

San Poil

Review Summary

The San Poil Subbasin Plan benefited from the assessment and inventory information in the Intermountain Province Plan, but additional treatment is needed for each of the major components of a subbasin plan as called for in the Council's 2000 Fish and Wildlife and Subbasin Planning Technical Guide.

Although a notable strength of the subbasin plans in the Intermountain Province is their consistency and direct linkage to the Fish and Wildlife Program and its base principles, the planners' choice to focus on strategies they feel are most consistent with Bonneville's mitigation responsibilities detracts from the ecological approach that is central to the base principles.

Assessment

The Assessment limits itself to rather brief descriptions of separate focal species issues, rather than trying to generate an evaluative subbasin-level appraisal. Synthesis and holism are lacking, as might be expected when various plan elements are completed simultaneously rather than sequentially, such that each component builds upon the previous one. Greater evaluation and synthesis could be done with the information already included within the Assessment. The planners should analyze their limiting factors down to a reach scale.

The provincial document provides a good integration of the subbasins with the regional context. The overview is too brief regarding streams. The Assessment presents a good, but brief, description of past and present conditions of the environment, including a section on human influences, entitled "major land uses."

For terrestrial species, the focus is on achieving the mitigation habitat unit targets associated with the dams. A tabular summary with cross references to Province level would be helpful in pointing out where more information is needed, as is discussed later in the research, monitoring and evaluation section. This is a reasonable assessment from the point of view of Bonneville's mitigation responsibilities, but it should be a more complete assessment of the entire subbasin ecosystem.

The Assessment should characterize the ecological significance of the aquatic focal species. It should include a threatened or endangered species to complement the group of aquatic focal species.

The Assessment focuses much attention on the limitations that the Grand Coulee and Chief Joseph dams cause, but it could go further in assessing the feasibility of removing those limitations, and in assessing the degree to which associated factors (lake ecology and habitat) could be addressed if fish passage were reestablished. The out-of-basin effects are not adequately addressed. If anadromous species are considered for reintroduction then out-of-basin effects on the species should be assessed relative to potential production in the subbasin.

The limiting factor analyses and discussions are not detailed enough on conditions for each focal species in specific, representative water bodies. The plan would be improved by a better application of QHA results augmented by narrative descriptions of what they learned. They show QHA output without discussion. The limiting factors are vaguely described. More information exists than is synthesized and used in the planning effort.

Inventory

The Inventory, especially when taken together with the provincial plan, adequately lists ongoing and past projects. It does not present adequate information on accomplishments (and failures) of aquatic projects. Aquatic activities performed are called accomplishments (caption of Table 39.1), and other brief statements on accomplishments cover aquatic habitat features but not the biological results. Descriptions of terrestrial accomplishments are much more thorough but still do not indicate the biological results. The Inventory could better assess gaps that need to be addressed. Social, economic and cultural aspects are not addressed. The pie-chart representations should either be omitted or be revised to more truly depict program emphases.

For aquatic species, the present draft's gap analysis is inadequate; it consists merely of noting that the number of projects is small, and stating that the most obvious gap is lack of action. Discussion of terrestrial gaps is almost solely in terms of habitat units that remain to be acquired in order to mitigate for effects caused by construction of the hydroelectric. Other terrestrial gaps need to be analyzed, as well.

Management Plan

The Management Plan begins with a helpful summary of aquatic and terrestrial limiting factors identified in the Assessment. Objectives are then developed to address those limiting factors. The array of aquatic and terrestrial objectives is thorough and well organized, with explicit tiering to province-level objectives, to basin-level goals, and to basin-level categories of mitigation and substitution. Most objectives are appropriately specific, some aquatic objectives being very specific. The aquatic objectives and strategies section is outstanding among subbasin planning efforts in recognizing the potential that restoring riparian function holds for improving fish habitat (Objective IB3); that objective may warrant higher rating than priority 3. It would be well to show linkages that should exist between objectives, for example, how habitat restorations ought to integrate with removal of fish passage barriers and with fish production objectives. Some objectives do not specify the desired quantitative outcome and/or do not state a completion date. Both aquatic and terrestrial objectives are thoroughly prioritized; this should help considerably in selecting future projects in the face of limited funding.

