

Owyhee

Review Summary

The Owyhee Subbasin Plan provides most of the information and analysis needed to meet the scientific elements of a subbasin plan called for in the Council's 2000 Fish and Wildlife Program and Subbasin Planning Technical Guide. The plan will provide useful guidance in developing and selecting fish and wildlife management actions in the subbasin. The ISRP/AB concerns are mostly at a moderate level, and comments on specific elements are provided in the checklist below where further work could improve the plan. In sum, this plan is well developed, given the difficulties of working over three state jurisdictions. This plan is an earnest and worthwhile effort that has started an important consensus building process.

Assessment

The Assessment provides a good overview of the subbasin and adequate context and analysis to develop a more complete Management Plan. Although the Assessment provides most of the information called for in the Subbasin Planning Technical Guide, information relevant to a particular plan element, such as listings of native and non-native species, is often scattered throughout the Owyhee plan documents. Consolidating and summarizing this information in one place would improve the plan.

The plan's discussion of out-of-basin effects on migratory wildlife is notable, as this has not been included in many subbasin plans. The Assessment describes the life history of redband trout and the use of QHA to conduct analyses and make assertions on the likelihood of achieving improvements in the redband trout's habitat and status. Although limiting factors for redband trout are developed by reach for 4th field HUCs in a large number of summary tables, an explanatory narrative would strengthen the limiting factors section of the Assessment. For the QHA procedure, the planners do an excellent job of describing who the team members were and the protocol they followed, which included substantial training and quality control. Personnel from three states were actively involved in this effort, and the coordination that facilitated this effort is impressive.

The redband trout assessment would be further strengthened by the development of a long-term viability analysis for the conditions necessary to maintain populations. The needs for focal species to persist should be estimated for the subbasin; the possibilities for meeting these needs should then be described; and an assessment should be made as to whether or not their needs can be met. If they can be met, how? If not, where are the bottlenecks, and what has to happen if they are to persist? Obviously, data do not exist to be precise in setting these requirements, but modeling/expert systems etc. can be used to make the "best" estimate and careful monitoring can help to provide the basis for identifying appropriate adjustments.

A more complete analysis of inter-species relationships of aquatic and terrestrial species and an appraisal of the potential for habitat and species restoration would also improve the plan. Although the Assessment includes a fine discussion on habitat requirements of sage grouse, a more complete quantitative assessment of terrestrial focal species would strengthen the

Assessment. The presenters indicated that this was not done due to a lack of time. Overall, this Assessment does a good job reaching general conclusions and is sound and mostly complete.

Inventory

The Inventory identifies gaps and critical uncertainties; this helps to identify general limiting factors and provides insight into the adequacy of the plan. To improve upon this effort, the Inventory should specifically address and be more fully linked to the current Assessment.

Management Plan

Although the Management Plan is long and could benefit from rewriting and editing, it is also a good start. The plan provides adequate internal consistency; the strategies and biological objectives are linked for redband trout. The plan describes circumstances and plans for the Owyhee subbasin as a whole, while many near-term objectives and strategies focus on activities on the Duck Valley Indian Reservation. Socio-economic issues are well considered and are embedded in the objectives and strategies. However, due to a lack of time and resources, the Owyhee Subbasin Planning/Technical Team used the Terrestrial Habitat Problem Statements, Objectives, and Strategies from the draft Bruneau Subbasin Plan (Accessed from the Eco-Vista web site, April 2004) as a “strawman” or model because the landscape and resource management issues are very similar to the Owyhee Subbasin. For this reason, the terrestrial section of the management plan should be carefully reconsidered and evaluated.

The Management Plan lays a foundation for prioritization, and objectives/projects are prioritized for the short-term and long-term. This effort would be augmented by further refinement and prioritization. For example, although the plan provides a detailed list of actions “needed” for redband trout, the plan should state which action would likely have the greatest benefit.

The research, monitoring and evaluation (RME) section describes monitoring aquatic objectives in general and provides good linkages on adaptive management throughout. The section could be augmented by a better description of the RME logic path and identification of the specific terrestrial and aquatic variables to be monitored and evaluated including data collection protocols. It is likely that the number of variables must be limited to create an economical plan that can be funded for, say, the next 50 years. The ISRP/AB review team was impressed by the commitment of the RME plan to coordinate aquatic activities among subbasins. In particular, the plan includes cooperation with the Action Agencies’ pilot projects for monitoring of status and trends of aquatic resources in the John Day, Upper Salmon, and Wenatchee subbasins. Unfortunately, there is not a corresponding plan for coordination of monitoring status and trends of focal terrestrial habitats among subbasins. In fairness to the Owyhee subbasin planners, there has been little progress within the Columbia Basin for development of cooperative plans for monitoring of status and trend of terrestrial habitat and species.

A strong aspect of this plan is that there was meaningful participation by local residents. The subbasin planning effort was useful in educating and alleviating the uncertainty of subbasin planning with some landowners who were not familiar with the Council and worried that the plan would regulate their activities and their ability to use natural resources. The result is a plan that people obviously care about as was demonstrated by the Owyhee citizens who attended the presentation to the ISRP and voiced their concerns.

However, lingering disagreements among stakeholders kept the plan from being broadly supported by all who have an interest in it. Specifically, as noted in the presentation meeting with the ISRP/AB review team, the Owyhee planners received a letter of dissent from the Owyhee Watershed Council, who at the presentation described their concerns with the plan’s use of BLM data, the lack of time to comment on the final plan, and that the plan didn’t adequately capture the planning implications of the lack data in the subbasin. These disagreements focused on the quality of data rather than the requirements or impetus of the subbasin planning process.

Despite the continued controversy over data, it is clear that a framework has largely been established to deal with fish and wildlife management issues in the Owyhee going into the future. The discussion at the presentation indicated that additional time and negotiations between the stakeholders might lead to a broader consensus support for the plan. By fostering these relationships, participants in the Owyhee planning process have hit upon one of the long-term goals of the subbasin planning process.

