Reviewers question the potential for interactions with listed steelhead. These issues will be addressed through NWPPC processes.

Project ID: 200003800

Design and Construct NEOH Walla Walla Hatchery
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $2,850,000
3YR Estimate: $2,850,000
Short Description: Add incubation/juvenile rearing capabilities to the existing South Fork Walla Walla adult holding/spawning facility to produce spring chinook salmon and acclimate summer steelhead for release in the Walla Walla River Basin.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority (Three Step Process)
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not Fundable: A scientifically sound justification was not given for construction of this facility to increase hatchery fish production. It is a proposal to produce, as soon as possible, adult fish for harvest. Waters of the Walla Walla Basin are viewed, by the sponsors, as a production area that cannot produce the desired harvest, so a hatchery is needed. If the Walla Walla Basin is to be viewed as a fish farming operation, there are few technical questions concerning the proposal. The sponsors have estimated that natural production of spring chinook salmon in the Walla Walla Basin is enough smolts to return 3000 adults. Their goal is to harvest 2000 of these fish. If these desires are to be met in the near-term, hatchery fish have to be added to the run. A kill of 2000 (plus an unknown number of pre-spawn deaths) fish would require improvement of conditions in the system to produce smolts needed for more than 4000 adults. That level of production would be needed to keep the kill below 50%, a level that also may be excessive for these fish. Present productivity would need to be increased by at least 50 percent. So addition of hatchery fish is needed to meet the harvest goal until natural production can be sufficiently increased to meet the goal. The needed increase via habitat improvement may be attainable, so temporary facilities could be used to produce the smolts.

If, however, native stocks of Walla Walla salmonids are to be restored and protected, this proposal is not fundable. The statement that harvest was open in 8 out of the last 12 years while natural spawning was 47% of the (poorly defined) goal suggests that harvest was not managed effectively. The natural production goal was apparently based on available habitat, but there was no explanation of how either was calculated by managers, or why and how habitat enhancement efforts have potentially doubled the adult production

from 1000 to 2000 adults. A strong argument for a proposal to support a harvest (and potential overexploitation) that might further affect wild production, was not provided, particularly since the potential of wild production in newly accessible and improved habitat seems the better option.

Population biology theory and existing experimental data suggest that hatchery fish can compromise dynamics and structure of natural populations. Consequently, the scientific credibility of a program that includes restoration and protection of wild stocks, must be guided by carefully designed experiments to resolve the issues associated with these predictions and findings. Moreover, the 2000 Fish and Wildlife Program stipulates that artificial production must be approached experimentally. How will harvest be managed to prevent excess fish at the hatchery while at the same time prevent overexploitation of the natural fish population? (Under the 2000 Fish and Wildlife Program, even "harvest hatcheries" must be located and operated in a manner that does not lead to adverse effects on other stocks through excessive straying or excessive take of weak stocks in a mixed-stock fishery). What exploitation rate can the wild fish sustain? If overexploitation of the natural fish is permitted so as to take advantage of the hatchery fish production, thus requiring supplementation of the natural fish, how does that compromise "fitness" of the population? How was the donor stock chosen? Apparently, an occasional salmon strays into the system. Why haven't these fish been successful spawners? Does the same fate await other donor fish? How will adaptation of these fish to conditions in the Umatilla Basin be compromised by the continued introduction of hatchery fish to the population? What is the expected interaction with steelhead?

We sense a difference in viewpoint between the state agencies and the tribe as to which alternative is preferred. To some degree policy and technical issues impinge on one another with respect to a decision whether or not to proceed with implementation of a full-scale hatchery program in the Walla Walla River. We feel there should be a statement of agreement among the affected management entities prior to implementation of a hatchery program, because there are potential long-term effects on what might be obtained from natural production and harvest. Based on past experience the Council should be assured prior to construction that the water supply at any facility it approves will be adequate.

CBFWA Review Comments:
This project should continue to move through the three-step process.

Project ID: 198902700

Power Repay Umatilla Basin Project
Sponsor: BPA
Subbasin: Umatilla
2002 Request: $1,750,000
3YR Estimate: $5,250,000
Short Description: Provide power or reimbursement of power costs to Bureau of Reclamation for Umatilla Basin Project pumping plants that provide Columbia River water to irrigators in exchange for Umatilla River water left instream.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The functions of this project for restoration of salmon were finally made clear. A complicated program of water pumping that ensures flows for fish, and seems to have produced tangible benefits (see monitoring and evaluation, 199000501). The pumping enhances upstream and downstream passage for salmon and steelhead. The Subbasin Plan was particularly helpful in putting the Umatilla River projects in a coherent context. The implementation of the program seems to have begun in 1976, mandated by Congress, prior to the creation of the Power Planning Council. One is curious to know how the charges came to be the responsibility of BPA. This is especially important because power costs are rising so rapidly. When we first reviewed this project that annual cost was $450,000. It is now expected to exceed $1 million in the upcoming fiscal year.

Project ID: 198343600

Umatilla Basin Fish Facilities Operation and Maintenance
Sponsor: Westland Irrigation District
Subbasin: Umatilla
2002 Request: $498,512
3YR Estimate: $1,571,587
Short Description: Provide Operations and Maintenance services of fish passage and satellite facilities in the Umatilla Basin.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The site visits and presentations clearly indicated that benefits are accruing from these efforts. The additional benefits of enumeration facilities at some sites (e.g., resistivity counters for adult migrants) might be considered. Improvements elsewhere (e.g., flow increases due to habitat works) may lead to some reductions in items such as fish hauling, thus cost saving. Includes operation of the fish pump at Three Mile Dam, which is a tool that needs to be explored for future research on wild/hatchery interactions. Several rotating drums are utilized for fish screening – perhaps horizontal screens would be better suited for some areas. The evidence of a large component of strays (Deschutes?) should be a major concern. Coordination with the monitoring and evaluation projects (Hatchery and Natural Production) on this subject is essential.

CRP, CREP, Buffer, and No-till Proposals

The set of proposals grouped below includes several proposals from local and county soil and water conservation districts (SWCDs) that ask for relatively modest amounts of financial support (~$70K) for an additional FTE in order to support processing of requests for riparian buffers and habitat enhancement through federal CRP programs (CRP, CREP, CCRP). While there exists a policy question in these projects about the use of BPA funds to support basic personnel in other federal and state agencies, the cost effectiveness of these projects for accelerating habitat restoration activities is impressive. A compelling aspect of the program and the project request is the ability to leverage significant amounts of federal support ($3-4 million) through the well-established CRP programs with a modest investment by BPA.

Habitat restoration under these programs has important stakeholder considerations. Landowners in the middle Columbia area (like those in the upper Columbia and upper Snake) are cautious about their support for and involvement in federal aid programs. This caution is often overcome by the personal relationship of local fish, wildlife, and land managers with local landowners. Presently, most of the SWCD offices appear to have more requests from local landowners for assistance with riparian buffer enhancement than they can process in a timely manner. Enthusiasm for and participation in the program could be jeopardized if the lag time between landowner request and project implementation is too great.

SWCDs should consider lumping their proposals. The basin has made a decision through the provincial review process to approach project review and funding through a geographical hierarchical structure of provinces and subbasins. The SWCDs should also adopt this approach within the NPPC-BPA funding arena. If partitioning of funding to individual SWC districts is needed for cost accounting within the SWC agency hierarchy, this can be accomplished within the budgeting portion of the proposal solicitation form (Part 1).

What fails to emerge from the suite of presentations is an overview of the magnitude of the problem at the subbasin level (the unit of management for fish and wildlife), the role of the SWCDs in addressing the problem, and the progress that the SWCDs have made in resolving the problem. In future, these relationships should be addressed by the SCWDs and the relevant resource agencies in the Council's subbasin planning process.

Project ID: 25014

Establish Riparian Buffer Systems
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $67,119
3YR Estimate: $204,497
Short Description: Implement riparian buffer systems using cost share provided by USDA, State of Oregon, and private landowners (RPA Action 152).
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
The project is fundable as proposed. A response was not requested by ISRP, however the response from the proposers was appropriate and explained some of the limitations of programs within the Soil and Water Conservation Districts. In particular, they pointed out the need for combining Federal funding with other sources to implement protection of riparian systems in cases that do not fully meet Federal requirements. See ISRP general comments on the set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive.

Project ID: 25080

Gilliam SWCD Riparian Buffers
Sponsor: Gilliam SWCD
Subbasin: John Day
2002 Request: $75,086
3YR Estimate: $232,080
Short Description: Plan and implement riparian buffer program using USDA, Oregon and private landowner costshare.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive.

Project ID: 25073

Wheeler SWCD Riparian Buffer Planning and Implementation
Sponsor: Wheeler SWCD
Subbasin: John Day
2002 Request: $75,086
3YR Estimate: $232,080
Short Description: This project will implement a riparian buffer program using cost share funding from USDA, State of Oregon and private landowners.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. See comments above for this set of SWCD proposals. This proposal is to implement riparian buffer systems in the Lower John Day subbasin. It includes 1 FTE to provide the technical planning support to implement 60 riparian buffer system contracts on private lands under the USDA CRP and CREP. Activities will include planting and fencing. Willing landowners have been identified but technical support to help them develop conservation plans is missing. This project has excellent coordination with other

agencies and close ties to related projects. Another cost-effective project from a SWCD that will leverage large amounts of USDA money for riparian restoration.

Project ID: 25006

Provide Coordination and Technical Assistance to Watershed Councils and Individuals in Sherman County, Oregon
Sponsor: Sherman SWCD
Subbasin: John Day
2002 Request: $95,670
3YR Estimate: $229,777
Short Description: One watershed council coordinator and two planner/designers will provide support to five watershed councils in Sherman County. All future conservation projects will be based on watershed plans and individual ranch plans developed by these positions.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal from the Sherman County SWCD is another cost-effective SWCD proposal that would provide a watershed coordinator and two planners for 5 watershed councils to help them implement conservation projects with agricultural landowners. The predominance of agricultural use of the land means that conservation plans must fit within the overall operating plan for the agricultural enterprise. The project would produce resource management plans that would be implemented with cost-share funding from state and federal agencies. The new FTE would replace services that were formerly contracted or provided in-kind by NRCS. The proposal provides a convincing case for the need to fund these activities, and presents good detail on objectives and methods. It also supports project 25050 (conversion to direct seed/no till wheat agriculture). It is unclear if the planned personnel would also help landowners to prepare the paperwork to establish CRP and CREP proposals for streamside buffers or to take upland cropland out of production. Provisions should be in place to monitor and evaluate the success of these personnel.

Project ID: 199901000

Mitigate Effects of Runoff & Erosion on Salmonid Habitat in Pine Hollow and Jackknife
Sponsor: Sherman SWCD
Subbasin: John Day
2002 Request: $41,980
3YR Estimate: $122,580
Short Description: Implement practices to reduce erosion and flooding, allowing natural recovery of riparian vegetation and channel type in Pine Hollow and Jackknife Canyons. Future phases will focus on replanting or protecting critical areas in the stream corridor.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fund with high priority. This is a companion proposal for Sherman County Water Conservation District proposals #25050 and #25006. This proposal discusses the enrollment of the Mobley ranch in the CREP program with two others that have initiated discussions for CREP. The CRP and CREP programs have potentially high payoffs in the Columbia Basin.

The proposed work would recover riparian habitat in Pine Hollow watershed and Jackknife Canyon to slow runoff during peak flows and increase summer flows. The watershed restoration activities were developed cooperatively with landowners through a watershed council. There is excellent coordination and cost-sharing among agencies and other groups. The project will develop 6 range management plans and implement sediment controls, upland pasture watering, pasture reseeding, brush control and fencing.

Installations will be monitored. Water temperature will also be monitored, and annual spawning surveys will be conducted. This is another low cost proposal from a SWCD that has the benefit of being developed cooperatively with landowners. It looks extremely cost-effective.

Project ID: 25047

Morrow County Buffer Initiative
Sponsor: Morrow SWCD
Subbasin: Umatilla
2002 Request: $75,086
3YR Estimate: $232,080
Short Description: Implements riparian buffer program using cost share provided by USDA, State of Oregon, and private landowners.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive. The proposal is well prepared. Protection of riparian areas is an important part of watershed restoration. It is troublesome, however, that some potential participants in the program have declined. The reason offered was a lack of staff. However, there was a proven record of accomplishment and an experienced planner. They should pick at least one buffer site as a model or demonstration "show case" site. A hydro-geomorphological model of a fully buffered system might prove instructive, particularly when 50 or 100-yr flood events are considered. This seems like a worthwhile project to parlay one FTE of BPA funds to attain over $2 million in other funds. The proposed work to foster riparian buffer protection and rehab is surely needed and in the regional plans. Drumming up landowner interest is a big job and one that seems to have slipped recently. Riparian buffers are good in their own right for fish and wildlife, but it would have been good to have the affected fish species listed. Better recognition of other BPA-funded projects in the area would have been useful. There is no M&E, but good riparian improvement may be judged without a specially funded study, or by using a modeling approach and/or demonstration sites. We applaud the partnership approach.

Project ID: 25048

Accelerate the Application of Riparian Buffers in the Upper Deschutes Subbasin
Sponsor: Wy'East RC&D
Subbasin: Deschutes
2002 Request: $73,985
3YR Estimate: $218,619
Short Description: A project to apply riparian buffers to remove sediment and nutrients, stabilize stream banks, improve fish habitat, provide food sources, nesting cover and shelter for fish and wildlife in riparian ecosystem habitat in the Upper Deschutes Basin.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. See comments above for this set of SWCD proposals. The cost effectiveness of this and similar projects for accelerating habitat restoration activities is impressive.

Project ID: 25077

Umatilla County Conservation Buffer Project
Sponsor: Umatilla SWCD
Subbasin: Umatilla
2002 Request: $152,368
3YR Estimate: $470,954
Short Description: Implement buffer program using cost share provided by Confederated Tribes Umatilla Indian Reservation, USDA, State of Oregon, and private landowners.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable with the set of proposals requesting FTE's to help secure CRP, CREP funding for riparian buffer projects on agricultural lands. However, the response did not adequately address the ISRP's concerns. These concerns apply to the set of riparian buffer projects. This project highlighted the need for a tie to a watershed assessment, a monitoring plan for performance (implementation) and effectiveness monitoring, as part of a basinwide effectiveness monitoring design.

Project ID: 199401807

Garfield County Sediment Reduction and Riparian Improvement Program
Sponsor: PCD
Subbasin: Mainstem Snake
2002 Request: $212,000
3YR Estimate: $642,500
Short Description: Coordinate, implement, and monitor conservation practices for the reduction of sediment from the uplands of Garfield County and enhance habitat in the riparian zones of the streams to improve water quality for Steelhead and Chinook Salmon.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable as stands. Fundable only if they include better justification of the biological benefits of converting farmland production to no-till and a rigorous economic analysis.

This is an ongoing project (since 1993) that was first directed to conditions in the Pataha Basin, but is now being expanded to entire Garfield County. Sponsors acknowledged that management of riparian areas and uplands are key elements in determining the quality of streams for native fishes, a conclusion apparently reached after site-specific engineered projects failed. The performance of these bio-engineered projects should be documented so that others could benefit from their experience, especially since this approach is being used as a guide for projects elsewhere.

The materials provided failed to address the key questions raised by reviewers. No data were presented to review progress in increasing fishery or habitat benefits, but a review and copy of materials in agency reports was used to justify the approach. The approach appears valid in reducing sediment, but the material provided indicated sediment is delivered from catastrophic storm events, and we asked for evidence of improvements in fish abundance and survival.

The proponents note that the market will dictate whether there is general acceptance of a no-till approach. However, they then proceed to make a strong case for continuing the no-till project. Reviewers are left with the uncertainty that even with full cooperation in no-till farming, sediment, habitat, and economic issues will remain. Like project 25050, this is an experiment in the economics of alternate farming practices. The larger question that both these projects should be helping to answer is "what is the most cost-effective way

to reduce sedimentation in streams?" No-till, riparian buffer strips, and CRP set-asides should all be analyzed to address this question.

The project needs involvement of an experienced analyst to assess effectiveness of the work to date. The primary need is to assess whether or not the program is causing significant reduction of sediment input to streams and to important downstream spawning areas. If an improving trend can be described, what is the distribution and abundance of acres needed to be under no-till to attain substrate goals in spawning areas? No-till seems to be an effective means to reduce erosion, and that is good, but the goal here is to improve conditions for fish.

No evidence is provided to convince skeptical reviewers, ranchers, and rate-payers that increasing investment in this project is helping to increase fish abundance, or that it has any realistic chance of significantly improving conditions for fish in the foreseeable future

CBFWA Review Comments:
This project benefits an ESU by reducing the amount of soil erosion on cropland, rangeland, and riparian areas through conservation efforts. Project may address RPA 153. This 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. There needs to be oversight by the COTR to insure that actions taken will benefit fish and wildlife.

Project ID: 25050

Provide Incentives to convert to direct seed/no-till farming in Sherman County, Oregon
Sponsor: Sherman SWCD
Subbasin: John Day
2002 Request: $164,440
3YR Estimate: $481,320
Short Description: Sherman Co. SWCD will provide incentive for two of three crop years for farmers to convert to no-till/direct seed farming. Conservation Plans will be written by SWCD or NRCS personnel. No-till provides improvement in watershed hydrology & sedimentation.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable as stands. The response was inadequate on the role of the economist. Fundable only if an agricultural economist is part of the research team and is responsible for the design and conduct of the experiment regarding the economic viability of no-till farming.

Involvement of the NRCS economist is a good first step, but his involvement should not be limited to the provision of spreadsheet software. As we said in our preliminary comments, the economic analysis should be designed and conducted by a trained economist. Continuing involvement of an agricultural economist is necessary to ensure that all economic aspects related to the costs of production – including the influence of wheat prices in willingness to adopt new production methods – are appropriately recognized and analyzed. The project as currently designed is not a rigorous analysis of the economic and biological benefits of converting farming practices to no-till.

This project and project #199401807 are investigations into no-till farming. Project 199401807 is directed at sediment reduction. Project 25050 aims to demonstrate the efficacy of no-till as a farming method based on the premise that no-till is effective in reducing sediment delivery to streams. Both experiments are based on the economics of alternate farming practices. The larger question that both these projects should be helping to answer is "what is the most cost-effective way to reduce sedimentation in streams?" No-till, riparian buffer strips, and CRP set-asides should all be analyzed to address this question. Understanding which incentives are necessary to convert farming practices will depend on the outcome of the analysis. The present county acreage cap on CRP should not prevent analysis of the relative efficiency of CRP as a

soil conservation tool. The information provided by conducting this analysis would be useful to those making the decision about increasing the cap.

CBFWA Review Comments:
Due to the reviewers recommendation that an FTE should be funded through the USDA (Project 25006), Objective 1 (P&D phase) could be jeopardized without the recommended USDA funding.

Project ID: 25099

Oregon CREP Improvement Project
Sponsor: OWEB
Subbasin: Mainstem Columbia
2002 Request: $433,725
3YR Estimate: $1,153,725
Short Description: This project provides outreach and technical assistance for the CREP program in Oregon. The project will also develop a long-term easement option for the CREP Program.
ISRP Recommendation: Do Not Fund
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Agree - Do Not Fund
ISRP Final Comments:
Do not fund. No response was warranted. Although, the project could offer real benefits, the proposal does not provide enough information to evaluate its merits. It is not clear that merely developing the capacity to offer long-term easements will benefit salmonid production. Developing greater public awareness and providing outreach information may increase riparian restoration and protection if that information is a limiting factor for involvement with CREP. That connection needed to be made in the proposal.

Bull Trout

Project ID: 199405400

The Population Structure of Bull Trout in the John Day River and Abundance of Bull Trout in Mill Creek.
Sponsor: ODFW
Subbasin: John Day
2002 Request: $86,400
3YR Estimate: $259,300
Short Description: To aid in conservation efforts, assess the population structure of bull trout in the John Day River subbasin, explore methods to monitor the abundance of bull trout in Mill Creek, and describe the piscivorous nature of bull trout in various environments.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response addressed the ISRP's concerns very well.

CBFWA Review Comments:
The activities in this proposal are now Objectives 3, 6, 7, and 8 in ODFW's Project Number 199405400. In previous years, these objectives were included in ODFW's 199405400.

Project ID: 199405400

Bull Trout Abundance Monitoring in the Lower Deschutes River formerly "Bull Trout Genetics, Habitat Needs, L.H. Etc. In Central And N.E. Oregon"
Sponsor: CTWSRO
Subbasin: Deschutes
2002 Request: $137,000
3YR Estimate: $371,000
Short Description: Methods for monitoring juvenile and adult abundance will be evaluated to determine accurate and cost effective means of assessing the recovery of bull trout populations in the lower Deschutes River.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. Adequate response. It is encouraging to note that the Oregon interagency monitoring committee (see response to ISRP from 199801600) has this project under its purview because it is important that long-term sampling sites for this project be selected in cooperation with other projects (#s 25088, 25010,199801600). "Index sites" may be appropriate but the methods of data collection at them should be compatible with those of basin-wide monitoring programs so that inferences can be drawn about changes observed in the subbasin in the context of changes occurring in the larger region. (high priority)

CBFWA Review Comments:
This project now includes the proposed work submitted by the CTWSRO under the same project number as well as Objective 4 of the original 25088 proposal (i.e., pre-ISRP review) that was submitted by ODFW. ODFW and the CTWSRO will be cooperators on this project. The Resident Fish Caucus questions whether it is BPA's responsibility to fund AFS protocol evaluations. The Resident Fish Caucus also indicated that all ODFW bull trout proposals that will be submitted in the upcoming provinces should be grouped under one project number (i.e., 199405400).

Project ID: 25053

Evaluate bull trout movements in the Tucannon and Lower Snake rivers
Sponsor: USFWS - IFRO
Subbasin: Mainstem Snake
2002 Request: $81,626
3YR Estimate: $477,491
Short Description: Determine spatial and temporal distribution of migratory bull trout in the Tucannon River and Lower Snake River. Estimate "take" and identify passage limitations in the Snake River resulting from the hydropower system.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal is result of careful planning and thinking. Unfortunately, its success may be limited by a lack of suitable fish for tagging. Can some arrangement be made to delay the project if a useful number of fish are not available this year? Agency accounting procedures may preclude the investigators from delaying project implementation for a year if the fish are not available.

The project intends to collect information that is not now available on bull trout movements.

This project is timely in that it would make use of telemetry equipment already set up by USGS at the regional dams of interest (Snake R. dams). A few extra telemetry stations on the Tucannon would add to the network that could remotely detect the tagged bull trout. Some additional manual tracking would be

needed where fixed monitors are not available. It seems like a good opportunity to learn more about the potential long-range migrations of this still somewhat mysterious species.

They might consider acoustic tags for alternative marking schemes for some components (e.g., bull trout utilization of deepwater habitats or reservoirs).

Project ID: 25012

Assessment of bull trout populations in the Yakima River watershed.
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $243,947
3YR Estimate: $558,947
Short Description: Assess the status of bull trout populations and collect baseline information necessary for the development, implementation and recovery of bull trout inhabiting the Mid Columbia Recovery Unit (i.e., Yakima subbasin).
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response demonstrates good linkage with related bull trout projects in the region and attached correspondence from the USFWS also confirms both good collaboration and the awareness that Idaho assessment protocol will not automatically fit Washington streams. The response dealt satisfactorily with the three basic ISRP concerns: use of best sampling protocol, radio-tracking detail, and genetic inventory fish numbers. Presentation was well organized and the PI seemed familiar with local issues, as well as bull trout literature and protocols.

CBFWA Review Comments:
The Resident Fish Caucus agrees that the proposed work would address existing data gaps (e.g., distribution, critical habitat, migration, etc.). The BPA COTR for WDFW's bull trout project in the Columbia River Gorge Province suggested there needs to be coordination between the existing project and this proposed work. As a result, the Resident Fish Caucus suggested the projects should be combined under the same project number as has been recommended for ODFW's Project 199405400. The Resident Fish Caucus suggested that the funding of the presence/absence objective should be funded by the USFWS.

Lamprey

The projects below form the overall investigation proposed for assessing the distribution and abundance and identifying limiting factors in lamprey. These projects should be considered as one overall submission as a comprehensive study on lamprey in the Columbia. Missing, however, is the coast-wide trend or indicators of abundance - lamprey are near extinct in BC coastal streams on Vancouver Island. The decline is not just a Columbia River issue. What is the temporal and spatial scale of this decline? Given that it is likely large in geographic scale (matching the steelhead and salmon scenario?), it suggests that causes are more related to oceanic conditions than those in freshwater. Do the declining trends most closely match climatic changes or habitat alterations?

Nonetheless, deteriorating freshwater conditions (and previous harvest?) may have added insult to the (ocean survival) injury, and, as in salmon recovery, perhaps this is where benefits (increases in productivity and capacity) might be eventually expressed as increased adult return. Something of the recruitment relationship would have to be known to determine the likely benefit of this suite of proposals, but there is no indication of that recruitment knowledge in these proposals, or if it is even possible to obtain. Given that these studies might provide a hint of the feasibility of understanding lamprey recruitment and limiting factors (at least in freshwater), they should be supported. Some additional preliminary study is suggested.

Some comparison with results in existing databases may be useful as a preliminary investigation. That information, and what may be known of lamprey life history features of age, growth, survival and fecundity might serve to form a preliminary model of recruitment (perhaps available from Great Lakes research on a related species) to ascertain the key sensitive life stages. The information may also be useful in suggesting where these studies should focus their efforts or towards development of hypotheses to test with lab and pilot field studies. The same hypotheses proposed for salmon declines may apply. The lamprey declines may not be directly related to the salmon declines as a food source, since they seem to be many hatchery smolts available to make up the difference. These related projects should be collectively reviewed by other lamprey biologists on the Pacific coast (e.g., Dr. Beamish) and in Ontario (e.g., http://www.on.ec.gc.ca/success-stories/co/lamprey-e.html). The ISRP acknowledges that the lamprey investigators in the Columbia River basin have been coordinated through workshops and personal interactions, activities that need to continue.

Project ID: 199402600

Pacific Lamprey Research and Restoration
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $520,464
3YR Estimate: $1,530,464
Short Description: Implement and monitor Pacific lamprey restoration plan developed for the Umatilla River. Assess ability of Pacific lampreys to detect migratory pheromone emitted by larvae, test for genetic differences.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The proposal and response were scientifically adequate. The broad temporal and spatial scales of lamprey decline are described, implicating habitat (fish ladder) problems as well as climate effects. Evidence of considerable collaboration among lamprey projects is given by a recent workshop report. We encourage this cooperative approach and joint outline of their goals and objectives, along with a list of tasks that are designed to achieve them. Possible explanations for the decline should be specified as alternative hypotheses. Tasks should then be specified that might lead to rejection or confirmation of the particular hypothesis. For example, the text implies that construction and operation of the hydroelectric system in the mainstem has led to reduction because of inability of lamprey to ascend the fish ladders. This deserves to be tested by first-hand observation. There are observations reporting lamprey ascending dams outside of fish ladders. As another example, the task of planting adult lamprey from other systems should be viewed as a test of the hypothesis that the population is limited by the number of adult spawners. A study following up on the planting should focus on observing the results of the plants, both with respect to adult responses, and production of juveniles. Possible interactions with lamprey that are already present should be anticipated and an attempt made to evaluate the effects. Perhaps the decline in abundance of salmon is an alternative hypothesis that might explain the decline in abundance of lamprey. The tasks required should be specified.

Project ID: 200005200

Upstream migration of Pacific lampreys in the John Day River: behavior, timing, and habitat preferences
Sponsor: USGS/CRRL
Subbasin: John Day
2002 Request: $271,956
3YR Estimate: $746,956
Short Description: Using radiotelemetry, we will determine behavior (timing and movement patterns) of upstream migrating Pacific lampreys in the John Day River Basin. Overwintering and spawning habitats of Pacific lampreys in the John Day River Basin will be characterized.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response adequately discussed and addressed the ISRP's concerns.

Project ID: 25007

Determine lamprey species composition, larval distribution and adult abundance in the Deschutes Subbasin
Sponsor: CTWSRO
Subbasin: Deschutes
2002 Request: $125,440
3YR Estimate: $341,382
Short Description: The project will determine lamprey species composition and larval distribution in the Deschutes R. and tributaries. Adult abundance will be estimated in the Deschutes R.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response was adequate. Habitat and water quality attributes must be measured by methods that are compatible with regional monitoring and evaluation projects (e.g. #25010).

Project ID: 25101

Use of Mainstem Habitats by Juvenile Pacific Lamprey
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $89,238
3YR Estimate: $89,238
Short Description:
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response adequately addressed the ISRP's concerns. This is a short but well-prepared proposal by a qualified group with the required expertise, experience and equipment. The proposal would examine the use of the mainstem Columbia River by juvenile Pacific lamprey. They intend to conduct the study in the Hanford Reach and in the tailrace of four Columbia and Snake River dams. The study is based on a presumption that declining runs of lamprey were caused by degraded river conditions. They intend to classify habitat types in these reaches, electrofish to find which habitat types lamprey are using, and use these data to locate other such sites in the system. These data will be used to project where restoration activities (undefined, and in need of clarification) may be useful.

Hanford Reach Proposals

The Hanford Reach section of the mainstem Columbia River has apparently achieved the status of a curio in the Basin, i.e., a piece of Nature between the dams and reservoirs. Unquestionably, the Hanford Reach deserves recognition as the last large unimpounded section of mainstem river upstream of Bonneville Dam, and large numbers of fall chinook salmon spawn there naturally. Scientifically though, we must ensure that this "image" does not overtake the actual scientific knowledge of conditions in the Reach or turn presumptions into facts. Functionally, the Hanford Reach section is not pristine, physically or biologically. The seasonal, daily, and hourly hydrograph for the Hanford Reach is far from what it was before large-scale regulation (especially by the large storage reservoirs in the upper Columbia and Snake), the frequency of extreme flows is reduced, and the temperatures are modified. The Reach has many of the same introduced species and invasives that have altered the community composition elsewhere in the Columbia, a large volume of artificial production of fall chinook occurs within the Reach, and hatchery-reared fish form a portion of the natural-spawning population.

