

Big White Salmon

Review Summary

The Big White Salmon Subbasin Plan substantially meets many of the scientific elements for a subbasin plan called for in the Council's 2000 Fish and Wildlife Program and the Subbasin Planning Technical Guide, but certain elements of the Inventory and Management Plan would benefit from further treatment. The Assessment is generally well done and provides a strong foundation for development of a good Management Plan. The Inventory, however, is incomplete and not of a quality to do justice to the other components of the plan. The Management Plan is also incomplete and needs a more thorough rationale for the biological objectives, biological objectives which are more quantitative with measurable outcomes, further prioritization of strategies, and development of a sound research, monitoring, and evaluation (RME) plan. The plan centers on an analysis of the effects of the removal of Condit Dam that has blocked upstream anadromous fish access since 1913, and if Condit Dam is indeed removed, this offers a great opportunity for research.

Assessment

The Big White Salmon Subbasin overview provides a general description of the subbasin. However, the description of the subbasin in a regional context is incomplete. Overall, the Assessment does a good job with species characterization.

The fisheries assessment section does an exceptionally good job in describing the past and current status of the focal aquatic species. The wildlife assessment section is also thorough, considering the lack of available data. Relative to others, this Assessment is exceptionally thorough and well developed. It does provide a holistic view, and is explicitly ecological in its focus. It offers good descriptions of what is known about the subbasin, although it could go further in its interpretation of existing knowledge and in its assessment of the potential for future conditions.

The planners perform an assessment under the scenario of Condit Dam being in place and under the scenario of Condit Dam being removed. A key assumption for fish species is that Condit Dam will be removed and anadromous habitat will gradually become available. These changes have been assessed, at least qualitatively, for different life stages. There is a good synthesis of the habitat and watershed processes that affect Chinook salmon productivity by life stages.

Inventory

The plan's Inventory provides only a cursory description of ongoing efforts in the subbasin and is quite incomplete. Existing protections or plans are not listed; if they do not exist, a statement to that effect should be inserted. Existing plans and management programs are provided in Table 30 as "projects." Information provided about these projects is very general and does not identify the gaps that should be covered in a comprehensive management plan.

Management Plan

The Management Plan incorporates some of the basic requirements for an acceptable plan, but needs a more thorough development of quantifiable biological objectives and needs to be more

fully integrated with the Assessment and Inventory. Prioritization is done in terms of short-term feasibility, but the prioritization is not done in terms of what actions would have the greatest impact towards meeting the plan’s objectives. Such strategizing is better done for wildlife than for fish. Some sections of the Management Plan, especially the RME section, are incomplete. The Big White Salmon subbasin also presents a great opportunity for research if Condit Dam is removed.

The Management Plan is not without its strengths. It is strong on its ecological focus, this is especially appropriate because the subbasin sits on the Cascade crest and shares a diversity of habitats from both east and west sides. It also offers both primary and secondary tier locations for strategy implementation according to whether they can be implemented in the next five years, and the plan addresses significant limiting factors and the degree of likelihood of implementation success.

As indicated in the introduction of the Management Plan, at the time of its submission to the Council, the plan was primarily a WDFW plan because the Yakama Nation and Klickitat County did not have time to participate in crafting it or reviewing it. This issue needs resolution.

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		(Yes, (P)artial, (N)o
		<i>Need for additional treatment (0-4)</i>
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: This plan does a good job of providing a general overview of the subbasin. It would help to have the map of the subbasin in the text instead of in an appendix. Tables referenced in the text should also be included in the text rather than in an appendix. The map of the subbasin should include an inset to indicate its location within the greater Columbia River Basin.		Yes
		2

