

Upper Snake, Upper Closed Basin, Snake Headwaters

Review Summary

Three geographically large subbasins together comprising 14% of the Columbia Basin surface area are covered in this one plan. The three subbasins share in providing water for flow augmentation for anadromous fish, but differ enough from one another ecologically and in key issues to make this fusion unwieldy.

As the planners acknowledge, this is not a complete plan that addresses all of the criteria for a subbasin plan as outlined by the Council. They did a significant amount of work in the Assessment, but the material there and in the Management Plan does not provide a strongly focused basis for further planning. Lots of secondary information has been gathered, but planners now need to put it together in an effective way so that new understandings emerge and a logical plan follows.

The planners made a good public participation effort with seven public meetings. Only 47 people attended, but this is a stronger effort than many other subbasins have made.

Assessment

The "entireplan" pdf file is confusing. It is not clear which elements should be considered part of the subbasin plan. The plan states that the "Assessment" was halted two weeks prior to completing the plan. The Assessment section of the "entire plan" is only four pages and is clearly not a completed product. An attached "Assessment," that also contains an Inventory, is 272 pages. This material is quite acceptable and is used by the reviewers to score the Assessment portion of the reviewer checklist.

The subbasin overview is generally sufficient, although it appears to overlook species that may have special importance for American Indians. The treatment of current levels of degradation and impact are sufficient. The level of impact in the next 50 years needs to be considered.

The description of life history, distribution, and current status is excellent for Yellowstone cutthroat trout, but less so for bull trout and mountain whitefish - because less is known. The choice of using a very rare snail as a focal species should be reevaluated because its status cannot be assessed in a timely fashion. The discussion of listed species as focal species in the Boise, Payette, and Weiser Subbasin Plan might be a reference on this question.

The terrestrial portion of the Species Status and Characterization Subsection does not inspire confidence and needs a major overhaul, if not to change choices then to support them more credibly. The planners should look at the discrepancies in approach and product between the aquatic and terrestrial sections.

The effects of the environment on the subbasin's fish and wildlife are stated in general terms. The plan's lack of synthesis and integration is especially evident in the section on environmental conditions. The Assessment did not include a discussion of stream resources on the Shoshone-Bannock Reservation. The plan does not utilize QHA or EDT to assess limiting factors. It

produces a generic list of limiting factors. Aquatic impacts are ranked for five watersheds but details of the ranking process are not made clear.

The Assessment includes lots of potentially useful information. It should include judgments regarding which things in the basin probably cannot be changed. It should acknowledge that achieving historic conditions are not a likely prospect and, given that, determine what conditions have a reasonable chance at being attained given human population projections, water and property rights etc.

Priorities are presented for information to be gathered or generated and where opportunities appear to be, but what management actions are likely to be most effective and most likely to ricochet through interrelated ecosystems have not been considered. Terrestrial focal species are rarely mentioned to the point that it is uncertain why they are included at all. Perhaps the species chosen are not informative from a management perspective.

Inventory

Between the attachments and the plan, the Inventory is generally adequate but still unfinished in some respects. The planners did not provide an adequate description of the projects that have been funded through BPA. Ongoing and past programs should be carefully examined as either support for new recommendations or for reasons not to do more of the same.

Information on gaps between existing and needed actions is dispersed throughout the Management Plan and attachments. It is not easily accessible at a single location in the plan. Some gaps are discussed for aquatic species, but none are for terrestrial species.

Management Plan

It looks like the planners ran out of energy and time while working on the Management Plan. They have an appreciation for the resources in their subbasins, and they seem to understand challenges they face in protecting and restoring resources. But the plan, as written, will contribute little to integrating the actions across agencies for the benefit of the focal species.

The plan is obviously and significantly incomplete. What is there is not a strongly focused basis for further planning. The planners have collected lots of secondary information, but do not appear to have been able to put it together in a way that new understandings emerge. The general vision does not provide any guidance for knowing when one has attained it or any guidance for overcoming specific subbasin problems for ecosystem resources. In the Headwaters subbasin there is some prioritization of strategies, but for the plan in general it has not been done.