Review Checklist

I. The Subbasin Assessment		
(See generally pages 4-6, 9-10 of the Technical Guide; the checklist is derived from 18-24 of the Technical Guide.) Reviewers should consider the soundness, completeness, analytical approach, and transparency (documentation of methods and decision-making process) of the following components of a subbasin assessment.		
I. A. Subbasin Overview		
<i>General Question to be addressed: Does the assessment provide the geographical, demographical, and environmental context for fish and wildlife resources in this subbasin? The Council specifically asked that the independent scientific review evaluate whether the subbasin assessment was thorough and substantially complete. The following checklist is to aid reviewers in that determination.</i>		
I. A.1. General Description		(Y)es, (P)artial, (N)o Need for additional treatment (0-4)
I.A.1.1	Does the assessment provide a general orientation to the subbasin (location, size, distinguishing natural and cultural features, land use, land ownership) and an overview of jurisdictional authorities (state, county, federal lands, tribal lands and fishing rights)?	
Reviewers: The plan provides an adequate general orientation of the subbasin.		
I.A.1.2	Does the assessment provide a general description of the subbasin’s macro-environment (geology, climate and weather, land cover, vegetation) and of the subbasin’s water resources (hydrography and watersheds, hydrologic regimes, water quality, riparian and wetland resources), water uses, and modifications to water resources (hydropower projects and operations, water diversions, channel modifications)?	
Reviewers: The plan does an adequate job of describing the subbasin’s macro-environment with the exception of a missing general description of modifications to water resources.		

I.A.1.3	Does the assessment provide a general description of anthropogenic disturbances to the aquatic and terrestrial environment, organized by the source of disturbance (urbanization, agriculture, forest practices, water development, mining, transportation, and other)?		
Reviewers: The planners offer a general description of disturbances that is briefly presented in Chapter 1. A description of anthropogenic disturbances by focal habitat is scattered in the assessment. Consolidating this information in one place would improve the plan.			
I.A.1.4	Does the assessment provide a list of native and non-native fish and wildlife species present in this subbasin including those species that: a. have been designated as threatened or endangered under the Federal Endangered Species Act or state equivalents, b. have been recognized by applicable federal, state, or local resource management agencies, or by the Nature Conservancy or state heritage program, as being especially rare or significant in the local area, c. have special ecological importance within the subbasin, d. are recognized by Native American tribes as having special cultural or spiritual significance, or e. are not native to this subbasin?		
Reviewers: The planners have lists and descriptions of fish and wildlife species scattered throughout the document. The plan would be improved if the lists and descriptions were centrally organized. Is the list of focal habitats exhaustive? Are all native/introduced fish described?			
I.A.1.5	Does the assessment identify plants that have been designated as threatened or endangered under the Federal Endangered Species Act or state equivalents, and/or that are recognized by Native American tribes as having special cultural or spiritual significance, or (optional) that have special ecological importance within the subbasin?		
Reviewers: An identification of special plants is listed in Appendix 2.4.1, page 56. It would be beneficial for this information to be incorporated into the body of the plan. It is not clear whether or not the “sensitive” plants presented by the planners are Federal ESA protected plants. Clarifying this would improve the plan.			
I.A.2. Subbasin in the Regional Context		<i>(Y)es, (P)artial, (N)o</i>	<i>Need for additional treatment (0-4)</i>
I.A.2.1	Does the assessment describe how this subbasin fits within its regional context (size in relation to the total Columbia Basin, placement within the ecological province and relationship to other subbasins in this province, qualities that distinguish this subbasin from others in the province)?		
Reviewers: This portion of the plan would be improved by linking the Owyhee to the surrounding area and subbasins, such as the Bruneau.			
I.A.2.2	Does the assessment describe this subbasin's relationship to Endangered Species Act planning units (NOAA Fisheries-designated evolutionarily significant units (ESU) and U.S. Fish and Wildlife Service-designated bull trout planning units. ¹) where this information was available during the planning process?		

¹ The USFWS bull trout planning hierarchy includes, from large areas to small, distinct population segments, recovery units, recovery sub-units, core populations, core areas, and local populations. A subbasin would typically correspond to a recovery unit or sub-unit.)

Reviewers: For this subbasin, the ESA concerns are for terrestrial, rather than aquatic, species. This plan presents comments that are scattered throughout the text (Page 71 lists bald eagle, wolf, grizzly bear, and lynx as threatened and endangered (T&E) species (four total). Page 72, lists three T&E mammals and two T&E birds (five total)?). Consolidating and clarifying this information in one section would improve the plan. The plan could also be improved by supplying references from the available literature that support existence of the three T&E mammal species in the Owyhee subbasin.			
I.A.2.3	Does the assessment summarize external environmental conditions that might have an effect on fish and/or wildlife in this subbasin (the ocean, the estuary, the mainstem downstream from the subbasin, and, as relevant, upstream areas and adjacent subbasins)?		
Reviewers: An impressive aspect of this plan is that it mentions out-of-subbasin-effects on migratory wildlife. This part of the plan is adequate but could be improved with more detail.			
I.A.2.4	Does the assessment identify macroclimate and human occupation and use trends that may affect hydrological or ecological processes in this subbasin over the long-term (50 years into the future and beyond)?		
Reviewers: The plan did an adequate job of presenting past condition of the subbasin. To improve this part of the plan, the effects of grazing and mining need to be described in greater detail. In general, future human occupation trends, climate change, and their possible impacts need to be explored in greater depth. This is a good start.			
	Summary comments and evaluation on the Subbasin Overview: Does the assessment provide the geographical, demographical, and environmental context for fish and wildlife resources in this subbasin?		
Reviewers: The planners have presented a good overview. Additional information and more detail on the subjects already presented will enrich this plan and maximize its utility.			