During this review, the ISRP examined a set of nine proposals requesting a total of $2.3M in FY2002 for research within the Hanford Reach area. Many of the proposals continued past activities or proposed site or issue-specific projects, many of which seemed to be reasonable projects in their own right. But these projects failed to provide an overview or point of reference, thus generating our concern, as expressed above, that motivation for these projects and their prioritization should be justified by an explicit assessment, rather than just coasting on an implicit reputation. Neither the Mainstem summary or the proposals (most of them) provided an adequate context within which to evaluate them against what is known or what the current management issues are. For example, the naturally spawning Hanford Reach fall chinooks are regularly cited as an especially productive "wild" stock, but what is the technical basis of this assertion? If we hold the Columbia River fall Bright chinook stock as the "standard" for recovery of fall chinook, do we have an adequate technical basis for the assessment of natural production and who conducts this work? Are hatchery fish identifiable from those produced naturally? Could the naturally spawning component of the population actually be a demographic sink that persists only because it is subsidized by the hatchery production? What is the utilization of the Reach by other salmonids? If fundamental information gaps about the status of the naturally spawning stock are large, then the attention to other narrower issues, such as refining more and more elaborate hydrographic models, GIS data bases, or the behavior of fry may be misplaced. It is noteworthy, that one project does propose to examine how "normative" the Hanford Reach actually is.

The review committee was consequently confronted with three concerns:

- a set of fragmented, or at least, seemingly independent proposals,
- a sense of incomplete background information with which to assess future work, and
- absence of a fundamental stock stock assessment for salmonids in the Reach, particularly for the upriver brights

To complete this review we have assessed each proposal on its technical merits and requested additional information when necessary. However, we would also recommend that the set of principal investigators who have submitted these proposals also complete a synthesis that does establish context and presents a rationale for these particular activities. The Subbasin summary for the Mainstem is a good starting point, and should be completed and should be "signed-off" on by all managing agencies involved in this area. Perhaps, this could be accomplished through the Council's subbasin planning effort. Past work in the Hanford Reach area has generated some excellent publications and useful results. By requesting this summary, the committee expects that future work can build from past knowledge, that management and data issues will be identified, and that we will learn from and *apply these results to other areas* of the Columbia Basin.

The response to review stated that steps are being taken to form a consortium of researchers on the Hanford Reach, to coordinate research, share information, and work jointly to develop future overview statements, justification of priorities, and a reach-wide stock assessment. We hope this effort succeeds, and

we will expect to see successful products of these collegial intentions when the Hanford Reach projects again come up for review.

Project ID: 199406900

Estimate production potential of fall chinook salmon in the Hanford Reach of the Columbia River.
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $294,006
3YR Estimate: $867,597
Short Description: Develop a production potential estimate for fall chinook salmon in the Hanford Reach, and evaluate whether the Hanford Reach functions as a healthy alluvial river.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable to complete in 3 years. The response was adequate and this is high priority to complete in this timeframe and then move on.

The authors provided clear responses to the ISRP comments and were supportive of applying their methods in other spawning areas of the basin, and completing their Hanford studies in the next 2 to 3 years. The ISRP also noted their suggestion of forming a coordinating group for investigators working in the Hanford Reach area.

The goal of this project is to estimate the spawning capacity of the Hanford Reach for fall chinook salmon. The evaluation of the Reach will include investigating the role of interstitial flow pathways and ground-water/surface-water interactions in spawning site selection by fall chinook salmon. Standard spawning habitat characteristics will be used to determine the locations of potential spawning sites and sediment permeability of spawning substrate will be used to refine spawning area estimates. The investigators will then use a hydraulic simulation model to extrapolate the potential redd densities to the entire Reach. The sponsors of this research have been investigating related topics for several years and have a very strong publication record of their work.

Project ID: 199701400

Evaluation of Juvenile Fall Chinook Stranding on the Hanford Reach
Sponsor: WDFW
Subbasin: Mainstem Columbia
2002 Request: $342,000
3YR Estimate: $769,000
Short Description: Estimate the number of rearing wild juvenile upriver bright fall chinook killed or placed at risk in a 17 mile section of the Hanford Reach during the implementation period of the year 2002 Special Operations Plan for the Priest Rapids Project.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, but the value of the project depends on whether there is still a question if the flow agreement is effective. This is primarily a monitoring effort to determine stranding mortality under various flow levels. The response was marginal. This proposal involves two more years of study followed by three years of monitoring and evaluation (presumably to become ongoing). Past studies have provided an important understanding of the effect of flow fluctuations and the mortality associated with stranding of fall chinook juveniles. Mortality on fry is likely to be highest when they are very small and greatest in the nearshore areas (<1m depth). In recent years the mortality rates in the study area had been relatively small (estimated to be <2% of the chinook fry) but rates are expected to be higher during 2001. We support the continuation

of this study, but note the need to address the three limitations noted in the proposal (page 1, section 9) and the need to begin applying flow dynamic models to predict mortality and to verify these results with field data. Verification of the model is not likely to happen with the current level of coordination. These in-depth sampling programs are not likely needed on an annual basis. Particular attention should be placed on inspection of the remaining river area that has not been sampled (i.e., the 34 miles of Hanford Reach not included in the study area).

CBFWA Review Comments:
Long term funding for monitoring for this project needs to be considered by Grant County PUD.

Project ID: 25052

Sex Reversal in Hanford Reach Fall Chinook Salmon
Sponsor: CRRL
Subbasin: Mainstem Columbia
2002 Request: $262,321
3YR Estimate: $415,359
Short Description: The project will determine if the prevalence of male specific genetic markers in juvenile fall chinook salmon in the Hanford Reach is consistent with phenotype, and whether this evidence of sexual disruption is associated with biomarkers of contaminant exposure.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response adequately addressed the ISRP concern about potential duplication and coordination with Innovative Proposal 22013.

This proposal addresses an important and disturbing phenomenon first brought to the ISRP's attention through the innovative proposal submission by Nagler, Dauble, and Thorgaard (#22013; Genetic sex of chinook salmon in the Columbia River Basin; PI = Nagler). The ISRP recognized the sex reversal problem in Hanford Reach fall Chinook as an important one, and recommended funding an initial examination of the extent of this problem as one of the two highest priority projects in the recent Innovative Competition. Council and BPA have approved funding for the innovative project.

The ISRP's review comments on the Innovative Proposal 22013 are shown immediately below in italics.

This is an innovative proposal because it addresses a newly recognized critical uncertainty in the Hanford Reach fall chinook stock and proposes to use a new genetic assay technique to do so. It is also a high priority project as it addresses a critical question about population genetic structure in the Hanford Reach and other chinook stocks.

The authors' preliminary data show surprising evidence of sex-reversal (some genetic males are functional females) in Hanford-Reach-spawning wild chinook, apparently the result of some environmental insult (e.g., EDC's, exposure to pesticides). The data are intriguing and worrisome. Half the offspring of the sex-reversed fish will be normal males, but half will be YY males, capable of producing only sons, disproportionately increasing the ratio of males to females in the next generation, an accelerating increase if the sex-reversal continues in each generation. The effect would be a decreasing proportion of normal females and decreasing reproductive fitness, a serious barrier to recovery. It's clearly important to find out if other stocks of wild spawning chinook are affected, and it's important to find out if YY males are indeed present. The region needs to know the extent of the genetic sex reversal phenomenon.

Many of the positive comments and biological concerns stated in the review comments above also apply to this proposal (#25052). This proposal, while not directly linked to Project 22013, is related to it. The studies complement each other. The similarity between these two studies is that they will both examine juvenile fall chinook salmon from the Hanford Reach as a consequence of a reported incidence of a male-

specific genetic marker in adult females from this population (Nagler et al. 2001). The funded project (22013) will look for incidence of a YY-genotype in wild juveniles over two seasons, while this proposal will examine the levels of biomarkers, phenotype and genotype, and incidence of intersex in juveniles.

The innovative proposal 22013 is restricted in scope as compared to this proposal, most likely to fit the funding and timeframe criteria of the innovative solicitation. The focus of the innovative proposal was to gather genetic and phenotypic data from Hanford Reach juvenile fall chinook to further corroborate or refute the preliminary observations of high levels of sex reversal and intersex individuals. That proposal infers, but does not outline a strategy to examine, that the genetic results could be related to higher levels of biocontamination from pollutants. This proposal (25052), in many ways, is the next logical step beyond the funded project 22013.

CBFWA Review Comments:
This project would compliment the ongoing project that was funded through the innovative category. Due to the limitations in the innovative funding category, the other study is not able to address the juvenile component of the sex reversal phenomenon. There are opportunities for cost savings of approximately $56k on this project through coordination with existing sampling programs for PIT tagged fish. Funding for this project should be delayed until the prior project is completed, therefore the budget has been adjusted to begin in FY03.

Project ID: 25079

Integration and Construction of a GIS Based 2-Dimensional Hydraulic/Habitat Model for 51 miles of Hanford Reach and Site of the Columbia River
Sponsor: USFWS
Subbasin: Mainstem Columbia
2002 Request: $295,786
3YR Estimate: $550,786
Short Description: Integration and Construction of a GIS Database and 2-Dimensional Hydraulic/Habitat Model for 51 miles of the Hanford Reach and Hanford Site of the Columbia River
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable technically and this could provide a valuable product, but as noted in the preliminary review, the prospects for success is vulnerable to many “people issues” that are difficult to predict with the information provided.

The response indicated that a working group would "meet periodically" and may be a formal or informal group. Access to the product is clearly described. Use of the product by the relevant community is not adequately addressed. The response notes that information from a similar tool for a river segment downstream from Bonneville Dam has been "regularly accessed and used".

More specific information is needed about the obligations and commitments of the working group. The amount of use to be expected by the relevant community should be estimated based on quantified use for similar products elsewhere.

Project ID: 25045

Determine effects of water level-induced changes in rearing habitat on the survival of juvenile fall chinook salmon.
Sponsor: USGS
Subbasin: Mainstem Columbia
2002 Request: $192,977
3YR Estimate: $548,931
Short Description: Describe the response of premigrant fall chinook salmon to water level-induced changes in their rearing habitat in terms of their habitat use, movement behavior, and survival.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response addresses the ISRP comments. This project is innovative, but somewhat risky with the use of untested technology. This proposal might be justifiable just on methodological grounds to test whether the use of PIT tags can be expanded to collect additional important monitoring information. This is a major potential benefit from this project. At the Hanford Reach level, this project complements the ongoing stranding study, but the immediate management application of project 25045 is likely of lower priority. The primary goal of this project is to describe the response of pre-migrant fall chinook salmon in the Hanford Reach to water level-induced changes in their rearing habitat in terms of their habitat use, movement behavior, and survival. The proposal apparently differs from other studies of fry stranding by examining the behavior mechanisms involved and studying responses at a much finer or "local" level than in the past. The study might provide insight into a problem found in many locations throughout the hydrosystem. It could provide better information on how quickly fry can adjust to habitat changes and help define preferred habitats, etc.

Project ID: 25070

The Application of Geophysics to Better Define Fall Chinook Salmon Spawning Habitat Use in the Hanford Reach, Columbia River.
Sponsor: Golder Assoc., PNNL
Subbasin: Mainstem Columbia
2002 Request: $113,532
3YR Estimate: $240,572
Short Description: Assess the use of efficient state of the art geophysical technology to better define fall chinook spawning habitat use based upon geomorphological and hyporehic factors.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable to complete in 3 years as proposed. As proposed in the response the study protocol should be redesigned to include additional sites before funding, because a too limited number of sample sites could lead to strictly local characterizations that have no relevance to other sites or broader scale application. Their previous work indicates that a large percentage (80%) of the distribution of spawning clusters in the Hanford Reach can be explained by small-scale characteristics such as water velocity, depth and lateral slope of river bottom. The proposed work is speculative in that its ability to improve the estimation of carrying capacity of salmon spawning depends on the establishment of a relationship between subsurface lithology and ground/surface water interactions. This is good science but the priority of the project for management application is likely low or medium. The method does have potential for basinwide application in defining chinook salmon spawning in large tributaries.

CBFWA Review Comments:
This project would provide very interesting information and has been well developed. However, it is unclear how the results of this study would influence management actions in this area.

Project ID: 25038

Effects of Hydropower Operations on Fall Chinook Spawning Activity
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $139,338
3YR Estimate: $516,430
Short Description: Assess the relationship between hydropower project operations and spawning activity of fall chinook salmon in dam tailrace areas. Develop a data set of 24 h/day spawning activity to be regressed against daylight and project discharge data.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable technically, but the need for this project is not justified except at a low priority. Benefits to the fish are not adequately demonstrated.

Project ID: 25035

Evaluate adult fall chinook salmon fallback at Priest Rapids Dam, Columbia River
Sponsor: PNNL and WDFW
Subbasin: Mainstem Columbia
2002 Request: $603,065
3YR Estimate: $1,344,108
Short Description: Improve estimates of Hanford Reach fall chinook salmon escapement by assessing the rate, route, fate, and energy-use of adult fall chinook salmon that fall back at Priest Rapids Dam.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part – fund objective 1 only. The response adequately documents that the discrepancy in escapement estimates and the rate of fallback were both unusually large in 2000. This warrants continued monitoring both to rectify escapement estimates and to attempt to determine whether the fallback is related to operations at Priest Rapids hatchery. The significance of fallback, and the interpretation of escapement estimates, cannot be properly evaluated until a comprehensive stock assessment is carried out, which would include quantification of the relative roles of hatchery and natural production for this stock. Until this is done investment in the energetics component of the project (objective 2) is not warranted, especially since stock origin at present would not be known for the individual instrumented fish.

Project ID: 25037

Evaluation of the effects of American shad on upstream migration of anadromous fishes at Priest Rapids Dam
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $43,464
3YR Estimate: $297,910
Short Description: The primary goal of this study is to determine whether the non-indigenous American shad attempting to pass Priest Rapids Dam negatively impact upstream passage of adult anadromous fishes. Methods to reduce possible impacts will also be explored.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Agree - Do Not Fund
ISRP Final Comments:
Not fundable. Although the topic of shad interactions with salmon is potentially a key issue in salmon recovery, a response was not received that attempted to address the ISRP concerns.

The ISRP concerns included:

How is this project integrated with other Priest Rapids and Hanford proposals? The proposal is limited in detail and needs to provide more justification.

The proposal has four tasks. The first task listed boils down to a determination of whether there is a problem. The second looks for details about how shad operate to create the problem, if any. The third is a basic study of shad behavior in the ladder at Priest Rapids Dam. The fourth attempts to solve the problem – if any – by application of sound, to which it is hoped, shad will respond by behaving more acceptably toward chinook and steelhead in the ladders – if that proves to be necessary. .

What facts are now available? What is the timing of shad arrival and concentrations versus the fall Brights? Based on past radio-tagging of chinook what is the "usual" time in the fishway versus time with shad present? Shad do not readily pass the east bank ladder at Priest Rapids Dam, which is the one principally used by anadromous fishes. They do enter the ladder. One ought to ask "Why do shad clog the ladder at Priest Rapids Dam?" The answer is rather obvious to one familiar with literature on American shad beyond Washington and Oregon. Shad are blocked at the upper end of the ladder by the need to pass under a concrete baffle that stretches across the ladder. Shad have been observed to be reluctant to pass even under bridges. They are delicate creatures. That the ladder at Priest Rapids is a barrier to shad is apparent from the fact that few, if any, have been counted in the ladders upstream. The idea of repelling them with sound is not compelling. A number of years ago, the agencies requested that Grant PUD improve passage for shad at Priest Rapids Dam, but Grant PUD demurred, arguing that to do so might simply add to the problem by opening up more spawning and rearing area upstream for shad, resulting in even more shad to clog the ladder. Grant requested that the agencies prepare an EIS, which ended the issue.

The proposal notes that Bjornn has data over a number of years that could be used to correlate success of chinook passage with shad counts at the dam. These data should be analyzed for the information they might provide on the questions posed in this proposal, before investing in more data collection.

As for task four, even if the sound were found to repel shad, would not the problem still exist at the point where sound might be detected by shad? Thinking along those lines, how about simply installing an overhead barrier at the entrances to the ladder like the one now present at the upper end of the ladder. This also may simply move the problem somewhere else.

There is a clear shad management/policy issue involved here. Should shad be allowed to continue to colonize up-river portions of the mainstem? How the fishway problem is dealt with will depend on such

policy decisions. On the positive side though, if shad passage is controlled by various methods, could a means to control shad numbers in the mainstem above Bonneville be implemented?

CBFWA Review Comments:
It is disappointing that the project sponsor chose not to respond to the ISRP. It is not clear why the extensive behavior evaluation is necessary prior to implementing actions to prevent shad from entering the fish ladder at Priest Rapids Dam.

ISRP and CBFWA Agree: Fundable through the Action Plan Process

Project ID: 25054

Increase Naches River In-stream Flows by Purchasing Wapatox Hydroelectric Project
Sponsor: YN
Subbasin: Yakima
2002 Request: $3,500,000
3YR Estimate: $3,500,000
Short Description: Cost share with Bureau of Reclamation to purchase and retire PacifiCorp's Wapatox Power Plant to benefit salmon and steelhead by increasing instream flows and enhance spawning and rearing habitat in the Naches River.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable in the Columbia Plateau Provincial and the Action Plan reviews. The response makes the point that Wapatox is one part of a large program to significantly restore a large system whose ability to function naturally has been heavily reduced by a concerted human effort over a long period of time. As reviewers commented during the High Priority review process in which the project was ranked B, the project would benefit fish in the portion of the river that is bypassed by the canal which at times is dry or otherwise inaccessible to spring chinook, steelhead and coho, as well as bull trout. Increased flow will lead to reconnection of the lower Naches River with upstream tributaries such as the American River.

As requested, the response attempts to clearly and quantitatively address benefits to fish. The reviewers were convinced that this project offers substantial and immediate gains for salmon and steelhead. The monitoring and evaluation component of the project was not adequately described in the response, perhaps this could be worked out by the Council and BPA in the Columbia Plateau project selection process.

There are obvious policy issues of who should fund this that extend beyond the ISRP purview.

Project ID: 25031

Naches River Water Treatment Plant Intake Screening Project.
Sponsor: City of Yakima
Subbasin: Yakima
2002 Request: $1,657,500
3YR Estimate: $1,657,500
Short Description: Screen City of Yakima's Naches Water Treatment Plant intake to eliminate mortality of ESA listed and non-listed salmonids at this location.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This project will be needed if the retirement of Wapatox Dam occurs (proposed at this time, but not a certainty). Action will be taken by late fall 2002 regardless of funding decision. This is an extensive engineering proposal. It provides abundant linkages to the various regional planning documents, as well as to the FWP. It does not describe the magnitude of the juvenile or adult fish entrainment that occurs in its present design both under current operation and under operation if Wapatox Dam was retired. Thus, it is hard to judge the magnitude of the biological benefits of funding the project. The diversion is for 50 cfs.

This project was originally submitted under the BPA FY2001 High Priority Proposal solicitation (project # 23044) and received a Category B rating from the ISRP and an A rating from CBFWA. The ISRP raised concerns that the project inadequately specified benefits to fish. PIs responded to this concern by noting that although mortality of salmonids due to entrainment into the WTP intake system has not been quantified, complete exclusion of fish from the intake system will benefit both listed and non-listed salmonids as well as resident fish. While this would clearly be true, it makes judging the magnitude of the problem and the magnitude of the potential biological benefits difficult to assess.

Proposed budget is $1.9 million, but speakers (Paul Wagner) indicated that the project might be done for as little as $1 million. PI's do not have alternative funding avenues identified.

In the High Priority review, both the ISRP and CBFWA indicated that the proposal raised "in lieu" questions. The PI's most recent understanding was that upon NWPPC staff review, funding of this project was determined to be consistent with BPA obligations. Due to budgetary constraints, this project did not receive funding under the FY01 High Priority Proposal solicitation and is therefore being resubmitted under the current solicitation.

CBFWA Review Comments:
M&E will be performed by WDFW screen shop for screen compliance. Technical criterion number 7 is not applicable for this project. This is a good project that will provide benefits in the basin. However, for the cost versus benefits of this project, mitigation funding in the Fish and Wildlife Program could be better spent in other projects. The in-lieu question surrounding this project also raises some concerns. CBFWA supports funding this project through the spill mitigation action plan as recommended by the NWPPC. This project was identified as in-lieu by BPA during the Early Action Plan project review process. Funding should only be provided for installation of fish screens. All other activities within this proposal (i.e.. channel redesign, intake modification) should be funded by the City of Yakima.

Project ID: 25017

Fabricate and Install New Huntsville Mill Fish Screen
Sponsor: WDFW, YSS
Subbasin: Walla Walla
2002 Request: $102,217
3YR Estimate: $232,717
Short Description: WDFW, YSS proposes to fabricate and install a new fish screen facility (12 cfs) at the existing Huntsville Mill location within the Touchet River Basin. The new screen facility will comply with current state and federal criteria for fish protection.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This is a carefully prepared proposal. It includes a good background to describe the problem and, based on information from elsewhere, describes its likely benefit. The proposal includes a monitoring element to verify that small fish are in fact prevented entry to the irrigation withdrawal system. The need has been demonstrated and prioritized.

Project ID: 25015

Emergency Flow Augmentation for Buck Hollow
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $29,886
3YR Estimate: $29,886
Short Description: Augment stream flow in Buck Hollow Creek during 2001 with 1-1.5 cfs from headwater well
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This project is time critical for summer 2001. The project will address a limiting factor that presents a critical and immediate need to protect steelhead redds. It is a needed project, with good justification and a very low budget. Implementing the project should also create additional good will with a cooperative local landowner.

Modest cost of $30K with cost share to reimburse landowner for direct out of pocket costs for short term 1-1.5 cfs from private irrigation well near headwaters beginning immediately. Dry conditions elsewhere are apparently forcing fish into Buck Hollow and Bakeoven. Late season flows at mouth have exceeded minimum goal of 5 cfs. Efforts to protect the water have apparently been researched by Oregon Water Resources Department personnel. Flows and temperature would be monitored. The monitoring should be coordinated with project #25010 from ODEQ? Bakeoven Creek (also with record run of steelhead) is a control with no augmentation.

ISRP and CBFWA Agree: ISRP Fundable and CBFWA High Priority

Deschutes

Project ID: 25010

Regional Stream Conditions and Stressor Evaluation
Sponsor: ODEQ
Subbasin: Deschutes
2002 Request: $180,000
3YR Estimate: $540,000
Short Description: Evaluate status and trends of key factors limiting listed species within subbasins by developing a statistically based model to characterize baseline conditions and identify conditions at regional reference sites.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, high priority. There are other new proposals, e.g. #25088, that if funded should be coordinated with this project under the overall Oregon Plan for Salmon & Watersheds (OPSW) monitoring studies. The ISRP assumes that these proposals were submitted independently of each other and in fact that proponents may not have been aware of each others' proposals.

The proponents have plans to coordinate sample design and combine data from two projects: Salmonid Habitat and Population Monitoring (Project ID 199801600) and Bull Trout (Project ID 199405400). Council should ensure that all funded projects for monitoring fish and aquatic habitat in Oregon are coordinated under the Oregon Plan for Salmon &Watersheds monitoring. In so far as possible, the Council should also influence projects from the State of Washington to use monitoring procedures that are compatible with the Oregon Plan. The protocols of this project should also be consistent with project 25069 with regard to water quality parameters and measurement methods.

CBFWA Review Comments:
This project would address NMFS RPA 154 as well as provide an important component to Oregon's monitoring plan to evaluate fish and wildlife for federal bi-op programs. Reviewers suggest that some of the data that would be collected through this project may exist and recommend that existing data should be reviewed to avoid duplicative actions. Although this project is coordinated with 199801600, additional coordination needs to occur with 25069, and 25088b. Funding should be delayed until coordination will ensure data overlaps will be minimized. There is a strong divide within the fish and wildlife co-managers regarding the adequacy of the existing monitoring and evaluation programs in particular subbasins. All monitoring projects in these basins need to be evaluated to determine whether there is or is not significant overlap in the monitoring programs. The CTUIR strongly believes that existing M&E in the Umatilla subbasin is adequate and additional monitoring in this subbasin will be redundant. Coordination within these subbasins among the fish and wildlife co-managers should be a pre-requirement for funding this project. In general, the tribes believe that adequate coordination has not occurred to justify funding this project at this time. CBFWA can only provide consensus support for moving forward with this project where data gaps occur in the John Day subbasin. The remaining subbasins would be considered Recommended Action.

Project ID: 25074

Deschutes Water Exchange
Sponsor: DRC
Subbasin: Deschutes
2002 Request: $1,000,000
3YR Estimate: $2,835,100
Short Description: Develop an active water market in the Deschutes Basin to reallocate water cost effectively from out-of-stream to instream use in order to improve stream flows and water quality.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal uses the opportunity to develop markets for water rights as a means to converting water to instream flow use. The project is directed toward the goal of reallocating water in the Deschutes Basin from out-of-stream to instream use to improve stream flows and water quality. Trout Creek is the only major tributary with private rights below Pelton Dam. The project would conduct two major activities: 1. create the market infrastructure for exchanging water rights; 2. purchase water rights. Market infrastructure would be developed through a water brokerage that provides market information and assistance in conducting exchange transactions. Purchased water rights will be converted to in-stream flows directed at a quantitative objective of 1000 cfs. The water exchange would require the hiring of a project manager. Major budget items are for the purchase of water rights, which would be permanently converted to in-stream flows. The response was adequate, detailed, and thoughtful. The response indicates that all information on water rights transfers will be made available to interested parties. It will be particularly useful to have the information on water rights transfers made available to research economists so that information gained from this effort can be transferred to potential efforts elsewhere.

Project ID: 198805306

Hood River Production Program (HRPP): Hatchery O&M - Portland General Electric - Enron
Sponsor: PGE
Subbasin: Deschutes
2002 Request: $165,859
3YR Estimate: $557,854
Short Description: Re-establish a self-sustaining spring chinook salmon population in the Hood River subbasin. Broodstock will be collected from Hood River. Broodstock held at the Parkdale Facility. Incubation and rearing completed at Round Butte Hatchery-Pelton Ladder
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The bulk of this project received review (and a recommendation for funding) in the Columbia Gorge province. While this project physically resides in the Deschutes basin and the Columbia Plateau (Southwest), it would make more biological sense to review it in the Columbia Gorge province with the remainder of the Hood River Production Program. The project's stated goal is to establish a self-sustaining chinook population; however the proposal includes no indication of monitoring of the status of the chinook stock that is being established.

John Day

Project ID: 199703400

Monitoring Fine Sediment Grande Ronde and John Day Rivers
Sponsor: CRITFC
Subbasin: John Day
2002 Request: $63,634
3YR Estimate: $200,604
Short Description: Monitor surface fine sediment and overwinter sedimentation in cleaned gravel in spring chinook spawning habitats in monitored river reaches, analyze potential trends and relationships in data, and relate to salmon survival.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This ongoing project is to monitor sediment in spawning gravels of the John Day and Grande Ronde Rivers for five years to determine trends in substrate conditions, the relation between surface fine sediment and sedimentation of spawning sites, and consistency of substrate conditions with specified objectives in recovery plans and BiOps. The proposal provides excellent background to the problem and identifies relationship to FWP goals. Measurable hypotheses are specified. Objectives are presented with adequate description of tasks and methods. The study is apparently on track with annual reports submitted in a timely manner. The response was thorough, comprehensive, and adequately addressed the concerns of the ISRP. This is a well-designed basic study that should be completed.

Project ID: 200003100

North Fork John Day River Subbasin Anadromous Fish Habitat Enhancement Project
Sponsor: CTUIR
Subbasin: John Day
2002 Request: $293,894
3YR Estimate: $919,607
Short Description: Protect and restore habitat critical to the recovery of wild salmonid populations in the North Fork John Day River Basin and promoting natural ecological function and improved water quality and quantities.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal is to protect and enhance habitat for natural production of wild spring Chinook and summer steelhead in the upper north fork of the John Day River Basin. The project will implement re-vegetation and passive recovery processes on private and public lands. Work that is proposed in this project appears justified and is in concert with other work and approaches used in the basin. There is good coordination with other projects and across different ownership interests. The description of the problem and the subbasin context is complete. The proposal does a good job of laying out the approach and showing linkages to regional planning documents and other within-basin projects. Description of objectives and tasks is thorough and the response provided adequate detail on activities, methods and relationship to other projects.

Project ID: 25069

John Day Salmonid Recovery Monitoring Program
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $164,133
3YR Estimate: $280,140
Short Description: Update salmonid reproduction goals, compile data to develop predictive models to guide future restoration efforts, compile data that presents historical riparian condition, investigate missing bull trout status information.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable if …
ISRP Final Comments:
Fundable if the protocols of this project are consistent with project 25010 in terms of water quality parameters and measurement methodology (if not sampling site selection). Data from this project should be compatible with broad scale monitoring projects (e.g #25010) so that inferences can be drawn about changes observed in the John Day in the context of changes occurring in the larger region.

CBFWA Review Comments:
This project will expand monitoring activities in the John Day Subbasin. There appears to be overlap of Objective 4 of P&D phase (water quality monitoring) with Project Number 25010. This project needs to coordinate with 25010, 199801600, and 25088b to avoid duplicative activities. Funding should be delayed until coordination will insure data overlaps will be minimized.

Project ID: 199801800

John Day Watershed Restoration
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $576,824
3YR Estimate: $1,752,026
Short Description: Implement protection and restoration actions to improve water quality, water quantity, and fish habitat, eliminate passage barriers for anadromous and resident fish.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response was adequate and provided excellent detail on the monitoring and evaluation portion of the project, including justification for each monitoring activity. Protocols need to be compatible with those of #s25088 and 199801600 so that inferences can be drawn about observed changes in the context of changes occurring in the larger region.