Some strategies are inconsistent with the objectives under which they appear. For example, Subbasin Objective 1B1 is "Inventory all barriers in San Poil Subbasin by 2005 and begin implementing necessary passage improvements associated with man made barriers by 2006." However, one of the strategies under it, c: "Develop minimum in-stream flows for fish-bearing streams within the San Poil River Subbasin that meet the biological requirements of salmonid fishes" loosely applies to the objective. Also, strategy c under objective IB5 does not apply to that objective.

This Management Plan’s strong emphasis on the stocking of artificially produced fish may not be consistent with Fish and Wildlife Program.

Research needs are identified in the province plan but not in the subbasin plan. The RME plan would be made more useful by expanding on its tabular material with more text on explanation and rationale. The research could be tied closer to the objectives. The research section flowed more from the Management Plan than from the Assessment and Inventory; it should link back to them more clearly.

A shortcoming of the Management Plan is that the RME section does not show connection to adaptive management. Failure to explain how M&E information will be used to improve management is a major flaw likely to hamper effectiveness of restoration and protection in the subbasin. The M&E plan also needs more work with regard to coordination for standard protocols; plans for cooperative monitoring of projects; definition of monitoring indicators; and development of infrastructure for RME quality assurance, data management/analysis, data reporting, and data archiving. The plan describes no infrastructure for RME quality assurance, data management/analysis, data reporting, and data archiving.

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 Assessment presents a good general orientation to the subbasin. Federal jurisdiction (USFS), however, is omitted in section 39.1, in spite of map 37.1 in the overview. This error should be corrected.		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 offers a general description of the macro-environment. Adding page cross referencing or hotlinks to the Province level document would be useful		Yes	1
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 Assessment presents a good, but brief, description of the history and current conditions of the environment, with the major human influences that are presented in a single section entitled "major land uses."		Yes	1
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 lists 41 native and nonnative aquatic species, with a description of their location in tributaries, streams and lakes. A brief description of artificial production is included. Fourteen terrestrial species associated with habitat quality are listed individually, including six listed species. ESA-listed terrestrial species are included.		Yes	0
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 briefly addresses plants of interest at the province level, but plants merit more attention since food plants are culturally significant, often found in highly impacted plant communities important to focal species, and may also be a substitution for food and cultural materials lost with the anadromous fish. Noxious weeds and invasive plants also needs more attention, milfoil, dalmatian toadflax and others may drastically reduce ecosystem restoration potential.		Partial	2
I.A.2. Subbasin in the Regional Context		(Y)es, (P)artial, (N)o	<i>Need for additional treatment (0-4)</i>
I.A.2.1	Does the assessment adequately 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: Linkages between this subbasin and other subbasins, the province and the region are addressed well in the provincial plan. The size of the San Poil subbasin, however, is not covered, nor is its uniqueness in being without natural obstacles to fish migration for the stream system's		Yes	1

full length.			
I.A.2.2	Does the assessment adequately 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: The plan makes limited reference to ESA listed species (bull trout) and their management in the Inventory. ESA listed terrestrial species are briefly described. White sturgeon and redband should have received more attention. ESUs are not presented.		Partial	3
I.A.2.3	Does the assessment adequately 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 are briefly described in the subbasin Assessment and are adequately described in the provincial plan, including a useful discussion of pollutants from Teck Cominco in the Assessment. The plan offers some discussion of the downstream effects from dams. There are no upstream effects. There is no discussion of out-of-basin effects on wildlife.		Yes	1
I.A.2.4	Does the assessment adequately 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: Human influences are described in the Overview of the IMP. The plan, however, is generally focused backwards and in that sense is more of a preplanning document than a plan.		Partial	1
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 provincial document provides a good integration of the subbasins with the regional context. Much of the information referred to here is in later sections rather than overview, or in Province level documents. The overview is too brief regarding streams.		Yes	1