The plan offers very general recommendations for research for each subbasin. The recommendations are probably not sufficiently well developed to use to identify individual projects. Some research needs are noted here and there, but there is no Research Monitoring and Evaluation (RME) section, so these needs are probably not thought out well enough to implement.

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 makes no obvious reference to jurisdictional authorities.		Yes 1
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's information regarding the infrastructure and extent of irrigation is particularly useful.		Yes 0
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 description of anthropogenic disturbances is generally adequate to good, but it is weak on anthropogenic disturbances caused by transportation.		Yes 0
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 Assessment provides a list of species and references its appendices for more detail. A column headed "conservation status" in the appendix uses a system of designation that is not very user friendly. Species with significance for American Indians are not alluded to beyond a mention of treaty rights. Only one plant species is mentioned in one item		Yes 2

in the Assessment.			
Editorial Note: Table 1-6 on page 1.28 has a column "Family Taxonomy" with a common and scientific family name. Several cyprinids are misidentified as salmonids because there is no family listed for the former group.			
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: The plan contains a short section on threatened plants, but makes no mention of plants of significance to American Indian tribes. More detail is referenced in the appendices.		Yes	1
I.A.2. Subbasin in the Regional Context		(Y)es, (P)artial, (N)o	Need for additional treatment (0-4)
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 is one of the strong points of the document. The subbasins' relationships to each other are adequately presented. Their relationship to the larger Columbia River Basin needs additional work. The only reference to the entire Columbia is Figure 1-3.		Partial	1
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?		
Reviewers: Impassable dams block anadromous fish from these subbasins. Bull trout are mentioned, but their management is not described. Several listed snails are mentioned, but the extent of their distribution and endemics are not delineated.		Partial	1
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: External environmental conditions may not be relevant for fish given the blockage from Shoshone Falls up, but for wildlife, especially large mammals and birds, only token mention of these conditions are made. Terrestrial species appear to have been overlooked in this regard.		Yes	2
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)?		

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.)

<p>Reviewers: The plan has no discussion of projected population growth, or changes in human use trends, a common weakness of many subbasin plans. The data the plan incorporates for human population growth, however, may offer a few clues.</p>	<p>Partial</p>	<p>1</p>
<p>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?</p>		
<p>Reviewers: The subbasin overview is generally sufficient, although it appears to overlook species that may have special importance for American Indians. The treatment of current levels of degradation and impact are sufficient. The level of impact in the next 50 years needs to be considered.</p>	<p>Yes</p>	<p>1</p>

<p>I.B. Species Characterization and Status</p>		
<p><i>General question: Does the assessment adequately describe the current status of fish and wildlife focal species?</i></p> <p>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.</p>		
<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 aquatic focal species are Yellowstone cutthroat trout, bull trout, mountain whitefish, and mollusks. The use of whitefish may be appropriate for the Upper Closed Basin where their numbers are declining; in the other subbasins covered by the plan this is not the case and whitefish populations are in the millions. The aquatic focal species section includes no reference to the economic or cultural value of these resources, but perhaps there are some. The planners should consider that issue. Pages 2-21 and 22 need some editing regarding cutthroat trout listing and "introductions of non-native introductions." Is 1978 the date of the most current information available on cutthroat life history? The qualification on population data for this species is appreciated. Much of the watershed-by-watershed text could be summarized in a table and the subbasin info put in an appendix to improve</p>	<p>Yes</p>	<p>0</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.