I.B. Species Characterization and Status			
<i>General question: Does the assessment adequately describe the current status of fish and wildlife focal species?</i>			
Note to reviewers: for this section of the review, the checklist should be applied to each focal species. Please identify which species your evaluation applies to in the comment field. Use the ranking fields (Y,P,N; 0-4) to give an overall evaluation across all focal species. Note differences among approaches to species in the comment field. If necessary, once the plans are received, assignments will be made to cover an individual species or a series of focal species.		(Y)es, (P)artial, (N)o	Need for additional treatment (0-4)

<p>I.B.1. Does the assessment identify a series of focal species that will be used to characterize the status of fish and wildlife species within the subbasin? These should include one or more wildlife, resident fish, and, where present, anadromous fish species. Anadromous fish may also be included in subbasins where they were historically present and where there is a reasonable probability that these fish could be restored to sustainable levels. Criteria suggested for selecting focal species include a) designation as Federal endangered or threatened species, b) local ecological significance,² and c) cultural significance.</p>		
<p>Reviewers: The planners adequately describe the selection of redband trout as a focal species, and all of the terrestrial species were adequate. In theory, the plan could be improved by selecting a non-game fish as a focal species, if there is one, in addition to the redband trout. Are there other aquatic species that could serve as focal species representing desert stream systems? If there are it would aid the plan to include them. If there are not, the plan should describe this.</p>		
<p>I.B.2. Does the assessment identify and characterize focal species populations; i.e. delineate unique population units and, as applicable and where information is available, meta-populations, subpopulations and/or other genetic/behavioral groupings used by scientists or managers?</p>		
<p>Reviewers: The planners did an adequately identify and characterize focal species populations. This part of the plan would be even stronger if the assessment identified key characteristics necessary to sustain focal species in each environment. The planners used QHA for redband trout but the analysis needs to further linked to management issues.</p>		
<p>I.B.3. Does the assessment describe the current and historic status of each focal species population and summarize available population data (abundance, productivity, spatial structure, etc., with particular emphasis on trend data)?</p>		
<p>Reviewers: The assessment provides an adequate overview of the current and historic status of each focal species. To make this section more complete, the plan needs to include more trend data. Ongoing work should provide the necessary information.</p>		
<p>I.B.4. Does the assessment describe the population's life history, including identifying distinct life stages?</p>		
<p>Reviewers: The assessment adequately describes the population's life history.</p>		
<p>I.B.5. Does the assessment characterize the genetic diversity of the population, especially regarding possible effects of artificial production? Specifically does the assessment describe the historic and current status of introductions, artificial production, or captive breeding programs in this subbasin or affecting the subbasin through straying or other means, and describe the relationship between the artificial and naturally produced populations?</p>		
<p>Reviewers: Genetics work is underway on the study of redband trout, but the planners provided no results in this subbasin plan. Again, ongoing work should provide this information, so this is a good start. An important question for the planners to ask is: are rainbow trout being planted in streams that contain redband trout?</p>		
<p>I.B.6. Does the assessment describe historic and current harvest, including both in-subbasin harvest and downstream or ocean harvest affecting the focal species?</p>		

² Species that could be considered under the ecological significance criterion might include those that: a) are particularly rare within the subbasin (regardless of ESA classification), or b) perform a particularly important or unique ecological function.

Reviewers: The assessment does an adequate job of describing historic harvest. Providing more information on current harvest in the trophy fisheries (Lake Billy Shaw) and on the stream-resident redband trout would strengthen the plan.		
Summary comments and evaluation on the Species Characterization and Status Subsection: Does the assessment adequately describe the current status of fish and wildlife focal species?		
Reviewers: Overall, this is a good assessment of the focal species. For the assessment to improve, more current data and more analysis of those data should be provided.		

I.C. Environmental Conditions		
<i>General question to be addressed: Does the assessment adequately describe the effect of the environment on fish and wildlife populations?</i>		
I.C.1. Environmental Conditions within the Subbasin	(Y)es, (P)artial, (N)o	<i>Need for additional treatment (0-4)</i>
I.C.1.1	Does the assessment describe the current condition of the environment in this subbasin, and characterize the condition of the environment under the following reference conditions: a) historic, ³ b) potential, ⁴ c) future/no new action, ⁵ and the potential condition of aquatic and terrestrial habitats within the subbasin? Does the assessment include a determination of the difference between current conditions and the various reference conditions?	
Reviewers: The Assessment provides a good start by presenting a discussion of current versus historic conditions and by coming to a general conclusion that the habitat can be improved. Exploring what the aquatic and terrestrial habitats would look like if “no new actions” were taken would strengthen this part of the plan.		
I.C.1.2	Does the assessment classify 6 th field HUCs (or other appropriate assessment unit) within the subbasin according to the degree to which each area has been modified and the potential for restoration?	
Reviewers: The plan’s strategy of relating stream reaches to HUCs was adequate, but it could be improved by also classifying the HUCs in terms of their potential for restoration.		
I.C.2. Out-of-Subbasin Effects and Assumptions		
I.C.2.1	Does the assessment identify factors outside of the subbasin that have a significant effect on each focal species, with particular attention to bottlenecks? These might include effects associated with upstream conditions, downstream conditions, and, in the case of migratory wildlife, conditions in adjacent subbasins. Outside effects are particularly relevant for anadromous fish and may include mainstem passage and habitat, estuary conditions, ocean conditions, and harvest.	

³ The historic condition refers to the state of the environment at the time of European settlement, or 1850.

⁴ The potential condition is defined as the optimal condition for the subbasin in the year 2050, but it acknowledges cultural modifications that are not reversible such as urbanization.

⁵ The future/no new action condition is the state of the environment in 2050 assuming that current trends and current management continues.