Project ID: 199802200

Pine Creek Ranch
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $172,000
3YR Estimate: $411,750
Short Description: Continue Construction & Implementation, Operations & Maintenance, Monitoring and Evaluation for Pine Creek Ranch.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal is to conduct various construction, operation and maintenance and monitoring activities at Pine Creek Ranch. It describes many reasonable activities to be conducted in FY2002. The proponents gave adequate responses to ISRP questions and concerns. The ISRP appreciated the clarification on plans to permanently transfer all water rights to instream status. In particular, monitoring and evaluation on the Pine Creek Ranch appears to be well coordinated with ongoing ODEQ and ODFW aquatic monitoring projects. Other monitoring is appropriately at the Tier I level for project effectiveness. However, the ISRP continues to emphasize the need for overall Tier II probabilistic sampling, a need that is not being met with the use of index sites by the ODFW in currently funded projects in the John Day basin.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program projects follow a common sampling method and some common data collection protocols across the four States in order to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

Project ID: 200001500

Oxbow Ranch Management and Implementation
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $306,898
3YR Estimate: $534,998
Short Description: Implement protection and restoration actions to improve water quality, water quantity, and fish habitat for anadromous and resident fish; monitor effectiveness of implementation actions
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal is to restore management funds for Oxbow Ranch after its delayed acquisition and to complete actions identified in the original proposal. The proposal contains good detail of riparian and in-stream problems requiring remediation. Property management and restoration activities are placed in the context of the FWP, BiOp and Subbasin summary. Some tasks are required by the Ranch purchase MOA with BPA. The proposal is fairly straightforward. A list of monitoring activities is presented and an M&E document is referenced. The proponents gave adequate responses to ISRP questions and concerns. In particular, monitoring and evaluation on the Oxbow Ranch appears to be well coordinated with ongoing ODEQ and ODFW monitoring projects for the John Day basin. However, the ISRP continues to emphasize the need for overall Tier II probabilistic sampling, a need that is not being met with the use of index sites by the ODFW in currently funded projects in the John Day basin.

The proponents choose not to describe their monitoring programs in terms of the hierarchical Tier I, II, or III monitoring as described in the ISRP report and referenced to the 2000 BiOp. This was not a

requirement in the proposal preparation, but the ISRP notes that it would be helpful to adhere to common jargon across watersheds and basins.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States in order to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

CBFWA Review Comments:
The NEPA biologist for BPA indicated that if excavation activities occur below the waterline mercury and/or associated contaminants could be released. The project sponsors have modified the means of excavation so that areas below the waterline are not disturbed. As a result, BPA supports the continuation of this project and the excavation activities.

Project ID: 199801700

Eliminate Gravel Push-up Dams in Lower North Fork John Day
Sponsor: North Fork John Day Watershed Council
Subbasin: John Day
2002 Request: $128,000
3YR Estimate: $368,000
Short Description: Eliminate gravel push-up dams in the lower North Fork John Day River. Replace with permanent pumping stations resulting in removal of passage impediments and elimination of annual instream modification.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The project proposes to eliminate three gravel push-up dams and replace them with infiltration gallery pump stations to improve water quality and fish passage. Previous efforts have replaced four gravel dams with infiltration systems. The project and presentation demonstrated substantial local support for the program. The proposal made good links to the subbasin summary and to the FWP. The response adequately addressed ISRP comments about the location and position of push up dams to be removed, as well as questions about monitoring methods.

Project ID: 25088

Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Plateau
Sponsor: ODFW
Subbasin: John Day
2002 Request: $2,037,569
3YR Estimate: $5,831,991
Short Description: Implement fish population and habitat monitoring (EMAP), steelhead life history monitoring, habitat prioritization, and fish/wildlife/habitat protection in the Oregon portion of the Columbia Plateau
ISRP Recommendation: Fundable
CBFWA Recommendation: Split into 3 proposals; 2 High Priority, 1 Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, adequate response. An interagency monitoring coordination committee responsible for tier 2 monitoring in Oregon will integrate this project with other projects monitoring escapements, water quality. The ISRP strongly endorses this coordination. This proposal would implement a coordinated approach to fish population and habitat monitoring using the Oregon Plan for Salmon and Watersheds Monitoring

Program. This approach has successfully been implemented in Oregon's coastal watersheds to apply a rigorous sampling design (EPA EMAP design) and has greatly improved coordination among state, federal, and tribal governments, along with local watershed groups. The proposal is consistent with the NMFS 2000 BiOp's recommendation for Tier 1 and Tier 2 monitoring.

CBFWA Review Comments:
This project has been split into three separate proposals identified as 25088a, 25088b, and 25088c.

25088a

The proposal, which specifically addresses NMFS RPA 179, 182, and 184, was submitted through the "fix-it loop" per the ISRP's request . The proposed research was originally included as Objective 3 in project proposal 25088. A specific project number has not been assigned. Coordination must occur between ODFW and CTWSRO prior to funding.

25088b

This proposal was submitted through the "fix-it loop" per the ISRP's request. This proposed research was originally included as Objective 5 in project proposal 25088. A specific project number has not been assigned. This proposal combined with 25010, 25069, 25084, and 199801600 addresses similar issues leading the reviewers to question to what degree do the collection activities represent redundancy? Funding should be delayed until coordination will insure data overlaps will be minimized. The reviewers found that the criteria, for the most part, were not appropriate for reviewing this proposal. However, the reviewers express concern about the strategies and cannot identify measurable outcomes. This project would be a companion to the subbasin planning activities and should be initiated (or considered for funding) when subbasin planning begins.

25088c

This proposal was submitted through the "fix-it loop" per the ISRP's request. This proposed research was originally included as Objective 7 in project proposal 25088. This proposal has not been assigned a specific project number. An RPA does not exist for this proposal. This proposal will allow for increased enforcement on private lands. Presently, the only sites where enforcement occurs are those for which a complaint has been filed. Enforcement capabilities in the Columbia Plateau South have recently reduced due to the elimination of six employees. Reviewers indicate that there appears to be a lack of coordination among enforcement proposals. The CTWSRO, ODFW, and CTUIR need to meet and coordinate prior to funding. This project poses an in-lieu issue. If funded, this project should be held to the same standards as the two existing conservation enforcement projects currently being funded under the fish and wildlife program.

Project ID: 198402100

Protect and Enhance Anadromous Fish Habitat in The John Day Subbasin
Sponsor: ODFW
Subbasin: John Day
2002 Request: $448,500
3YR Estimate: $1,403,500
Short Description: Project develops and implements riparian fencing and instream structure projects to protect, enhance and restore riparian and instream habitat to improve anadromous salmonid production.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable if …
ISRP Final Comments:
Fundable, only if effectiveness is being adequately monitored and evaluated by methods compatible with regional monitoring projects (e.g.#s 25088, 199801600, 25010). Monitoring of physical characteristics must be implemented with compatible methods so that inferences can be drawn about changes observed in the John Day in the context of changes occurring in the larger region. Tier 1 monitoring for presence or absence of salmonid species of concern must occur on project sites.

Project ID: 199306600

Oregon Fish Screening Project
Sponsor: ODFW
Subbasin: John Day
2002 Request: $660,870
3YR Estimate: $2,042,683
Short Description: Protect wild anadromous and resident fish species by installing 20 replacement fish screening devices in irrigation diversion located in critical spawning and rearing areas in the John Day basin and 1 unscreened and 5 replacements in the Walla Walla.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response was adequate and provided a method for prioritizing potential projects (but note that all sites seem to have roughly the same score, i.e. between 75 and 80 of a possible 100 so it doesn't seem to provide much guidance for choosing projects.) The proposal did a good job of describing the problem, its magnitude, history, and recent activities to address it.

Project ID: 199801600

Monitor Natural Escapement & Productivity of John Day Basin Spring Chinook
Sponsor: ODFW
Subbasin: John Day
2002 Request: $333,516
3YR Estimate: $992,998
Short Description: Monitor natural escapement and productivity of John Day River Basin spring chinook and summer steelhead. Estimate SAR, egg-to-smolt survival, smolt abundance, and adult and parr distribution for chinook and SAR and spawner escapement for steelhead.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. Adequate response. An interagency monitoring coordination committee responsible for tier 2 monitoring in Oregon will integrate this project with other projects monitoring escapements, water quality. The ISRP strongly endorses this coordination.

CBFWA Review Comments:
Objectives 1 and 2 (i.e., from smolt monitoring) from project proposal 25088 have been added to this proposal. The collections of habitat and juvenile monitoring information (Objective 1) is included in other proposals. Although this project is coordinated with 25010 additional coordination needs to occur with 25069, 25064, and 25088b.

Project ID: 25067

Manage Water Distribution in the John Day Basin
Sponsor: OWRD
Subbasin: John Day
2002 Request: $251,261
3YR Estimate: $703,023
Short Description: Implement needed water measurement and monitoring improvements and increase water management as flow restoration projects and actions are implemented in the John Day Basin.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal from the Oregon Water Resource Department is to provide enhanced water measurement and management necessary to enable the management of in-stream flows in the John Day River. The proposal provides a convincing case for the improvement in water measurement and management services required by the acquisition of water rights for in-stream flow. Headgates and measuring devices will be installed in 50 diversions in the John Day through cost-share arrangements with water users. In-stream water allocations and water use will be monitored. This is a straightforward and cost-effective proposal.

The proposal raises a larger policy issue of funding responsibility. Is this an in lieu issue?
Why is it BPA's responsibility to fund the efforts of an Oregon agency to enforce water laws? Who enforced the laws before instream flows were established? Water rights must have been monitored and enforced in the past. Over the long-term, Oregon should develop staff to enforce its laws.

Project ID: 199908800

Columbia Plateau Water Right Acquisition Program
Sponsor: OWT
Subbasin: John Day
2002 Request: $204,000
3YR Estimate: $647,500
Short Description: Acquire existing water rights on a voluntary basis through purchase, gift and water conservation projects, and transfer to instream water rights under Oregon state law; target acquisitions to maximize fulfillment of habitat objectives for instream flows.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable.
This proposal is to continue acquisition of water rights and conversion of these rights to in-stream flow. OWT's goal is to obtain permanent transfer of water rights from landowners to instream rights. Acquisitions will focus on senior water rights because instream flow rights retain the seniority of the original allocation. There are quantitative instream flow goals for the Deschutes, John Day, Umatilla and Walla Walla Rivers. Streams where streamflow is a limiting factor on fish production and survival will be targeted. One of the attractive features of the OWT project is that it specifically targets small stream systems where small instream water contributions may be very significant biologically in terms of reducing the risk of demographic extinction for small at-risk populations, as well as the potential increase in salmonid production from the aggregate of several water rights acquisitions. The approach combines a rigorous set of criteria and objectives with the inherent flexibility that will be required for a program whose success is contingent upon local landowner involvement and support. The proposal suggests that initial agreements in some subbasins are likely to involve short-term leases that can evolve into long-term leases or outright acquisitions as relationships with local landowners mature. Good background on the need for

these water rights is provided. OWT has a record of conducting similar projects in the Fifteenmile subbasin (Columbia Gorge Province). Analysis of water rights value (both ecological and economic) is adequately described. The process for prioritizing acquisitions by relative stream need is logical. A plan to evaluate the impact of in-stream flow rights is presented. Overall, the proposal presents a logical plan for acquiring water rights that have high potential benefits for recovery.

This is an important project that could contribute significantly to natural production in the Columbia Plateau arid stream systems.

Umatilla

Project ID: 25059

Develop Progeny Marker for Salmonids to Evaluate Supplementation
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $149,665
3YR Estimate: $500,477
Short Description: A chemical progeny mark would be developed and tested to evaluate natural reproductive success of supplemented steelhead. The mark would be administered to female parents and would be detectable in the otolith of their progeny.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response confirmed that the procedure they proposed (injecting strontium into females for it to show up in progeny) has not been done before even in laboratory tests. If the method proves useful, the ISRP expects the next step will be a proposal to apply the method in an evaluation of supplementation. The important question concerns the impact on fitness of native populations of interbreeding with hatchery fish. This is a difficult problem that will require creative thinking, especially to identify a credible control.

Project ID: 195505500

Umatilla Tribal Fish & Wildlife Enforcement
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $163,369
3YR Estimate: $514,956
Short Description: Increase law enforcement (LE) protection to fish, wildlife, their critical habitats and other essential natural resources within watersheds managed by CTUIR. The program will be coordinated with all other resource enhancement projects of the tribe.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This is a proposal from the CTUIR Fish and Wildlife Enforcement division to provide three enforcement officers to enforce fisheries and habitat regulations on both reservation and ceded lands. The proposal makes a convincing case for funding enforcement officers. Only .5FTE is currently funded for fish and wildlife enforcement. Enforcement now has good coordination with fish and wildlife staff in the field, but it is unreasonable to expect that sufficient enforcement coverage could be maintained this way. Enforcement of fishing and habitat regulations is a necessary part of environmental management. The success of fish and wildlife restoration activities depends on maintaining enforcement coverage to minimize poaching and ensure compliance with habitat protection measures.

The proposal contains a substantial component of monitoring and evaluation, including the development of targets and criteria for specific performance objectives of the law enforcement program. Monitoring and evaluation focuses on coordination, contacts, warnings, arrests, seizures and critical habitat protected, improved public awareness and public participation, voluntary compliance and decreased illegal take of anadromous and resident fish stocks. It also refers to expected outcomes of increased survival and inter-dam passage, and improved spawning escapement, although it would not monitor these directly.

CBFWA Review Comments:
This is a new project and not an ongoing project. The tribe currently has only 0.5 FTE for enforcement throughout NE Oregon, which is inadequate. Through this proposal, enforcement is proposed for all ceded land. Reviewers indicate that there appears to be a lack of coordination among enforcement proposals. The CTWSRO, ODFW, and CTUIR need to meet and coordinate prior to funding. If funded, this project should be held to the same standards as the two existing conservation enforcement projects currently being funded under the fish and wildlife program.

Project ID: 199506001

Protect and Enhance Wildlife Habitat in Squaw Creek Watershed
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $222,268
3YR Estimate: $690,674
Short Description: Protect and enhance watershed resources to provide benefits for eight HEP Target Species and anadromous and resident salmonids.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This protects and enhances 50 miles of stream habitat and includes upland habitat. Benefits of riparian protection were clear from the site visits. Wildlife was frequently visible in healthy riparian areas of the Umatilla. The list of desired conditions and goals, and current status was helpful and should guide the work effectively. The response addressed the ISRP's main concerns, but some issues are outstanding. Would passive restoration be adequate in this protected area? Routine monitoring should be done more frequently; as it stands, monitoring has been done too infrequently (last done in 1994, and not planned until sometime in this next 3-yr cycle).

Project ID: 25081

Improve Upstream Fish Passage in the Birch Creek Watershed
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $300,410
3YR Estimate: $744,355
Short Description: Improve upstream fish passage in the Birch Creek watershed (Umatilla River tributary) for the benefit of summer steelhead and redband trout by removing structures or building fishways over existing irrigation diversion dams.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority (correcting passage barriers)
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable.
A response was provided that adequately addressed the ISRP's concerns about the completeness of the original written proposal. The original proposal combined with the response to the ISRP's preliminary comments provide an adequate basis for funding. There was an Action Plan submittal as well, focusing on different barriers in Birch Creek.

This is a straightforward proposal to remove migration barriers in a subbasin of the Umatilla River that is a high producer of summer steelhead and contains redband trout. Farming and irrigation have resulted in >5 major barriers to migration (and other smaller ones) due to obstructions and inadequate ladders. Fish-blocking dams were used instead of infiltration galleries or other fish-friendly alternatives. Despite these former abuses, Birch Creek has a wild stock of steelhead estimated at 30% of the Umatilla subbasin production, and is a focus of other habitat restoration work. The plan is to install stepped dams with lower heads, in series, with passage facilities, dealing with the worst cases first. The construction work would be subcontracted from the ODFW office, with oversight by ODFW staff.

The written proposal was incomplete in several respects, but adequately supplemented. The site visit, oral presentation, and response to the ISRP's preliminary comments helped alleviate most questions from the written proposal. The proposal's narrative provided good background, regional rationale, and relationships to other projects. The response clarified the objectives, tasks, and methods. The barrier sites were listed in the response, with their major characteristics. Alternative methods for removing barriers were discussed and the reasons given for selecting particular methods for particular projects. A monitoring and evaluation task was added in the response (although with professed need for further funding). This follow-up monitoring seems needed to verify that the projects are successful, even though the Oregon guidelines for such work will be followed (results of monitoring may be useful for evaluating the guidelines, as well). Although the proponents seemed to balk at the suggestion of the need for monitoring, the ISRP believes that the project must incorporate this (not necessarily additional) cost into their proposal. The proposed radio-tracking study to document passage may be excessively expensive (traditional mark-recapture techniques may suffice to document movement of juveniles upstream past previous barriers). It would be valuable to tie into an overall sub-basin monitoring and evaluation effort that documents the changes in salmonid yield that can be related to their particular project, perhaps via smolt or adult sampling as well as a tagging process.

Birch Creek seems to be a good watershed on which to do remedial work for passage barriers in order to maintain and expand existing stocks of steelhead and trout. It could be a good model for other watersheds in the region.

Project ID: 198902401

Evaluate Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $286,427
3YR Estimate: $898,555
Short Description: Assess migration patterns, abundance, survival of hatchery and natural juvenile salmonids in Umatilla basin using PIT tag technology; monitor lamprey and resident fish; assess affects of river variables on fish migration; develop adult interrogation
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This is a well-designed monitoring and evaluation program that provides a basis for evaluation of habitat improvement measures and other projects. In addition, it collects information necessary for the hatchery evaluation and monitoring project. It would be useful to include a discussion of what the data show about the success of the watershed restoration program for fish. This is valuable work with publishable results accumulating on natural production, including evidence of a potential smolt capacity (~50,000), hatchery survivals during smolt migration, and other potential research uses for these results if future experiments or investigations are well described. Express the smolt yield as a function of the number of spawners, i.e., as smolts per spawner, relative to the number. Is natural smolt recruitment above replacement at current survival rates in freshwater and the ocean? Several internal publications – need to publish in formal fisheries literature. The goal of assessment of affects of river variables on fish migration

should commence with a thorough literature review on salmonid smolt migration. This project could benefit by inclusion of a broader range of researchers interested in migration and survival. Literature review and publication will assist in stimulating that scientific interest, to the benefit of the project.

Project ID: 25055

Echo Meadows Artificial Recharge Extended Groundwater and Surface Water Modeling
Sponsor: PNNL
Subbasin: Umatilla
2002 Request: $390,283
3YR Estimate: $780,566
Short Description: Assess impacts of artificial recharge design on stream temperature, effluent chemistry, and pulse duration. This project is designed to establish tools and protocols that can be ported to additional candidate sites.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority (pollutant work) Recommended Action (modeling effort)
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response clarified how the two projects on the Echo Meadows recharge study came to be proposed separately and somewhat out of phase (they began by separate routes and different people). We applaud the use of PNNL's modeling expertise for the study already begun by IRZ. The coupled proposals should lead to good results.

This is a well-written proposal for groundwater and surface water modeling associated with the Echo Meadows test of groundwater recharge using an irrigation system. Groundwater recharge in winter when flows are high and water cold is an idea that has been developing since the ISG wrote "Return to the River." This proposal is an evolution of those discussions, as was the IRZ Echo Meadows proposal. The models proposed for use are good ones. The staff is experienced in groundwater modeling at the Hanford site. The reviewers were initially surprised that this modeling effort was not part of the original Echo Meadows proposal, but now understand the history. This project needs to have a ground truthing component that will be available from the first Echo Meadows project. The claim is made in this proposal that the models have been widely used and just need to be calibrated, which prompted several reviewer comments and suggestions. The response adequately discussed the calibration process. The proposal for three additional wells "Due to the extreme spatial geologic variability of the sediments at this site" seems justified.

This work would follow much of the Echo Meadows testing, but needs to be in this 3-year proposal cycle if it is to be done with, or soon after, the field tests. This work will be conducted functionally as part of the Echo Meadows testing project, previously funded, but use different staff with different expertise. It is reasonable that the funding be separate. Care should be taken to ensure that the two projects are, in fact, closely coordinated.

CBFWA Review Comments:
The modeling effort should be recommended action but the monitoring of pollutants should be high priority.

Project ID: 25029

Westland-Ramos Fish Passage and Habitat Restoration Pilot Project
Sponsor: Westland Irrigation District
Subbasin: Umatilla
2002 Request: $203,020
3YR Estimate: $1,287,100
Short Description: Improve the upstream passage for anadromous fisheries resources (migration, spawning and rearing), and enhance bedload transport function, by notching two diversion dams within a 1.25-mile river reach of the lower Umatilla River.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable (high priority).

This is an excellent proposal that addresses removal of barriers that cause excessive delay or serious injury of migrating anadromous fish that can increase vulnerability of stocks. This project intends to overcome a major impediment to passage associated with bedload transport problems at a major diversion in the Umatilla River. The proposal reflects a great deal of preparatory work by the proposer to develop plans for a much needed project and obtain broad acceptance by affected stakeholders in irrigated agriculture as well as fisheries. Affected species are listed by ESU (Part 1). There is a thorough listing (Part 1) and discussion (Part 2) of interrelationship with related projects. Plans for information transfer are thorough and good. Costs are well laid out in Part 1. There is excellent cost sharing, amounting to a significant proportion of the costs (past, proposed, and continuing). The stages of work, both already completed by the proposer or with other project funding and those still to be done, are well laid out (abstract). The excellent section on rationale and significance to regional programs has very complete and useful summary tables. The proposal could benefit, however, by including the available data concerning the length of delay caused by the site, and the likely significance (quantitative) of the delay, based on the other studies. There are good objectives and tasks, with appropriately described methods. There is a clear and good plan for monitoring and evaluation. The reference list is comprehensive. The staff is well described (both those to be funded by the project and other participants funded elsewhere) and seem competent. Throughout the proposal, electronic links are provided to detailed supplementary information (this would be helpful when needed, but was unhandy for reviewers with hard copies). All-in-all, the proposal is a high quality, professional package, augmented by an excellent presentation and photos, that demonstrates well the need for the project, how it would be accomplished and the high likelihood for success.

Walla Walla

Project ID: 199601100

Walla Walla River Juvenile and Adult Passage Improvements
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $2,856,000
3YR Estimate: $6,356,000
Short Description: Provide safe passage for migrating juvenile and adult salmonids in the Walla Walla Basin by constructing and maintaining passage facilities at irrigation diversion dams and canals.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response provided further assurance that monitoring and evaluation of fish passage will be conducted and written annual reports of progress will be provided.

This is a good proposal on a subject that is important for the Walla Walla River subbasin. The need to repair problems generated by irrigation was clear. The Subbasin Summary provides the integration requested in previous ISRP reviews of this project. The species involved are identified to ESU. There is a good list of engineering accomplishments (Part 1) and discussion of them in Part 2. The costs are well laid out, including the increase if funding requested compared to the estimate from last year. There is minimal cost sharing, except for a few unspecified small projects. Objectives, tasks, and methods are fine, considering the actual work will be subcontracted. Reference list is adequate. Resumes for proposer staff are fine.

The main drawback in the written proposal was the apparent lack of functional monitoring and evaluation of the biological success of passage improvements (dam removal or improved passage routes and intake screening). The only monitoring within this project is to see if biological criteria of the newly engineered structures are met. See the ISRP's general comments in the preliminary report for information on monitoring (effectiveness monitoring for fish—Tier 1—seems needed as well as the planned monitoring of the equipment functioning). This deficiency was addressed in the response, which indicated that subbasin monitoring already in place (current project 200003300) will cover the results of this project. It will be important for this project to link its work to the results of that monitoring, both in annual reports and in subsequent proposals. This project should be tied to a watershed assessment. Also, there was no plan for written reporting of results, which the response indicated would be remedied.

Project ID: 200002600

RAINWATER WILDLIFE AREA
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $303,546
3YR Estimate: $908,038
Short Description: Protect, enhance, and mitigate wildlife habitat impacted by McNary and John Day hydroelectric projects. Project includes O&M to protect existing habitat values, enhancements to increase habitat quantity and quality, and M&E to assess project benefits.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The ISRP did not request a response to our review and we continue to recommend acquisition of this property. We note that the proponent reduced their request for funds. The proponents chose to repeat the responses given by the Oregon Department of Fish and Wildlife to ISRP concerns on proposal #200002300 "Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)" because those

responses accurately reflect the methods proposed for monitoring and evaluation on the BAIC Tract. The ODFW responses to ISRP concerns on #200002300 should be made part of this proposal. In like manner, the ISRP general comments on #200002300 are also applicable to acquisition of the BAIC Tract and we repeat them below with a few word changes to refer to the BAIC Tract.

One of the initial recommendations of the ISRP on the BAIC Tract proposal was that the proponents consider cooperating with the EPA EMAP to insure compatibility of wildlife and vegetation sampling across large landscapes (counties, states, or combinations of states) in the same manner that the Oregon Plan for Salmon and Watersheds is using EPA EMAP procedures for monitoring of aquatic resources. The proponents commented that the Western EMAP does not have a terrestrial component. This may be true for the current Western EMAP, but certainly the original EMAP had a large terrestrial component. The ISRP is not specifically recommending the EMAP terrestrial sampling plan. Rather, we are more interested in ensuring that sampling on these large blocks of Fish and Wildlife Program lands be compatible with a larger scale terrestrial sampling plan and that data collected will be useful for monitoring and evaluation at the subbasin and Columbia Basin levels.

We appreciate the proponents' research into the Natural Resources Conservation Service's terrestrial monitoring program called the National Resources Inventory. Apparently there are more than one million sampling points across the United States where land cover information is gathered. The proponents propose to evaluate this sampling program and the possibility of coordinating mapping locations with established NRI points and we strongly recommend that they do so. Data on the BAIC Tract of the Horn Butte property would be at an intensified finer scale than the planned national survey, but compatibility of sampling methods and data collection protocols would enhance the ability of the proponents to compare their property to other areas on a larger scale and to provide information to monitoring and evaluation at the subbasin, basin, and national levels. In short, the ISRP is not pushing the EMAP terrestrial sampling plan. We are recommending that the terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well.

Project ID: 200020139

Walla Walla River Fish Passage Operations
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $109,551
3YR Estimate: $418,880
Short Description: Increase survival of migrating juvenile and adult salmonids in the Walla Walla Basin by operating passage facilities, flow enhancement measures, trapping facilities, and transport equipment to provide adequate passage conditions.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The collection of Walla Walla River projects is aimed at restoring salmon and rehabilitating steelhead populations in the Walla Walla Basin. Fish passage is a prerequisite to developing and maintaining successful runs of anadromous fish. This work should be continued. Engineered structures are in place and require annual operations and maintenance. However, an audit of this and similar projects might be considered to determine the effectiveness and efficiency of some components. This project should be tied to a basinwide monitoring and evaluation project; see general comments.

CBFWA Review Comments:
The actual project number for this work is 200003300.

Project ID: 25066

Manage Water Distribution in the Walla Walla River Basin
Sponsor: OWRD
Subbasin: Walla Walla
2002 Request: $552,525
3YR Estimate: $1,397,300
Short Description: Implement needed water measurement and monitoring improvements and increase water management as flow restoration projects and actions are implemented in the Walla Walla Basin.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable.
The proposal is to provide resources needed by Oregon Water Resources Department to ensure that water acquired to enhance stream flows for fish is in fact restored to streams. There is a need for a coordinated effort to restore flows in the Walla Walla River at levels sufficient for fish passage. This project is a critical component in that effort. It will provide a means for the water master to ensure that quantities of water set aside for fish flows will actually be left in the river. Monitoring to ensure that these transfers happen and that the water persists is surely in BPA/ratepayer interest. The proposal combined with the responses to initial ISRP's comments provides a good technical basis for funding.

The proposal was persuasive that this sort of water monitoring and management is needed. Background accomplishments in this river are listed in Part 1, but could have been discussed further in Part 2 to give more background on what has already been done. This was remedied in the response. Costs are laid out well in Part 1. There is a reasonable cost share (25% of installation costs by irrigation districts and others). The narrative has a good abstract and background. The proposal would have been better if it went into more detail about how the ODWR handles water allocations now and the work accomplished to date in this river (again, remedied in the response). The proposal adequately references the FWP, BiOp and Subbasin Summary. There was not an adequate demonstration that the proposers understand the extent of other fishery-related projects in the river basin (that require water), although the proposal mentions other organizations with interests in water monitoring and water rights, and there is a general appreciation shown for the needs. Data management was not adequately described, and reviewers feared it might actually be inadequate for BPA needs. References were minimal, consisting of just the basin plans. No ODWR references were given for their water measurement system or their water management background (general or specific to the Walla Walla River). The reviewers felt that ODWR's current water tracking system should be described and referenced with document citations.

The response provided background on what the Oregon Department of Water Resources does now, both as its overall mission and in the Walla Walla basin. They gave web links to further information. They do not see any hope that state funds will become available for what appears to be a state responsibility. It is in the interest of BPA to ensure that water obtained for fish is made available for fish. The response included a listing of related fishery projects (not just BPA-funded) in the basin, which relate to water monitoring and regulation. They discussed their data management (data go into the USGS system) and willingness to accommodate BPA needs and databases by transfer of data or other means.

This is a very important water monitoring and management project for the Walla Walla River basin in Oregon. Although it might normally be accomplished under the agency's state mandate and funding, the realistic view is that such funds will not be available. Our only caution is that BPA should consider "in lieu" implications.

Project ID: 199802000

Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington
Sponsor: WDFW
Subbasin: Walla Walla
2002 Request: $362,652
3YR Estimate: $863,652
Short Description: This project includes design and construction of adult traps in Mill Creek and the Touchet River, and steelhead and bull trout monitoring activities in those drainages and in the lower Walla Walla River. It also includes participation in NEOH planning.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. It is essential for WDFW to continue its assessments in the Walla Walla Basin, as efforts continue to restore salmon and steelhead populations. These efforts continue to uncover new and vital information on presence of fish and their relationships to environmental conditions. The two groups working on the monitoring and evaluation task should meet and agree on a coordinated approach that is a function of the questions to be asked. A review of smolt and adult trapping options is recommended, if a decision is reached to proceed with that component. The watershed conditions assessment must continue to completion, with immediate attention to high priority restorations, and planning.