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		(Y)es, (P)artial, (N)o	Need for additional treatment (0-4)

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.)

series of focal species.		
I.B.1. Does the assessment adequately 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>Reviewers: The focal aquatic species are redband/rainbow trout, for their recreational value and cultural significance, and Chinook salmon, which are extirpated, but of cultural and potentially recreational value (stated in 38.4). The ecological significance of the focal species is not discussed. Later (section 38.5) the document adds kokanee salmon as a focal species for their importance as a native species and as part of a subsistence and recreational fishery. For terrestrial species, four focal habitats are selected: wetlands, riparian and riparian wetlands, steppe and shrub-steppe, and upland forest. Fourteen priority species are listed. There is no explicit discussion of the availability of data to monitor focal species. Many of them appear not to have available data.</p> <p>The planners should have added a threatened or endangered species to complement the group. The characterization of redband rainbow should be made clearer. The planners should characterize the ecological significance of their choice of focal species. Bull trout are discussed.</p>	Yes	2
I.B.2. Does the assessment adequately 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>Reviewers: The plan provides good descriptions of the focal species' population status, genetic issues, life history strategies, habitat utilization during different life history stages (for both adfluvial and resident redband), limiting factors and restoration potential (using QHA). For Chinook, the description is very brief, and focuses on restoration potential. The assumption is that the most critical limiting factor to Chinook restoration is mainstem passage, so QHA is not used. A brief description of Kokanee is provided, with restoration potential assessed using QHA. Very brief descriptions of terrestrial species are provided. The difference between redband and rainbow in general is noted, as is the potential significance of residual steelhead genetic material and the genetic status of kokanee, but beyond that genetic/population issues, focal species' characterization may not be adequately addressed, especially for terrestrial species.</p>	Partial	2
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)?		

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>Reviewers: Existing data on focal species are reported well. Far more information is available for redband than for Chinook. Little is known about the current status and distribution above Grand Coulee and Chief Joseph dams. Brief descriptions of historic and current status of Kokanee salmon are provided. The lack of information on populations of Kokanee is noted. There are very brief descriptions of terrestrial species are provided.</p> <p>The plan should expand upon the current and historic status of each focal species; it is assumed that more data are available than are discussed here.</p>	<p>Partial</p>	<p>2</p>
<p>I.B.4. Does the assessment adequately describe the population's life history, including identifying distinct life stages?</p>		
<p>Reviewers: Life history information is presented for redband, but not for Chinook. The text indicates a lack of information for Kokanee. This information is not provided for terrestrial species. Evaluating terrestrial species to the same extent as aquatic species would augment the plan.</p>	<p>Partial</p>	<p>1</p>
<p>I.B.5. Does the assessment adequately 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: Good discussion is provided of the genetic uncertainties and research being conducted to address those uncertainties for redband. No genetic information is presented for Chinook. Kokanee are identified as a genetically distinct stock. This information is not provided for terrestrial species. Most of this information is at the province level.</p> <p>When there are genetic data gaps the planners should identify the need to collect information. The appear to address this adequately given the state of the data, but further genetic information needs to be collected in the future. Some of this is currently underway and should inform future assessments.</p>	<p>Yes</p>	<p>0</p>
<p>I.B.6. Does the assessment adequately describe historic and current harvest, including both in-subbasin harvest and downstream or ocean harvest affecting the focal species?</p>		
<p>Reviewers: Harvest management of redband is well described, but no data on size of harvest, historically or present, is given. No data on harvest or its management exist for Chinook. No harvest information for Kokanee is presented. Harvest information may be critical not only for fish, but for terrestrial species that move in and out of sub-basin as well.</p>	<p>Partial</p>	<p>3</p>
<p>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?</p>		
<p>Reviewers: The choice of an extirpated species as one of three focal species presumes that restoration possibilities (in the case of Chinook, the implementation of effective passage facilities at Grand Coulee and Chief Joseph dams) are reasonably certain. This is not the case, however, given the extreme difficulty in downstream passage and the scarcity of suitable salmon habitat above the dams.</p> <p>For terrestrial species, the focus is on achieving the mitigation HU targets</p>	<p>Partial</p>	<p>2</p>

associated with the dams. A tabular summary with cross references to Province level would be helpful in pointing out where more information is needed, in plan or in general as is discussed later in the RME. This is a reasonable assessment, but it should be more thorough.		
---	--	--