<p>Reviewers: This plan’s discussion of out-of-basin effects on migratory wildlife was notable, as this has not been included in many subbasin plans. This plan is also laudable for mentioning effects of downstream dams and potential climate change. Adding out-of-subbasin effects for redband trout would improve the plan.</p>		
I.C.2.2	<p>For each focal species, does the assessment establish assumptions for each external effect that can be used to calculate the effects of external conditions on the productivity and sustainability of fish and wildlife within this subbasin?</p>	
<p>Reviewers: This is marginally applicable to the Owyhee subbasin for aquatic species. Calculation of the effects of external conditions on wildlife is probably beyond the scope of the subbasin planning process.</p>		
<p>I.C.3. Environment / Population Relationships</p>		
<p>For each focal species, does the assessment identify, for each life stage, environmental factors that are particularly important for the species' survival and determine the characteristics that constitute optimal conditions for species health? Does the assessment describe and make a finding regarding the environment's ability to provide such optimal conditions, or conditions that support the long-term viability of these populations.</p>		
<p>Reviewers: This plan does a good job at describing the redband trout’s life history and at using QHA for analyses and to make assertions on the likelihood of achieving improvements in the redband trout’s habitat and status. The plan would be further strengthened by the addition of a long-term viability analysis done for the conditions necessary to maintain populations.</p> <p>This plan includes a fine discussion on habitat requirements of sage grouse.</p>		
	<p>Summary comments and evaluation on the Environmental Conditions Section: Does the assessment adequately describe the effect of the environment on fish and wildlife populations?</p>	
<p>Reviewers: Overall this section of the assessment does an adequate job at coming to general conclusions. The plan could be further strengthened by including a more complete quantitative assessment of some of the terrestrial focal species.</p>		

<p>I.D. Ecological Relationships</p> <p><i>Question to be addressed: Does the assessment describe the key inter-species relationships and the key functional relationships?</i></p>	<p>(Y)es, (P)artial, (N)o</p>	<p><i>Need for additional treatment (0-4)</i></p>
<p>I.D.1. Inter-species Relationships</p> <p>Does the assessment identify important inter-species relationships or interactions, both positive and negative, with specific attention to relationships between anadromous fish and wildlife and specifically identify: 1) wildlife species and habitats that may be influenced, positively or negatively through direct effects of changes in fish abundance or fish community composition; 2) fish species and habitats that may be influenced, positively or negatively, through direct effects of changes in wildlife abundance or wildlife community composition; and 3) key species relationships within this subbasin based on the above?</p>		

Reviewers: According to the presenters, this analysis was not completed due to a time constraints. The plan includes a good start on terrestrial species, but it does not mention inter-relationships with or among fish species.		
I.D.2. Processes and Functions		
Does the assessment identify key ecological functions for species within this subbasin and assess the current status of ecological processes and functions in the subbasin?		
Reviewers: As noted in the comment above, this was not completed due to time constraints. Completing this section would improve this plan.		

I.E. Interpretation and Synthesis / Limiting Factors and Conditions		
I.E.1. Limiting Factors and Conditions		
Does the assessment describe: 1) Historic factors or conditions that led to the decline of each focal species and of ecological functions and processes? 2) Current key factors or conditions within and without the subbasin that inhibit populations and ecological processes and functions relative to their potential.		
Reviewers: This plan utilizes QHA to analyze limiting factors and conditions for the redband trout. Decline of redband trout is attributed to general categories of environmental change. The plan would be further improved if the limiting factors that the plan mentions for wildlife were analyzed to the same extent.		
I.E.2. Key Findings		
Is the knowledge gained through the assessment synthesized in regard to: 1) the status of species, 2) the status of the subbasin environment, 3) the biological performance of focal species in relationship to the environment, 4) the health of the overall ecosystem, 5) potential conflicts and compatibilities between individual species and ecological processes, 6) a determination of the key factors that impede this subbasin from reaching optimal ecological functioning and biological performance?		
Reviewers: For redband trout, the planners carried out a QHA procedure and did an excellent job of describing who the team members were and the protocol they followed. This effort included the active involvement of personnel from three states. The coordination that facilitated this is impressive. Limiting factors for redband trout are developed by reach/4th HUC in a large number of summary tables. An explanatory narrative would strengthen this portion of the plan, as would a similarly thorough analysis of terrestrial species. The presenters indicate that this was not done due to a lack of time.		
I.E.3. Subbasin-wide Key Assumptions/Uncertainties (“Working Hypothesis”)		
Does the assessment describe the key assumptions (including uncertainties) that have been made in the “Key Findings” above, and document the data sources and/or analytical tools relied upon?		

Reviewers: The Assessment provides limiting factors by reach for redband trout with the use of QHA. The plan would be improved by providing similarly complete data for other species. As above, according to the presenters, the terrestrial portion is incomplete due to time constraints.		
<p>Overall impression and evaluation of the Assessment: Does the assessment adequately synthesize the information regarding the health and functioning of this subbasin ecosystem? Does it adequately: a) bring together the single-species and community assessments to form a holistic view of the subbasin's biological and environmental resources, b) provide a foundation for the development of scientific hypotheses concerning ecological behavior and the ways that human intervention might prove beneficial? As needed elaborate on your evaluation of the various Sections enumerated above. If the plan provides additional analysis beyond what is laid out above in the checklist please comment here (e.g., socio-economic descriptions or analysis).</p>		
Reviewers: Overall, the Assessment is sound and mostly complete, and quite good compared to many other subbasin plans. The Assessment would be further enhanced by an analysis of inter-species relationships and an appraisal of the potential for habitat and species restoration.		