<p>readability. The information on Yellowstone cutthroat trout propagation is incomplete. The plan needs to determine where the fish go, when they go there, and how many make the trip. Is there any current stocking of non-native fish?</p> <p>The terrestrial portion is problematic. Seral relationships in forest, mountain brush and shrub-steppe habitats are important and should be discussed, especially as they relate to responses to disturbances and human activity. The introduction discusses the concept of a potential natural community and says that focal habitat types include successional stages, but only "climax" conditions are discussed in this section. It does not appear that these sections are written by the same group or read by other working groups to insure any consistency in approach or results.</p> <p>Whitebark Pine appears to be an odd choice as a focal habitat given its rarity, the unlikely prospects for restoration and especially the later explanation of not selecting threatened, endangered or candidate species as focal species. This habitat type might be analogous to a threatened, endangered or candidate species.</p> <p>Antelope bitterbrush does not seem to be the best choice of focal species for the Mountain Brush habitat, as it is more likely found in shrub-steppe or dry forest sites.</p> <p>Dry forest focal species are all birds, and all birds of prey at that. Including a resident small mammal or a reptile or amphibian might give a better representation of what is going on there. Perhaps one of the critical linking species could be included given that across the landscapes, these link with other habitat types within short distances. The aquatic section included discussion of important, but not focal, species. If such a discussion were included in terrestrial section, likely alternate focal species candidates might be evident, but no information included anywhere in text or appendices is sufficient to serve this purpose.</p> <p>Aspen forests are critical for neotropically migrant birds, but this is never mentioned, but it should be. This section also refers to steadily increasing livestock grazing, but in fact, livestock grazing in this region has been steadily declining since 1910, especially at the higher elevations where aspen occur in these landscapes. The near disappearance of the range sheep industry is a large factor in this, but cattle grazing practices have changed as well. In many areas, aspen regeneration problems can be related to the increased or seasonally modified use of aspen stands by artificially high big game populations, but we have no data by which to evaluate that possibility in this plan. Development of agriculture and reservoirs on some seasonal ranges suggests these are likely a factor there.</p> <p>The rationale for not selecting threatened, endangered or candidate species as focal species is valid, but why is this approach not taken in the aquatic section? There may be a good reason, but perhaps the planners did not</p>		
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coordinate their efforts and underlying approaches. Editorial Note: redundancies, with same page in sections 2.2.5 and 2.3.5.1. page 2-79 regarding avocet.		
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?		
Reviewers: The plan has an excellent summary of cutthroat trout data. Information for bull trout is more cryptic and reviewers struggled to find a description of its distribution throughout the province. The metapopulations of bull trout are lightly covered. For terrestrial species the plan has table notations for status in Idaho overall, but nothing specific to this assessment area. The planners used the Idaho Native Species study.	Partial	1
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)?		
Reviewers: The plan provides an excellent description of the current and historic status and available population data for cutthroat trout. For terrestrial species the plan only provides table notations for their status in Idaho overall, but nothing specific to this assessment area, and what is mentioned is only their current general status. The plan has no information on terrestrial focal species trends. Focal habitat data are internally inconsistent as far as trends, for example, in different places in the text and appendices, the mountain brush type is increasing or decreasing, the same is also true for juniper.	Yes	1
I.B.4. Does the assessment describe the population's life history, including identifying distinct life stages?		
Reviewers: The plan adequately describes the focal aquatic species population's life history, including the identification of distinct life stages. The terrestrial species section has lots of general species information tagged on in appendices, but it has not been used to focus on species' specific life stages or relation to focal habitats. This is a problem given the number of birds and migratory mammals selected as focal wildlife species.	Yes	0
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?		
Reviewers: The aquatic section summarizes the genetic diversity of species' population. Most of this information is not relevant to terrestrial species, but a discussion of game species management in the past and present would be a useful adjunct to the current information. The Jackson National Hatchery fish production programs and current activities are not sufficiently described.	Partial	2

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?		
Reviewers: There did not appear to be any reference to harvest data for any aquatic species, other than an occasional creel survey. Surely, there must be some? There is no harvest data whatsoever for terrestrial game species.	Yes	0
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: The description of life history, distribution, and current status is excellent for Yellowstone cutthroat trout, but less so for bull trout and mountain whitefish - because less is known. Whitefish, being sensitive to elevated temperature and very vulnerable to predation, may be good indicators in the Big Lost River where they were once abundant. The choice of using a very rare snail as a focal species should be reevaluated because its status cannot be assessed in a timely fashion. The terrestrial portion of the Species Status and Characterization Subsection does not inspire confidence and needs a major overhaul, if not to change choices then to support them more credibly. The planners should look at the discrepancies in approach and product between aquatic and terrestrial sections. Given the general lack of concern for terrestrial species, Appendices 1-3 feel like padding. As a general comment, appendices need tables of content too, since most include several different types of data that are not necessarily expected there.	Yes	0

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	Need for additional treatment (0-4)
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?	