Project ID: 25082

Walla Walla River Flow Restoration
Sponsor: WWBWC
Subbasin: Walla Walla
2002 Request: $478,000
3YR Estimate: $478,000
Short Description: This proposal will add 5 to 7 cfs of conserved irrigation water to the Walla Walla River at the critical flow-impaired reach between the town of Milton-Freewater and the Oregon-Washington state line.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable.
This seems to be a worthwhile project to increase the water efficiency of irrigation and preserve the saved water for in-stream uses under Oregon Water Law. This project is part of the effort to restore flows sufficient for fish passage in the Walla Walla River. It focuses on purchase or lease of water rights and on improvements in farm efficiency in the use of water. An inefficient canal will be converted to pipelines. The Water Basin District has a means of enforcing the allocations of water for fish flows. That would have a real benefit for fish. However, the initial proposal was short on what would actually be done, even though the overall justification and end result are clear, and the sponsors needed to clarify monitoring. Each of these concerns was alleviated with the response.

The information in Part 1 is good. Costs and objectives are ok. There is excellent cost share, amounting to over 50% when in-kind contributions are included. The reviewers felt that the proposal could have better explained why the section of the river goes dry. The proposal does a good job of relating the work to regional plans, quoting from the 1994 and 2000 FWPs and the Subbasin Summary (but not the BiOp), and refers to the BOR Action Plan and a Corps reconnaissance report. Many relevant projects in the vicinity are cited including those from the Oregon Watershed Enhancement Board and Oregon Water Trust's Water Acquisition Program, as well as those funded by BPA. There are good objectives. The reviewers felt the narrative could explain more about what will actually be done (or options) toward improving irrigation

systems as well as more details of the pipeline that would replace the old canal (the presentation helped here). There were no references cited, although there must be useful reports on irrigation water efficiency that could be mentioned as prototypes for justifying what would be done. Bios of staff were painfully brief, and gave little background for a reviewer to judge competence. Although matching funds and in-kind contributions are excellent, the proposal left unclear how the proposal's funds would be used in contrast to efforts or funds from others. Monitoring needed clarification.

The proposers responded to all of the ISRP concerns. They described how they will upgrade irrigation-water delivery systems (convert ditch irrigation to spray, and replace an open, unlined ditch with piping). The monitoring elements of this proposal and Number 25066 were clarified. Their monitoring will be Type 1. References were cited explaining why this segment of the river goes dry (infiltration plus irrigation use). The response referred generally to the BiOp objectives. Appropriate references were provided for water efficiency improvements. More complete biographies were provided, as was the breakdown of cost-share contributions.

This should be a valuable project.

Mainstem Snake

Project ID: 25049

Numerically Simulating the Hydrodynamic and Water Quality Environment for Migrating Salmon in the Lower Snake River
Sponsor: PNNL
Subbasin: Mainstem Snake
2002 Request: $207,360
3YR Estimate: $498,599
Short Description: The objective of this work is to apply state-of-the-art computer models that can describe the complex hydrodynamic and water quality environment in the lower Snake River, and to relate that information to migrating salmon.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This is a technically excellent proposal by a well-qualified staff to conduct physical modeling and associated data collection for estimating the environmental conditions and cumulative exposures experienced by migrating salmon in the lower Snake River. The proposal is well written. Project personnel are highly qualified to conduct the work. The work is responsive to a need for better understanding of conditions, especially thermal, in the Snake River as they influence migratory salmonids. The work should yield potential strategies for management of water during migration and bases for useful hypotheses for improving survival of migrating salmonids.

Some specific comments are provided by the reviewers for the authors (but do not need a formal response). The species affected are not listed by the proposal. Such a listing is needed for automated searches of the proposal database (could be supplied to BPA at the contract stage). Also, because different species have different habitat usage, hydrodynamics may need to be tailored to particular species. This proposal appears to focus on fall chinook. The "objectives" in Part 1 are not objectives but categories of work (objectives should be desired outcomes). Budgets are not categorized correctly (everything is placed in planning rather than most of the work being in implementation). With no monitoring and evaluation identified either in Part 1 or Part 2, it appears that there will be no evaluation of the validity of the models. There is no cost sharing identified, although the abundant use of data from other sources could have been claimed as a valuable in-kind contribution. There is an excellent background that identifies objectives better than the stated objectives. The regional rationale is supported by specific action items from the NMFS BiOp, Subbasin Summary, and 2000 FWP. The two principal fall chinook salmon studies funded by BPA are identified as having relationships to this proposal, but other on-going work (e.g., by the Corps) is not identified but is clearly relevant as shown by the reference list. The objectives in the narrative are better than those in Part 1.

The modeling scale should be identified (e.g., whether velocity is scaled to the size of a 10-cm fish or larger). The objective of calculating integrated exposures of fish to temperature, gas, etc. that was highlighted in the background should appear as a separate objective in the narrative (this seems to be one of the main desired outcomes of the work). There are excellent task descriptions. It is not clear, however, whether the models with their input parameters will be publicly available for others to do confirmatory runs. The facilities are fine, based on both the paragraph of the proposal and the past work cited in the excellent reference list. It would have been useful to note where the agency reports cited are available (web or by request of the agency?). The staff is well qualified to do the proposed work. This modeling approach by a well-qualified lab continues to improve and will be useful in the future. There is potential for stronger coordination with several other projects in this reach of river (e.g., juvenile fall chinook salmon tagging #199102900 and #25064). There may also be useful coordination with the infrared imagery proposal for temperature measurement (FLIR;project #25065).

Project ID: 25064

Investigating passage of ESA-listed juvenile fall chinook salmon at Lower Granite Dam during winter when the fish bypass system is inoperable.
Sponsor: USFWS; USGS
Subbasin: Mainstem Snake
2002 Request: $176,000
3YR Estimate: $438,000
Short Description: Describe passage timing, genetic lineage, scale patterns, and locations of fall chinook salmon that hold over in Lower Granite Reservoir during the winter.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This is a good proposal for research needed to clarify the migration timing of fall chinook salmon that may overwinter in the Lower Snake River. Project personnel have identified a gap in understanding of life-history of chinook salmon. Bypass systems for migrating juvenile chinook salmon are closed between November and April at Lower Granite Dam. Recent information shows that this may impede emigrating fall chinook salmon that did not escape before November, but presumably stayed in the system through much of the winter (or alter our migration understanding, because of lack of monitoring data in winter). Preliminary data show that these fish make a significant contribution to the returning adults from a given brood. The proposal is to assess the significance of this situation for fall chinook salmon.

The proposal is generally complete and persuasive. The information in Part 1 is complete. There is an excellent background section. The work is justified with specific action items from the NMFS BiOp and the Subbasin Summary (but strangely not the FWP). There is a good description of the relationships to other projects, not just BPA's. There are good objectives (although stated more like tasks than as desired outcomes), tasks, and methods. One wonders if the scale pattern analysis for seawater entry has been verified with elemental analyses (e.g., Sr/Ca ratios). There is an appropriate reference list. Staff resumes are complete and the staff is clearly competent to do the work. This is the same crew that has been doing the wild fall chinook studies underway since the early 1990s and this project is a logical extension of that work (but not within the existing scope). The studies are needed and this is the right group to do them.

Based on the presentation and discussion, it is even more convincing that we have generated an overwintering stock of fall chinook through our thermal manipulations of the Snake-Clearwater system. If it is happening, we are missing much of it with our standard fish monitoring operations that end in fall and don't begin again until spring. This change in life-cycle could be highly important for the general notion of species' adaptability and for the persistence of the Snake River wild fall chinook. It must be tested with the sort of work proposed here. A peculiarity is that the proposal continually implies that the bypass system should perhaps be operated for these fish, presumably to improve their survival, yet it provides data suggesting that their rate of survival is high relative to fish that do not hold over (i.e., use the bypass when

it operates). Perhaps an alternative hypothesis deserves exploration. In summary, this is important work that deserves high priority for funding.

Project ID: 199102900

Understanding the effects of summer flow augmentation on the migratory behavior and survival of fall chinook salmon migrating through L. Granite Res.
Sponsor: USFWS; USGS
Subbasin: Mainstem Snake
2002 Request: $630,375
3YR Estimate: $1,851,125
Short Description: Increase the potential for fall chinook salmon recovery by providing data and analyses for implementing, evaluating, and understanding the mechanisms of summer flow augmentation.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The initial review found this project fundable if a response clarified how the proposers see their work resolving the broad issue of whether or to what extent flow augmentation improves or affects survival of juvenile salmonids in the mainstem Snake River. Also, the budget needed to be carefully evaluated (as requested in last year's review). The proposers expanded their proposal by further discussing their recent studies of migration timing and survival. These results had been presented to the ISAB, but not to the ISRP. The authors included discussion about how these results addressed the broader question of the value of flow augmentation. With this discussion, they clearly demonstrate their understanding of the complexity of the issue. They rightly note that the broad question will be answered by many well-focussed studies on particular aspects of the problem. They see their work as contributing incrementally to those specific studies. We agree, and judge the proposal as modified to be acceptable for funding.

This is a project that deserves to continue. It has appropriately modified its scope over its history to meet changing views of data needs. Proposers have been responsive to previous ISRP reviews. The responses substantiated its role in evaluating primarily wild fish in contrast to the other main study that focuses on timed releases of hatchery fish (#199302900), although this study will use hatchery fish for telemetry. There is an excellent list of accomplishments in the form of publications and presentations in Part 1, with a summary in narrative form in Part 2. The response augmented Part 2, where the ISRP believed it could have stressed the actual scientific results more. There is a concise background section. For regional justification, there are quotes and specific items cited from the BiOp, Subbasin Summary, and FWP.

The narrative's objectives, tasks, and methods are well specified. This project has yielded good primary data results for the Fish and Wildlife Program from an area of the hydrosystem with much significance for listed fall chinook salmon. It should continue on the modified track this proposal outlines.

The ISAB reviewed the results of this project extensively this winter/spring for its review of flow augmentation and found the work of value. The ISAB subcommittee also suggested that some of the work now proposed should be done, either in this project or new ones. The proposers indicated that they would coordinate with and use information from the PNNL modeling proposal (#25049).

The ISRP is satisfied with the response that places this work into the broader context of flow augmentation questions. Clearly, the authors are on top of this whole issue and see their work in the appropriate context.

Palouse

Project ID: 25008

Resident Fish Stock Status in the Palouse River and Upper Crab Creek Watersheds, Washington.
Sponsor: WDFW
Subbasin: Palouse
2002 Request: $546,670
3YR Estimate: $1,503,152
Short Description: The project is designed to collect baseline fish related data for the Palouse River and Crab Creek drainages. The baseline data will be compiled into a database, with existing data, for managers, as well as be used to develop fish management plans.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable: The ISRP concluded this to be a technically sound proposal, but its priority appears low because of likely marginal benefits to fish.

Tucannon

Project ID: 200001900

Tucannon River Spring Chinook Captive Broodstock Program
Sponsor: WDFW
Subbasin: Tucannon
2002 Request: $94,509
3YR Estimate: $342,009
Short Description: Conduct the Tucannon River spring chinook captive broodstock program. Rear and spawn broodstock, raise their progeny and release up to an additional 150,000 smolts into the Tucannon River to rebuild their run and prevent extinction.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response effectively addressed the ISRP's concerns, which included a lack of focus on the integration of artificial production issues and timing with habitat improvement actions in the subbasin and a need for greater emphasis on statistical analysis of the data collected during the program's monitoring and evaluation activities.

The sponsor's response effectively addressed these issues. Their conclusions concerning supplementation are important and should be an important consideration in other supplementation programs in the Basin. These are findings in support of what was an intuitively obvious limitation for supplementation from the outset. This project was conceived as an emergency action to protect Tucannon chinook until habitat could be restored to the extent needed to support a viable population. The run has subsequently improved and the emergency action may no longer be needed. A problem that may need some attention, however, is the fact that the effective population now consists of fewer than 100 animals (from the 1995 run).

Yakima

Project ID: 25026

Yakima Tributary Access and Habitat Program (YTAHP)
Sponsor: Kittitas County Water Purveyors
Subbasin: Yakima
2002 Request: $2,022,760
3YR Estimate: $6,935,260
Short Description: Implement fish enhancements (fish passage, screens and riparian habitat) on Yakima tributaries based on prioritized schedule developed through a collaborative approach of local, state, federal and tribal interests. Conduct early actions in 2002.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority (Objective 2 only)
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable as specified by CBFWA. The response was very clear and showed that considerable effort went into its preparation. In addition, the proposal offers passage improvements that will likely benefit stocks targeted in the Action Plan solicitation. The well-written response to ISRP queries was helpful in clarifying how this large (and costly) proposed program, which has the potential to increase production of both anadromous and resident fish in several hundred miles of Yakima River tributaries, should be prioritized. Although the panel recognizes that it is not possible to precisely quantify the magnitude of potential fish benefits at this time, it views the effort as worthy of support.

Reasons for that support include:

1. the pro-active approach of KCWP staff and the organization's established track record of cooperation with federal agencies and the Yakama Nation,
2. the belief, based on experience elsewhere, that such a project should further bring together a variety of stakeholders, especially landowners, in a cooperative effort to restore fish passage and rearing,
3. evidence that there will be costsharing by KCWP participants, and evidence of a substantial commitment from the Yakama Nation, provided in the response to ISRP comments on project 199803400, to coordinate with KCWP to maximize fish benefits while minimizing project cost. Specifically, tributaries will be prioritized using a combination of EDT analysis and professional experience and judgment, the YN program to identify blocked and unscreened diversions will continue in coordination with KCWP, and YN staff indicate a willingness to attend monthly coordination meetings.

CBFWA Review Comments:
It is good to see the local stakeholders taking an initiative to address the needs within this watershed. Coordination with co-managers has recently begun and needs to continue. The budget seems extremely high for the initiation of a new project. Until an implementation plan has been developed, it may be inappropriate to provide implementation funding. Fund Objective 2 only (i.e.. complete strategic plan). Once the plan has been completed, re-apply for implementation funds. We suggest partnering with the YIN in the Wilson Creek project. Implementation plan should be developed in concert with the area fish and wildlife co-managers. Implementation activities should be considered a "Recommended Action" until a plan has been completed and should be coordinated with the Yakima Nation prior to funding.

Yakima Screen Proposals

Project ID: 199105700

Fabricate and Install Yakima Basin Phase II Fish
Sponsor: WDFW, YSS
Subbasin: Yakima
2002 Request: $159,889
3YR Estimate: $179,889
Short Description: WDFW, YSS fabricates and installs fish screens and miscellaneous metalwork for Yakima Basin Phase II screening projects. New fish screens prevent mortality and/or injury to all life stages of anadromous and resident fish in irrigation diversions.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response suitably clarified several procedural items. This project is part of a long-standing program that would appear to have contributed significantly to survival improvements in downriver salmonid migrants. This funding would complete Phase II replacement or upgrade of all screen facilities in the Yakima basin by the end of FY 2003.

Project ID: 199200900

Operate & Maintain (O&M) Yakima Basin Phase II Fish Screens
Sponsor: WDFW, YSS
Subbasin: Yakima
2002 Request: $148,557
3YR Estimate: $467,505
Short Description: WDFW, YSS performs preventative and emergency maintenance and operational adjustment on completed Phase II fish screen facilities to assure optimal fish protection performance and to extend facility life, thereby protecting BPA's capital investment.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal would continue O & M on Yakima basin screens, clearly an essential, routine component of the process.

Project ID: 199503300

O&M of Yakima Phase II Fish Facilities*
Sponsor: USBR
Subbasin: Yakima
2002 Request: $66,037
3YR Estimate: $306,037
Short Description: Operate and maintain BPA owned fish screening and trapping facilities located throughout the Yakima River basin to prevent injury or mortality to anadromous and resident fish, and to protect BPA's capital investment.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal would continue O & M on Yakima basin screens, clearly an essential, routine component of the process. Reviewers appreciated the itemization of the facilities receiving that O & M, as well as the detailed description of the complicated operational and fiscal interactions among the groups and agencies involved.

Project ID: 199107500

Yakima Phase II Screens - Construction*
Sponsor: USBR
Subbasin: Yakima
2002 Request: $1,000,000
3YR Estimate: $1,190,000
Short Description: Install new fish screens at previously scheduled diversions in the Yakima River Basin to prevent mortality or injury to anadromous and resident fish.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This is part of a long-standing program that would appear to have contributed significantly to survival improvements in downriver salmonid migrants. This funding would complete Phase II replacement or upgrade of all screen facilities in the Yakima basin by the end of FY 2003. The proposal notes that project prioritization is determined by the Passage TWG, including input from the BPA project manager, BOR, state and federal agencies, and YIN.

It is not possible to assess this or its companion proposal on science-based standards. As noted in the FY 2000 review, this project is tightly linked to project #199107500 and closely related to project #19920900. Some of the project descriptions shared the same introductory material. This suggests that these proposals could have been introduced under one proposal, which would have reduced the repetitive material and provided an opportunity to specifically describe the functional relationship among these projects. Reviewers were confused by an apparent redundancy of effort, with efforts from both projects #199107500 and #199105700 being expended on the same screen sites.

Project ID: 198506200

Passage Improvement Evaluation
Sponsor: PNNL
Subbasin: Yakima
2002 Request: $113,587
3YR Estimate: $347,059
Short Description: Evaluate the biological and hydrologic effectiveness of juvenile fish passage facilities constructed at irrigation diversion dams, canals and ditches to allow the passage of migrating fishes. Evaluate sites with respect to NMFS passage criteria.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This was a strong and effective response that provided useful information and dissipated reviewer concern. Justification for keeping this project separate from design, construction, operation and maintenance projects is adequate. The tightened protocol for problem reporting and correction, at least for WDFW screens, that was proposed in the response seems to strengthen that process (assuming it is positively viewed by WDFW, BOR, and NMFS). The proposed protocol does not specify the feedback details for USBR built and operated screens. This should be established in as much detail as the WDFW protocol.

CBFWA Review Comments:
This project includes evaluation of BOR fish screens and should be funded through that agency. This raises an in-lieu question.

More Yakima

Project ID: 25036

The Impact of Flow Regulation on Riparian Cottonwood Ecosystems
in the Yakima River Basin.
Sponsor: BioQuest
Subbasin: Yakima
2002 Request: $225,495
3YR Estimate: $430,066
Short Description: Research riparian cottonwood and geomorphic response to regulated flows in the Yakima Basin and compare to the responses of an unregulated reach of the Flathead River with the objective of enhancing flows to restore riparian habitats in the Yakima Basin.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal has been developed based on a BPA Innovative Projects Program that was initiated to study the impact of regulated flows on riparian cottonwoods in the Yakima River Basin. Initial results of that study have shown that current patterns of flow regulation within the Yakima Basin are having a significant negative effect on the recruitment of cottonwood seedlings. The authors have also developed a preliminary model for modifying flow regimes to promote the recovery of riparian cottonwoods, and assessed several different types of multi-spectral imagery for classifying the extent of riparian cottonwood ecosystems.

The life history and ecology of riparian cottonwoods are closely linked with the dynamics of riverine processes. With the damming of rivers and subsequent alteration of seasonal flow regimes, the structure and function of riparian cottonwood ecosystems have been significantly altered along many western rivers. On the merits of their recent findings, these authors propose to expand their sampling efforts and integrate

studies of cottonwood recruitment with specific measures of fluvial geomorphic activity. The results of these studies would provide a scientific basis for modifying flows to lessen the ecological impacts of flow regulation in the Yakima Basin. The authors will also assess these quantitative relationships in a non-regulated reach that can serve as a natural analogue to the Yakima River; specifically, the Middle Fork (Nyack Reach) of the Flathead River in western Montana. These authors suggest that the synergy of these efforts would significantly advance the understanding of the ecology of alluvial reaches in the Columbia River Basin and quantify key relationships between flow regulation, geomorphic activity, cottonwood recruitment and the recovery of riparian-dependent wildlife, salmon and other native fish. The proposal also has strong support of agencies within the Yakima River Basin.

The proposal presented was well organized and informative. The ISRP strongly supports such investigations of riparian ecosystems and the development of remedial measures to restore productive riparian habitats. Costs for the proposal are modest and the study will be completed in FY04.

Project ID: 25013

Restore Riparian Corridor at Tapteal Bend, Lower Yakima River
Sponsor: Tapteal Greenway
Subbasin: Yakima
2002 Request: $160,500
3YR Estimate: $177,000
Short Description: Stabilize streambank along about 500 feet of riparian area at RM 8 of the Lower Yakima River and acquire adjacent island habitat to provide contiguous habitat protection along both sides of the channel.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, adequate response provided. This high visibility project has excellent potential as a demonstration and education project. It could also contribute to improving water quality in the lower river. The Tapteal Greenway, a non-profit conservation organization, purchased the 2.5-acre parcel with the intended purpose of using it as a demonstration site for streambank restoration and environmental education. Riverbank stability was severely degraded in the 1996 flood and riparian habitat had previously been destroyed. This proposal's objectives are to design, implement, and maintain a bio-engineered, streambank restoration project and conduct long-term monitoring of the restoration work. Proposed tasks include barbs to capture silt and deflect flow, roughened rock or log toes, riparian buffer (willow, ground covers), soil reinforcement, and bank grading for severe cutbanks. Photo-point monitoring and plot sampling would gauge the effectiveness and success of the restoration project. Acquisition of an adjacent, undisturbed island with cottonwood galleries would serve to expand the protective buffer to the river corridor and provide opportunity to re-connect a cut-off side channel to the river. This site is an important part of the movement corridor for migrant salmonids and provides good resting, rearing, and brood areas. These land parcels and the proposed restoration effort would provide an opportunity for public involvement and increase public awareness of watershed problems and solutions within the lower basin.

CBFWA Review Comments:
The education outreach and demonstration potential for this project are very high. We recommend coordination with the Yakama Nation cultural resources in implementing the education phase of the project. The final design and costs for this project have not been determined. Habitat restoration should not be funded until the plan is developed.

Project ID: 25062

Growth Rate Modulation in Spring Chinook Salmon Supplementation
Sponsor: NMFS
Subbasin: Yakima
2002 Request: $345,088
3YR Estimate: $345,088
Short Description: Develop hatchery rearing protocols to reduce excessive production of early maturing male chinook salmon, improve smolt-to-adult survival and reduce negative ecological impacts of hatchery fish on wild fish.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable for three years. Future funding contingent upon reporting of results. The response provided outyear budget information, thus addressing the one concern in the review. This is an excellent proposal with a refreshing presentation of supporting data and experimental design. This is important work that also appears well supported by the Yakama Nation. This project is to examine early maturation of males - precocious males, mini-jacks. Fast growth is likely decreasing the time to maturation. They are looking into the link between high growth rate in autumn to early maturation. The goal is to develop a template for rearing conditions conducive to slower maturation rate. If successful, they hope the Yakama Nation will do full production tests.

Project ID: 199803300

Restore Upper Toppenish Watershed
Sponsor: YN
Subbasin: Yakima
2002 Request: $268,517
3YR Estimate: $846,617
Short Description: Moderate flow regime in Toppenish Creek by increasing the retentiveness of natural soil water storage areas, such as headwater meadows and floodplains, following prioritized plan generated by FY98-99 watershed assessment.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, but in future submittals and in the statement of work to BPA they should include milestones with specific measurable goals. The response was marginal and the proposal was not up to the standards of the other Yakama Nation habitat proposals. This project is closely related to the project 199705300. It provides movement toward “proper functioning system” (PFS is a checklist based on physical characteristics and vegetation). They use this checklist to prioritize and identify restoration actions. Anecdotally, a culvert replacement in this watershed showed significant steelhead spawning after one year. The program appears to have many strengths, including the expansion from the Satus Creek restoration efforts and emphasis on monitoring. So it is very generally credible that there is a need, and that the proposed actions address it.

Project ID: 199901300

Ahtanum Creek Watershed Assessment
Sponsor: YN
Subbasin: Yakima
2002 Request: $235,093
3YR Estimate: $765,093
Short Description: Conduct a watershed assessment in the agricultural portion of the Ahtanum Creek watershed to complete assessment of the entire watershed, facilitate protection and restoration of salmon, steelhead, bull trout.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable, but in future submittals and in the statement of work to BPA they should include milestones specifically a date when the assessment is going to be done. The response was marginal and the proposal was not up to the standards of the other Yakama Nation habitat proposals.

Project ID: 199405900

Yakima Basin Environmental Education
Sponsor: BOR
Subbasin: Yakima
2002 Request: $130,000
3YR Estimate: $397,000
Short Description:
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The independent evaluation conducted in 1997 was very positive and it is clear from that document and the curriculum details provided that the project is an effort that all involved should be proud of. We suggest that another evaluation be conducted near the end of this funding cycle to document the effect of changes in the program and in the expectations of participants. A survey of non-participants should be conducted to identify possible barriers to participation and a plan for reducing those barriers should be proposed in future funding requests.

Project ID: 199603501

Satus Watershed Restoration Project
Sponsor: YN
Subbasin: Yakima
2002 Request: $352,966
3YR Estimate: $1,111,691
Short Description: This is an ongoing watershed scale restoration project intended to protect and enhance habitat for the native threatened summer steelhead stock, and a variety of cultural and natural resources.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. A generally adequate response helped reviewers more fully assess the project, although the query regarding grazing enclosures was essentially unanswered. It is clear that project activities have succeeded in reduction and management of grazing; the review panel now looks forward, in future reviews, to seeing

those results translated into additional restoration of fish habitat and fish numbers. Again we urge project personnel to increase activity in publishing and presenting results of the project.

The "new cost share opportunities" that would increase the proposed budget over that forecast were satisfactorily identified.

Project ID: 199705300

Toppenish-Simcoe Instream Flow Restoration and Assessment
Sponsor: YN
Subbasin: Yakima
2002 Request: $306,830
3YR Estimate: $736,830
Short Description: Identify extent of anadromous populations, identify land status, characterize habitat and discharge; model irrigation use; restore instream flows by land lease or purchase and/or water substitution; modify irrigation diversions to mimic natural runoff.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response was brief but adequately covered the few issues in question. This proposal to increase instream flow has potential to increase steelhead production. The 2,000 acres in this irrigation unit are mostly in tribal trust. The project seems consistent with subbasin summary and NMFS BiOp.

Project ID: 25021

Implement Actions to Reduce Water Temperatures in the Teanaway Basin
Sponsor: WSDE
Subbasin: Yakima
2002 Request: $338,000
3YR Estimate: $652,025
Short Description: Implement actions to reduce stream temperatures, reduce suspended sediment, meet water quality standards and improve salmonid habitat. Actions implemented will include irrigation improvements, tree planting, bank stabilization and road improvements.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The proposal is well written and is especially good in that it includes provision for analysis of the data collected. This is a continuation of an earlier project to provide additional instream flow by increasing irrigation efficiency, stabilizing streambanks, etc. The Teanaway was one of the top producers of spring chinook, steelhead, and coho in the Yakima watershed. It has good restoration potential.

No response was required but questions raised by ISRP were addressed. Details are lacking in the response such as where and how the "widely distributed" focus sheets will be distributed, for whom the "field tours in the future" will be conducted, and how subcontractors "will be fully informed about all the activities". These shortcomings do not seriously compromise the benefits of the project.

CBFWA Review Comments:
After consultation with CBFWA reviewers, the project sponsor has provided a modified budget through reducing the number of culvert replacements (USFS responsibility) and eliminated rock barbs. There is a difference of opinion in this area whether rock barbs should be used or reconnection with the flood plain is better approach. The project sponsor will attempt to address those concerns before proceeding with those actions.

Rock Creek

Project ID: 25068

Rock Creek watershed road and riparian corridor improvement project.
Sponsor: YN, KC, BCC
Subbasin: Rock Creek
2002 Request: $96,500
3YR Estimate: $289,500
Short Description: Perform habitat restoration to stabilize mainstem Rock Creek channel, enhance riparian corridor vegetation characteristics, and improve the road network throughout the subbasin to benefit fish and wildlife.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The objective of this proposal is to restore habitat in Rock Creek by stabilizing the main channel, enhancing riparian corridor vegetation, and improving the road network throughout the subbasin (proposal for 3 yeas, FY02-FY04). At present there are no BPA funds direct to fish and wildlife in the sub-basin. This proposal is requesting $96,500 for each year and has a cost sharing commitment of $50,000 from the co-sponsors.

Habitat conditions for fish and wildlife in Rock Creek sub-basin have been severely compromised by over a century of land use and human development. The 1996 flood event compounded these problems causing extensive damage to the mainstem channel and several tributaries. The basin presently supports steelhead trout (Mid Columbia River ESU), fall bright chinook and coho salmon, and rainbow trout.

While the proposal is not particularly informative of the habitat area and extent of work proposed, the presentation to the ISRP clearly demonstrated a severely disrupted environment that will require substantial work. The modest funds requested for FY02 will accomplish relatively little compared to the apparent scope of the problem, but it should be considered an initial investment in subbasin planning and recovery.

The work proposed includes a small bit of stream rehabilitation but is mostly rebuilding existing county and Boise Cascade forest roads, an approach that has been shown to significantly reduce sediment delivery to streams in other areas. A more complete proposal would include monitoring the effectiveness of fencing to exclude livestock from recovering and restored areas and to evaluate the effectiveness of road repairs in reducing sediment delivery to streams. Changes in erosion, channel shading, and stream temperature should be documented.