<p>II. The Inventory <i>(This checklist section was developed from pages 11-12 of the Technical Guide.) Reviewers should consider the soundness, completeness, analytical approach, and transparency (documentation of methods and decision-making process) of the following components of a subbasin inventory, specifically whether the inventory includes an assessment of the adequacy of current legal protections, plans, and projects to protect and restore fish, wildlife, and ecosystem resources. Does the inventory adequately synthesize past activities and their biological achievements? Planners were requested to, as applicable, describe the extent to which these programs and activities extend beyond the subbasin to a larger scale (provincial and basin-wide).</i></p>			
II.A. Existing Protection		<i>(Y)es, (P)artial, (N)o</i>	<i>Need for additional treatment (0-4)</i>
II.A.1	Does the inventory identify areas with protections through stream buffers, municipal or county ordinances, conservation designations, or water resources protection?		
Reviewers: The Inventory describes federal protections. This part of the plan would be strengthened by the mention of local, tribal or other protections. Do any exist?			
II.A.2	Does the inventory assess the adequacy of protections for fish, wildlife, and ecosystem resources?		
Reviewers: The plan demonstrates the inadequacy of protection and the potential conflicts between management agencies. More details would improve this portion of the plan.			
II.B. Existing Plans			
II.B.1	Does the inventory identify and review applicable local, state, tribal, and/or federal fish and/or wildlife management plans and water resource management plans that affect fish and wildlife?		
Reviewers: The inventory identifies management plans. Ensuring that all of the plans are reviewed completely would strengthen this review.			

II.B.2	Does the inventory assess the extent to which existing plans are consistent with the subbasin assessment and their adequacy in protecting and restoring fish, wildlife, and ecosystem resources? (It is possible that this analysis is done in another section of the plan, e.g. in the management plan.)		
Reviewers: The plan does discuss existing plans. This discussion, however, is not adequately tied to the Assessment. Moreover, the assessment of the adequacy in protecting and restoring fish, wildlife, and ecosystem resources is not presented.			
II.C. Management Programs / Restoration and Coordination Projects			
Does the inventory identify management programs implemented through on-the-ground restoration and conservation projects that target fish and wildlife or otherwise provide substantial benefit to fish and wildlife? These include, at a minimum, those implemented within the past five years regardless of funding source.			
II.C.1	Does the inventory identify ongoing or planned public and private management programs or initiatives that have a significant effect on fish, wildlife, water resources, riparian areas, and/or upland areas? ⁶		
Reviewers: The Inventory adequately identifies ongoing management programs.			
II.C.2	For each management program (or project where not clearly part of an overarching management program), does the inventory describe the program, project or activity; identify the management or lead entity; identify how the program/project was authorized and who is responsible for implementation; identify the funding source; and identify the relationship to other activities in the subbasin?		
Reviewers: The plan identifies programs identified with a reasonable amount of detail. This part of the Inventory could be made stronger by identifying the relationship to other activities in the subbasin.			
II.C.3	For each management program (or project where not clearly part of an overarching management program), does the inventory identify limiting factors or ecological processes the activity is designed to address?		
Reviewers: The Inventory provides a limiting-factors analysis for BLM plans. This part of the inventory could be improved by providing limiting factors to the rest of the plans.			
II.C.4	For each management program (or project where not clearly part of an overarching management program), does the inventory summarize accomplishments/failures of activity		
Reviewers: This plan deserves kudos for describing some failures. This is something that few plans accomplished and it was refreshing to see. This part of the plan could be improved by better synthesizing past actions and accomplishments.			
II.C.5	Does the inventory relate the assessment to the existing activities and identify the gaps between actions that have already been taken or are underway and additional actions that are needed to address the limiting factors and meet recovery and other goals, and identify inadequacies in both design and implementation?		
Reviewers: The Inventory identifies gaps in section 3.4. To improve upon this effort, the gap analysis should more specifically address the current Assessment.			

⁶ Among other programs, the Technical Guide requested for artificial production programs that the inventory include and summarize relevant HGMPs (both BPA-funded and non-BPA funded programs) and Council APRE evaluations?

	<p>Overall impression and evaluation of the Inventory: As needed elaborate on your evaluation of the various Sections enumerated above. If the plan provides additional information or analysis beyond what is laid out above in the checklist please comment here (e.g., socio-economic descriptions or analysis).</p>
<p>Reviewers: The Inventory is adequate. The identification of gaps and critical uncertainties in section 3.4 help to identify general limiting factors and provide insight into the adequacy of the plans. Further synthesizing this information will improve the effort made by the Owyhee Subbasin Planning team. The underlying assumption of the plan is that improvements are needed across the basin and, if completed, fish and wildlife goals will be met.</p>	

<p>III. The Management Plan <i>(Derived from pages 12-16 of the Technical Guide.)</i> <i>Reviewers should consider the soundness, completeness, analytical approach, and transparency (documentation of methods and decision-making process) of the following components of a subbasin management plan.</i></p> <p>These checklist tables incorporate Council Question 4, Consistency with the Provincial- and Basin-level Program: Are the vision, objectives, and strategies proposed in the subbasin management plan consistent with those adopted in the program for the province and/or basin levels? This is a three-part question and reviewers must be familiar with the vision, objectives, and strategies described in the 2000 Fish and Wildlife Program (pp. 13-33) and, for mainstem subbasin plans, the Mainstem Amendments (pp.11-28).</p>		
<p>III.A. The Vision for the Subbasin Does the Vision Section of the Management Plan 1) describe the desired future condition for the subbasin; 2) describe a vision that will drive development of the biological objectives and thereby the strategies that are incorporated to change conditions within the subbasin; and 3) incorporate the conditions, values and priorities of the subbasin in a manner that is consistent with the Vision described in the Council’s 2000 Fish and Wildlife Program? (Council Question 4 to the ISRP):</p>	<p>(Y)es, (P)artial, (N)o</p>	<p><i>Need for additional treatment (0-4)</i></p>
<p>Reviewers: Beyond providing a vision statement the planners also include a set of guiding principals. As is the case with every other subbasin plan, the vision statement is quite broad. As it is stated, the vision may already be met. There are no quantitative endpoints to provide evidence that the vision, goals, or objectives have been met. Providing these empirical markers would improve the vision statement.</p>		
<p>III.B. Biological Objectives Does the Biological Objectives Section of the Management Plan describe physical and biological changes within the subbasin needed to achieve the vision?</p>		
<p>Reviewers: Some of the material in the management section is repeated or belongs in the assessment. This portion of the plan would be improved by having the biological objectives distilled into measurable objectives. Overall, this effort was equivalent to that of most other subbasins.</p>		