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: The plan presents an adequate presentation of environmental conditions by subunit (subwatershed). Historic, potential, and future/no new action environmental conditions are not given explicit treatment.</p> <p>The capsule summary did not seem especially helpful in such a vast province with many different habitats and situations.</p> <p>A general conclusion of the Assessment appears to be that the habitat can be better, but no attempt is made to show how much better (i.e., potential). Reference conditions remain only in headwater areas and even there the conclusion is that fire management has altered these conditions.</p> <p>Many pages are spent recapping data from tables 2-21 and 2-22 with repeated boilerplate for each focal habitat type. It would be useful to combine these two tables since an increase of over 1000% of one cover type may not be very important if it is still only 1% or so of the land area. As it is, one needs to go from table to table to ascertain this, or read all those pages of boilerplate information to skim off the pertinent numbers. Terrestrial issues could be condensed into one discussion of the major influences on changes in each habitat type, and then the planners would only need to discuss unique features, if any, for each watershed. Aquatic information is specific to each watershed and useful in visualizing environmental conditions.</p> <p>Boilerplate language on the shrub-steppe habitat refers to an altered fire regime leading to shrub-steppe replacing "native grassland." The planners appear to have misinterpreted some information to come to this conclusion because this region has never supported true grasslands. Classified as several types of "cold desert" shrub lands, the potential of these sites has always been to support shrubs with an herbaceous understory. In many cases, shrubs are believed to have become more dominant following a disturbance at the expense of the herbaceous layer, and this is intensified by soil loss. Invasive species have also had a major impact on these sites, but this is not addressed. Cheatgrass invasion has changed fuel loads and, when combined with human ignitions, has greatly shortened the fire return interval, resulting in site degradation and the replacement of less fire-tolerant native and introduced shrubs and herbaceous species by more opportunistic species.</p> <p>Future and no action scenarios are absent.</p> <p>Editorial Note: the legend on Fig. 3.12 seems to reflect range health vulnerability, not health per se as labeled.</p>	<p>Partial</p>	<p>3</p>
<p>I.C.1.2</p>	<p>Does the assessment classify 6th 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?</p>	
<p>Reviewers: The Assessment is based on 4th code HUCs. The limiting factors section did not appear to have a presentation on restoration potential.</p>	<p>Partial</p>	<p>2</p>

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.	
Reviewers: In general, this analysis of out-of-subbasin effects is well thought out and makes some good observations, but it is not specific to focal species or habitats. Loss or degradation of out-of-basin habitat should be considered for migratory wildlife, as should the use of agricultural chemicals and other environmental influences from out of the basin. Changes in commodity demands is another out-of-basin effect that could be significant in this region due to its heavy agricultural base and the presence of minerals, oil and gas that are affected by global, national and regional market conditions. In the 1970's energy exploration was rampant in this region and developing technologies since that time, coupled with world events could bring renewed attention - and risk.		Yes 1
I.C.2.2	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?	
Reviewers: It appears that the plan did not have a quantitative treatment of environment/population relationships like EDT or QHA. There is no evident quantitative treatment of out-of-subbasin effects.		No 1
I.C.3. Environment / Population Relationships		
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.		
Reviewers: Some aspects of the environment's relationships with populations is described for aquatic species in various sections, but overall, this goal is not achieved. The plan offers a ranking of impairment for several aquatic and terrestrial indicators of properly functioning conditions. These assessments are largely based on expert opinion. No findings are evident on the environment's ability to provide optimal conditions for the long-term viability of focal species.		Partial 3
Summary comments and evaluation on the Environmental Conditions Section: Does the assessment adequately describe the effect of the environment on fish and wildlife populations?		
Reviewers: The material on environmental degradation is probably adequate, although it is expert opinion and thus its accuracy is unverifiable. However, an assessment of restoration potential is omitted, limiting the utility of the Assessment.		Partial 2