Mainstem Columbia

Project ID: 25056

Conduct Watershed Assessments for Priority Watersheds on Private Lands in the Columbia Plateau
Sponsor: OWEB
Subbasin: Mainstem Columbia
2002 Request: $1,259,725
3YR Estimate: $1,439,175
Short Description: This project will coordinate the development of watershed assessments throughout the Columbia Plateau. The funding will provide contracting monies for the completion of watershed assessments throughout the Oregon portion of the province.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. Basing project prioritization and program strategies on a watershed assessment is a sound scientific approach long advocated by the ISRP. However, this is an expensive approach, although good matching from OWEB. But this is merely funding infrastructure that groups elsewhere have already started on their own. Evaluation of priority for this proposal is based upon politics - not science.

The review team had several concerns for the sponsor to consider that do not require a response to the ISRP: will these assessments on private lands be compatible with existing analyses already conducted on federal lands? If not, how will differences be eliminated to ensure seamless integration? How will quality control be maintained with so many entities conducting assessments?

CBFWA Review Comments:
This project should be funded for the John Day as a High Priority (less than $500,000). For other subbasins the proposal should be considered a Recommended Action. OWEB needs to identify and acknowledge the existing efforts that have been completed on private land and should be well coordinated with existing local efforts.

Project ID: 25060

Burbank Sloughs and Mainstem Columbia River Shoreline/Side Channel/Wetland Habitat Restoration
Sponsor: USFWS
Subbasin: Mainstem Columbia
2002 Request: $546,000
3YR Estimate: $776,000
Short Description: Remove berms, reconnect side channels & wetlands to river & establish flow, & enhance shallow-water areas to provide rearing, resting & predator avoidance habitat adjacent to the main channel Columbia River in the Burbank Sloughs Area, Pasco, Washington.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This would serve as a pilot project to restore wintering/rearing habitat for chinook and secondarily steelhead in seven sloughs. The proposal was clearly written with helpful photos and the response showed a great deal of effort and fine-tuning that reviewers feel should lead to a stronger project. This effort will be successful for anadromous fish rearing if such habitat is currently in short supply and if the new habitat does not increase predation (especially piscine). That issue was mentioned in both proposal and presentation and reasons for expecting low predation rates were discussed in the response. Although somewhat on the fence, the ISRP was persuaded by the response on predation. CBFWA raises this issue as well and is less convinced. This issue deserves more attention, and the implementation option described in CBFWA's comments warrants consideration.

The response addressed other reviewer concerns. A strong M&E protocol was described, and a well-qualified scientist was appropriately added to the project. However, monitoring appears to be too broad - e.g. invertebrates - without all elements justified as to how they will of value in assessment of project success or failure.

CBFWA Review Comments:
The CBFWA reviewers are very concerned about the predator presence in this area. The project sponsor did not convince the reviewers that enough groundwork had been completed to determine that the response proposed from this project would be accomplished. The Anadromous Fish Caucus sees a high value (High Priority) in performing the pre-implementation feasibility study of this project with flow, temperature, and predator/prey analysis. CBFWA would like to see the results of the feasibility study prior to funding the implementation of reconnecting the slough.

Project ID: 199009200

Protect and Enhance the Wanaket Wildlife Mitigation Area.
Sponsor: CTUIR
Subbasin: Mainstem Columbia
2002 Request: $223,465
3YR Estimate: $679,824
Short Description: Protect, enhance, and mitigate wildlife and wildlife habitats impacted by the McNary Hydroelectric Project
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This proposal identifies its significance. This proposal is for routine continuation of operation and maintenance on 2750 acres. Irrigation of wetlands must be continued indefinitely causing concern about electricity costs in tight energy markets and availability of water in drought years. During the presentation they demonstrated that they had a plan for alternative activities if power prices become prohibitive. M&E is adequate for Tier 1 level monitoring. However, evaluation and monitoring efforts should be strengthened by specifying how much improvement/change in target species is to be accomplished and how the changes will be documented (see ISRP general comments at beginning of this report). Cost is relatively high compared to other areas perhaps due to irrigation costs for wetlands.

Project ID: 25011

Assess Riparian Condition through Spectrometric Imaging Of Riparian Vegetation
Sponsor: ODEQ
Subbasin: Mainstem Columbia
2002 Request: $175,000
3YR Estimate: $360,000
Short Description: Remote multispectral imaging will be used to document riparian vegetation for all Columbia Plateau Province lands within Oregon. DEQ will use the data to establish TMDLs to improve water quality for fish and aquatic life, including ESA-listed species.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. This project will use remote multispectral imaging to collect data on riparian vegetative attributes. The data will be used to establish TMDLs for all Columbia Plateau Province lands within Oregon.

The response addressed most concerns of the ISRP. Additional details in the response would have been useful in justifying this project. Some examples where details are missing follow:

- "Multispectral imaging has proven to be the most effective method of assessing current riparian conditions." Where is the proof of this statement documented?
- "The data will either be made available for download via the internet, or distributed on CD." How will the internet availability be advertised and what is the procedure for requesting a CD?
- "…the level of uncertainty has proven to be relatively small in past efforts. In addition, the stream temperature models are calibrated to instream measurements, further validating the riparian classification data." Relatively small compared to what? What are the results of the previous validation? Has the adequacy of the validation been evaluated and summarized? If so, where?
- "It is believed that such robust water quality modeling … attain adequate protection of aquatic species.'" Where is the evidence that this belief is justified?

CBFWA Review Comments:
CBFWA supports applying this project in the John Day subbasin as High Priority and as a Recommended Action in the other subbasins. Once the technique has been proven, a presentation should be made to CBFWA to demonstrate its application. It is important that the project sponsors coordinate with others that are applying these types of analysis techniques (i.e.. LCREP). Also, all assessment information generated from this project needs to be provided to Streamnet and other data repositories for regional use.

Project ID: 25097

Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP)
Sponsor: WDFW
Subbasin: Mainstem Columbia
2002 Request: $522,710
3YR Estimate: $945,260
Short Description: Project will provide routed & segmented hydrolayer, and collate and synthesize data on 19 aquatic habitat variables & pesticide data over an estimated 59,000 miles of streams in 8 salmonid-bearing subbasins in the WA portion of this Province.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response addressed the major issues raised by the ISRP in an effective manner. The purpose of this project is to assemble, assimilate, and expand upon existing data sets. A comprehensive habitat information base across the Province will be provided. The proponents provide a strong case for their integration with other habitat managers and agencies and show a strong awareness of the need for habitat related databases in regional projects and programs. The response provided evidence that other groups in the Columbia Plateau support and will use results from this activity. The result of an independent evaluation of similar efforts in western Washington was provided in the response. The evaluation was very positive.

Crab Creek

Project ID: 199106100

Swanson Lakes Wildlife Area (SLWA)
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $290,238
3YR Estimate: $845,512
Short Description: Protect, increase, and maintain a viable sharp-tailed grouse meta population, re-establish a viable sage grouse population, increase mule deer use of the project site, and enhance shrubsteppe habitat for shrub-steppe obligate species.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The rationale for this project is tied to protection and restoration of sharp-tailed grouse. These activities are related to a number of regional programs. The proposal provides much detail for monitoring and evaluation indicating awareness of issues missing from many proposals but discovered by the WDFW Crab Creek team. This is a very well prepared proposal that is thorough and comprehensive. Operation and maintenance costs for the area are about $15/A/yr for 2002, which is about the same that the YN estimates for their land management operation and maintenance.

Project ID: 25042

Pygmy Rabbit Recovery - Captive Breeding
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $220,914
3YR Estimate: $461,118
Short Description: The project involves captive husbandry and captive breeding of wild-caught Washington pygmy rabbits, as well as augmentation of wild populations in the Crab Creek Subbasin with captive reared rabbits.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response satisfactorily documented that the Washington population is an ESU, that the experimental animals of Idaho origin cannot stray into the Washington population, and that there will be adequate supervision of students. The status of the Washington population does appear critical, justifying research into captive breeding.

Overall prospects for success of the recovery effort are still in doubt, because, they do not appear to have a handle on the root cause for the continuing decline or the characteristics of needed habitat. The response acknowledges that the limiting factors are unknown. If the root causes of decline are not addressed, a captive breeding program may be a misplaced effort. The ongoing decline of the remnant population in WA, and the evident ineffectiveness of the habitat work, leads reviewers to suspect that the actual critical habitat has not been identified, and this should be the highest priority. To put the matter in perspective, it would be good if the proposers could document that there is a real commitment of significant resources to habitat acquisition, protection and restoration, and to research to figure out why this WA population is doing so poorly compared to the ID population. The ongoing habitat purchases or protection projects seem largely to just be riding the coattails of bird recovery programs with better understood habitat requirements. A captive breeding focus could divert resources away from other efforts that logically should be as high or higher priority for this population; the investment in captive breeding could become disproportionate.

Project ID: 25043

Northern Leopard Frog Distribution and Habitat Association
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $41,754
3YR Estimate: $156,354
Short Description: The proposed project examines the breeding distribution of northern leopard frogs, and breeding success and recruitment in association with introduced fish, bullfrogs and reservoir inundation.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable with low priority. This project proposes to determine the breeding distribution of the northern leopard frog, an endangered species in Washington. It further proposes to assess the effects of reservoir inundation and introduced fish and bullfrogs on breeding leopard frogs. The response was nicely prepared and helpful. It adequately addressed the ISRP concerns and indicates that researchers will indeed be able to separate effects of inundation from those of introduced predators.

Project ID: 199404400

Enhance, protect, and maintain shrubsteppe habitat on the Sagebrush Flat Wildlife Area (SFWA)
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $908,375
3YR Estimate: $1,407,100
Short Description: Protect, and enhance shrub-steppe habitat necessary to maintian and expand viable populations of pygmy rabbits, sage grouse, sharp-tailed grouse and other shrub-steppe obligate species.
ISRP Recommendation: Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The response is adequate. The rationale for this project is tied to protection and restoration of pygmy rabbits, sage grouse, and sharp-tailed grouse. These activities are related to a number of regional programs. However, the priority of this project does not appear urgent.

The proposal provides much detail for monitoring and evaluation indicating awareness of issues missing from many proposals. Additionally, the ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

The response included better description of budget items, but the cost still seems high compared to other projects.

ISRP Agrees with CBFWA: ISRP Fundable and CBFWA High Priority, but Crediting Issue with BPA

CBFWA identified these proposals as potentially High Priority projects pending crediting resolution with BPA and the Council. The ISRP notes that many of these proposals offer significant protection and benefits to listed fish species, in addition to wildlife benefits.

Project ID: 25003

FORREST RANCH ACQUISITION
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $4,207,659
3YR Estimate: $4,510,009
Short Description: Acquire approximately 4,295 acres of land, 12.2 miles of streams, 25.2 cfs of senior water rights, and structures on the Middle Fork and upper mainstem John Day Rivers known as the Forrest Ranch.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. This project is apparently funded under the High Priority Process. This project was reviewed through the high priority initiative. It remains high priority. This is an excellent proposal making a convincing case that acquisition of this land and accompanying water rights would make a large contribution to spawning and anadromous fish habitat on the upper middle fork of the John Day River. The risks to habitat of not funding the project are high. Excellent documentation and illustrations are provided. The monitoring and evaluation plan should be consistent with the guidelines given in the introduction to this report.

CBFWA Review Comments:
The purchase of this property was funded through the High Priority Process.

Project ID: 25004

Acquisition of Wagner Ranch
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $2,669,717
3YR Estimate: $2,737,717
Short Description: Aquire Wagner Ranch to provide a contiguous corridor of fish and wildlife habitat along the lower John Day River.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. This project is funded through the High Priority Initiative. See review comments from the ISRP's recent High Priority Review. The monitoring and evaluation plan should be consistent with the guidelines given in the introduction to this report.

CBFWA Review Comments:
Purchase of this property will provide opportunities for riparian improvements along 10.2 contiguous miles of mainstem river frontage (area serves as a migration corridor for chinook). Grazing rights would be included in the purchase. The property purchase was funded through the High Priority Process.

Project ID: 25086

Purchase Perpetual Conservation Easement on Holliday Ranch and Crown Ranch Riparian Corridors and Uplands
Sponsor: ODFW
Subbasin: John Day
2002 Request: $5,459,520
3YR Estimate: $5,485,320
Short Description: Fence 17.7 miles of mainstem John Day River and tributaries, and protect 15,532 acres of uplands two miles east of John Day, Oregon under perpetual conservation easement to improve habitat and protect steelhead spawning grounds and big game winter range.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. High priority. This project received an "A" category and was recommended for funding without reservation. The site visit confirmed and enhanced the conclusion that this acquisition provides many benefits to fish and wildlife. In addition to the conservation benefits described in the proposal, this project provides an excellent example of the types of win-win solutions to restoration problems that are possible through good working relations with landowners, and through the development of incentives that make sense both in terms of conservation goals and the economic goals of the landowner. The project is a complicated mix of actions and incentives that make both biological and economic sense. This project will achieve far-reaching demonstration benefits to other landowners of the positive outcomes possible from restoration actions. There is a limited window of opportunity to for this project, dependent on the time period of the option to buy. Delay in funding will risk the project. The costs of not funding this project could be realized not only in conservation and restoration terms, but also in the erosion of trust and working relationships between landowners and agencies responsible for resource recovery actions.

Additional information about the complexity of this project and its potential benefits were provided during the site visit. The proposal should be modified to adequately represent the complexity of the project and the magnitude of potential benefits. The ISRP visited the Holliday Ranch as part of the Columbia Plateau South Site Visit on 8 May 2001. We were able to see the many conservation actions the landowners have undertaken with assistance from regional resource managers. On-site discussions with the land owners and resource managers from ODFW, CTWSR, and SWCD were informative and provided insights into the biological benefits, as well as the important aspect of local landowner-resource manager relationship benefits that would be gained from implementation of the Holliday Ranch perpetual easement. Many ranchers in the area are familiar with the Holliday Ranch and its conservation activities and are waiting and watching the process before deciding whether or not they will participate in similar programs.

Of particular note in the project, but not described in the proposal, is the large grazing allotment (~700 AUMs) that the Holliday family presently uses on forested public lands in the lower reaches of the Strawberry Mountains, an area adjacent to a wilderness area. The family's initial motivation for seeking the perpetual easement was to reduce their use of and reliance on the grazing allotment by 80% in exchange for purchase of the Crown Ranch property, which would provide them with summer pasture lands for their cattle operation. This portion of the easement agreement was not described in the proposal, but the ISRP feels it is an important part of the entire easement package.

The Holliday Ranch project also provides a number of other conservation contributions that include:
a. Self-contained cattle feedlot operation that passively captures and processes all waste materials.
b. A series of groundwater drains that improve efficiency of the cattle operation while simultaneously delivering significant amounts of cooler-than-ambient summer water. This contribution should significantly improve water quality and extend spring chinook spawning and rearing habitat in the mainstem John Day River.

c. Installation of 3-4 instream irrigation diversion structures designed and installed by the landowner. We observed this unique diversion structure that is used in place of push-up dams to provide the landowner with reliable irrigation diversion. The structure provides natural upstream and downstream passage conditions for adult and juvenile salmonids.
d. Historically, the Crown Ranch (now owned by the Carter family) and the Holliday Ranch were owned by ancestors of the present Holliday family. The holdings, which involved several pieces of land, were physically split into the Crown and Holliday Ranches. A map of the two ranches today (not provided with proposal) would show a checkerboard appearance across the landscape. Combining the two ranches as proposed in the perpetual easement agreement would consolidate the various pieces into a single land unit enhancing its management for both agricultural and conservation goals.
e. Maintenance of fences for protections of riparian zones would be the responsibility of the Holiday Ranch.

CBFWA Review Comments:
Conversion of a USFS grazing allotment to nonuse is now included in the proposal and the estimated cost of conversion is not known at this time. Although this will not affect the FY2002 budget the outyear budgets may increase.

Project ID: 200002300

Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $50,000
3YR Estimate: $1,465,000
Short Description: Protect and enhance shrub-steppe and native bunch grass habitat in the Horn Butte area to mitigate for wildlife impacts by the Columbia River Federal hydropower system.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. The responses to ISRP concerns were very complete and included a high level of attention to details on evaluation of the property for acquisition, future O&M, and future M&E. The response should be made part of the original proposal and serve as a model for future proposals for acquisition of lands for the primary benefit of wildlife and uplands vegetation. The ISRP recommends acquisition of this property.

One of the initial recommendations of the ISRP on this proposal was that the proponents consider cooperating with the EPA EMAP to ensure compatibility of wildlife and vegetation sampling across large landscapes (counties, states, or combinations of states) in the same manner that the Oregon Plan for Salmon and Watersheds is using EPA EMAP procedures for monitoring of aquatic resources. The proponents commented that the Western EMAP does not have a terrestrial component. This may be true for the current Western EMAP, but certainly the original EMAP had a large terrestrial component. The ISRP is not specifically recommending the EMAP terrestrial sampling plan. Rather, we are more interested in ensuring that sampling on these large blocks of Fish and Wildlife Program lands be compatible with a larger scale terrestrial sampling plan and that data collected will be useful for monitoring and evaluation at the subbasin and Columbia Basin levels.

We appreciate the proponents' research into the Natural Resources Conservation Service's terrestrial monitoring program called the National Resources Inventory. Apparently there are more than one million sampling points across the United States where land cover information is gathered. The proponents propose to evaluate this sampling program and the possibility of coordinating mapping locations with established NRI points and we strongly recommend that they do so. Data on the Philippi part of the Horn Butte property would be at an intensified finer scale than the planned national survey, but compatibility of sampling methods and data collection protocols would enhance the ability of the proponents to compare their property to other areas on a larger scale and to provide information to monitoring and evaluation at the

subbasin, basin, and national levels. In short, the ISRP is not pushing the EMAP terrestrial sampling plan. We are recommending that the terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well.

There seems little that this purchase will do for summer steelhead (extirpated) until passage barriers (irrigation structures) are removed in lower reaches. Perhaps that problem should be addressed first.

Project ID: 200020116

Securing Wildlife Mitigation Sites - Oregon, Horn Butte Area (BAIC Tract)
Sponsor: ODFW
Subbasin: Plateau Southeast
2002 Request: $5,390,000
3YR Estimate: $5,630,000
Short Description: Protect and enhance the BAIC Tract in the Horn Butte area, which includes 22,642 acres of shrub-steppe and native bunchgrass, to mitigate for wildlife impacts from the Federal Columbia River Hydropower System.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. Purchase of this property was approved in previous reviews, but funds were redirected to other approved projects when negotiations with landowners broke down due to a legal issue that has now been resolved. The ISRP continues to agree that this property would be of significant long-term benefit to wildlife.

References to habitat evaluation and survey procedures should be given. Washington ground squirrel surveys procedures should be given in detail. Vegetation and wildlife surveys sites should be selected in cooperation with the EPA EMAP survey procedures developed by the EPA office in Corvallis, Oregon and valid Tier I or II monitoring procedures developed for target wildlife species (see the introduction to this report). Plans for O&M, monitoring and evaluation, etc. should be consistent with Project #200002300 (Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property).

Project ID: 25078

Acquire Anadromous Fish Habitat in the Selah Gap to Union Gap Flood Plain, Yakima River Basin, Washington
Sponsor: BOR
Subbasin: Yakima
2002 Request: $3,000,000
3YR Estimate: $9,000,000
Short Description: Acquire essential anadromous fish habitat (flood plains, riparian zones, wetlands, and water rights) from Selah Gap to Union Gap "Critical River Reach" of the Yakima River Basin, Washington.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. The objectives are consistent with regional programs and are a high priority. The proposal is well written and is well coordinated with groups and agencies. It seemed significant that the basin is already under the YPBWEB water enhancement project, so lots of resources applied and available. The reviewers liked the idea of an urban (semi-urban?) demonstration project to show that a community can be proud of, and profit from, the river that flows through it rather than simply thinking of it as a conduit.

Project ID: 199206200

Yakama Nation - Riparian/Wetlands Restoration
Sponsor: YN
Subbasin: Yakima
2002 Request: $1,750,000
3YR Estimate: $5,250,000
Short Description: Continue implementation of YN Wetlands/Riparian Restoration Project by protecting and restoring native floodplain habitats along anadromous fish-bearing waterways in the agricultural area of the Yakama Reservation (~2,500 acres/year).
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. Most of this ($1.25 mil) is to acquire land at ca. 2-3,000 acres annually, with a goal of 27,000 acres. O & M and M & E are included, and the project offers good cost share from a variety of sources.

From the tour, the review panel was impressed with the results. Excellent success with reestablishing bluebunch wheat grass in what seems to be an innovative, highly effective and popular program. The tour made it clear why it is important to have the ability to manage large tracts of land because that enables effective water management (floodwater delivery). This looks like a strong program.

Project ID: 25020

Acquire Rattlesnake Slope Addition
Sponsor: Rocky Mountain Elk Foundation
Subbasin: Yakima
2002 Request: $3,542,500
3YR Estimate: $3,542,500
Short Description: Acquire 11,000 acres in the Yakima subbasin to protect key shrub-steppe habitat, link protected lands, assist with threatened and endangered species recovery, and facilitate comprehensive management over a large area.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. The proposal makes a good general case for the need to acquire additional high-quality shrub-steppe lands, but a much weaker specific case for the purchase of the RSA. Others speakers (TNC-Betsy) indicated that this property was specified in one of the planning documents as a high priority area. A WDFW speaker (Don) also verified that the area is high priority type, but had not been specifically identified. In the response loop, a letter of support from TNC was supplied that bumps the priority of this up a notch. The property is adjacent to existing wildlife conservation areas, including the Hanford and the WDFW's Sunnyside WMA. Intent is to transfer the land to WDFW, but that set of steps has not been agreed upon. Acquisition of this deep-soil shrubsteppe habitat supports a number of target species. The cost of the property appears reasonable at approximately $350/acre. Livestock grazing should be allowed to the extent that it does not interfere with habitat protection and expansion for sensitive, threatened, and endangered species.

Additionally, the ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

Project ID: 25002

Protect, enhance, and maintain habitat on the Sunnyside Wildlife Area to benefit wildlife and fish assemblages.
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $418,874
3YR Estimate: $1,215,706
Short Description: Restore, protect and enhance native floodplain wetland and riparian habitats and shrubsteppe uplands in the lower Yakima River Valley.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. The project is closely related to subbasin goals and objectives, BPA mitigation, and other projects in the area. The monitoring and evaluation section is quite detailed and could serve as a model for other projects.

Project ID: 200002500

Eagle Lakes Ranch Acquisition And Restoration
Sponsor: USFWS
Subbasin: Mainstem Columbia
2002 Request: $188,900
3YR Estimate: $1,278,900
Short Description: Protect and restore proper function to shrub steppe and wetland habitats to offset losses due to hydropower development on the Columbia River system.
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. The project would fund approximately 30% of the fee acquisition and easement purchase for shrubsteppe, basalt cliff, and wetland complex. Out-year funding is mainly for restoration and monitoring. The response adequately addressed the ISRP's request for more detailed description of monitoring and restoration objectives and methods. This response provided good summary information and is a good example of how the response loop should work.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

Project ID: 25001

Acquire Sharp-tailed Grouse Habitat at the Swanson Lakes Wildlife Area
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $237,053
3YR Estimate: $274,953
Short Description: Purchase 259 ha (640 ac) of shrubsteppe habitat currently bordered on three sides by the SLWA in order to increase and maintain a viable sharp-tailed grouse population on and/or near the SLWA..
ISRP Recommendation: Fundable
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree - Fundable, High Priority
ISRP Final Comments:
Fundable. This is a straightforward proposal for one-time funding to acquire 640 acres bordered on three sides by the Wildlife Area. The acquisition of this property would complement the work proposed in project 199106100. Specifically, the project is tied to protection and restoration of sharp-tailed grouse. These activities are related to a number of regional programs. Cost of about $500/A seems reasonable. This proposal looks fundable with a medium priority, comparable in priority to new YN land acquisition proposals.

Project ID: 25092

RESTORATION OF HEALTHY WATERSHED TO PALOUSE RIVER DRAINAGE IN IDAHO
Sponsor: IDFG
Subbasin: Palouse
2002 Request: $200,200
3YR Estimate: $9,730,200
Short Description: To restore degraded habitat and protect natural habitat in the Palouse River drainage in Idaho thereby improving water quality and quantity throughout the drainage.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fund in part; fund the instream assessment and planning efforts only. Do not fund restoration activities until a plan is in place that includes a statement of expected benefits in terms of native fish or mitigation. A response was provided that was in agreement with this recommendation.

The PI proposes to hire a person to initiate planning, identify problems, locate potential project sites, and potential cooperators. They also propose to begin habitat improvement activities in Deep Creek. The PI is qualified to address the objectives. Objectives for the first year are relatively clear, but objectives in subsequent years are very general – specificity is to be defined during the first year. The standard approach to watershed assessment, prescription, rehabilitation, monitoring and evaluation is required, based on established templates as done for the Hood River and elsewhere, and in relation to overall restoration priorities in the province.

The budget request is large, so it seems prudent to ask for a detailed proposal at the end of the first year to describe known needs and projected benefits from the investment.

CBFWA Review Comments:
The outyear budgets are excessive. Implementation plan needs to be developed prior to funding implementation activities. Fund Objective 1 ($100,200). Implementation funding should be sought once the implementation plan has been developed.

Project ID: 25032

Wenas Wildlife Area Inholding Acquisitions
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $706,143
3YR Estimate: $716,143
Short Description: Acquire 800 acres of inholding lands within the Wenas Wildlife Area, including 1.25 miles of Umtanum Creek. Lands are under immediate threat of development. Includes riparian and Shrub steppe habitat, provides landscape connectivity.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: BPA Crediting? - High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part for the one-year acquisition but do not fund the outyear costs until they are justified. The response addressed the issues of justification, immediate need, species of interest, prioritization, and the threat of detrimental development, and provided useful information in maps and photos. Still, however, nothing in proposal, presentation, or response helped reviewers assess whether funds are better spent acquiring these inholdings as opposed to acquiring other parcels of shrub steppe habitat, or re-directly completely. The two parcels on Umtanum Creek (Hunt and Jordan) seem highest priority, and the Hunt property seems justified as the highest priority acquisition (if prioritization is needed).

These acquisitions could represent significant protection of BPA's investment in the Wenas Wildlife Area. BPA has invested heavily in the ongoing Wenas Wildlife Area project, with extensive shrub steppe replanting efforts undertaken. The loss of these inholdings to development could undermine this ongoing effort by BPA. Important fish and wildlife habitats would be protected with this project. All parcels are completely undeveloped and contain excellent quality shrub-steppe and riparian habitats, with diverse species assemblages represented.

The parcels include approximately 1.25 miles of Umtanum Creek, an anadromous fish-bearing stream known to contain steelhead, chinook and coho salmon, and red-band rainbow trout. Umtanum Creek represents one of the best examples of intact native fish communities in the Yakima basin, wherein exotic species are absent, and the native rainbow, sculpin, dace community dominates. The purchase would also protect the lower reaches of Roza Creek, which holds populations of resident redband rainbow trout. Significant shrub-steppe and riparian habitats would be protected in this project, and the long-term integrity of a large proportion of the Wenas Wildlife Area would be ensured.

Big game habitat quality is high, as deer and elk winter and transitional range, and habitat for bighorn sheep (WDFW Big Game data). These lands provide critical habitats for many shrub steppe species, including sage thrasher, sage sparrow, and shrikes. Landscape level habitat linkages between the U.S. Army Yakima Training Center, and Cascades fringe shrub steppe habitats would be protected with these acquisitions, including habitat for sage grouse. Beavers are very active on both Umtanum and Roza Creeks.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

CBFWA Review Comments:
M&E will be included through the Wenas Wildlife Area work plan being funded under an ongoing project. Information will be disseminated through the larger Wenas Wildlife Area work plan.

ISRP Agrees with CBFWA: ISRP Fundable and CBFWA Recommended Action

Project ID: 25027

An Assessment of Neotropical Migratory and Resident Bird-Habitat & Bird-Salmon Relationships in Riparian Ecosystems in the Deschutes Subbasin
Sponsor: NHI
Subbasin: Deschutes
2002 Request: $113,670
3YR Estimate: $323,990
Short Description: Monitor riparian breeding bird community relative abundance and nest success in relation to vegetation condition on streams in the process of or proposed for restoration, as well as on a subset of streams with salmon carcass supplementation.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (higher priority)
ISRP Final Comments:
Fundable. This is a well-written proposal to monitor riparian bird communities in the Deschutes subbasin in areas that have been restored or are in the process of restoration to establish aquatic-terrestrial links and to test the hypotheses that riparian bird abundance is influenced by the size of anadromous fish runs. The proposal has a comprehensive literature review and places the project relevance in regional context. The PI appears well qualified to do the work and the association with NHI and their mapping capabilities is a plus. The PI is also involved in several regional coordinated bird monitoring programs. The point count methods appear justified and supported by other studies and assessments. The proposal includes a good discussion of riparian habitat linkages to salmon. The most compelling aspect of the proposal is the proposed experimental test of the salmon-riparian habitat relationship using salmon carcasses in paired supplemented versus unsupplemented streams.

The response was thorough and adequately addressed the ISRP concerns. Investigators have presented a clear project structure and analytical design. Budget should be augmented by $14.8k to include the first year's invertebrate sampling. As revised, this is a strong proposal that could provide useful information on ecosystem interactions, which is needed in the basin.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

Project ID: 25040

Collection of baseline measurements of flow, temperature, channel morphology, riparian condition, and benthic macroinvertebrates, Trout Creek, Oregon
Sponsor: USGS
Subbasin: Deschutes
2002 Request: $239,000
3YR Estimate: $599,000
Short Description: Measurement of physical and ecological habitat conditions prior to an extensive channel restoration project, thus enabling future quantitative evaluation of processes and conditions affected by channel restoration
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The proponents adequately addressed the concerns of the ISRP. Briefly, this proposal is to provide "…a mechanistic understanding of processes associated with a large channel-restoration project (Tier 3 monitoring), which likely will result in substantial changes to channel and floodplain conditions. As such, this project is generally outside the scope of project-level M&E typically associate with projects such as #19802800." Most of our concerns revolved around the question of the level of monitoring in this project (Tier 3) and its relationship to Tier 1 and 2 monitoring.