<p>III.B.1. Are the biological objectives consistent with basin-level visions, objectives, and strategies adopted in the program? (Council Question 4) The 2000 Fish and Wildlife Program, pages 16-18, provides general descriptions for basin-level goals, objectives, and strategies. The Mainstem Amendments provide additional biological objectives as well on pages 11-14.⁷</p>		
<p>Reviewers: The biological objectives are reasonably consistent with basin level visions. There is no guarantee, however, that the completion of the objectives will accomplish the vision. In fact, it is not clear what will indicate that an objective has been reached.</p>		
<p>III.B.2. Are the biological objectives based on the subbasin assessment? (This question relates to the Logic Path in the subbasin plan. Question III.C.1 is a similar question for the Strategies Section.)</p>		
<p>Reviewers: The aquatic biological objectives are adequately based on the subbasin assessment. Due to a lack of time and resources, the Owyhee Subbasin Planning/Technical Team used the Terrestrial Habitat Problem Statements, Objectives, and Strategies from the draft Bruneau Subbasin Plan (Accessed from the Eco-Vista web site, April 2004) as a “strawman” or model because the landscape and resource management issues are very similar to the Owyhee Subbasin. For this reason, the terrestrial section should be carefully reconsidered and evaluated.</p>		
<p>III.B.3. Where possible, are the biological objectives empirically measurable and based on an explicit scientific rationale; i.e., quantitative with measurable outcomes?</p>		
<p>Reviewers: The biological objectives are potentially measurable, but the plan does not provide details.</p>		
<p>III.B.4. Are biological objectives identified for both the short and long-term?</p>		
<p>Reviewers: The plan’s biological objectives are identified for near term, 3-5 years, and then for the next 8-10 years. More details would improve this section.</p>		
<p>III.B.5. Are the biological objectives complementary to programs of tribal, state and federal land or water quality management agencies in the subbasin?</p>		
<p>Reviewers: The biological objectives are complementary to other programs, although it appears that agencies at all levels have not done much work in this subbasin.</p>		
<p>III.B.6. <i>Clean Water Act</i>: Does the management plan describe how the objectives and strategies are reflective of and integrated with the water quality management plan and Total Maximum Daily Load schedule within that particular state? I.e., does this subsection of the management plan assess and describe the consistency-coordination-findings of the Water Quality Plan with the subbasin plan?⁸</p>		

⁷ Given the Fish and Wildlife Program’s emphasis on building from subbasin level management plans upward into provincial and basin level objectives, reviewers should evaluate whether the plans have a framework that will facilitate the development and linkage of objectives from the subbasin to the province to the basin.

⁸ *Clean Water Act*: The Water Quality Management Plans developed for watersheds within each state includes the following information: 1) Management measures tied to attainment of TMDL; 2) Timeline for implementation; 3) Timeline for attainment of Water Quality Standards; 4) Identification of responsible parties; 5) Reasonable assurance of implementation; and 6) Monitoring and evaluation. The status of Total Maximum Daily Loads (TMDLs) is generally the responsibility of the state, which is delegated the responsibility for implementing the CWA. Each state has a schedule for completing TMDLs, which include a Water Quality Management Plan that describes how the allocations in the TMDL will be met. Basic information on TMDL’s can generally be found on the web (see Resources).

Reviewers: This plan includes a long and informative discussion of the CWA relative to the Owyhee and it noted the connections with the TMDL.		
III.B.7. <i>Endangered Species Act</i> : The USFWS and NOAA Fisheries are developing recovery plans for listed species (bull trout, white sturgeon, salmon). Recognizing that those ESA-based efforts are in various states of completion across the Columbia basin (some efforts are well underway, others just beginning), does the management plan describe how the objectives of the subbasin management plan are reflective of and integrated with the ESA-based goals for listed species within the subbasin? ⁹		
Reviewers: The connections with the ESA were noted and T&E species were discussed. To further strengthen this portion of the plan the planners should include a viability process. The plan could also be improved by supplying references from the available literature that support existence of the three T&E mammal species in the Owyhee subbasin.		
III.B.8. If there are disagreements among co-managers that translate into differing biological objectives, are the differences and the alternative biological objectives fully presented? (The Council's review will examine whether the plan is consistent with legal rights and obligations of fish and wildlife agencies and tribes with jurisdiction over fish and wildlife in the subbasin, and agreed upon by co-managers in the subbasin.)		
Reviewers: The lingering disagreements among stakeholders kept the plan from being broadly supported by all who had an interest in it. The discussion at the presentation indicated that additional time and negotiations between the stakeholders might lead to a broader consensus support for the plan. It appeared that this was one of the first widespread planning efforts to occur in this subbasin, and the plan that was produced proves that all of the dialogue has already been worthwhile.		
III. C. Strategies¹⁰		
III.C.1. Internal Consistency of the Plan. Does the Strategies Section of the Management Plan explain the linkage of the strategies to the subbasin biological objectives, vision and the subbasin assessment? (Council Questions 2 and 3) ¹¹		
Reviewers: The plan provides adequate internal consistency; the strategies and biological objectives were linked within each focal habitat. Due to a lack of time and resources, the Owyhee Subbasin Planning/Technical Team used the Terrestrial Habitat Problem Statements, Objectives, and		

⁹ E.g. NOAA Fisheries has provided interim targets in a letter from NOAA Fisheries to the Council, Bob Lohn to Larry Cassidy: http://www.nwcouncil.org/library/2002/nmfstargets2002_0404.pdf.

¹⁰ *Definition*: Strategies are sets of actions to accomplish the biological objectives. Strategies are not projects but instead are the guidance for development of projects as part of the implementation plan. Strategies identified within the subbasin plans will be used as a basis for Council recommendations to the Bonneville Power Administration regarding project funding. Proposed measures will be evaluated for consistency with biological objectives and strategies. The strategies may be organized by categories of habitat, artificial production, harvest, hydrosystem passage and operations, and wildlife.