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		<i>(Y)es, (P)artial, (N)o</i>	<i>Need for additional treatment (0-4)</i>
I.C.1.1	Does the assessment adequately 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: Some discussion of past and current conditions of the environment in the subbasin is presented. The most detail for potential restoration derives from the QHA analyses for redband and Kokanee. A pretty good, although brief, summary of key environmental factors affecting the river, tributaries and lakes is presented in section 38.6. The historic status of the environment in the subbasin, though acknowledged to be weak, is the focus of the plan's attention. The subbasin's future goals and potential are addressed vaguely in the vision statement. The plan does not appear to contain a comparison of future/no new action scenarios.		Partial	2
I.C.1.2	Does the assessment adequately classify 6 th field HUCs within the subbasin according to the degree to which each area has been modified and the potential for restoration?		
Reviewers: The 6 th field HUCs are only presented in a map of road density, but are otherwise not the basis for discussion. QHA was used to analyze stream reaches, and is an adequate tool. IBIS was used for current wildlife.		Yes	0
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.

Reviewers: The plan's brief discussion on out-of-basin effects for both aquatic and terrestrial species focuses on the obstructions of the dams. Little evaluation of the feasibility of introducing passage at the two dams is done.		Partial	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: The plan provides some discussion of the limiting effects of the dams and the need to build passage facilities, deal with lake ecology, and habitat. Wildlife should be discussed more thoroughly.		Partial	1
I.C.3. Environment / Population Relationships			
For each focal species, does the assessment adequately 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 adequately 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: Important environmental factors for each life stage are identified for redband, but not for Chinook or Kokanee. This is not done for terrestrial species. In general, these descriptions should be more specific and detailed.		Partial	2
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 Assessment focuses much attention on the limitations presented by the Grand Coulee and Chief Joseph dams, but it could go further in assessing the feasibility of removing the limitations presented by the dams, and the degree to which associated factors (lake ecology and habitat) could be addressed if passage were addressed. Moving from description to more evaluation would help the environmental conditions discussion. Wildlife populations are not specifically addressed.		Partial	2
I.D. Ecological Relationships			
<i>Question to be addressed: Does the assessment describe the key inter-species relationships and the key functional relationships?</i>		(Y)es, (P)artial, (N)o	<i>Need for additional treatment (0-4)</i>
I.D.1. Inter-species Relationships			
Does the assessment adequately 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?			
Reviewers: Inter-species relationships are addressed briefly and indirectly in the context of the reservoir environment. For example, the influence of brook trout on other species is hardly mentioned, if at all. They are not addressed for terrestrial species. The relationships between resident fish		Partial	3

and wildlife were not adequately considered.		
I.D.2. Processes and Functions		
Does the assessment adequately identify key ecological functions for species within this subbasin and assess the current status of ecological processes and functions in the subbasin?		
Reviewers: Key ecological processes and functions are addressed for terrestrial species, but not addressed for aquatic species with the exception of marine nutrients. The ecological role of the focal species is not discussed. The plan does categorize functions at the province level, but not the status of processes/functions. There is less development of ecological processes and functions in this basin than the other IMP basins.	Partial	3

I.E. Interpretation and Synthesis / Limiting Factors and Conditions

I.E.1. Limiting Factors and Conditions

Does the assessment adequately 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: Limiting factors for redband and Kokanee are evaluated through QHA. Discussion of limiting factors is more detailed for redband than for Chinook or Kokanee. The Kokanee discussion may reflect the lack of information about this stock. The limiting factor analyses and discussions are not detailed enough with regard to conditions for each focal species in specific representative water bodies. A brief description of limiting factors for terrestrial species is presented. The entire question of realistic restoration and protection potential is avoided through this entire planning process, except in relation to assumptions that impacts will continue.	Partial	2
The planners may have been able to better apply QHA results to describe what they have learned. They have results without discussion. Their limiting factors are vague. They have more information that they have not synthesized and used in the planning effort.		