<p>The effects of the environment on fish and wildlife are stated in general terms.</p> <p>The plan's lack of synthesis and integration is evident in this section.</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>		
<p>Reviewers: There is a section on key ecological functions, along with identification of HUC 4s and their associated decrease or increase in overall function from historical condition (Figure 2-5). The section on limiting factors and ecological relationships (Chapter 3) mentions aquatic exotics, but does not provide sufficient detail on them to be useful. In Chapter 2, a description of the status of biological resources includes a more detailed, but somewhat oblique treatment of hybridization in Yellowstone cutthroat trout. Yellowstone cutthroat and bull trout are both focal species, and both are limited by established exotics and hybridization. The treatment of exotics and hybridization in Chapter 2 needs to be tied together with the limiting factor and inter-species relationships section in Chapter 3 to be really clear.</p> <p>Critical linking terrestrial species are identified in an appendix, as are species that interact with fish. Species interactions, however, with exception of fish introgression/hybridization, is glossed over in passing in the analysis, although KEFs and KECs are covered in appendices.</p>	<p>Partial</p>	<p>2</p>
<p>I.D.2. Processes and Functions</p> <p>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?</p>		
<p>Reviewers: The plan provides some good general discussion of key ecological functions for species within this subbasin and the current status of ecological processes and functions in the subbasin. It lists KEFs, but does not really interpret them relative to ecological process and functions in any specific time or place.</p>	<p>Yes</p>	<p>1</p>

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.		
<p>Reviewers: The plan offers a general treatment of limiting factors for terrestrial and aquatic species in each subwatershed. However, it is not clear which focal species are necessarily being limited.</p> <p>The plan does not utilize QHA or EDT. It produces a generic list of limiting factors. Aquatic impacts are ranked for five watersheds; tables from ICBEMP are also used.</p> <p>As mentioned earlier, declines are attributed to general categories of environmental change caused by management, but no quantitative demonstration of cause and effect is demonstrated. Potentials are anticipated on the basis of undoing changes, this is an ecologically unfounded assumption.</p> <p>Not all focal species or habitats have declined, but historic impacts have been considered, and limiting factors proposed that imply much about future potential. Why no note of 303(d) listings? That could be very useful in this section.</p> <p>The planners made a good attempt at this, despite the lack of BPA past expenditures, time, and resources for the process. It still needs reworking to be most useful, but it is difficult to organize this considering the different factors in each subbasin.</p>	Partial	3
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?		
<p>Reviewers: Key findings are in the Inventory section - chapter 4. The Assessment includes discussion of the many changes that have occurred in these basins. The information the Assessment provides is too general to be of much use, but it is moving in the right direction. Items 5 and 6 above are not really covered.</p>	Yes	2
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?		

<p>Reviewers: Working hypotheses for each subbasin and general HUCs are presented at the conclusion of the Inventory (section 4.2.6). The Assessment does not include supporting data for assumptions regarding the significance of all environmental change.</p> <p>The plan’s hypotheses are pretty general, but this has been true of most subbasin plans. Documentation is missing, but in a sense that is what the entire Assessment has been or should have been. What would have been useful is a qualitative sense of how good the science is behind each hypothesis e.g.: adequate, best estimate etc.</p>	<p>Yes</p>	<p>1</p>
<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>		
<p>Reviewers: The "entireplan" pdf file is not clear on what elements should be considered part of the subbasin plan. The plan states that the "Assessment" was halted two weeks prior to completing the plan. The Assessment in the entire plan is only four pages and is clearly not a completed product. An attached "Assessment," that also contains an Inventory, is 272 pages. This material is quite acceptable and has been considered by the reviewers for the scores in this section.</p> <p>The Assessment did not include streams on the Shoshone–Bannock Reservation.</p> <p>The Assessment includes lots of potentially useful information. It should include judgments regarding things in a basin that probably cannot be changed. It should acknowledge that historic conditions are not a likely prospect and, given that, it should determine what conditions have a reasonable chance at being attained given human population projections, water and property rights etc.</p> <p>There is no real evaluation of how human intervention might be beneficial, especially in terms of priority. Priorities are presented for information to be gathered or generated and where opportunities appear to be, but what interventions are likely to be most effective and most likely to ricochet through interrelated ecosystems have not been considered. Terrestrial focal species are rarely mentioned to the point that it is uncertain why they are included at all. Perhaps the species chosen are not informative from a management perspective.</p>	<p>Partial</p>	<p>3</p>