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)?	Partial	2
<p>Reviewers: The Assessment provides brief descriptions of vegetation, climate, and geology along with a more detailed account of hydrology, water quality, and water use. Diversions and the absence of irrigation screens are summarized. Riparian, oak and spotted owl habitats are briefly portrayed. Anthropogenic problems with aquatic habitats are summarized briefly. All told this section is condensed, and elaboration would improve it. For instance, more information on water quality, riparian condition, weather, climate, and how hydro operations affect the availability (timing and quantity) of water would augment the utility of this document.</p>			
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)?	Yes	2
<p>Reviewers: The Assessment notes that this subbasin’s major resource uses are for timber, rangeland and agriculture. Federal land (the Gifford Pinchot National Forest) and the gorge scenic area have restrictions that limit development, but the basin’s proximity to Portland has led to a growth in recreational use.</p> <p>Condit Dam has blocked upstream anadromous fish access since 1913. FERC re-licensing will provide upstream access to anadromous fish, either through dam removal or passage facilities.</p> <p>Land uses listed simplistically as commercial, residential, industrial, etc. is not descriptive enough to be informative. Describing jurisdictions and land ownership in more detail would benefit this plan. Putting the brief descriptions of human uses, in terms of how those uses affect the environment, would increase this Assessment’s utility.</p>			
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?	Partial	2
<p>Reviewers: The plan provides a list of all of the species described above, including species of importance to American Indians, but the non-native fish are not adequately presented.</p>			
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 identifies rare and threatened plants, as well as those plants that have historic cultural significance to the Yakama Nation. This information is found in Appendix D.		Yes	0
I.A.2. Subbasin in the Regional Context		<i>(Y)es, (P)artial, (N)o</i>	<i>Need for additional treatment (0-4)</i>
I.A.2.1	Does the assessment describe how this subbasin fits within its regional context (size in relation to the total Columbia Basin, placement within the ecological province and relationship to other subbasins in this province, qualities that distinguish this subbasin from others in the province)?		
Reviewers: The subbasin's placement within the Columbia River Basin should be indicated on a map. Of particular note for this subbasin is the possible 2006 removal of the Condit Dam, approved by FERC and pending CWA Section 401 approval by the WDOE.		Yes	2
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: The plan indicates planning units for steelhead and chum and Chinook salmon. There is only a brief statement regarding the Lower Columbia chum and Chinook ESUs.		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 are very briefly described.		Partial	3
I.A.2.4	Does the assessment identify macroclimate and human occupation and use trends that may affect hydrological or ecological processes in this subbasin over the long-term (50 years into the future and beyond)?		
Reviewers: The plan only briefly describes jurisdictions and land ownership and these are not adequately mapped. No projections of future trends in resource use changes or in growth of recreational use are made. FERC re-licensing of Condit dam will provide upstream access to anadromous fish either through dam removal or passage facilities, and those projected changes are the focus of much of the plan. A description of hydrology and water quality is provided.		Partial	3
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?			

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

Reviewers: The Big White Salmon Subbasin Overview is adequate for the general description of the subbasin, but the description of the subbasin in a regional context is incomplete. Some additional information would improve this portion of the Assessment.	Partial	2
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I.B. Species Characterization and Status		
<i>General question: Does the assessment adequately describe the current status of fish and wildlife focal species?</i>		
Note to reviewers: for this section of the review, the checklist should be applied to each focal species. Please identify which species your evaluation applies to in the comment field. Use the ranking fields (Y,P,N; 0-4) to give an overall evaluation across all focal species. Note differences among approaches to species in the comment field. If necessary, once the plans are received, assignments will be made to cover an individual species or a series of focal species.	(Y)es, (P)artial, (N)o	Need for additional treatment (0-4)
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.		
Reviewers: The plan presents two focal habitats: montane coniferous wetlands, and ponderosa pine/Oregon white oak forests. There is a confusion about ponderosa/white oak habitat: Table 7 indicates a "considerable loss in quantity," while Tables 6 and 8 indicate a 33% increase in quantity from the historic base. Is the problem the changing size distribution of trees (there are fewer large trees)? Overall, the plan offers excellent descriptions of the current and historical attributes, and the historic, current and potential distributions of focal habitats and the major stresses on them. There are good summary tables by habitat type of limiting factors and working hypotheses to address limiting factors. The plan selects six focal wildlife species, two for each focal habitat: western gray squirrel, Lewis' woodpecker, Oregon spotted frog, American beaver, yellow warbler and western pond turtle. Forty-five of the subbasin's 349 wildlife species are state or federally listed. Table 10 is a useful summary of the selection rationale. The plan selects five focal fish species: fall and spring Chinook salmon, coho salmon, steelhead (below Condit Dam) and resident rainbow trout (above the dam). The criteria for selections are: a) designation as Federal endangered or threatened species, b) cultural significance, c) local significance and d) ecological significance, or ability to serve as indicators of environmental health for other species. The flow diagram describing the	Yes	1