I.E.2. Key Findings

Is the knowledge gained through the assessment adequately 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: A summary section on limiting factors for the three aquatic focal species throughout the subbasin is a good synthesis of the habitat conditions that need to be corrected. Broader discussions of ecosystem health, and ecological factors, however, are not presented. In terms of key	Partial	3
--	---------	---

factors limiting optimal ecological functioning, emphasis is placed on the importance of dams as obstructions. For terrestrial species, the focus is on meeting the mitigation HU targets.		
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 guiding principles and working hypotheses were developed at the provincial level, an explicit attempt to integrate and provide consistency across subbasins. Working hypotheses concentrated on hydropower system effects. QHA led to some hypotheses concerning specific stream reaches. The Assessment would benefit from additional attention to working hypotheses and limiting factor analysis relating other issues to fish and wildlife populations. For example, heavy metals in sediment may limit certain wildlife species (swans, geese, etc.).	Yes	1
<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 Assessment is limited to brief descriptions of separate focal species issues, rather than trying to generate an evaluative subbasin-level appraisal. Synthesis and holism are lacking as might be expected when various plan elements are completed simultaneously rather than sequentially in such a way that each component builds upon the previous one.</p> <p>Greater evaluation and synthesis could be done with the information already included within the Assessment. The planners should analyze limiting factors at a reach scale.</p>	Partial	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></p>		
II.A. Existing Protection	(Y)es, (P)artial, (N)o	Need for additional treatment (0-4)

II.A.1	Does the inventory adequately identify areas with protections through stream buffers, municipal or county ordinances, conservation designations, or water resources protection?		
Reviewers: The plan offers very brief descriptions of existing protections for bull trout and westslope cutthroat trout. ESA protections for terrestrial species are discussed.		Partial	1
II.A.2	Does the inventory assess the adequacy of protections for fish, wildlife, and ecosystem resources?		
Reviewers: The adequacy of protections for fish, wildlife, and ecosystem resources is not assessed.		No	2
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 subbasin Inventory identifies local management, and mentions various state and federal management authorities, but without reviewing the functional properties of this management. More detail is provided in the provincial plan. The status of watershed planning, USFS planning, GMA in counties etc. is missing		Partial	2
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: Consistency of the subbasin Assessment with existing plans is not discussed in the Inventory.		No	2
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: Ongoing projects are listed, some with descriptions of monitoring programs and outcomes. IDFG and WDFW land management programs, however, are excluded, as is much of the federal management activity, current or planned that should be linked with this plan. Data should be available on some private land management planning as well through NRCS, CD's, TNC and land trusts. More information needs to be provided for this Inventory to be a resource for implementation.		Partial	1
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: Most of the information requested above is provided for aquatic species, the primary focus is on BPA funded projects.		Partial	1

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?