A minor point on the design of the study is that the ISRP continues to recommend that channel morphology be measured above as well as within or below the study reach to help show that any changes are due to the restoration actions and not to other confounding factors (drought, flood, global warming, etc.). We do not recommend that the study include measurements of benthic macroinvertebrate assemblages because natural variation appears to be so high as to preclude meaningful analysis and interpretation of results.

The discussion of the need for this project and that proposed in #25016 (Birch Creek) seemed weak. We recommend that Council consider whether both of these projects are needed.

Project ID: 25009

Assess Watershed Health and Coordinate Watershed Councils in Wasco County, Oregon
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $70,290
3YR Estimate: $202,490
Short Description: Project will provide for assessment of 5th-field watersheds using Oregon Watershed Assessment Manual & will provide watershed council support to five watershed councils in Wasco County, Oregon.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action, Do Not Fund (Objective 3 and Fifteenmile Creek portion of Objective 5)
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. Response to details on watershed assessments is adequate. This project will complete watershed assessments in every fifth-field watershed in Wasco County and will coordinate five watershed councils in their development of watershed action plans. Standard methods will be used for each assessment. Specifics are provided for the coordination of watershed councils. Watershed assessments and action plans will be provided as input into the Hood and Deschutes Subbasin plans. To maximize the utility of the information collected, we continue to recommend that the information in all documents be coordinated and presented in the same format. Data will be entered into the Streamnet database. The budget is very reasonable.

CBFWA Review Comments:
One component of this proposal is a request for an FTE to coordinate subbasin planning/assessments, activities that are already performed by watershed councils. Reviewers suggest that the USDA should fund the FTE. Objective 3 and the Fifteenmile Creek portion of Objective 5 are not recommended for funding since these they are associated with the Columbia Gorge Province.

Project ID: 25075

Momitoring and Evaluation of Buck Hollow Hydrology
Sponsor: Wasco SWCD
Subbasin: Deschutes
2002 Request: $92,777
3YR Estimate: $115,871
Short Description: A project to monitor and evaluate the hydrologic function of Buck Hollow Creek after the application of conservation management systems designed to reduce peak flows and increase low summer flows.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable (higher priority)
ISRP Final Comments:
Fundable. This proposal is to monitor the hydrologic function of Buck Hollow Creek and the conservation results of full watershed restoration. The project will install instrumentation to monitor the watershed response to environmental variables. The project offers an excellent opportunity for monitoring of the effects of full watershed restoration on stream hydrology (see the introduction to this proposal) and to understand its effect on anadromous fish. A response was not necessary (although our preliminary comment suggested it), but the ISRP did appreciate the clarification that Wasco SWCD provided on some minor points concerning the level of monitoring required. They propose appropriate Tier I level monitoring based on a gauging station near the mouth of Buck Hollow watershed.

The proposal is of modest financial size and should help examine the relationship between environmental variables, habitat restoration activities, and the assumption that such activities can reshape the hydrograph to a more natural shape and phenology.

Project ID: 25065

Forward Looking Infrared Radiometry (FLIR) Thermal Imagery and Analysis of Tucannon River, Touchet River, and Mill Creek (FY2002)with follow-on 2003-04
Sponsor: WA Ecology, WQP
Subbasin: Walla Walla
2002 Request: $231,000
3YR Estimate: $634,000
Short Description: Obtain thermal imagery, imagery analysis, and supporting instream data, to map areas of thermal refugia and areas of heating in order to assess habitat condition and to provide data for restoration efforts, particularly Total Maximum Daily Loads (TMDLs).
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable technically, but the benefits of this technology to fish and wildlife and on-the-ground application are not convincingly demonstrated. The technology (itself good, although not new) needs to be integrated with a broader study of water temperatures in the basin, not as an independent study. Confirmation of temperature models would be useful, for example (if funded this project might be coordinated with the PNNL modeling project in the mainstem).

This proposal is to monitor and evaluate water temperatures in streams needed to develop temperature regulations in three rivers of Southeast Washington, using primarily infrared imagery from airborne over-flights. However, the proposal lacks sufficient information to be persuasive that it deserves funding in competition with other worthwhile projects. The presentation did not provide a thorough explanation of what the project could uniquely provide for actual data relevant to fish management.

The information to be gained from this project is likely to provide additional insight into dynamics of stream temperature and relations to the surrounding landscape. This type of temperature monitoring could be key to impact assessments into the future. The broad spatial scale could potentially coordinate much of the on-the-ground temperature data collected by others. The methods are limited, however, because the imagery results only will reflect stream surface temperature, and it produces only a snapshot of conditions at the time the records are made. That snapshot needs to be carefully integrated with in situ temperature measurements (now easier to do with inexpensive, miniature recorders) and the temperature requirements of fish. The technology can be appropriately applied to specific questions concerning water temperature dynamics troubling on-the-ground managers of the watershed restoration efforts, but these questions are not clearly identified.

The ISRP reviewers were not persuaded by the combination of proposal, presentation, and response. Project sponsors provided considerable discussion in response to ISRP concerns. The response did not, however, provide arguments to overcome the reviewers initial concerns that the focus was on use of a technology rather than viewing the technology as a valuable component of an integrated study of a problem (temperature) important to fish. There is value to the data to be obtained, but in comparison to other needs it may be relatively low. Although the character of the data to be obtained remains unclear, it could help to identify temperature problems that presently are unknown, and it definitely has potential to show stakeholders the location and magnitude of potential temperature problems in these systems. The detailed response provided little to suggest that this project would add to useful information on limits to salmonid production in this watershed that is not already known (or should be readily identified in a watershed assessment process). If increasing temperatures due to climate change become (more of) an issue, perhaps the federal government should support this level of monitoring. The questions on how this information (rather than other temperature data more easily obtained) could be used on the ground, with examples, were not adequately addressed.

On the plus side, the response put the scope of the FLIR work into context much better than the original proposal. Clearer objectives and tasks were given. Temperature problems in the basin in relation to fish thermal requirements were described by a cooperator, Glenn Mendel of WDFW. The utility of the data collection for TMDL activities as well as fish management was described. Temperature data were provided. Elements of the work, including the budget, were clarified as including more than just infra-red overflights and providing data. The response included a listing of related projects. Resumes were provided. It is clear that there is cost share with other programs of Washington DOE. The project could be an important element of an overall program to manage the landscape to reduce water temperatures for salmonids in the lower reaches of the subject waters, and later for other waters of the Columbia Plateau. The added winter imagery, which came up in the oral presentation, is probably best deferred until the summer patterns become clearer and the need for identifying specific groundwater input is more defined.

The ISRP's initial comments that the authors essentially need to rewrite their proposal with a focus on how this work may benefit efforts at salmonid restoration still stands. The ISRP still has concerns that the technique is not sufficiently integrated with other work in the subbasin. In summary, this could be useful work with benefit to fish and fundable if the project would show better coordination with other projects or the technology were more fully integrated into other projects.

CBFWA Review Comments:
FLIR may provide a better understanding of the thermal characteristics of the watersheds. However, the proposal was not organized well enough to describe the use of the equipment. Reviewers suggest that BPA has the equipment to do this work and would be able to do it at a much lower cost. This appears to be a worthwhile work. However, the associated projected costs are high and the work could be done for less.

Project ID: 25030

Factors limiting the shrubsteppe raptor community in the Columbia Plateau Province of eastern Washington
Sponsor: WDFW
Subbasin: Mainstem Columbia, Crab, and Yakima
2002 Request: $16,580
3YR Estimate: $16,580
Short Description: Assess habitat, prey, and contaminants of ferruginous hawks and golden eagles in native habitats and provide recommendations on how to improve their rates of nest occupancy in the Columbia Basin
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - fundable
ISRP Final Comments:
Fundable. The response was marginal, and the priority (benefits to wildlife affected by the hydrosystem) appears low. The project directly addresses issues related to raptors of concern. The proposal appears sound and includes strong basic, but typical, raptor biology investigations. The proposal does a good job of identifying possible causes for raptor decline -- winter mortality, lead poisoning, nesting habitat loss, etc. However, the proposal is not for a study that could take advantage of some unique situations, settings, timings, to disprove any of these possible factors. Instead, the proposal is designed to gather data and perform correlations, and the results are intended to have direct practical application -- the identification and elimination of mortality and contaminant sources.

Project ID: 25033

Evaluate Restoration Potential of Mainstem Habitat for Anadromous Salmonids in the Columbia and Snake Rivers
Sponsor: PNNL
Subbasin: Mainstem Columbia
2002 Request: $314,392
3YR Estimate: $1,120,402
Short Description: Identify mainstem habitat sampling reaches, collect baseline data on physical habitat conditions, identify opportunities for mimicking the range and diversity of historic habitat conditions, develop improvement recommendations for mainstem reaches.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable. The project, originally grouped with the Hanford Reach projects, actually focuses on the Lower Snake River. The response adequately addressed the ISRP concerns.

Project ID: 25039

Effects of agricultural conversion on shrubsteppe wildlife and condition of extant shrubsteppe habitat
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $681,215
3YR Estimate: $2,006,030
Short Description: Map shrubsteppe vegetation using a detailed classification system and determine habitat associations of shrubsteppe wildlife to support restoration and conservation in the Columbia Plateau Province.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable with low priority. This project relates to wildlife conservation planning by proposing to increase knowledge of the extent and spatial arrangement of shrubsteppe plant communities and habitat associations of shrubsteppe wildlife species. The overall goal is to obtain a general understanding of the current extent and condition of the shrubsteppe habitat resource in the Columbia Plateau Province. The proposed scale of mapping is not necessary to compare abundance of passerines, reptiles, and small mammals in different vegetative communities nor to assess the status and distribution of Washington ground squirrels in the Columbia Plateau Province. While it is desirable that the scale of all mapping efforts in the Columbia Plateau Province be compatible, justification for this mapping effort is not adequate. Benefits to wildlife are not clearly identified. The management application is not adequately demonstrated.

For Objectives 2-5 the following general comment is offered for consideration:
The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

Project ID: 25046

A cooperative approach to evaluating avian and mammalian responses to shrubsteppe restoration in the Crab Creek Subbasin
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $141,184
3YR Estimate: $419,796
Short Description: We are proposing a cooperative, four-year research investigation involving the Washington Department of Fish and Wildlife and the University of Washington, to evaluate the effectiveness of various restoration strategies in producing necessary habitat.
ISRP Recommendation: Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree - Fundable
ISRP Final Comments:
Fundable with low priority. The purpose of this proposed research is to evaluate the effectiveness of shrubsteppe restoration activities. The response addresses the concern about how representative the particular combination of six habitat/administrative types are of the subbasin. While it could be argued that at least some of the eight replicates within habitat/administrative types constitute pseudo-replication, this situation may be unavoidable. While the ISRP supports monitoring projects to collectively monitor subbasin habitat improvements, it is surprising that this research “designed to obtain information on the most fundamental aspects of shrubsteppe restoration ecology” is necessary.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

ISRP Disagrees with CBFWA: ISRP Fundable and CBFWA Do Not Fund

Project ID: 25076

Enhancing Riparian Corridors Sustainably with Integrated Agroforestry
Sponsor: Institute for WA's Future
Subbasin: Walla Walla
2002 Request: $1,270,000
3YR Estimate: $7,532,500
Short Description: Enhance streamflows, water quality, fish and wildlife habitat, and physical stream functions in irrigated agricultural stream corridors while also enhancing community economy and social welfare through sustainable, integrated agroforestry systems.
ISRP Recommendation: Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Disagree - Fundable
ISRP Final Comments:
Fundable. This is an interesting proposal that deserves attention by the Council. The proposal is to replace some existing lowland crops with poplars (hybrid cottonwood trees) as a cash crop. This is a novel proposal for an alternative irrigated agriculture product (trees for high-quality wood, rather than pulp) that saves water for streams and incorporates a requirement for riparian improvements. Project personnel also propose to grow and plant native trees and shrubs to enhance vegetation in stream corridors.

The pilot experiments, including 1000 acres, have generated further enthusiasm by the proponent for this work. We suspect the results may be dramatic and provide a very useful demonstration of riparian, stream, and economic benefits. The riparian restoration methods are potentially the most attractive components, but the additional temperature benefit from the poplar plantation is also important.

Project sponsors provided detailed responses including alternatives to full funding. However, the response to fish monitoring was inadequate in that it seemed to shuffle the responsibility off to fish agencies. The project could sub-contract the measurement of the fish response on a reach-by-reach or preferably, whole stream treatment and control approach, including a staircase experimental design. The (likely positive) fish response could be a key selling point to this approach, towards more willing and enthusiastic farmers. Independent economic analysis still is recommended.

CBFWA Review Comments:
Although this project was conceptually accepted through SRFB, there was a concern about the associated costs and the eventual harvest of the trees. The watershed council in the area of this proposed work also expressed concern about the proposed costs. The costs associated with this proposal are high relative to the amount of habitat (40 acres) and the riparian buffers are narrower than NMFS's properly functioning conditions (50 feet). There is no guarantee that the riparian habitat and gained cfs will be preserved. In addition, there is no guarantee that pulp prices will remain high enough to maintain the program. As an experiment, the scale of this project should have been much smaller.

ISRP Fundable and CBFWA Do Not Fund - Policy Issue

Project ID: 25098

Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Columbia Plateau Ecoprovince
Sponsor: NHI
Subbasin: Mainstem Columbia
2002 Request: $330,825
3YR Estimate: $848,695
Short Description: Fine-scale wildlife habitat assessment for the Columbia Plateau Ecoprovince will provide critical baseline data for planning and monitoring efforts that is consistent with the NWPPC 's Subbasin Planning process.
ISRP Recommendation: Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: NA - Policy Decision
ISRP Final Comments:
Fundable. The ISRP has reviewed versions of this proposal in each provincial review and the sponsors have adequately addressed the ISRP's concerns on validation and field-testing from those reviews.

We repeat our comments from previous reviews: The proposal makes a convincing case for the value of presenting complex habitat information in map form. The investigators have demonstrated the ability to produce high-quality maps at the Columbia Basin level. The project will develop Landsat maps of wildlife-habitat types for the Columbia Plateau Province at a finer level of resolution than is currently available. The maps will be made available to wildlife managers for the development of "coarse filter" conservation strategies. Subbasin summaries, while not directly calling for these maps, do demonstrate a need for mapping products.

The key issue for this project is support from the managers, and this proposal did not include letters of support.

CBFWA 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 ID: 25041

Wildlife Escape Ramps
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $52,185
3YR Estimate: $133,680
Short Description: Modify irrigation canals within the Columbia Basin Irrigation Project that trap and kill >200 mule deer each year. Installation of escape ramps will allow deer to exit these canals and reduce mortality.
ISRP Recommendation: Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: NA - Policy Decision
ISRP Final Comments:
Funding of this is a policy question. The need for escape ramps is clear because of the estimated number of deer dying in canals, public concerns, and public safety issues, but the comparative priority under the Fish

and Wildlife Program is low. BPA responsibility for funding is not clear. Why is this not a BOR related cost?

CBFWA Review Comments:
This project raises a serious in-lieu question that will have to be addressed. These ramps are constructed in Bureau of Reclamation's canals for the Columbia Basin Project. CBFWA strongly supports the simple approach for saving a large number of wildlife from these canals. The tie to the development of the hydrosystem is difficult to make.

ISRP Agrees with CBFWA if Funded in Part

Project ID: 199404200

Trout Creek Habitat Restoration Project
Sponsor: ODFW
Subbasin: Deschutes
2002 Request: $414,170
3YR Estimate: $1,264,443
Short Description: O&M and construction of instream and riparian habitat improvement; Monitoring and Evaluation of Summer steelhead smolt production and habitat recovery; coordination for basin long range plan with a goal to increase native ESA listed stock.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part with 199802800 to finish the watershed assessment and plan. Completion of the long-term action plan should be expedited; having it "targeted" for completion in 2003 seems like an unnecessary delay. A completed watershed assessment should form the basis of the restoration plan. The monitoring plan and methods are now inadequately described. Specific information about the choice of sites or evidence for habitat improvement is lacking. The monitoring effort must be coordinated with 199801600, 25010, and 25088, using compatible protocols.

Project ID: 199802800

Trout Creek Watershed Improvement Project
Sponsor: JCSWCD
Subbasin: Deschutes
2002 Request: $465,100
3YR Estimate: $996,700
Short Description: Implementation of practices that will enhance steelhead smolt production and habitat recovery following completion of a watershed assessment/long-range plan currently being conducted.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part to do the watershed assessment. The other tasks are fundable if they are justified as priority efforts under the watershed assessment, but a completed watershed assessment should form the basis of the restoration plan. The watershed assessment, plan, and subsequent restoration efforts should include input from a geomorphologist and a hydrologist. The listed tasks are key components of a watershed restoration effort, but the details are still quite vague, relying on actions that will be done at some future time. The watershed assessment should be complete prior to implementation to prioritize and direct these efforts. The proposal presents the history, background, complexity, and multi-party involvement that exist in the Trout Creek watershed restoration efforts. The Trout Creek Watershed Council has been working cooperatively with ODFW to conduct the watershed assessment and will

continue cooperative work in the development of a long-range action plan. Work will be conducted through cooperative agreements with private landowners.

Project ID: 25093

Characterize Genetic Differences and Distribution of Freshwater Mussels
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $311,907
3YR Estimate: $1,032,410
Short Description: Conduct freshwater mussel surveys to assess their status and test for geographical genetic differences among the western pearlshell mussel, Margaritifera falcata.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part to do the distribution work. The response was too brief and addressed the ISRP concerns superficially. The reviewers were not convinced that this was the right approach to addressing mussel issues. The reviewers recommend that the distribution work be done with a solid experimental design testing several hypotheses including fish presence, sedimentation, habitat degradation, and overexploitation. The genetic work, while well-designed and appropriate to test whether one or multiple populations exist, can be conducted at a later date after the distribution and ecological hypothesis testing are complete. Because of the expected low abundance of mussels, however, tissue samples should be collected throughout the study as populations are encountered.

The proposed study, while thorough, seems to be one of relatively high-cost asking for nearly $2 million over its proposed 5-year duration. It is worth asking if the major objectives of the study can be achieved with a lesser amount and a shorter study duration?

CBFWA Review Comments:
Historically, freshwater mussels were an important subsistence species for the CTUIR. However, mussel populations have declined and as a result mussels can no longer be used for purposes of subsistence. Mussels have been listed as candidate species in the Willamette River. However, little, if anything, is known about freshwater mussel distribution, abundance and habitat quality east of the Cascades. The ODFW suggests that there is a need to initiate this type of work. The reviewers recommend that preliminary genetic analyses should be limited to mtDNA (RFLPs) analyses. Microsatellite analyses should only be used if mtDNA data are not conclusive.

Project ID: 199604601

Walla Walla Basin Fish Habitat Enhancement
Sponsor: CTUIR
Subbasin: Walla Walla
2002 Request: $287,407
3YR Estimate:
Short Description: Protect and restore habitat critical to the recovery of weak or reintroduced populations of salmonid fish in the Walla Walla Basin thereby promoting natural ecological function and improved water quality and quantity.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part. The watershed assessment component, if it follows standard protocols, of the project is fundable. There is a need for a geomorphic analysis of each basin and a geomorphic prescription

developed for gaining stability. That analysis needs to be followed by an assessment of whether or not geomorphic stability can be obtained given conditions in a basin. If restoration of geomorphic stability is possible, the foregoing assessment should direct restoration efforts.

The project needs assistance of an experienced analyst. Data presented in the present proposal to support continuation (length frequency graphs, stream cross-sections, temperature, vegetation counts, files containing no data, watershed assessment forms) say little or nothing without comparative results.

The project sponsors state that they primarily search for ways to improve geomorphic stability, and they should be encouraged to follow that strategy in the future. Program elements identified and initiated under the watershed assessment process need to be associated with monitoring to assess geomorphic stability.

Project ID: 25028

John Day Upland Restoration
Sponsor: CTWSRO
Subbasin: John Day
2002 Request: $399,595
3YR Estimate: $1,202,301
Short Description: Expand restoration program to encompass uplands. Monitor wildlife species indicative of both riparian and upland health, aggressively control detrimental weed species that reduce upland productivity, alter hydrologic regimes, and increase erosion.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part. Responses to ISRP questions and concerns about methods for juniper removal and noxious weed control were adequate, and these tasks should be implemented. Responses adequately address the reasons for chemical rather than fire control of medusa-head rye. Additionally, assessing the reintroduction potential for sage grouse, sharp-tailed grouse and bighorn sheep by evaluation of habitat availability seems to be justified and should be implemented.

However, tasks dealing with radio tagging of deer and camera stations are inadequate due to small sample sizes. Monitoring plans are inadequate. The ISRP remains unconvinced that the small number of radio tagged deer (5 in each of two areas) or the number of camera stations (5) are adequate to yield meaningful information. More intensive and extensive monitoring for presence/absence by simpler methods would be preferable.

The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States in order to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

CBFWA Review Comments:
Currently, no T&E species are present. However, this project would address winter range conditions on private lands that are contributing to the decline of grassland bird species. In addition, deer and elk populations are dependent on these lands. Sharp-tailed grouse could be reintroduced pending habitat conservation and improvement.

Project ID: 25058

Fish Passage Inventory and Corrective Actions on WDFW Lands in the Yakima Subbasin
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $256,995
3YR Estimate: $1,918,051
Short Description: On WDFW lands, inventory fish passage structures and intake screens, identify required corrective actions, and complete corrective actions where high priority passage problems exist.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part to assess the problems in the context of the larger watershed (objective 1, task 1). Further funding for corrective action should be contingent on identification of priority sites and preparation of more specific information on costs and benefits.

Fish passage needs generally are a high priority, but the response was not helpful in alleviating several review panel concerns regarding the relative need to detect and remediate fish passage problems and its cost on these WDFW lands. Funding for the first year would answer some of the questions concerning the benefits of corrective actions.

From the response, it appears that the Screening Priority Index Model is popular and functioning well within the realm of decision-making (certainly very important), but our query was more in regards to whether predictions from that model proved to be accurate in a biological sense, and whether fish populations actually have responded to enhanced passage as the model has predicted.

Although fiscal issues are not a major interest of the review panel, cost seems inordinately high: $257K for a two-person crew for one year (compared to $169K for a WDFW survey crew), and no evidence of any WDFW costshare in out-years for design and construction.

CBFWA Review Comments:
Reviewers had concerns that the project focuses on State lands and data and priorities would have to be integrated with other activities throughout the subbasin prior to funding implementation. The implementation funding for this project should not be provided until the assessment has been completed and an implementation plan reviewed by CBFWA.

Project ID: 25095

Pesticides and the environmental health of salmonids in the Yakima subbasin.
Sponsor: NMFS/NWFSC
Subbasin: Yakima
2002 Request: $257,800
3YR Estimate: $825,800
Short Description: Evaluate the effects of current use pesticides on the physiology and fitness of Chinook salmon. Incorporate empirical data into a spatially explicit model of population viability in the Yakima subbasin.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Agree if funded in part
ISRP Final Comments:
Fundable in part for the laboratory component to evaluate the effects of current use pesticides. Justification of use of predation mortality as the key indicator of impact is well defended and seems well justified. A portion of the field experiment to determine the effects of short-term pesticide exposure on post-release

survival in a natural creek is inadequate. Providing a measure of mortality for one stream at one time could be very misleading because results in another time and place could be quite different. Using results from one demonstration as input into a life stage-based matrix population model could then compound the problem. Do not fund this portion of the fieldwork as now proposed. The modeling component, while fundable, should include objective evaluation of modeling results.

This project is designed to evaluate the toxicological effects of selected pesticides on the normal function of the chinook nervous system. Specific tasks would relate sublethal thresholds for neurotoxic injury to pesticide pulse conditions from salmon habitat and examine physiological thresholds for neurotoxicity in different life history stages. Experiments are designed to explore the effects of pesticide exposure on survival and reproductive success of chinook. Models will be used to link the pesticide impacts observed from experiments to population level impacts on rate of straying and productivity of wild populations.

ISRP Disagrees with CBFWA: ISRP Fundable in Part and CBFWA Do Not Fund

Project ID: 25100

Protect Normative Structure and Function of Critical Aquatic and Terrestrial Habitat
Sponsor: City of Yakima
Subbasin: Yakima
2002 Request: $2,499,000
3YR Estimate: $10,079,000
Short Description: Acquisition of lands for: protection of aquatic/terrestrial habitat; improvements of water quality; reconnection of the flood plain; restoration/protection of the riparian habitat and antural hydrologic regime.
ISRP Recommendation: Fundable in Part
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Disagree - Fundable in Part; Agree with CBFWA comments.
ISRP Final Comments:
Fundable in part at reduced costs as proposed by project sponsors. The proponents of the proposal agreed that this project was “still very much in the planning phase” and suggested modifying the project for 2002. Their suggestion was to reduce the costs to $349,000 for 2002; other portions of the proposal would be shifted back one year to 2003. The ISRP agrees with an initial planning and assessment phase and would support this reduced cost for 2002. Funding for future years, however, should remain contingent upon completion of these assessments and integration of this program with other BOR and Yakama Nation projects in the Selah floodplain. Clearly, the primary goal of the project to establish functioning riparian zones within an urban environment could have strong social and educational value. However, the proponents must provide more quantitative measures of the habitat protected and/or value to fish and wildlife before their proposed efforts can be prioritized against competing proposals within the basin.

CBFWA Review Comments:
The project sponsor has reduced their budget to accomplish planning in the first year. Any additional implementation funding would be reviewed during a within year process. It was unfortunate that the project sponsor did not participate in the project presentation phase of the project review. The response to the ISRP did not address the technical concerns with the project. This project needs to be better coordinated with the fish and wildlife co-managers in the subbasin.

ISRP Disagrees with CBFWA: ISRP Not Fundable and CBFWA High Priority

Project ID: 25085

Eradication of brook trout from Winom Creek to enhance bull trout habitat.
Sponsor: USFS
Subbasin: John Day
2002 Request: $50,000
3YR Estimate: $150,000
Short Description: Removal of brook trout from Winom Creek above a natural barrier to reduce hybidization and competition with a resident bull trout population and increase available bull trout habitat.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Do Not Fund. This is a proposal to attempt to remove exotic brook trout from the reach (about 9 miles) of Winom Creek upstream from a barrier falls. The proposal and presentation stressed removal work done via electroshocking in Sun Creek in Crater Lake National Park. The hypothesis is that the bull trout above the falls is an endemic local population, and if left alone its viability is in jeopardy because of interbreeding and interaction with the brook trout. An alternative hypothesis is that the bull trout also were introduced at the same time as the brook trout when introduced from downstream. Wouldn't this project be more appropriately directed to determining whether or not this is an endemic, isolated population of bull trout?

The proposal could have been more effective with inclusion of a map showing bull trout distributions in the John Day basin and the relationship of the Winom Creek population to other John Day bull trout populations.

Brook trout removal has proven to be difficult and problematic in most cases. Methods need to be robust and long-term monitoring will be required to ensure project success. Hard removal using chemicals could be considered after distribution surveys, if the surveys do not reveal bull trout in this section of Winom Creek. It is important to also determine the population size and distribution of the brook trout population at present and the level of threat it may present to bull trout populations other than Winom Creek.

CBFWA Review Comments:
The USFWS have identified brook trout/bull trout interactions as a region-wide concern. ODFW managers indicate the bull trout population is limited by the presence of brook trout. The USFWS and ODFW suggested that the eradication of brook trout from this area will be essential for the recovery of bull trout. The final listing recommends eradication of brook trout as a component of bull trout recovery. The Resident Fish Caucus views brook trout control as a high priority to bull trout recovery. However, the Resident Fish Caucus questions the study design/techniques and question whether it is possible to totally eradicate brook trout.

Project ID: 198710001

Enhance Umatilla River Basin Anadromous Fish Habitat
Sponsor: CTUIR
Subbasin: Umatilla
2002 Request: $506,403
3YR Estimate: $1,596,437
Short Description: Enhance floodplain, riparian and in-stream habitat on private lands in the Umatilla River Basin to increase natural production of summer steelhead, coho salmon and chinook salmon
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. Fund the high-priority restoration work but only after further review. Habitat restoration is justified and critical in this watershed, but the project is not addressing the issue in a science-based manner with a watershed assessment utilizing standard format or procedures, with adequate post-treatment monitoring. Clear evidence of a subbasin watershed assessment (in close cooperation with ODFW) and prescription plan must be provided. The watershed assessment and plan should precede and direct the restoration efforts to be consistent with the Columbia River Basin Fish and Wildlife Program's primary strategy for habitat, "Identify the current condition and biological potential of the habitat, and then protect or restore it to the extent described in the biological objectives." Moving this project into a fundable status will require the input of an experienced analytical team, towards development of a subbasin monitoring plan with clearly defined response variables, and with ties to a basinwide task of effectiveness monitoring. Please refer to ISRP general comments on monitoring in the introduction section. Habitat restoration projects should be evaluated on the basis of smolt yield as a key response variable, in control and treatment watersheds, with replication. See comments under 198710002.

Habitat restoration remains the most effective means to increase stream productivity for salmonids, particularly important during this period of low survival during the smolt-to-adult life stage. Accordingly, the most effective restoration tools need to be identified, applied, and evaluated through a standardized process beginning with watershed condition assessment and following with priority prescriptions, proven restoration treatments, and well-coordinated monitoring. Reviewers felt that monitoring aspects of this work were slim, flawed and poorly justified despite a detailed response. In the response, sponsors went to great length to find support for their use of macroinvertebrate monitoring. A clear explanation of the need for invertebrate monitoring as a response variable in evaluating the effectiveness of enhanced fish habitat was lacking. The sponsors could have produced a more convincing argument by using some real data to show the ISRP that their concerns are unwarranted. A clear explanation of the need for invertebrate monitoring as a response variable in evaluating the effectiveness of enhanced fish habitat was lacking. The response variable should be fish, and preferably smolt yield from a sufficient of treated and untreated systems number (to be determined based on annual variability and the level of detection required).