II. The Inventory			
<i>(This checklist section was developed from pages 11-12 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 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>			
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 has only a single paragraph describing federal lands such as parks and the National Lab. Other sorts of protection like scenic rivers, or buffers are not discussed. Not all "protection" is equal. For instance, a federal roadless area may not be worth much for very long these days. Data are cited from the American Farmland Trust, but no protections of this type are listed. Jackson and the Teton Valley have an outstanding land trust program, but it is not mentioned here. It would be useful to describe each level or type of protection by focal habitat.		No	3
II.A.2	Does the inventory assess the adequacy of protections for fish, wildlife, and ecosystem resources?		
Reviewers: The plan offers no explicit statement on the adequacy of protections. PFC is only an assessment of physical function and intentionally does not look at biological function or value. That is not clear in the interpretation here.		Partial	3
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 most applicable management plans except for private and NGO plans. It would be useful to have the date of plans included in text.		Yes	0
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 Management Plan explicitly states that the planners ran out of time and did not complete their assessment of the extent to which existing plans are consistent with the subbasin Assessment and their adequacy in protecting and restoring fish, wildlife, and ecosystem resources. The planners produced a long list of activities and made some attempt to		No	3

outline what is intended, accomplished, etc. An assessment of consistency with the present plan needs further work.			
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: Most of this information regarding ongoing projects is in the appendices.		Yes	0
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 relationship of projects to other activities in the subbasins does not appear to be provided. At least a partial list of ongoing activities is prepared. The plan does all but link management programs to other activities in the subbasin, which may be asking too much.		Partial	1
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: Limiting factors or ecological processes that management activities are meant to address are provided in their table, but are not identified for all projects. In fact, some appear to create limiting factors rather than benefit fish and wildlife.		Partial	1
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: The Inventory does not discuss management plans' accomplishments or failures.		No	3
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: Information on gaps is dispersed throughout the Management Plan and attachments. It is not easily accessible at a single location in the plan. Some gaps are discussed for aquatic species, but none for terrestrial species.		Partial	3
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).			

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>Reviewers: Between the attachments and the plan, the Inventory is generally adequate but still unfinished in some respects.</p> <p>Ongoing and past programs should be carefully examined as either support for new recommendations or for reasons not to do more of the same.</p> <p>Tables and figures are redundant, for example Fig. 4.4 and Table 4.2 (reviewers prefer the use of tables). RAC and NRCS funds are Federal funds so there is no reason to list them separately from other Federal funds. The monitoring and evaluation section does not seem to agree with material in Appendix 4.3. This section merits more work in order to guide/inform the development of the subbasin plan.</p> <p>The planners did not provide an adequate description of the projects that have been funded through BPA. The Fort Hall hatchery and Jackson National Fish Hatchery are not adequately described.</p>	Partial	3
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III. The Management Plan

(Derived from pages 12-16 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 management plan.

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).

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):

<i>(Y)es, (P)artial, (N)o</i>	<i>Need for additional treatment (0-4)</i>
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Reviewers: There are vision statements for three subbasins in the province. All are very broad. The vision for the Upper Closed subbasin could be more fully developed.

Yes	1
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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?

Reviewers: The biological performance standards are largely adequate. The environmental characteristics relating to the biological performance are not strong. Because the vision is so broad, most any objective having to do with ecology would help to achieve it.