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?		<p>Reviewers: For aquatic species, a summary section addresses the extent to which ongoing projects are addressing limiting factors. The Inventory's aquatic section's two pie charts (which also pertain at least partly to wildlife) undoubtedly are intended to represent the proportions (%) of effort being exerted in the subbasin on (a) various limiting factors and (b) various "strategies"—and readers certainly will interpret them that way. The percentages are based on numbers of projects. This will mislead readers because many projects are very unequal in amount of effort that goes into each. Either the pie charts should be deleted from the plan or they should be revised to represent the amounts of money spent on each limiting factor and strategy. Money spent would more nearly (though still roughly) represent effort or emphasis in existing programs than does mere number of projects. The revised pie charts should then be used in narrative discussion. They need text synthesis and caveats.</p> <p>For terrestrial species, the focus is on meeting the construction mitigation HUs.</p>	Partial	2
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		<p>Reviewers: Accomplishments are summarized for completed projects. Evaluation of biological success or failure is not presented.</p>	Partial	2
II.C.5	Does the inventory adequately 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?		<p>Reviewers: For aquatic species, the assessment of 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 consists of noting the small number of projects, and a statement that the most obvious gap is the lack of any action. For terrestrial species, the gap is presented in terms of the remaining construction mitigation HUs to be completed.</p> <p>This evaluation is done in a fairly systematic way for aquatic species, but not for terrestrial species. The terrestrial component is presented by describing the mitigation requirements remaining from the various hydroelectric projects; much more than that is surely involved.</p>	Partial	2
	<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>				

Reviewers: The Inventory, taken together with the provincial plan, adequately lists ongoing and past projects. It does not present adequate information on accomplishments (and failures) of aquatic projects; activities performed are mistakenly called accomplishments (caption of Table 39.1), and other brief statements on accomplishment cover aquatic habitat features but not the biological results. Descriptions of terrestrial accomplishments are much more thorough but still do not indicate the biological results. The Inventory could better assess the gaps needing to be addressed. This section did not really integrate across the spectrum of resource management opportunities. Social, economic and cultural aspects are not addressed. The pie-chart representations should either be omitted or be revised to more truly depict program emphases.	Partial	2
--	---------	---

<p>III. The Management Plan <i>(Derived from pages 12-16 of the Technical Guide.)</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.</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 adequately 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>Need for additional treatment (0-4)</p>
<p>Reviewers: The plan offers a general vision statement, which has been developed at the province level. The province document makes frequent and explicit reference to the Fish and Wildlife Program's vision and objectives. This vision is not refined to suit the subbasin's contribution to the larger province. The vision seems too huge to be applicable at the subbasin scale and does not reflect any unique characteristic of the subbasin or its people. This could be improved by stating that this subbasin has unique factors or opportunities that other subbasins in the IMP do not have, for instance it has the least development in the IMP, and it has some remnant pure redband populations.</p>	<p>Yes</p>	<p>0</p>
<p>III.B. Biological Objectives Does the Biological Objectives Section of the Management Plan adequately describe physical and biological changes within the subbasin needed to achieve the vision?</p>		

Reviewers: Most objectives are stated in appropriately degree of specificity, some aquatic objectives being very specific. The aquatic objectives/strategies section is outstanding among subbasin planning efforts in recognizing the potential that restoring riparian function holds for improving fish habitat (Objective IB3), even though that objective is assigned only priority 3. Some linkages could be shown between objectives, for example, how habitat restorations and removal of fish passage barriers or fish production objectives would integrate. Some objectives do not specify the desired quantitative outcome and/or do not state a completion date. Both aquatic and terrestrial objectives are thoroughly prioritized; this should help considerably in selecting future projects in the face of limited funding.	Partia	2
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: A strength of the IMP approach is the close linkage between the subbasin, province, and regional levels, as well as with overall FWP principles for the basin. Goals and objectives of the FWP are the framework within which the province and subbasin goals and objectives are developed. The subbasin Management Plan objectives are explicitly tiered to those of the higher levels of aggregation.	Yes	1
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.)		
Reviewers: The Management Plan begins with a summary of the limiting factors identified in the assessment for both aquatic and terrestrial species. Objectives are developed to address these limiting factors.	Yes	1
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: The objectives are variable with respect to measurability. Some are expressed in general terms, such as "protect" and "mitigate," that may not lend themselves to measurement, but where specificity and measurability are then indicated in strategy statements, this will allow linkage to monitoring and evaluation. It is appropriate for some objectives to be general and others more specific.	Partial	2
III.B.4. Are biological objectives identified for both the short and long-term?		
Reviewers: There is no explicit discussion or systematic presentation of long- and short-term considerations in the scheme of objectives, even though tables and outlines often state target dates or durations for reaching a particular objective. The time needed for ecological processes to occur does not seem to be considered, and bureaucratic processes seem to be considered quite optimistically.	Partial	2

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.