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>focal habitat selection process is useful.</p> <p>The plan has a good discussion of focal habitats and the major factors affecting them that include a summary table of anthropogenic influences and the type of effect. Also, out-of-basin effects appear to be interpreted as only those that would affect the species directly if it moves out of the basin (e.g. migration). Indirect effects are not discussed.</p> <p>The plan has very good descriptions of vegetation in focal habitats.</p>		
<p>I.B.2. Does the assessment identify and characterize focal species populations; i.e. delineate unique population units and, as applicable and where information is available, meta-populations, subpopulations and/or other genetic/behavioral groupings used by scientists or managers?</p>		
<p>Reviewers: The plan's characterization of focal fish populations is particularly well done. The plan appears to present this information for wildlife to the extent that it is available, although this is not always explicitly mentioned.</p>	<p>Yes</p>	<p>1</p>
<p>I.B.3. Does the assessment describe the current and historic status of each focal species population and summarize available population data (abundance, productivity, spatial structure, etc., with particular emphasis on trend data)?</p>		
<p>Reviewers: The plan provides a general description of population status and trends for wildlife species. It would be useful to have more interpretation as to the causes of population declines, rather than just noting them. For migratory birds, more information on out-of-basin effects (e.g. what is happening to their habitat in their wintering areas, how out-of-basin effects are likely to affect them in the subbasin, etc.) would provide better context. For the turtles, the plan offers good information on their status and trends and on factors affecting them.</p> <p>The plan provides appropriate graphs on historic escapement levels of Chinook salmon and other focal fish species. The figures and tables should be checked for correct labeling (e.g. Figure 45 and Table 25 are labeled steelhead but they refer to coho).</p> <p>The plan has a strong database for Chinook salmon, and its EDT analysis and details are laid out in an appendix. There is no population monitoring for steelhead, but the plan used an EDT run based on Wind River attributes and felt it to be "reasonable." EDT is used for coho salmon.</p>	<p>Yes</p>	<p>2</p>
<p>I.B.4. Does the assessment describe the population's life history, including identifying distinct life stages?</p>		
<p>Reviewers: The Assessment provides good descriptions of wildlife focal species, including their distribution, relation to focal habitat, relation to other species, habitat needs at different life stages, and major disturbances. The plan offers good maps that show potential habitat.</p> <p>Good detail is also provided for focal fish species.</p>	<p>Yes</p>	<p>1</p>
<p>I.B.5. Does the assessment characterize the genetic diversity of the population, especially regarding possible effects of artificial production? Specifically does the assessment describe the historic and current status of introductions, artificial production, or captive breeding programs in this subbasin or affecting the subbasin through straying or other means, and describe the relationship between the artificial and naturally produced populations?</p>		

Reviewers: The plan's available information on genetic diversity for focal fish species is well described. Genetic information is not presented for focal wildlife species. The implication of the plan's wildlife discussion is that this information is lacking.	Yes	0
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: The plan generally and briefly describes harvest data for the beaver, but it provides no numbers. Harvest data are presented in general descriptions and graphs for fish focal species. Data sources for graphs should be documented. What year is Figure 39 referencing? Given the early importance of beaver trapping and trade in this region it would be useful to include information about the magnitude of the harvest, the likely interactions of beaver with other species when their populations were larger, and the implications of restoring beaver to these levels.	Yes	2
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 fisheries assessment section does an exceptionally good job in describing the past and current status of the focal aquatic species. The wildlife assessment section is also thorough, considering the lack of available data. Overall, the Assessment does a good job with species characterization.	Yes	1

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 Need for additional treatment (0-4)</i>
I.C.1.1	Does the assessment describe the current condition of the environment in this subbasin, and characterize the condition of the environment under the following reference conditions: a) historic, ³ b) potential, ⁴ c) future/no new action, ⁵ and the potential condition of aquatic and terrestrial habitats within the subbasin? Does the assessment include a determination of the difference between current conditions and the various reference conditions?	
Reviewers: The plan's descriptions of environmental conditions are adequate. However, aside from the potential effects of removing Condit dam, evaluation of future conditions under various levels of action is not included.	Yes	1

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.