¹¹ This is one of the most important review questions. The set of seven questions from Council asks the ISRP to evaluate the internal consistency, scientific soundness, and thoroughness of subbasin plans. Internal consistency means there is scientific support for the conclusion that the strategies proposed in a subbasin plan will in fact address the problems identified by the subbasin assessment; i.e., does the Strategies Section take into account not only the desired outcomes, but also the physical and biological realities of the subbasin environment. The ISRP's Subbasin Plan Logic Path flow chart, attached below, provides a straightforward illustration of the logic path reviewers should look for in subbasin plans. Rick Williams, ISRP chair, developed and has presented this flow chart to subbasin planners around the basin, emphasizing the importance that subbasin plans demonstrate a clear logic path.

Strategies from the draft Bruneau Subbasin Plan (Accessed from the Eco-Vista web site, April 2004) as a “strawman” or model because the landscape and resource management issues are very similar to the Owyhee Subbasin. For this reason, the terrestrial section should be carefully reconsidered and evaluated.		
III.C.2. Consistency with the Fish and Wildlife Program. Are the Strategies proposed in the subbasin management plan consistent with those adopted in the program? (Council Question 4)		
Reviewers: The strategies that are proposed appear to be consistent.		
III.C.3. Consideration of Alternative Management Responses. Does the Strategies Section explain how and why the strategies presented were selected over other alternative strategies (e.g. passive restoration strategies v. intervention strategies)? (Council Question 5) ¹²		
Reviewers: This plan does not include sufficient discussion of alternative strategies. Missing this piece is a common shortcoming of most subbasin plans.		
III.C.4. Prioritization. Does the Strategies Section describe a proposed sequence and prioritization of strategies?		
Reviewers: This section of the plan lays a foundation for prioritization. It provides a detailed list of actions “needed” for the redband trout. Indicating which action would have the greatest benefit could enhance this list. The plan prioritizes objectives/projects into short-term and long-term. This effort would be augmented by a further prioritization than that which is embedded in the list. This section could be improved by further refinement and description more specific strategies.		
III.C.5. Additional Assessment Needs. Does the Strategies Section describe, if necessary, additional steps required to compile more complete or detailed assessment?		
Reviewers: The recommendations in Chapter Four address the additional assessment steps required. These steps would be augmented by demonstrating, by way of analysis/modeling etc., what the potential is for desirable species in the basin compared to desired goals. It now assumes that the vision can be attained.		
III.C.6. Clean Water Act: Does the management plan describe how the strategies are reflective of and integrated with the water quality management plan and Total Maximum Daily Load schedule within that particular state?		
Reviewers: The planners provide this information without adequate synthesis. To maximize the utility of this section, the data needs to be analyzed and interpreted. Moreover, there needs to be a description of how the strategies reflect the reality of the TMDL.		

¹² The 2000 Fish and Wildlife Program directs that the subbasin management plan’s strategy section must include an explanation of how and why the strategies presented were selected over other alternative strategies (e.g. passive restoration strategies v. intervention strategies). The Council does not expect subbasin plans to be structured like an Environmental Impact Statement with a list of alternative actions and descriptions of why each were not recommended. The Council’s primary interest is on why and how a strategy was selected -- the rationale for the selected strategy -- which necessary includes some discussion of alternatives.

<p>III.C.7. Endangered Species Act: Recognizing that ESA-based efforts are in various states of completion across the Columbia basin, does the management plan describe how the strategies of the subbasin management plan are reflective of and integrated with the ESA-based goals for listed species within the subbasin?</p>		
<p>Reviewers: Although much information is provided, there needs to be a more pertinent interpretation or synthesis with respect to the Owyhee subbasin.</p>		

<p>III.D. Research, Monitoring, and Evaluation</p> <p>This RME Checklist Section provides the review elements necessary for the ISRP/ISAB to answer <i>Council Question 6. Plan for Assessing Progress toward Subbasin Goals</i>. The ISRP/ISAB is asked to determine whether a subbasin plan includes a procedure for assessing how well subbasin objectives are being met over time. This question focuses on accountability and self-assessment, and reflects on the adequacy of the Management Plan’s research, monitoring and evaluation component. This RME component needs to be closely connected to a limiting factors analysis and the biological and environmental objectives. A prioritized RME agenda reflecting the critical uncertainties and limiting factors should be developed and presented with the detail requested below (Technical Guide pp. 14-16). <i>NOTE: The focus of the RME component should be on the strategy level rather than individual project level.</i></p> <p>Subbasin planners were encouraged to incorporate, or link their RME framework and strategies with the “regional” RM&E strategies being developed by the Pacific Northwest Aquatic Monitoring Partnership and the Columbia Basin-Wide Research, Monitoring and Evaluation (RM&E) Program, a coordinated effort developed by State, Federal, and Tribal entities in response to the Basin-wide Salmon Recovery Strategy 2000 and the FCRPS 2000 Biological Opinion. Products from these regional RME efforts could be used to meet elements of a subbasin plan’s RME section (Technical Guide pp. 14-16), particularly in the areas of monitoring protocols and methodologies. The subbasin plan should also explain how they incorporated existing monitoring guidance from state programs.</p>			
<p>III.D.1</p>	<p>Research: Does the RME section of the plan describe a research agenda with specific conditions and situations identified in the subbasin that will require specific research studies to help resolve management uncertainties? Is the research agenda framed around the relationships between the assessment data and the stated vision, biological objectives, and strategies in describing uncertainties? Does the RME section prioritize research topics that are of critical importance to the subbasin?</p>	<p>(Y)es, (P)artial, (N)o</p>	<p><i>Need for additional treatment (0-4)</i></p>
<p>Reviewers: A research agenda with some prioritization is described in section 4.6.2</p>			
<p>III.D.2</p>	<p>Monitoring Objectives: Does the RME subsection identify what kind of information needs to be collected in order to determine if the plan’s vision and objectives are being met? I.e., what indicator variables will be monitored?</p>		
<p>Reviewers: The plan addresses monitoring objectives in general. The plan includes cooperation with the Action Agencies’ pilot projects for monitoring of status and trends of aquatic resources in the John Day, Upper Salmon, and Wenatchee subbasins. Unfortunately, there is not a corresponding plan for coordination of monitoring status and trends of focal terrestrial habitats among subbasins.</p>			
<p>III.D.3</p>	<p>Monitoring Indicators: Does the RME subsection identify measurable indicators of physical, chemical, biological, or socioeconomic conditions that may act as environmental signposts by which progress towards achieving the stated vision can be evaluated? E.g., does the RME subsection describe performance standards or quantitative benchmarks for reference conditions against which observations can be compared? Does the plan prioritize which indicators are most needed to answer management questions (include a short list)?</p>		