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: Complementarily to other pertinent programs is not explicitly discussed or indicated in all cases, but the coordination provided at the provincial level and the extent of stakeholder involvement would promote this outcome. The objectives make explicit reference to WDFW and tribal plans.	Yes	0
III.B.6. <i>Clean Water Act</i> : Does the management plan adequately 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 adequately assess and describe the consistency-coordination-findings of the Water Quality Plan with the subbasin plan? ⁸		
Reviewers: Water quality issues and TMDL assessments are addressed in the plan.	Yes	0
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 adequately 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 plan mentions ESA-based efforts, but not in any detail and it does not look at Federal/State agency programs or any private conservation initiatives such as DU and TNC. Reference to ESA recovery plans is made for terrestrial species.	Partial	2
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 Management Plan mentions no disagreements. The IMP comment covers this. Note that the province plan describes the participation process in planning and the way the individual plan describes differences of opinions and what entity dominated the final choices.	na	na

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).

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.

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: Some strategies are inconsistent with the objectives under which they appear. For example, Subbasin Objective 1B1 is “Inventory all barriers in San Poil Subbasin by 2005 and begin implementing necessary passage improvements associated with man made barriers by 2006.” However, one of the strategies under it, c: “Develop minimum in-stream flows for fish-bearing streams within the San Poil River Subbasin that meet the biological requirements of salmonid fishes” seems not to apply to the objective. Also, strategy c under objective IB5 does not apply to that objective.	Yes	1
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 subbasin plan’s consistency with the Fish and Wildlife Program is explicitly addressed. This plan’s strong emphasis on the stocking of artificially produced fish may not be consistent with Fish and Wildlife Program. For instance: Page 42-9, Objective 1B5, Strategy - "Vortex rock weirs" are planned as trout habitat improvement devices. What is the evidence from scientific literature that these devices result in positive trout population response? If such evidence cannot be presented, and it cannot be shown that the results apply to the stream(s) where these devices are planned, the vortex rock weirs should be omitted from the MP. Objective 1B6, Strategy b - Same comment. The same comment applies to mention of vortex weirs in this section's tables on prioritization.	Partial	2
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		

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.

Reviewers: The process in itself clearly addressed alternatives, but within the plan more context and rationale could be provided on why certain strategies were chosen and not others.	Partial	2
III.C.4. Prioritization. Does the Strategies Section describe a proposed sequence and prioritization of strategies?		
Reviewers: The prioritization is done at the level of objectives (see item IIIB, above), not strategies. That prioritization seems very thorough. The prioritization done thus far is a major accomplishment.	Yes	1
III.C.5. Additional Assessment Needs. Does the Strategies Section describe, if necessary, additional steps required to compile more complete or detailed assessment?		
Reviewers: Additional information needs are only indirectly addressed through RM/E section.	Partial	2
III.C.6. Clean Water Act: Does the management plan adequately 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: Water quality issues and TMDL assessment are referenced in the plan, but no explanation of this assessment is provided.	Yes	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 adequately 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: ESA goals are explicitly addressed.	Yes	0

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 uncertainties and limiting factors should be developed and presented with the detail requested below (Technical Guide pp. 14-16). *NOTE: The focus of the RME component should be on the strategy level rather than individual project level.*

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.

III.D.1	Research: Does the RME section of the plan describe a research agenda with specific conditions and situations identified in the subbasin that will	(Yes, (P)artial,	Need for additional
---------	---	---------------------	------------------------

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.