I.C.1.2	Does the assessment classify 6 th field HUCs (or other appropriate assessment units) within the subbasin according to the degree to which each area has been modified and the potential for restoration?		
Reviewers: Since this is a small subbasin, the assessments were made for the mainstem and each tributary and this appears adequate. Appropriate units are used.		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.		
Reviewers: Out-of-subbasin effects are much better identified for fish focal species (mostly dams, flow alteration, and sediment) than for wildlife species. These should be better described for migratory bird populations.		Yes	2
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: Out-of-subbasin effects are generally described and discussed for each focal fish species, and some projections for differing ranges in survival were made for chinook and summer steelhead (using nearby Spring Creek Tule fall chinook and Kalama River summer steelhead hatchery fish as surrogate stocks), assuming different ocean conditions and harvest rates. Assumptions for external effects are also done for the removal of Condit Dam.		Yes	2
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: The plan identifies environmental factors that are particularly important for the species' survival and determine the characteristics that constitute optimal conditions for species health well for both wildlife and fish focal species. A key assumption for fish species is that Condit Dam will be removed and anadromous habitat will gradually become available. These changes have been assessed, at least qualitatively, for different life stages. There is a good synthesis of the habitat and watershed processes that affect Chinook salmon productivity by life stages.		Yes	1
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 satisfactorily describes the effect of the environment on fish and wildlife populations.	Yes	1
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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	Need for additional treatment (0-4)
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I.D.1. Inter-species Relationships 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?
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Reviewers: Inter-species relationships are identified quite well in the sections on focal habitats and focal species. Both the wildlife and fish discussions have an ecological tone. The plan apparently did not include a discussion of how juvenile salmonids interact with each other. Identifying any effects of interactions between non-native and native fish and wildlife would strengthen the plan.	Yes	2
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I.D.2. Processes and Functions Does the assessment identify key ecological functions for species within this subbasin and assess the current status of ecological processes and functions in the subbasin?
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Reviewers: Key watershed and habitat processes, developed through EDT, are summarized in good tables for fish focal species.	Yes	2
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I.E. Interpretation and Synthesis / Limiting Factors and Conditions
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I.E.1. Limiting Factors and Conditions Does the assessment describe: 1) Historic factors or conditions that led to the decline of each focal species and of ecological functions and processes? 2) Current key factors or conditions within and without the subbasin that inhibit populations and ecological processes and functions relative to their potential.

Reviewers: The plan provides good discussions of limiting factors that are included in the examination of focal habitats and focal species. Good summary tables of limiting factors and working hypotheses to address them are done for both wildlife and fish species.	Yes	0
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I.E.2. Key Findings Is the knowledge gained through the assessment synthesized in regard to: 1) the status of species, 2) the status of the subbasin environment, 3) the biological performance of focal species in relationship to the environment, 4) the health of the overall ecosystem, 5) potential conflicts and compatibilities between individual species and ecological processes, 6) a determination of the key factors that impede this subbasin from reaching optimal ecological functioning and biological performance?

Reviewers: The plan’s key findings are well synthesized in the summary tables, as noted above. More emphasis could be placed on forward-looking potential with and without actions in addition to the removal of Condit Dam.		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?			
Reviewers: The plan provides adequate working hypotheses.		Yes	0
<p>Overall impression and evaluation of the Assessment: Does the assessment adequately synthesize the information regarding the health and functioning of this subbasin ecosystem? Does it adequately: a) bring together the single-species and community assessments to form a holistic view of the subbasin’s biological and environmental resources, b) provide a foundation for the development of scientific hypotheses concerning ecological behavior and the ways that human intervention might prove beneficial? As needed elaborate on your evaluation of the various Sections enumerated above. If the plan provides additional analysis beyond what is laid out above in the checklist please comment here (e.g., socio-economic descriptions or analysis).</p>			
Reviewers: This Assessment is exceptionally thorough, well developed, and provides a strong foundation for the development of a good Management Plan. The Assessment provides a holistic view, and is explicitly ecological in its focus. It offers good descriptions of what is known, although it could go further in its interpretation of existing knowledge and its assessment of the potential for various future conditions. The planners perform an assessment under the scenario of Condit Dam being in place and under the scenario of Condit Dam being removed. An editorial Note: Table 25 and three pages of text in the coho assessment are mislabeled as steelhead (or entire paragraphs are out of place).		Yes	1

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 does not adequately identify areas with protections through stream buffers, municipal or county ordinances, conservation designations, or water resources protection. It is quite sparse and contains a list of ongoing projects.		No	3

II.A.2	Does the inventory assess the adequacy of protections for fish, wildlife, and ecosystem resources?		
Reviewers: The Inventory does not assess the adequacy of protections for fish, wildlife, and ecosystem resources. Gap analysis comments are not provided in the table, and other forms of assessment are not included.		No	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 provides a general listing of several monitoring and management projects, but no real plans affecting fish and wildlife. It summarizes ongoing county, state, tribal and federal projects according to responsible party, scope, and results in tables.		Partial	3
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 Inventory does not 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.		No	3
II.C. Management Programs / Restoration and Coordination Projects			
Does the inventory identify management programs implemented through on-the-ground restoration and conservation projects that target fish and wildlife or otherwise provide substantial benefit to fish and wildlife? These include, at a minimum, those implemented within the past five years regardless of funding source.			
II.C.1	Does the inventory identify ongoing or planned public and private management programs or initiatives that have a significant effect on fish, wildlife, water resources, riparian areas, and/or upland areas? ⁶		
Reviewers: The plan provides a list of ongoing projects that appears to cover all likely sponsors.		Partial	2
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: A table provides some of the management information listed above. It describes the target species, general approach, and responsible parties, but does not identify funding source of relation with other entities.		Partial	2
II.C.3	For each management program (or project where not clearly part of an overarching management program), does the inventory identify limiting factors or ecological processes the activity is designed to address?		
Reviewers: The Inventory indirectly identifies the limiting factors or ecological processes a given activity is designed to address for some of the ongoing management programs, but it makes no explicit reference to limiting factors identified in Assessment.		No	3
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		