Reviewers: This plan's monitoring indicators have been adequately identified. A pilot M&E plan is apparently funded for the Duck Valley Reservation and will be implemented in 2004.			
III.D.4	Data and Information Archive: Does the RME subsection describe an infrastructure to archive relevant data and meta data generated through monitoring efforts in existence for the subbasin (e.g., locally or at a regional Fish and Wildlife Program funded database such as StreamNet, the Fish Passage Center, or DART)? Specifically, does the RME subsection include discussion of quality assurance/quality control (QA/QC), data management and analysis, and data reporting?		
Reviewers: This plan adequately identifies primary databases and information systems.			
III.D.5	Coordination and Implementation: Does the RME subsection describe who will collect the information and data collection methods whether collection is done by a subbasin, provincial, state, or a regional entity, or a combination of entities? This should include a description of coordination with regional RME efforts in the basin (Regional Partnership, Action Agencies Research, Monitoring, and Evaluation Plan, etc) with standardization of data methods. It should also include estimates of how much the proposed M and E will cost.		
Reviewers: This plan adequately describes the coordination and implementation methods that will be used for aquatic monitoring in the Duck Valley Indian Reservation. For the Owyhee subbasin at large, however, there need to be more specifics to increase the utility of this subsection. The description provided regarding trained field crews is too vague.			
III.D.6	Summary Question. RME Logic Path (Evaluation and Adaptive Management): Does the subbasin plan provide a scientifically supportable procedure for refining the biological objectives as new information becomes available about how fish, wildlife, and the environment interact, and in relationship to how the plans are implemented over time? (Council Question 7) Specifically, does the RME subsection describe a scientifically sound logic path for how to test if the subbasin plan's strategies are helping to reach the stated vision and objectives? I.e., Is the RME agenda adequately framed around the relationships between the assessment data and the stated vision, biological objectives, and strategies in describing uncertainties?		
Reviewers: This plan provides good linkages on adaptive management throughout. This plan should be augmented by a better description of the RME logic path and completion of the terrestrial RME.			
	Overall impression and evaluation of the Management Plan: As needed elaborate on your evaluation of the various Sections enumerated above. If the plan provides additional analysis beyond what is laid out above in the checklist please comment here (e.g., socio-economic descriptions or analysis).		
Reviewers: A strong aspect of this plan is that people who live in the basin participated at meaningful level. The management plan is long and rough, but it is also a good start for a management plan. To improve this plan the needs for focal species to persist must be estimated for the subbasin; the possibilities for meeting these needs should then be described; and an assessment must be made as to whether or not their needs can be met. If they can be met, how? If not, where are the bottlenecks and what has to happen if they are to persist? Obviously, data do not exist to be precise in setting these requirements, but modeling/expert systems etc. can be used to make the "best"			

<p>estimate and careful monitoring can help to provide the basis for identifying appropriate adjustments.</p> <p>Another important area that can be improved is the discussion of alternative management approaches and the RM&E section.</p> <p>In conclusion, this plan is well developed, given the difficulties of working over three state jurisdictions. This plan is an earnest and very worthwhile effort that has started an important consensus building process.</p> <p>The socio-economic issues are well considered and are embedded in the objectives and strategies.</p>		
---	--	--

<p>General Council Question. Consistency with the Fish and Wildlife Program and its Scientific Foundation</p> <p>The Council asks the ISRP to evaluate a subbasin plan for its consistency with the Scientific Foundation adopted as part of the Program and with the requirements for “biological objectives” as described in the program. The core of the Council’s Scientific Foundation is a set of eight Scientific Principles:</p> <ol style="list-style-type: none"> 1. The abundance, productivity, and diversity of organisms are integrally linked to the characteristics of their ecosystem. 2. Ecosystems are dynamic, resilient and develop over time. 3. Biological systems operate on various spatial and time scales that can be organized hierarchically. 4. Habitats develop, and are maintained, by physical and biological processes. 5. Species play key roles in developing and maintaining ecological conditions. 6. Biological diversity allows ecosystems to persist in the face of environmental variation. 7. Ecological management is adaptive and experimental. 8. Ecosystem function, habitat structure and biological performance are affected by human actions. <p><i>See 2000 Fish and Wildlife Program, pages 14-15 for full detail.</i></p> <p>Questions on consistency with the objectives and strategies section of the Fish and Wildlife Program are incorporated in the table above. Consistency with the Program’s scientific foundation is interwoven throughout the checklist, and this comment table provides reviewers a place to specifically summarize and identify how well the eight principles were addressed.</p> <p>Summary comments and evaluation of the subbasin plan’s consistency with the eight principles of the Fish and Wildlife Program’s Scientific Foundation:</p>		
<p>Reviewers: This plan is adequately consistent with the eight principles of the Council’s Fish and Wildlife Plan.</p> <p>Further assessment is necessary in this subbasin to illustrate what is likely to be attainable given the changes in the subbasin’s physical and biotic environments. What changes, such as the introduction of exotics, are likely to be irreversible? What can be changed given water and land management policy? What outcomes are expected in terms of ecosystem structure, function, persistent species, and harvestable surpluses? Addressing these questions will improve this plan.</p>		