A data summary on some (unjustified) variables was attached but there was no interpretation offered, and little to indicate positive or negative values from habitat enhancement. The approach to monitoring is not in compliance with other efforts in the Basin, for which ISRP has repeatedly requested coordination. Habitat enhancement should continue in high priority sites of obvious limitation to salmonids, but other work only upon completion of the WSU watershed assessment that will hopefully detail the work required (prescription).

Project ID: 198710002

Umatilla Subbasin Fish Habitat Improvement
Sponsor: ODFW
Subbasin: Umatilla
2002 Request: $759,300
3YR Estimate: $2,392,594
Short Description: Protect and enhance coldwater fish habitat on private lands in the Umatilla River basin in a manner that achieves self-sustaining salmonid populations and their associated habitat by utilizing natural stream functions to the fullest extent.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable as it stands. Fund the high-priority restoration work only, after further review. Habitat restoration is justified and critical in this watershed, and the personnel appear experienced and qualified for on-the-ground applications. There is evidence of an improved and cooperative approach to the restoration work, learning from past experience, knowledge of the literature and some careful analysis and consideration of priorities. However, the project could be improved by addressing the restoration issue in a science-based manner with a watershed assessment utilizing standard format or procedures, with adequate post-treatment monitoring. See comments for 198710001. Clear evidence of a subbasin watershed assessment (in close cooperation with CTUIR) and prescription plan (with priorities) must be provided. The watershed assessment and plan should precede and direct the restoration efforts to be consistent with the Columbia River Basin Fish and Wildlife Program's primary strategy for habitat, "Identify the current condition and biological potential of the habitat, and then protect or restore it to the extent described in the biological objectives." Moving this project into a fully fundable status will require clear listing and justification of priorities, and for monitoring, the input of an experienced analytical team, towards development of a subbasin assessment, prescription, rehabilitation, and monitoring plan with clearly defined response variables, and with ties to a basinwide task of effectiveness monitoring. Please refer to ISRP general comments on monitoring in the introduction section. Habitat restoration projects should be evaluated as a program on the basis of smolt yield as a key response variable, in selected control and treatment watersheds (but not all watersheds), with replication. Components of restoration (hillslopes, riparian, in-stream) in all projects require routine monitoring (for example, fish presence or absence, relative abundance, or decreased sedimentation, or clear evidence of temperature improvements, etc.). Sufficient evidence of any of these was not presented. Functional responses to restoration work may require scientific research that is not requested herein.

CBFWA Review Comments:
The cost of this project continues to increase due to change in approach (I.e., active v.s passive channel restoration).

Project ID: 199401806

Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat
Sponsor: Columbia CD
Subbasin: Tucannon
2002 Request: $352,625
3YR Estimate: $1,152,038
Short Description: Implement, assess, and monitor habitat cost-share projects coordinated through the Tucannon River Model Watershed Program, a "grass roots" public and agency collaborated effort to restore salmonid habitat on private and public property.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. Sponsors failed to demonstrate prioritization of efforts by a watershed assessment. Project needs refocusing and reorientation, with assistance from of an experienced fluvial-geomorphologist and an experienced analyst to guide assessment strategies, and to help identify meaningful controls.

This program was initiated based on a premise that fish habitat in the Tucannon River would be improved by "… increasing pool and spawning habitat quality & quantity through geomorphic stabilization, riparian bio-function restoration, increasing complexity, maintaining adequate flow, and reducing water temperature and sediment." The ISRP is concerned that the focus of the project appears too have changed to development of bio-engineered instream structures; there is no evidence that the project is improving conditions for fish. A detailed response was provided; however, ISRP reviewers remain committed to the notion that bioengineering projects should be limited to "fine-tuning" once watershed function has been restored. Bio-engineered projects are methods to control a channel; they generally do not produce the geomorphic stability required for a productive watershed.

Sponsors did provide some information to show impact of projects on physical structure of the channel, but none to show the biological benefits. The data (Tables 1 and 2) that were presented are difficult to interpret. Many more pools were reported in 2000 than in 1998, but the stream got wider and shallower. Stream discharge was greater in 2000 than in 1998. It is not clear that these differences are associated with project activities. Data in Table 12 are offered as evidence of benefits for fish, but these data need to be compared to similar data from both control and treatment sites before the alterations were made if it is to have any meaning.

Objective 1 of the proposal is to "Improve adult pre-spawning survival" and Objective 2 is to "Improve juvenile survival." There doesn't seem to be any monitoring of survival to assess progress in meeting these objectives. The original intent of the project was to improve geomorphic stability, but there doesn't seem to be any monitoring of characteristics for a geomorphically stable watershed.

This project needs to return to its original purpose. That is "… increasing pool and spawning habitat quality & quantity through geomorphic stabilization, riparian bio-function restoration, increasing complexity, maintaining adequate flow, and reducing water temperature and sediment" The project needs to enlist the services of an experienced fluvial-geomorphologist to assist in design and evaluation of projects to facilitate geomorphic stability, and to assess the probability that sufficient change is possible to attain desired conditions, and to help identify an appropriate monitoring strategy. They also need assistance of an experienced analyst to guide assessment strategies and to help identify meaningful controls. These inputs should be in place before new actions are taken.

CBFWA Review Comments:
The proposal needs to be retooled to concentrate on passive restoration approaches (i.e.. fencing and planting). There is disagreement on the level of success of bioengineering solutions and the reviewers would like to see an emphasis on returning ecosystem function to the stream corridor. This 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. There needs to be oversight by the COTR to ensure that actions taken will benefit fish and wildlife. We agree with ISRP that no biological benefit has been demonstrated to date as measures of success have been focused on physical structures and population densities near them.

Project ID: 25094

Restore Touchet River Watershed Habitat to Support ESA listed Stocks
Sponsor: Columbia CD
Subbasin: Walla Walla
2002 Request: $343,912
3YR Estimate: $1,124,676
Short Description: Implement, assess, and monitor habitat cost-share projects coordinated through the Touchet River Watershed Program, a "grass roots" public and agency collaborated effort to restore salmonid habitat on private and public property.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority (passive restoration measures only)
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. Project sponsors demonstrated success in working with landowners, but the restoration approach is not adequately justified. The project needs a watershed assessment in place so that they can assign priority to prescriptions. There is little evidence that limiting factors will be addressed. Evaluation based on some physical measurements in different years at different flows with controls is wanting. Help via expertise in standard watershed restoration procedures and in analysis is required. The project needs to include services of an experienced fluvial-geomorphologist and a hydrologist to assist in design and evaluation of projects to restore geomorphic stability, and to assess the probability that sufficient change is even possible for attaining the desired conditions. This input should be in place before new actions are taken. The proposal is to mimic methods the strategy and methods used in the Tucannon River, but data from the Tucannon River do not provide convincing evidence that benefits are accruing in that basin from the proposed methods. Tables 1 and 2 are difficult to interpret. Many more pools were found in 2000 than in 1998, but the stream got wider and shallower. Stream discharge also was greater in 2000 than in 1998 confounding any reliable comparisons. Data in Table 12 need to be compared to similar data from both control and treatment sites before the alterations were made. The project also needs assistance of an experienced analyst to guide assessment strategies, and to help identify meaningful controls.

CBFWA Review Comments:
The $232,000 that is listed in Section 8 was identified as cost share when in fact it is supposed to be implementation. Reviewers suggest that more riparian work should be performed in the near future instead of instream activities. This project addresses habitat issues that are essential to the successful management of endangered species and has been proposed to be implemented in the appropriate areas. The proposal needs to be retooled to concentrate on passive restoration approaches (i.e.. fencing and planting) and the budget should be reduced appropriately. There is disagreement on the level of success of bioengineering solutions and the reviewers would like to see an emphasis on returning ecosystem function to the stream corridor. This project needs to be implemented consistent with limiting factors and problem locations identified in subbasin summaries and eventually subbasin planning to insure fisheries benefits to target species. There needs to be oversight by the COTR to ensure that actions taken will benefit fish and wildlife. There is a disconnect between what are identified as limiting factors and the application of restoration measures.

Project ID: 25072

Restore Tucannon River Riparian Habitat: Wooten Wildlife Area
Sponsor: WDFW
Subbasin: Tucannon
2002 Request: $135,400
3YR Estimate: $852,600
Short Description: Remove six (6) campgrounds from within Tucannon River riparian zone; restore riparian habitat and function through revegetation and protection to improve anadromous fish habitat; establish three (3) new campgrounds outside riparian zone.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: High Priority (removal of site); Recommended Action (construction of new site)
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. The ISRP is not convinced that the magnitude of the campground impact, relative to other habitat concerns in the watershed, is significant. The ISRP believes that all other alternatives to eliminating these campgrounds have not been eliminated. Fencing with occasional irrigation, for example, may provide the stimulus to initiate growth of native vegetation. Perhaps parking areas and the number of campers could be limited at each site. The hypothesis is that significant damage to chinook salmon is occurring because of these campgrounds. Argument provided in support of the hypotheses is not convincing. Fencing and signs and other forms of public education seem a more cost-effective approach than what is proposed (relocation).

CBFWA Review Comments:
The current location of the campground (state land) jeopardizes the health of the riparian habitat. Reviewers are concerned with the large expenditure to replace/relocate camping/picnicking amenities to areas outside the riparian areas. Reviewers recognize that removal is high priority and should be funded. If a cost share is identified to cover at least 50% of the total project cost then the managers recommend that the remainder of the project should be reclassified as "High Priority".

ISRP Disagrees with CBFWA: ISRP Not Fundable and CBFWA Recommended Action

Project ID: 25005

Bighorn Sheep reintroduction to the Warm Springs Reservation
Sponsor: CTWSRO
Subbasin: Deschutes
2002 Request: $70,862
3YR Estimate: $117,802
Short Description: This project would reintroduce Bighorn Sheep to the Mutton Mountains area of the Warm Springs Reservation. Bighorn Sheep were indigenous to the Mutton Mountains but were extirpated in the early 1900's.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. This is a good project that otherwise deserves funding, so it is unfortunate that the proponent did not provide protocols for introducing sheep and monitoring changes in habitat, bighorn distribution and abundance. Reference is made to conformity with ODFW protocol with wildlife introductions, but aside from listing what will be monitored, detail on how monitoring will be conducted is sparse. A monitoring

plan should be in place before introduction takes place. Similarly, a more specific plan should be in place for how contact between bighorn sheep and domestic sheep will be avoided; i.e., instead of saying that measures to minimize "can be implemented," develop a protocol that includes specific avoidance measures. As an example of the monitoring detail needed, see the response to ISRP concerns on Proposal #200002300 "Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)". What measures of success will be used by this project?

Adequate responses were given to the other ISRP concerns.

Project ID: 25083

Special Status Wildlife Species Surveys and Priority Habitat Assessment in the Deschutes River Subbasin
Sponsor: ODFW
Subbasin: Deschutes
2002 Request: $100,000
3YR Estimate: $320,000
Short Description: Establish permanent sampling stations and transects for target species, conduct species surveys, and assess habitat for maintaining species viability through time
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. Inadequate response. The response is a set of replies to ISRP comments rather than a major revision of the proposal as requested. The replies do not provide the requested detail on sample design and methods, creating the impression that the investigators have not developed a systematic plan to approach this work. The ISRP remains unconvinced that the proposal contains adequate guidelines for a contractor to conduct useful probabilistic surveys for presence/absence or distribution of abundance of these sensitive species. The proponents at the very end of the response (after the references) make the following statements: "This project will utilize the monitoring design developed by the EPA EMAP. This design selects stream sites within a target area (watershed, basin, ecoregion, etc.) using a probabilistic or random site selection procedure. In this way an unbiased set of samples is collected which allows a more accurate evaluation of the status and, over time, trends in environmental conditions and specific species. EPA EMAP staff in the Corvallis, Oregon office are willing to review and comment on our project sampling designs." These statements could be taken as the starting point for an adequate proposal, but they are inconsistent with most of the statements in the proposal and in the response.

As an example of the detail needed, see the ODFW response to ISRP concerns on Proposal #200002300 "Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)". The ISRP recommends that terrestrial sampling on Fish and Wildlife Program lands follow a common sampling method and some common data collection protocols across the four States involved to enhance monitoring and evaluation of terrestrial systems on subbasin and basin scales. Perhaps the National Resources Inventory sampling procedures and data collection protocols would serve the region well. See the Proposals #200002300 and #200020116 and ISRP reviews.

Project ID: 25051

Columbia Plateau Natural Resources Collaborative (CPNRC)
Sponsor: NRCS
Subbasin: John Day
2002 Request: $823,200
3YR Estimate: $3,063,600
Short Description: Establish collaborative process to provide assistance to local watershed groups on subbasin planning, ESA/CWA integration, and implementation funding to facilitate conservation application to restore salmon and water quality on private lands.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Do not fund. This proposal would establish cooperative multi-federal agency provision of planning and technical assistance to agricultural landowners through existing local conservation partnerships for the purpose of accelerating the implementation of conservation activities. The idea is to establish a single planning process that would streamline all the various regulatory requirements. The project has 2 components: interdisciplinary planning and field office implementation.

The proposal lacked a sharp focus and seemed to alternate between suggesting it would work directly with the landowner (which the SWCDs already seem to do well!) or suggesting that it's best efforts might be to serve as a liaison / support center for the SWCDs in assisting them to implement riparian buffer actions with the local landowner through CRP programs. How much redundancy is there between the work proposed in this project and the functioning of the SWCD projects in implementing the CRP activities at the level of the individual landowner? The proposal and presentation asserted that their larger staff and more regional perspective would be a resource asset to the SWCDs and would significantly speed up the implementation of CRP-funded riparian buffer enhancement from the perspective of the local landowner. No indication was made whether the SWCDs shared this view.

The SWCD proposals working at the grass roots level seem to provide the same services in a much more cost-effective manner. The cost of this project versus the SWCD projects differs by nearly an order of magnitude. Would the benefits of this project deliver benefits in line with the difference in cost?

While streamlining requirements is a good idea, the proposal does not make a compelling case that adding an additional layer of coordination group would fix the problem, nor does it establish the critical need for the proposed services. The present staff appears competent but the proposed project seems to be top-heavy with planners. The proposal is a large and expensive one that is focused on increasing staff size substantially. Funds are requested for 2.5 FTEs, equipment, travel and supplies. The proposal asks for a significant amount of money ($823k) to fix a coordination problem across federal agencies, without establishing that a lack of money is currently limiting the coordination. If there is a problem with federal agency coordination, why don't the staffs of the federal agencies in question fix it through existing means?

CBFWA Review Comments:
This proposal requests staffing ($643,300/year for 25 positions) for coordination for subbasin planning/assessments for the John Day Subbasin, activities that are already performed by watershed councils. Reviewers suggest these activities should be funded through the USDA.

Project ID: 25084

Develop GIS Layers for Generation of Specific Natural Resource GIS Maps and Analysis
Sponsor: ODFW
Subbasin: John Day
2002 Request: $111,000
3YR Estimate: $271,000
Short Description: Develop data sets for use in comparative analysis of multiple factors affecting fish and wildlife values in the four subbasins. This data can help integrate basin wide natural resource planning and decision making.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. A response was requested but not received.

The preliminary ISRP comments include:

This project would develop data sets for the generation of comparative maps at the watershed level. Although the development of GIS products would be useful representations of watershed-level conditions, the proposal does not indicate how the mapping products it describes are distinct from those developed by others – e.g. the NHI – for use in the EDT analysis, even though it refers to these products. Methods are only vaguely described: “produce...maps” or “use products”.

Presenting comparative information in maps does not necessarily provide explanation for changes or provide direction for recovery actions. The rationale is extremely vague without even hypothetical examples of how the product would be used. It’s not clear how fish and wildlife managers would use mapping products to develop risk assessments of fish and wildlife resources. The proposal does not provide information that would make it possible to judge the relative value of providing maps and information for planning purposes versus on the ground habitat improvement, land acquisition, etc.

The project should be explicitly tied to long term biological monitoring projects whereby site specific information could be provided to sites that are selected for monitoring of terrestrial or aquatic systems. Also, the potential overlap of these GISs with the ones proposed for selecting probabilistic samples of sites for water quality, fish surveys, remote vegetation monitoring, etc. should be explained.

Resumes of project investigators should be provided.

Why should this project be funded by BPA and not by the state of Oregon? It seems that most of the results are to be housed in the ODFW and are to be used by Oregon agencies.

CBFWA Review Comments:
This project should be coordinated with the project 25098 and funded through the NWPPC's EDT process.

Project ID: 25016

Assessment of habitat improvement actions on water temperature, streamflow, physical habitat, & aquatic community health in the Birch Creek Watershed
Sponsor: USGS
Subbasin: Umatilla
2002 Request: $403,000
3YR Estimate: $1,243,000
Short Description: This study will explore the reach- and watershed-scale impacts of stream-habitat improvement actions on water temperature, streamflow and the food web in the Birch Creek watershed of the Umabilla subbasin
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. The response was not convincing that a mechanistic modeling approach to the understanding of the functional response in watershed restoration is justified at this time, compared to a paired-streams control and treatment analysis of key response variables. See comments under 198710001 and 198710002.

Project ID: 25019

Tucannon River Roads, Cut and Fill Slope Restoration
Sponsor: Pomeroy Ranger District
Subbasin: Tucannon
2002 Request: $19,500
3YR Estimate: $52,500
Short Description: Stablize road cut and fill slopes with erosion matting, and boulder collars reducing sediment contributions to the Tucannon River and its tributaries. Propagating, and planting native shrubs and grasses on sites.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. A response was not provided. This is a proposal to expand and continue efforts to stabilize sources of erosion associated with roads to help reduce sediment in spawning areas. Project personnel are well qualified and experienced to accomplish the work required. A monitoring program is included to detect changes in the spawning areas. The proposal should make it clear how changes caused by the project will be separated from changes unrelated to the project. There is insufficient detail in the proposal on what will be done where. Why BPA funding? USDA responsibility?

CBFWA Review Comments:
This project is a USFS responsibility (in-lieu).

Project ID: 25034

Develop a Nutrient/Food-Web Management Tool for Watershed-River Systems
Sponsor: PNNL
Subbasin: Yakima
2002 Request: $376,382
3YR Estimate: $544,041
Short Description: Develop method to assess nutrients in water and associated benefits to juvenile fish by using computational fluid dynamics, watershed and food chain models.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable, a timely response was not received for ISRP review.

Preliminary Comment:
Fundable if adequate responses are given to ISRP concerns; e.g. after receipt of commitment for WDFW participation.

This is a well-written and innovative proposal that could result in a useful management tool. The proposal involves a good balance of data collection, integration of models, validation of predictions, reporting, and sensitivity to management needs. The proposal is only for two years but is reliant upon participation of WDFW staff for the provision of data on nutrient enhancement in the American, Bumping, and Naches rivers. Unfortunately, the proposal does not include any confirmation or commitment from WDFW for the provision of this data (except for sub-contractor costs included in the budget). Confirmation of WDFW agreement must accompany this proposal.

The ISRP suggests, however, that this proposal could wait to see if the empirical evidence shows results before developing an elaborate model. Because of the interest in nutrient enhancement, a modeling system that could be used to prioritize and direct management decisions could be valuable. A question is whether the results of this study will be available in time to add to the debate because of the number of nutrient enhancement projects that are in progress. That is, will the results from this study be unnecessary because of information gained from other projects? At the very least, information from other nutrient enhancement projects should be compared in some way to the results predicted from this modeling effort. At this time, we assess the priority for this modeling work to be medium.

CBFWA Review Comments:
Indirect costs for this project appear excessive. During the FY01 Innovative funding process, CBFWA ranked this project (Project Number 22055) as a Recommended Action. The model at this stage will be entirely theoretical at this point and will not provide practical analyses until significant empirical data has been acquired.

Project ID: 25090

Determine Quantitative Values for the Perpetual Timber Rights on the WDFW Oak Creek and Wenas Wildlife Areas.
Sponsor: WDFW
Subbasin: Yakima
2002 Request: $235,000
3YR Estimate: $235,000
Short Description: Assess feasibility of re-acquiring ownership of habitat (timber rights) to refocus land management from timber production and harvest to fish and wildlife habitat protection and enhancement.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Do not fund. A response was not warranted. Benefits and priority of the project are not justified. The proposal provided inadequate justification for use of Bonneville funds in this manner. Defining values is a necessary prerequisite to future negotiations between WDFW and Boise Cascade. Re-acquisition would allow better management of forested and shrub-steppe habitat. Little monitoring and evaluation proposed except, "perform wildlife surveys" and HEP to determine habitat conditions prior to acquisition and even these minimal efforts are not justified as integral to the project. This is not a very compelling proposal because the damage to the habitat for this growth cycle of timber has been done. Further disturbance in the near future seems unlikely.

Project ID: 25063

Subbasin Planning Coordinator for Oregon
Sponsor: OWEB
Subbasin: Mainstem Columbia
2002 Request: $100,225
3YR Estimate: $300,675
Short Description: This project provides a state coordinator to integrate subbasin planning with the Oregon Plan for Salmon and Watersheds.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Do not fund. No response is warranted. This is a token placeholder proposal. There should be an integration of effort at the state level for subbasin planning. An entity should be responsible for developing state priorities and report to and be funded by the Governor. The proposal did not give enough information to justify this position, although increased coordination would likely benefit the subbasin planning effort.

CBFWA Review Comments:
This project should be funded through the NWPPC subbasin planning efforts.

Project ID: 25091

Mainstem habitats and aquatic communities: assessment and management options
Sponsor: USGS
Subbasin: Mainstem Columbia
2002 Request: $394,200
3YR Estimate: $1,164,200
Short Description: We propose to characterize the nearshore habitat and community structure in the mainstem reservoirs of the Columbia Plateau Province, and develop experiments to test management options in the mainstem river.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Not fundable. The response proposes an extensive revision of the project. Although the response addressed the ISRP's concerns the revision is not a complete proposal. Rather it is a series of hypotheses to be tested concerning interaction between American shad juveniles and salmonids. Sponsors may want to consider submitting a complete proposal in the upcoming Mainstem and Systemwide Province solicitation.

Project ID: 25089

The Effects of Agriculture on Amphibians of the Columbia Plateau
Sponsor: WDFW
Subbasin: Crab Creek
2002 Request: $121,945
3YR Estimate: $301,945
Short Description: Compare historic versus current distribution of four amphibian species, representing different hydorperiod requirement to determine how agriculture affects these species, to identify valuable conservation areas, and to refine distribution model.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Recommended Action
ISRP Comparison with CBFWA: Disagree - Not Fundable
ISRP Final Comments:
Do not fund. A response was not warranted.
Proposes to establish a current baseline for occupancy patterns for the four amphibian target species to address the limiting factor of lack of knowledge about the current state of amphibian populations. Historic distribution of these species does not appear imperative. Similarly, comparing historic occupied and unoccupied sites may have little relevance to distribution patterns now. The proposed methods for comparison of current occupied and unoccupied sites are weak. Objective methods to evaluate occupancy patterns are needed. It is not clear that this project will broaden the understanding of irrigation-influenced amphibian habitat changes because of the great number of other confounding factors that have been hypothesized for amphibian population declines worldwide. There is no connection between anticipated results and the management pay-off.

ISRP and CBFWA Agree: Do Not Fund

Project ID: 25044

Application of Biological Assessment Protocol to Evaluate Passage of Juvenile Salmonids Through Culverts in the Yakima Basin
Sponsor: PNNL
Subbasin: Yakima
2002 Request: $95,553
3YR Estimate: $306,823
Short Description: Apply laboratory developed protocol for assessing juvenile salmonid passage through roadway culverts.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Agree - Not Fundable
ISRP Final Comments:
Do not fund. A response was not warranted. The proposed project acts as a field test of a protocol being developed by WDOT and PNNL to evaluate juvenile passage through culverts. There are a number of shortcomings in this proposal. An inadequate number of culverts are proposed for study in the first year. Specific capture techniques have not been determined, which provides little confidence that meaningful results can be obtained. Training for physical and hydraulic assessment techniques is requested indicating that personnel may not be appropriate to achieve objectives. The proposers ignored fish passage work done outside of WA. There is a protocol that already exists for improving fish passage by WDFW (see proposal 25058) that indicates that this work is not needed.

CBFWA Review Comments:
Technical criteria 5 requires that WDFW or WDOT adopts any protocols that are developed through this project. If this project is not completed in concert with these agencies, this project should not be funded. It is not clear whether this project is well coordinated with WDFW or WDOT?

Project ID: 25061

John Day Fish Passage Barrier Inventory
Sponsor: OWEB
Subbasin: John Day
2002 Request: $152,450
3YR Estimate: $266,788
Short Description: This project provides staff to conduct a basin-wide inventory of potential barriers to fish passage. The project will develop a joint prioritization approach to barrier elimination based on biological importance.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Agree - Not Fundable
ISRP Final Comments:
Do not fund, a response was not warranted. This proposal is too brief and does not justify its need or adequately explain its relationship to other proposals. It gives no indication of monitoring and evaluation or personnel.

CBFWA Review Comments:
Reviewers indicate that an inventory of fish passage barriers is not warranted since barriers to fish passage have already been identified and that implementation is ongoing. In addition, there has been no coordination with the management agencies.

Project ID: 25087

Desolation Creek Rehabilitation and Meadow Restoration
Sponsor: USFS
Subbasin: John Day
2002 Request: $40,000
3YR Estimate: $190,000
Short Description: To recover or reconstruct stream channel and rehabilitate Desolation Meadow on the North Fork of Desolation Creek.
ISRP Recommendation: Not Fundable
CBFWA Recommendation: Do Not Fund
ISRP Comparison with CBFWA: Agree - Not Fundable
ISRP Final Comments:
Do Not Fund. Inadequate proposal. This project proposes to rehabilitate an upland meadow in Desolation Creek on USFS lands. The project looks worthwhile; the problem and history of land use that created the problem are described well. Nevertheless, the proposal is extremely weak in its objectives and associated tasks. Linkages are made to the subbasin summary goals, and other regional documents, but not to the Council's FWP. Methods are entirely absent. Lack of specific methods and citations supporting their use are completely missing from the proposal and represent a serious (in this case fatal) omission from the proposal.

A policy question exists concerning whether BPA funding is appropriate for work that should be done under USFS land management -mandates. During the presentation, the ISRP asked questions about the expected land uses after the 10-year rest period during which no grazing is occurring. The PI responded that the stream corridor would be fenced, but did not provide definitive statements of how the factors that contributed to the habitat decline would be controlled.

CBFWA Review Comments:
Difficult to review and recommend for funding due to an incomplete proposal.