Part	2
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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		
Reviewers: No additional comment.	Yes	0
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.)		
No additional reviewer comment.	Yes	0
III.B.3. Where possible, are the biological objectives empirically measurable and based on an explicit scientific rationale; i.e., quantitative with measurable outcomes?		
Reviewers: In some cases, numbers are associated with an objective, but generally the strategy proposed is to do things that should provide "improvements." The environmental characteristics are not sufficiently identified to develop measurable metrics.	Partial	2
III.B.4. Are biological objectives identified for both the short and long-term?		
Reviewers: Near and longer-term priorities are presented in the Inventory section of the Assessment, but they should be moved to the Management Plan. Some short-term actions are described that are thought to be helpful to distressed wildlife.	Partial	3
III.B.5. Are the biological objectives complementary to programs of tribal, state and federal land or water quality management agencies in the subbasin?		
Reviewers: It generally appears that the biological objective are complementary to programs of tribal, state and federal land or water quality management agencies in the subbasin, but there is no explicit crosswalk of the subbasin plan with other entities' plans. The process identifies the fact that agencies often are following objectives associated with the desires of their constituencies.	Yes	1
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		
Reviewers: Somewhere in the text there is a discussion that TMDLs developed by the Idaho Water Resources Department could be incorporated, but are not. They are developed for 4th code HUCs. The authors recognize this as a flaw.	Partial	3

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).

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: There is no apparent discussion of relevant ESA-based plans. Bull trout are a focal species, but the Inventory (in the attached Assessment) and the Management Plan only mention actions for bull trout in the closed subbasin and do not relate these actions to ESA efforts.	Partial	3
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 plan has a discussion of the process used, and an acknowledgment that time did not permit a full review of all of the Inventory and plan elements and that some community members may not have bought into the plan. No explicit presentation of alternatives is given.	na	na

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: It is clear that there are conceptual linkages between the plan's vision, biological objectives, Assessment and strategies, but they are not well connected in a crosswalk through the plan's elements. The strategies listed are not strategies, as they outline no actions needed to get to an endpoint.	Partial	2
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 plan is not obviously inconsistent with the strategies in the Council's Fish and Wildlife Program.	Yes	1

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.

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: The plan does not explain how and why some strategies are chosen over others.	No	3
III.C.4. Prioritization. Does the Strategies Section describe a proposed sequence and prioritization of strategies?		
Reviewers: In the draft Assessment-Inventory there are near and long term priorities, but the strategies are specific. In the Headwaters there is some prioritization. But in general it has not been done.	Partial	3
III.C.5. Additional Assessment Needs. Does the Strategies Section describe, if necessary, additional steps required to compile more complete or detailed assessment?		
Reviewers: There are several sections of the plan that identify where resources could be managed better with additional information. The plan suggests several information needs, but some are listed as strategies. The lack of description of the ongoing projects is needed from the Inventory and Assessment to continue the logic path.	Partial	3
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: Somewhere in the text there is a discussion that TMDLs developed by the Idaho Water Resources Department could be incorporated, but are not. The authors recognize this as a flaw. Strategies are developed for 4th code HUCs.	Partial	2
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?		
Reviewers: The planners appear to conclude that ESA-based needs and plans are too difficult to understand. They provide a boilerplate comment, but no real synthesis.	No	4

III.D. Research, Monitoring, and Evaluation

This RME Checklist Section provides the review elements necessary for the ISRP/ISAB to answer *Council Question 6. Plan for Assessing Progress toward Subbasin Goals*. 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

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>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>			
III.D.1	<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: The plan offers very general recommendations for research for each subbasin. The recommendations are probably not sufficiently well developed to use to identify individual projects. Some research needs are noted here and there, but there is no RME section, so these needs are probably not yet well thought out relative to plan implementation.</p>		<p>Partial</p>	<p>3</p>
III.D.2	<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 monitoring portion of the recommendations for research monitoring and/or evaluation is quite superficial. The planners appear to have run out of time. The planners need goals and objectives before monitoring can be considered.</p>		<p>Partial</p>	<p>3</p>
III.D.3	<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>		
<p>Reviewers: The plan does not identify monitoring indicators.</p>		<p>No</p>	<p>4</p>
III.D.4	<p>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?</p>		
<p>Reviewers: The plan does not describe a data and information archive.</p>		<p>No</p>	<p>3</p>
III.D.5	<p>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.</p>		