	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?	(No)	treatment (0-4)
	Reviewers: The province plan identifies research needs. These are not prioritized within the subbasin. The RME plan is essentially in tabular form. It would make this section more useful to have more text on explanation and rationale, The tables worked better for monitoring and evaluation than for research. The research could be tied closer to the objectives. This research section flowed more from the Management Plan than from the Assessment and Inventory; it should link back to them more clearly. The ISRP/AB comments on the RME elements are the same as in the Coeur D'Alene review.	Partial	2
III.D.2	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?		
	Reviewers: The RME subsection represents substantial progress in developing a monitoring and evaluation plan. Monitoring types and scales are listed by strategy and objective. Specific indicators are not identified; the section tends to be very general on this. Methods are shown (inconveniently for readers) by code numbers that refer to a "tool box," which is a list of standard technical references. The methods lists shown for various objectives seem not to designate which method would be best for a specific purpose. More work is needed on the RME plan. There is inadequate statement of coordination for standard protocols. Evidence of progress towards cooperative monitoring of projects within the basin is lacking.	Partial	2
III.D.3	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)?		
	Reviewers: No indicators are listed other than expressed or implied in the objectives. The Intermountain Province comment implies that the "tool box" identifies indicators, but the reviewers find that too indirect and unwieldy. Desired future conditions and measurable objectives should be explicitly discussed in terms of appropriate indicators.	No	3
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: The plan describes no infrastructure for RME quality assurance, data management/analysis, data reporting, and data archiving.	No	4

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:	Agency responsibility for RME work is not shown. The toolbox might represent a start toward coordination, but further steps are needed. A top-down decision needs to be made on standard regional protocols.	No	3
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:	Adaptive management is not addressed in the subbasin RME plan. The logic path presentations in the province plan incorporate this, but it is not shown how the subbasin RME plan ties in with that logic path. Failure to explain how the information from monitoring and evaluation will be used for adaptive management is a major flaw likely to hamper effectiveness of restoration and protection in the subbasin.	Partial	3
	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:	The Management Plan’s array of aquatic and terrestrial objectives is thorough and well organized, with explicit tiering to province-level objectives, to basin-level goals, and to basin-level categories of mitigation and substitution. Most objectives are appropriately specific, some aquatic objectives being very specific. The aquatic objectives/strategies section is outstanding among subbasin planning efforts in recognizing the potential that restoring riparian function holds for improving fish habitat (Objective IB3); that objective may warrant higher rating than priority 3. Some linkages could be shown between objectives, for example, how habitat restorations and removal of fish passage barriers or fish production objectives would integrate. Some objectives do not specify the desired quantitative outcome and/or do not state a completion date. Both aquatic and terrestrial objectives are thoroughly prioritized; this should help considerably in selecting future projects in the face of limited funding. A shortcoming is that the RME plan does not show connection to adaptive management. Failure to explain how M&E information will be used to improve management is a major flaw likely to hamper effectiveness of restoration and protection in the subbasin.	Partial	3

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 identify 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: Overall, San Poil has done a good job in this regard except that it could be stronger in relation to principles two, three, and seven: succession is not acknowledged in the Assessment or Management Plan, time and space issues need to be integrated into entire plan (related to succession as noted earlier), and adaptive management is impossible without specific, measurable objectives and a strong RME plan with triggers. A comment on the entire document: apparent problems that this check sheet points out may come partly from the level of expectations rather than from the quality of the plan as a stand-alone effort. Some "weaknesses" may come from the mix of citizens and professionals involved in planning, and from the somewhat separate and concurrent processes they undertook.</p> <p>Although a notable strength of the subbasin plans in the Intermountain Province is their consistency and direct linkage to the Fish and Wildlife Program and its base principles, the planners choice to focus on strategies they feel are most consistent with Bonneville’s mitigation responsibilities detracts from the ecological approach that is central to the base principles. This observation is most relevant to the Intermountain subbasins that are farthest downstream.</p>	<p>Yes</p>	<p>1</p>
--	------------	----------

w:\em\subbasin plan review\1 final reports (not for comment)\sanpoilfinal.doc