Table of Proposals

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
Yakima/Klickitat Fisheries Project (YKFP) Proposals									9
199506325	Yakima/Klickitat Fisheries Project Monitoring And Evaluation	YKFP	Yakima	$3,883,332	$12,914,597	Fundable in Part	High Priority	Agree if funded in part	15
199701325	Yakima/Klickitat Fisheries Project Operations and Maintenance	YKFP	Yakima	$2,549,774	$8,567,865	Fundable	High Priority	Agree - Fundable	19
198811525	Yakima/Klickitat Fisheries Project (YKFP) Design and Construction	YKFP	Yakima	$1,595,000	$8,286,000	Fundable in Part	High Priority	Agree if funded in part	20
198812025	Yakima/Klickitat Fisheries Project (YKFP) Management	YKFP	Yakima	$1,262,548	$5,295,760	Fundable	High Priority	Agree - Fundable	21
199506425	Policy/Technical Involvement and Planning in the Yakima/Klickitat Fisheries Project	WDFW	Yakima	$187,800	$580,472	Fundable	High Priority	Agree - Fundable	21
199705100	Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Yakima Side Channels	YKFP	Yakima	$2,320,624	$6,281,719	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	22
199803400	Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Reestablish Safe Access into Tributaries of the Yakima Subbasin	YKFP	Yakima	$0	$860,000	Fundable	High Priority	Agree - Fundable	22
25022	YKFP Big Creek Passage & Screening	WDFW	Yakima	$175,280	$205,280	Fundable	High Priority	Agree - Fundable	23
25025	YKFP -- Secure Salmonid Spawning and Rearing Habitat on the Upper Yakima River	WDFW	Yakima	$2,300,000	$2,438,000	Fundable	BPA Crediting?- High Priority	Agree - Fundable	23
25023	Yakima-Klickitat Fisheries Project - Manastash Creek Fish Passage and Screening	YKFP - WDFW	Yakima	$0	$1,055,473	Fundable	High Priority	Agree - Fundable	24
25024	Yakima-Klickitat Fisheries Project - WILSON CREEK SNOWDEN PARCEL ACQUISITION	YKFP - WDFW	Yakima	$206,580	$206,580	Fundable	BPA Crediting? - High Priority	Agree - Fundable	24

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
Umatilla and Walla Walla Hatchery and Related Passage Proposals									
198343500	Operate and Maintain Umatilla Hatchery Satellite Facilities	CTUIR	Umatilla	$956,849	$3,948,549	Fundable	High Priority	Agree - Fundable	25
198802200	Umatilla River Fish Passage Operations	CTUIR	Umatilla	$343,979	$1,084,394	Fundable	High Priority	Agree - Fundable	25
198903500	Umatilla Hatchery Operation and Maintenance	ODFW	Umatilla	$917,559	$2,833,809	Fundable	High Priority	Agree - Fundable	26
199000501	Umatilla Basin Natural Production Monitoring and Evaluation Project	CTUIR	Umatilla	$300,716	$910,716	Fundable in Part	High Priority	Agree if funded in part	26
200003900	Walla Walla Basin Natural Production Monitoring and Evaluation Project	CTUIR	Walla Walla	$482,244	$1,470,244	Fundable in Part	High Priority	Agree if funded in part	27
199000500	Umatilla Fish Hatchery Monitoring and Evaluation	ODFW	Umatilla	$626,178	$1,830,407	Not Fundable	High Priority	Disagree - Not Fundable	27
198805302	Design and Construct Umatilla Hatchery Supplement	CTUIR	Umatilla	$5,352,043	$5,352,043	Not Fundable	High Priority	Disagree - Not Fundable	28
200003800	Design and Construct NEOH Walla Walla Hatchery	CTUIR	Walla Walla	$2,850,000	$2,850,000	Not Fundable	High Priority (Three Step Process)	Disagree - Not Fundable	29
198902700	Power Repay Umatilla Basin Project	BPA	Umatilla	$1,750,000	$5,250,000	Fundable	High Priority	Agree - Fundable	30
198343600	Umatilla Basin Fish Facilities Operation and Maintenance	Westland Irrigation District	Umatilla	$498,512	$1,571,587	Fundable	High Priority	Agree - Fundable	31
CRP, CREP, Buffer, and No-till Proposals									
25014	Establish Riparian Buffer Systems	Wasco SWCD	Deschutes	$67,119	$204,497	Fundable	High Priority	Agree - Fundable	32
25080	Gilliam SWCD Riparian Buffers	Gilliam SWCD	John Day	$75,086	$232,080	Fundable	High Priority	Agree - Fundable	32
25073	Wheeler SWCD Riparian Buffer Planning and Implementation	Wheeler SWCD	John Day	$75,086	$232,080	Fundable	High Priority	Agree - Fundable	32
25006	Provide Coordination and Technical Assistance to Watershed Councils and Individuals in Sherman County, OR	Sherman SWCD	John Day	$95,670	$229,777	Fundable	High Priority	Agree - Fundable	33

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
199901000	Mitigate Effects Of Runoff & Erosion On Salmonid Habitat In Pine Hollow and Jackknife	Sherman SWCD	John Day	$41,980	$122,580	Fundable	High Priority	Agree - Fundable	33
25047	Morrow County Buffer Initiative	Morrow SWCD	Umatilla	$75,086	$232,080	Fundable	High Priority	Agree - Fundable	34
25048	Accelerate the Application of Riparian Buffers in the Upper Deschutes Subbasin	Wy'East RC&D	Deschutes	$73,985	$218,619	Fundable	Recommended Action	Agree - Fundable	34
25077	Umatilla County Conservation Buffer Project	Umatilla SWCD	Umatilla	$152,368	$470,954	Fundable	Recommended Action	Agree - Fundable	35
199401807	Garfield County Sediment Reduction and Riparian Improvement Program	PCD	Mainstem Snake	$212,000	$642,500	Not Fundable	High Priority	Disagree - Not Fundable	35
25050	Provide Incentives to convert to direct seed/no-till farming in Sherman County, Oregon	Sherman SWCD	John Day	$164,440	$481,320	Not Fundable	Recommended Action	Disagree - Not Fundable	36
25099	Oregon CREP Improvement Project	OWEB	Mainstem Columbia	$433,725	$1,153,725	Not Fundable	Do Not Fund	Agree - Do Not Fund	37
Bull Trout									
199405400	The Population Structure of Bull Trout in the John Day River and Abundance of Bull Trout in Mill Creek.	ODFW	John Day	$86,400	$259,300	Fundable	High Priority	Agree - Fundable	37
199405400	Bull Trout Abundance Monitoring in the Lower Deschutes River formerly "Bull Trout Genetics, Habitat Needs, L.H. Etc. In Central And N.E. Oregon"	CTWSRO	Deschutes	$137,000	$371,000	Fundable	High Priority	Agree - Fundable	38
25053	Evaluate bull trout movements in the Tucannon and Lower Snake rivers	USFWS - IFRO	Mainstem Snake	$81,626	$477,491	Fundable	High Priority	Agree - Fundable	38
25012	Assessment of bull trout populations in the Yakima River watershed.	WDFW	Yakima	$243,947	$558,947	Fundable	High Priority	Agree - Fundable	39

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
Lamprey									
199402600	Pacific Lamprey Research and Restoration	CTUIR	Umatilla	$520,464	$1,530,464	Fundable	High Priority	Agree - Fundable	40
200005200	Upstream migration of Pacific lampreys in the John Day River: behavior, timing, and habitat preferences	USGS/CRRL	John Day	$271,956	$746,956	Fundable	High Priority	Agree - Fundable	41
25007	Determine lamprey species composition, larval distribution and adult abundance in the Deschutes Subbasin	CTWSRO	Deschutes	$125,440	$341,382	Fundable	High Priority	Agree - Fundable	41
25101	Use of Mainstem Habitats by Juvenile Pacific Lamprey	PNNL	Mainstem Columbia	$89,238.00	$89,238.00	Fundable	High Priority	Agree - Fundable	41
Hanford Reach Proposals									42
199406900	Estimate production potential of fall chinook salmon in the Hanford Reach of the Columbia River.	PNNL	Mainstem Columbia	$294,006	$867,597	Fundable	High Priority	Agree - Fundable	43
199701400	Evaluation of Juvenile Fall Chinook Stranding on the Hanford Reach	WDFW	Mainstem Columbia	$342,000	$769,000	Fundable	High Priority	Agree - Fundable	43
25052	Sex Reversal in Hanford Reach Fall Chinook Salmon	CRRL	Mainstem Columbia	$262,321	$415,359	Fundable	High Priority	Agree - Fundable	44
25079	Integration and Construction of a GIS Based 2-Dimensional Hydraulic/Habitat Model for 51 miles of Hanford Reach and Site of the Columbia River	USFWS	Mainstem Columbia	$295,786	$550,786	Fundable	High Priority	Agree - Fundable	45
25045	Determine effects of water level-induced changes in rearing habitat on the survival of juvenile fall chinook salmon.	USGS	Mainstem Columbia	$192,977	$548,931	Fundable	Recommended Action	Agree - Fundable	46
25070	The Application of Geophysics to Better Define Fall Chinook Salmon Spawning Habitat Use in the Hanford	Golder Assoc., PNNL	Mainstem Columbia	$113,532	$240,572	Fundable	Recommended Action	Agree - Fundable	46

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
25038	Effects of Hydropower Operations on Fall Chinook Spawning Activity	PNNL	Mainstem Columbia	$139,338	$516,430	Fundable	Recommended Action	Agree - Fundable	47
25035	Evaluate adult fall chinook salmon fallback at Priest Rapids Dam, Columbia River	PNNL and WDFW	Mainstem Columbia	$603,065	$1,344,108	Fundable in Part	Recommended Action	Agree if funded in part	47
25037	Evaluation of the effects of American shad on upstream migration of anadromous fishes at Priest Rapids Dam	PNNL	Mainstem Columbia	$43,464	$297,910	Not Fundable	Do Not Fund	Agree - Do Not Fund	48
ISRP and CBFWA Agree: Fundable through the Action Plan Process									49
25054	Increase Naches River In-stream Flows By Purchasing Wapatox Hydroelectric Project	YN	Yakima	$3,500,000	$3,500,000	Fundable	High Priority	Agree - Fundable	49
25031	Naches River Water Treatment Plant Intake Screening Project.	City of Yakima	Yakima	$1,657,500	$1,657,500	Fundable	High Priority	Agree - Fundable	50
25017	FABRICATE AND INSTALL NEW HUNTSVILLE MILL FISH SCREEN	WDFW, YSS	Walla Walla	$102,217	$232,717	Fundable	High Priority	Agree - Fundable	51
25015	Emergency Flow Augmentation for Buck Hollow	Wasco SWCD	Deschutes	$29,886	$29,886	Fundable	High Priority	Agree - Fundable	51
ISRP and CBFWA Agree: ISRP Fundable and CBFWA High Priority									52
Deschutes									52
25010	Regional Stream Conditions and Stressor Evaluation	ODEQ	Deschutes	$180,000	$540,000	Fundable	High Priority	Agree - Fundable	52
25074	Deschutes Water Exchange	DRC	Deschutes	$1,000,000	$2,835,100	Fundable	High Priority	Agree - Fundable	53
198805306	Hood River Production Program (HRPP): Hatchery O&M - Portland General Electric - Enron	PGE	Deschutes	$165,859	$557,854	Fundable	High Priority	Agree - Fundable	53

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
John Day									54
199703400	Monitoring Fine Sediment Grande Ronde and John Day Rivers	CRITFC	John Day	$63,634	$200,604	Fundable	High Priority	Agree - Fundable	54
200003100	North Fork John Day River Subbasin Anadromous Fish Habitat Enhancement Project	CTUIR	John Day	$293,894	$919,607	Fundable	High Priority	Agree - Fundable	54
25069	John Day Salmonid Recovery Monitoring Program	CTWSRO	John Day	$164,133	$280,140	Fundable	High Priority	Agree - Fundable if	55
199801800	John Day Watershed Restoration	CTWSRO	John Day	$576,824	$1,752,026	Fundable	High Priority	Agree - Fundable	55
199802200	Pine Creek Ranch	CTWSRO	John Day	$172,000	$411,750	Fundable	High Priority	Agree - Fundable	56
200001500	Oxbow Ranch Management and Implementation	CTWSRO	John Day	$306,898	$534,998	Fundable	High Priority	Agree - Fundable	56
199801700	Eliminate Gravel Push-up Dams in Lower North Fork John Day	North Fork John Day Watershed Council	John Day	$128,000	$368,000	Fundable	High Priority	Agree - Fundable	57
25088	Salmonid Population and Habitat Monitoring in the Oregon Portion of the Columbia Plateau	ODFW	John Day	$2,037,569	$5,831,991	Fundable	Split into 3 proposals; 2 High Priority, 1 Recommended Action	Agree - Fundable	57
198402100	Protect and Enhance Anadromous Fish Habitat in The John Day Subbasin	ODFW	John Day	$448,500	$1,403,500	Fundable	High Priority	Agree - Fundable if	58
199306600	Oregon Fish Screening Project	ODFW	John Day	$660,870	$2,042,683	Fundable	High Priority	Agree - Fundable	59
199801600	Monitor Natural Escapement & Productivity of John Day Basin Spring Chinook	ODFW	John Day	$333,516	$992,998	Fundable	High Priority	Agree - Fundable	59
25067	Manage Water Distribution in the John Day Basin	OWRD	John Day	$251,261	$703,023	Fundable	High Priority	Agree - Fundable	60
199908800	Columbia Plateau Water Right Acquisition Program	OWT	John Day	$204,000	$647,500	Fundable	High Priority	Agree - Fundable	60

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
Umatilla									
25059	Develop Progeny Marker for Salmonids to Evaluate Supplementation	CTUIR	Umatilla	$149,665	$500,477	Fundable	High Priority	Agree - Fundable	61
195505500	Umatilla Tribal Fish & Wildlife Enforcement	CTUIR	Umatilla	$163,369	$514,956	Fundable	High Priority	Agree - Fundable	61
199506001	Protect and Enhance Wildlife Habitat in Squaw Creek Watershed	CTUIR	Umatilla	$222,268	$690,674	Fundable	High Priority	Agree - Fundable	62
25081	Improve Upstream Fish Passage in the Birch Creek Watershed	ODFW	Umatilla	$300,410	$744,355	Fundable	High Priority (correcting passage barriers)	Agree - Fundable	62
198902401	Evaluate Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin	ODFW	Umatilla	$286,427	$898,555	Fundable	High Priority	Agree - Fundable	63
25055	Echo Meadows Artificial Recharge Extended Groundwater and Surface Water Modeling	PNNL	Umatilla	$390,283	$780,566	Fundable	High Priority (pollutant work) Recommended Action (modeling effort)	Agree - Fundable	64
25029	Westland-Ramos Fish Passage and Habitat Restoration Pilot Project	Westland Irrigation District	Umatilla	$203,020	$1,287,100	Fundable	High Priority	Agree - Fundable	65
Walla Walla									66
199601100	Walla Walla River Juvenile and Adult Passage Improvements	CTUIR	Walla Walla	$2,856,000	$6,356,000	Fundable	High Priority	Agree - Fundable	66
200002600	RAINWATER WILDLIFE AREA	CTUIR	Walla Walla	$303,546	$908,038	Fundable	High Priority	Agree - Fundable	66
200020139	Walla Walla River Fish Passage Operations	CTUIR	Walla Walla	$109,551	$418,880	Fundable	High Priority	Agree - Fundable	67
25066	Manage Water Distribution in the Walla Walla River Basin	OWRD	Walla Walla	$552,525	$1,397,300	Fundable	High Priority	Agree - Fundable	68
199802000	Assess Fish Habitat and Salmonids in the Walla Walla Watershed in WA	WDFW	Walla Walla	$362,652	$863,652	Fundable	High Priority	Agree - Fundable	69

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
25082	Walla Walla River Flow Restoration	WWBWC	Walla Walla	$478,000	$478,000	Fundable	High Priority	Agree - Fundable	69
Mainstem Snake									70
25049	Numerically Simulating the Hydrodynamic and Water Quality Environment for Migrating Salmon in the Lower Snake River	PNNL	Mainstem Snake	$207,360	$498,599	Fundable	High Priority	Agree - Fundable	70
25064	Investigating passage of ESA-listed juvenile fall chinook salmon at Lower Granite Dam during winter when the fish bypass system is inoperable.	USFWS; USGS	Mainstem Snake	$176,000	$438,000	Fundable	High Priority	Agree - Fundable	71
199102900	Understanding the effects of summer flow augmentation on the migratory behavior and survival of fall chinook salmon migrating through L. Granite Res.	USFWS; USGS	Mainstem Snake	$630,375	$1,851,125	Fundable	High Priority	Agree - Fundable	72
Palouse									73
25008	Resident Fish Stock Status in the Palouse River and Upper Crab Creek Watersheds, Washington.	WDFW	Palouse	$546,670	$1,503,152	Fundable	High Priority	Agree - Fundable	73
Tucannon									73
200001900	Tucannon River Spring Chinook Captive Broodstock Program	WDFW	Tucannon	$94,509	$342,009	Fundable	High Priority	Agree - Fundable	73
Yakima									74
25026	Yakima Tributary Access and Habitat Program (YTAHP)	Kittitas County Water P.	Yakima	$2,022,760	$6,935,260	Fundable	High Priority (Objective 2 only)	Agree - Fundable	74
Yakima Screen Proposals									75
199105700	FABRICATE AND INSTALL YAKIMA BASIN PHASE II FISH SCREENS	WDFW, YSS	Yakima	$159,889	$179,889	Fundable	High Priority	Agree - Fundable	75

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
199200900	OPERATE & MAINTAIN (O&M)YAKIMA BASIN PHASE II FISH SCREENS	WDFW, YSS	Yakima	$148,557	$467,505	Fundable	High Priority	Agree - Fundable	75
199503300	O&M Of Yakima Phase II Fish Facilities*	USBR	Yakima	$66,037	$306,037	Fundable	High Priority	Agree - Fundable	75
199107500	Yakima Phase II Screens - Construction*	USBR	Yakima	$1,000,000	$1,190,000	Fundable	High Priority	Agree - Fundable	76
198506200	Passage Improvement Evaluation	PNNL	Yakima	$113,587	$347,059	Fundable	High Priority	Agree - Fundable	77
More Yakima									77
25036	The Impact of Flow Regulation on Riparian Cottonwood Ecosystems in the Yakima River Basin.	BioQuest	Yakima	$225,495	$430,066	Fundable	High Priority	Agree - Fundable	77
25013	Restore Riparian Corridor at Tapteal Bend, Lower Yakima River	Tapteal Greenway	Yakima	$160,500	$177,000	Fundable	High Priority	Agree - Fundable	78
25062	Growth Rate Modulation in Spring Chinook Salmon Supplementation	NMFS	Yakima	$345,088	$345,088	Fundable	High Priority	Agree - Fundable	79
199803300	Restore Upper Toppenish Watershed	YN	Yakima	$268,517	$846,617	Fundable	High Priority	Agree - Fundable	79
199901300	Ahtanum Creek Watershed Assessment	YN	Yakima	$235,093	$765,093	Fundable	High Priority	Agree - Fundable	80
199405900	Yakima Basin Environmental Education	BOR	Yakima	$130,000	$397,000	Fundable	High Priority	Agree - Fundable	80
199603501	Satus Watershed Restoration Project	YN	Yakima	$352,966	$1,111,691	Fundable	High Priority	Agree - Fundable	80
199705300	Toppenish-Simcoe Instream Flow Restoration and Assessment	YN	Yakima	$306,830	$736,830	Fundable	High Priority	Agree - Fundable	81
25021	Implement Actions to Reduce Water Temperatures in the Teanaway Basin	WSDE	Yakima	$338,000	$652,025	Fundable	High Priority	Agree - Fundable	81
Rock Creek									82
25068	Rock Creek watershed road and riparian corridor improvement project.	YN, KC, BCC	Rock Creek	$96,500	$289,500	Fundable	High Priority	Agree - Fundable	82

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
Mainstem Columbia									83
25056	Conduct Watershed Assessments for Priority Watersheds on Private Lands in the Columbia Plateau	OWEB	Mainstem Columbia	$1,259,725	$1,439,175	Fundable	High Priority	Agree - Fundable	83
25060	Burbank Sloughs and Mainstem Columbia River Shoreline/Side Channel/Wetland Habitat Restoration	USFWS	Mainstem Columbia	$546,000	$776,000	Fundable	High Priority	Agree - Fundable	83
199009200	Protect and Enhance the Wanaket Wildlife Mitigation Area.	CTUIR	Mainstem Columbia	$223,465	$679,824	Fundable	High Priority	Agree - Fundable	84
25011	Assess Riparian Condition Through Spectrometric Imaging Of Riparian Vegetation	ODEQ	Mainstem Columbia	$175,000	$360,000	Fundable	High Priority	Agree - Fundable	84
25097	Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP)	WDFW	Mainstem Columbia	$522,710	$945,260	Fundable	High Priority	Agree - Fundable	85
Crab Creek									86
199106100	Swanson Lakes Wildlife Area (SLWA)	WDFW	Crab Creek	$290,238	$845,512	Fundable	High Priority	Agree - Fundable	86
25042	pygmy rabbit recovery - captive breeding	WDFW	Crab Creek	$220,914	$461,118	Fundable	High Priority	Agree - Fundable	86
25043	Northern Leopard Frog Distribution and Habitat Association	WDFW	Crab Creek	$41,754	$156,354	Fundable	High Priority	Agree - Fundable	87
199404400	Enhance, protect, and maintain shrubsteppe habitat on the Sagebrush Flat Wildlife Area (SFWA)	WDFW	Crab Creek	$908,375	$1,407,100	Fundable	High Priority	Agree - Fundable	87
ISRP Agrees with CBFWA: ISRP Fundable and CBFWA High Priority, but Crediting Issue with BPA									88
25003	FORREST RANCH ACQUISITION	CTWSRO	John Day	$4,207,659	$4,510,009	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	88
25004	Acquisition of Wagner Ranch	CTWSRO	John Day	$2,669,717	$2,737,717	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	88

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
25086	Purchase Perpetual Conservation Easement on Holliday Ranch and Crown Ranch Riparian Corridors and Uplands	ODFW	John Day	$5,459,520	$5,485,320	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	89
200002300	Securing Wildlife Mitigation Sites - Oregon, Horn Butte (Philippi Property)	ODFW	Umatilla	$50,000	$1,465,000	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	90
200020116	Securing Wildlife Mitigation Sites - Oregon, Horn Butte Area (BAIC Tract)	ODFW	Plateau Southeast	$5,390,000	$5,630,000	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	91
25078	Acquire Anadromous Fish Habitat in the Selah Gap to Union Gap Flood Plain, Yakima River Basin, Washington	BOR	Yakima	$3,000,000	$9,000,000	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	91
199206200	Yakama Nation - Riparian/Wetlands Restoration	YN	Yakima	$1,750,000	$5,250,000	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	92
25020	Acquire Rattlesnake Slope Addition	Rocky Mtn. Elk Foundation	Yakima	$3,542,500	$3,542,500	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	92
25002	Protect, enhance, and maintain habitat on the Sunnyside Wildlife Area to benefit wildlife and fish assemblages.	WDFW	Yakima	$418,874	$1,215,706	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	93
200002500	Eagle Lakes Ranch Acquisition And Restoration	USFWS	Mainstem Columbia	$188,900	$1,278,900	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	93
25001	Acquire Sharp-tailed Grouse Habitat at the Swanson Lakes Wildlife Area	WDFW	Crab Creek	$237,053	$274,953	Fundable	BPA Crediting? - High Priority	Agree - Fundable, High Priority	94
25092	RESTORATION OF HEALTHY WATERSHED TO PALOUSE RIVER DRAINAGE IN IDAHO	IDFG	Palouse	$200,200	$9,730,200	Fundable in Part	BPA Crediting? - High Priority	Agree if funded in part	94
25032	Wenas Wildlife Area Inholding Acquisitions	WDFW	Yakima	$706,143	$716,143	Fundable in Part	BPA Crediting? - High Priority	Agree if funded in part	95

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
ISRP Agrees with CBFWA: ISRP Fundable and CBFWA Recommended Action									
25027	An Assessment of Neotropical Migratory and Resident Bird-Habitat & Bird-Salmon Relationships in Riparian Ecosystems in the Deschutes Subbasin	NHI	Deschutes	$113,670	$323,990	Fundable	Recommended Action	Agree - Fundable (higher priority)	96
25040	Collection of baseline measurements of flow, temperature, channel morphology, riparian condition, and benthic macroinvertebrates, Trout Creek, Oregon	USGS	Deschutes	$239,000	$599,000	Fundable	Recommended Action	Agree - Fundable	97
25009	Assess Watershed Health and Coordinate Watershed Councils in Wasco County, Oregon	Wasco SWCD	Deschutes	$70,290	$202,490	Fundable	Recommended Action, Do Not Fund (Objective 3 and Fifteenmile Creek portion of Objective 5)	Agree - Fundable	97
25075	Momitoring and Evaluation of Buck Hollow Hydrology	Wasco SWCD	Deschutes	$92,777	$115,871	Fundable	Recommended Action	Agree - Fundable (higher priority)	98
25065	Forward Looking Infrared Radiometry (FLIR) Thermal Imagery and Analysis of Tucannon River, Touchet River, and Mill Creek(FY2002)with follow-on 2003-04	WA Ecology, WQP	Walla Walla	$231,000	$634,000	Fundable	Recommended Action	Agree - Fundable	98
25030	Factors limiting the shrubsteppe raptor community in the Columbia Plateau Province of eastern Washington	WDFW	Mainstem Columbia, Crab, and Yakima	$16,580	$16,580	Fundable	Recommended Action	Agree - fundable	100
25033	Evaluate Restoration Potential of Mainstem Habitat for Anadromous Salmonids in the Columbia and Snake Rivers	PNNL	Mainstem Columbia	$314,392	$1,120,402	Fundable	Recommended Action	Agree - fundable	100

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
25039	Effects of agricultural conversion on shrubsteppe wildlife and condition of extant shrubsteppe habitat	WDFW	Crab Creek	$681,215	$2,006,030	Fundable	Recommended Action	Agree - Fundable	101
25046	A cooperative approach to evaluating avian and mammalian responses to shrubsteppe restoration in the Crab Creek Subbasin	WDFW	Crab Creek	$141,184	$419,796	Fundable	Recommended Action	Agree - Fundable	101
ISRP Disagrees with CBFWA: ISRP Fundable and CBFWA Do Not Fund									102
25076	Enhancing Riparian Corridors Sustainably With Integrated Agroforestry	Institute for WA's Future	Walla Walla	$1,270,000	$7,532,500	Fundable	Do Not Fund	Disagree - Fundable	102
ISRP Fundable and CBFWA Do Not Fund - Policy Issue									103
25098	Characterize and Assess Wildlife-Habitat Types and Structural Conditions for Subbasins within the Columbia Plateau Ecoprovince	NHI	Mainstem Columbia	$330,825	$848,695	Fundable	Do Not Fund	NA - Policy Decision	103
25041	Wildlife Escape Ramps	WDFW	Crab Creek	$52,185	$133,680	Fundable	Do Not Fund	NA - Policy Decision	103
ISRP Agrees with CBFWA if Funded in Part									104
199404200	Trout Creek Habitat Restoration Project	ODFW	Deschutes	$414,170	$1,264,443	Fundable in Part	High Priority	Agree if funded in part	104
199802800	Trout Creek Watershed Improvement Project	JCSWCD	Deschutes	$465,100	$996,700	Fundable in Part	High Priority	Agree if funded in part	104
25093	Characterize Genetic Differences and Distribution of Freshwater Mussels	CTUIR	Umatilla	$311,907	$1,032,410	Fundable in Part	High Priority	Agree if funded in part	105
199604601	Walla Walla Basin Fish Habitat Enhancement	CTUIR	Walla Walla	$287,407		Fundable in Part	High Priority	Agree if funded in part	105
25028	John Day Upland Restoration	CTWSRO	John Day	$399,595	$1,202,301	Fundable in Part	Recommended Action	Agree if funded in part	106
25058	Fish Passage Inventory and Corrective Actions on WDFW Lands in The Yakima Subbasin	WDFW	Yakima	$256,995	$1,918,051	Fundable in Part	Recommended Action	Agree if funded in part	107

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
25095	Pesticides and the environmental health of salmonids in the Yakima subbasin.	NMFS/ NWFSC	Yakima	$257,800	$825,800	Fundable in Part	Recommended Action	Agree if funded in part	107
ISRP Disagrees with CBFWA: ISRP Fundable in Part and CBFWA Do Not Fund									108
25100	Protect Normative Structure and Function of Critical Aquatic and Terrestrial Habitat	City of Yakima	Yakima	$2,499,000	$10,079,000	Fundable in Part	Do Not Fund	Disagree - Fundable in Part; Agree with CBFWA comments.	108
ISRP Disagrees with CBFWA: ISRP Not Fundable and CBFWA High Priority									109
25085	Eradication of brook trout from Winom Creek to enhance bull trout habitat.	USFS	John Day	$50,000	$150,000	Not Fundable	High Priority	Disagree - Not Fundable	109
198710001	Enhance Umatilla River Basin Anadromous Fish Habitat	CTUIR	Umatilla	$506,403	$1,596,437	Edit - Not Fundable	High Priority	Disagree - Not Fundable	110
198710002	Umatilla Subbasin Fish Habitat Improvement	ODFW	Umatilla	$759,300	$2,392,594	Edit - Not Fundable	High Priority	Disagree - Not Fundable	111
199401806	Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat	Columbia CD	Tucannon	$352,625	$1,152,038	Not Fundable	High Priority	Disagree - Not Fundable	112
25094	Restore Touchet River Watershed Habitat to Support ESA listed Stocks	Columbia CD	Walla Walla	$343,912	$1,124,676	Not Fundable	High Priority (passive restoration measures only)	Disagree - Not Fundable	113
25072	Restore Tucannon River Riparian Habitat: Wooten Wildlife Area	WDFW	Tucannon	$135,400	$852,600	Not Fundable	High Priority (removal of site) Recommended Action (construction of new site)	Disagree - Not Fundable	114
ISRP Disagrees with CBFWA: ISRP Not Fundable and CBFWA Recommended Action									114
25005	Bighorn Sheep reintroduction to the Warm Springs Reservation	CTWSRO	Deschutes	$70,862	$117,802	Not Fundable	Recommended Action	Disagree - Not Fundable	114
25083	Special Status Wildlife Species Surveys and Priority Habitat Assessment …	ODFW	Deschutes	$100,000	$320,000	Not Fundable	Recommended Action	Disagree - Not Fundable	115

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
25051	Columbia Plateau Natural Resources Collaborative (CPNRC)	NRCS	John Day	$823,200	$3,063,600	Not Fundable	Recommended Action	Disagree - Not Fundable	116
25084	Develop GIS Layers for Generation of Specific Natural Resource GIS Maps and Analysis	ODFW	John Day	$111,000	$271,000	Not Fundable	Recommended Action	Disagree - Not Fundable	117
25016	Assessment of habitat improvement actions on water temperature, streamflow, physical habitat, & aquatic community health in the Birch Creek Watershed	USGS	Umatilla	$403,000	$1,243,000	Not Fundable	Recommended Action	Disagree - Not Fundable	118
25019	Tucannon River Roads, Cut and Fill Slope Restoration	Pomeroy Ranger District	Tucannon	$19,500	$52,500	Not Fundable	Recommended Action	Disagree - Not Fundable	118
25034	Develop a Nutrient/Food-Web Management Tool for Watershed-River Systems	PNNL	Yakima	$376,382	$544,041	Not Fundable	Recommended Action	Disagree - Not Fundable	119
25090	Determine Quantitative Values for the Perpetual Timber Rights on the WDFW Oak Creek and Wenas Wildlife Areas.	WDFW	Yakima	$235,000	$235,000	Not Fundable	Recommended Action	Disagree - Not Fundable	120
25063	Subbasin Planning Coordinator for Oregon	OWEB	Mainstem Columbia	$100,225	$300,675	Not Fundable	Recommended Action	Disagree - Not Fundable	120
25091	Mainstem habitats and aquatic communities: assessment and management options	USGS	Mainstem Columbia	$394,200	$1,164,200	Not Fundable	Recommended Action	Disagree - Not Fundable	121
25089	The Effects of Agriculture on Amphibians of the Columbia Plateau	WDFW	Crab Creek	$121,945	$301,945	Not Fundable	Recommended Action	Disagree - Not Fundable	121

Project ID	Title	Sponsor	Subbasin	2002 Request	3YR Estimate	ISRP Recommendation	CBFWA Recommendation	ISRP Comparison with CBFWA	Page
ISRP and CBFWA Agree: Do Not Fund									122
25044	Application of Biological Assessment Protocol to Evaluate Passage of Juvenile Salmonids Through Culverts in the Yakima Basin	PNNL	Yakima	$95,553	$306,823	Not Fundable	Do Not Fund	Agree - Not Fundable	122
25061	John Day Fish Passage Barrier Inventory	OWEB	John Day	$152,450	$266,788	Not Fundable	Do Not Fund	Agree - Not Fundable	122
25087	Desolation Creek Rehabilitation and Meadow Restoration	USFS	John Day	$40,000	$190,000	Not Fundable	Do Not Fund	Agree - Not Fundable	123

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