Reviewers: The plan offers a general recommendation for collaboration, but it is not sufficient to this purpose.	No	4
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: The introduction of the Assessment provides a clear conceptual understanding of the linkage between anthropogenic disturbance, habitat quality and quantity, and the biological performance of focal species. In the Management Plan, however, follow-through on designing a conceptual framework for adaptive management to reduce uncertainties and learn from their actions is not explicit.	No	4
	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).	
<p>Reviewers: It looks like the planners ran out of energy and time while working on the Management Plan. They have an appreciation for the resources in their subbasins, and they seem to understand challenges they face in protecting and restoring resources, but the plan, as written, will contribute little to integrating the actions across agencies for the benefit of the focal species.</p> <p>The plan is obviously and significantly incomplete and what is there is not a strongly focused basis for further planning. The planners have collected lots of secondary information, but now need to put it together in a way that new understanding will emerge and a logical plan will follow.</p> <p>The planners acknowledge that this is not a complete plan that addresses all of the criteria outlined by the Council. They did a significant amount of work in the Assessment. The general vision does not provide any guidance for knowing when one has attained it or any guidance for overcoming specific subbasin problems.</p> <p>The process is not complete for the Management Plan. Some major items or projects are listed but are not justified by the plan. Pumping water into the Lower Portneuf River is considered to address a dissolved oxygen problem. Discussion of streams on the Shoshone–Bannock Reservation is added in garbled fashion in Section 4.2.6.1 along with a push for stocking hatchery cutthroat. These issues are not justified or adequately supported by the Assessment, although reviewers are aware that more information that could be useful in developing the plan is available (the Three-Step hatchery review, for example).</p>	Partial	4

<p>The planners made a good public participation effort with their seven public meetings - only 47 people attended, but this is a stronger effort than many other subbasins have made.</p>		
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General Council Question. Consistency with the Fish and Wildlife Program and its Scientific Foundation

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:

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.

See 2000 Fish and Wildlife Program, pages 14-15 for full detail.

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 identity how well the eight principles were addressed.

Summary comments and evaluation of the subbasin plan’s consistency with the eight principles of the Fish and Wildlife Program’s Scientific Foundation:

<p>Reviewers: A realistic look at these basins is needed to show what is likely to be attainable given the changes in physical and biotic environments. What changes are likely to be irreversible (e.g., most exotics), what can be changed given water and land management policy, and what the outcome can be expected in terms of ecosystem structure, function, persistent species, and harvestable surpluses.</p> <p>Principle 1, abundance and productivity, are never covered very well, but the understanding of the links of organisms to the environment is apparent. State and transition models or some other way of addressing dynamism and succession would be useful. There is no clear-cut demonstration of understanding that alternate paths and outcomes are possible, or even that the past cannot often predict future events given the changes these ecosystems have experienced. Principle 3 is not well reflected here, especially in terms of the time element. Using a provincial approach however is one useful way that they dealt with spatial scale. In general, understanding of biological processes does not seem to be well reflected in this product, not as well as physical factors, especially in aquatic systems. Number 6 is never explicitly addressed and the author's confusion over increasing functional diversity in some focal habitats seems to belie understanding of this principle as it might apply to the role</p>	<p>Yes</p>	<p>1</p>
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<p>of generalist as opposed to specialist species. They are seeing a possible effect of this diversity but miss that possible interpretation. Number 7 is missing by virtue of having not completed the planning process - it is assumed that they would have done this if they got that far. Number 8 is clearly reflected throughout the document, perhaps even to the exclusion of recognizing that intrinsic processes may also account for some of the changes seen in recent history. Again, the plan is not complete and perhaps in the end, they might have demonstrated better application of these principles, but what they have so far is not encouraging in that respect.</p>		
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