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?

Reviewers: The accomplishments of only two existing projects are briefly mentioned. Failures are not assessed.		Partial	2
II.C.5	Does the inventory relate the assessment to the existing activities and identify the gaps between actions that have already been taken or are underway and additional actions that are needed to address the limiting factors and meet recovery and other goals, and identify inadequacies in both design and implementation?		
Reviewers: The Inventory does not adequately relate the Assessment to 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. A column in Table 30 is provided to identify needed gaps to be filled, but no entries are included.		No	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).		
Reviewers: The plan's Inventory provides only a cursory description of the ongoing efforts in the subbasin and is quite incomplete. Existing protections or plans are not listed; if they do not exist, a statement to that effect should be inserted. Existing plans and management programs are provided in Table 30 as "projects." Information provided about these projects is very general and does not identify the gaps that should be covered in a comprehensive management plan.		Partial	3

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):

(Y)es,
(P)artial,
(N)o

*Need for
additional
treatment
(0-4)*

Reviewers: The focus of the vision seems to be mostly on supporting harvest and local economic needs and less on protecting and restoring natural resources in the subbasin. This vision should be reworked to be a better fit with the Council's Fish and Wildlife Program vision.

Yes

1

The vision statement is identical to those of the Klickitat and the Lower

<p>Mid-Columbia. These three subbasin plans were developed through the collaboration of WDFW, Yakama Nation, and the counties.</p> <p>The vision statement is a very general one, referring to healthy indigenous populations, community based decisionmaking, contribution to economy, and adherence to legal responsibilities. Just about anything would fit into it. The only specific in the vision is its emphasis on native species.</p> <p>Since all three vision statements include the phrase "contribute to a sustainable economy," it would be nice if they explained in the subbasin plan how they expect this to happen. Actions will have both benefits and costs and the objective would be to try to have the net benefits be positive over the long term. If the statement about sustainable economy is not followed through in the plan's strategies and monitoring and evaluation sections, it likely should not be included. Viable may be a better word.</p> <p>"Sustainable," in general, is only a meaningful description when the specific attributes that define it are clearly established.</p>		
<p>III.B. Biological Objectives</p>		
<p>Does the Biological Objectives Section of the Management Plan describe physical and biological changes within the subbasin needed to achieve the vision?</p>		
<p>Reviewers: The plan offers a reasonable amount of text describing the context and conditions that will influence the Management Plan.</p>	<p>Yes</p>	<p>1</p>
<p>III.B.1. Are the biological objectives consistent with basin-level visions, objectives, and strategies adopted in the program? (Council Question 4) The 2000 Fish and Wildlife Program, pages 16-18, provides general descriptions for basin-level goals, objectives, and strategies. The Mainstem Amendments provide additional biological objectives as well on pages 11-14.⁷</p>		
<p>Reviewers: The plan's biological objectives are inferred from the vision statement, are embedded in the text, and are not specified in standard objective form. The objectives then do appear in a more specific form on the various tables. The wildlife tables (by habitat type) are a systematic approach to identify objectives, strategies, priorities, and source of information.</p>	<p>Yes</p>	<p>2</p>
<p>III.B.2. Are the biological objectives based on the subbasin assessment? (This question relates to the Logic Path in the subbasin plan. Question III.C.1 is a similar question for the Strategies Section.)</p>		
<p>Reviewers: The Management Plan's biological objectives are based on its Assessment, but the document is clear that at this point they are actually WDFW objectives and may not be the final consensus objectives for the subbasin plan. The planners should list the objectives more specifically in the text as well as presenting them in tables.</p>	<p>Parti</p>	<p>3</p>
<p>III.B.3. Where possible, are the biological objectives empirically measurable and based on an explicit scientific rationale; i.e., quantitative with measurable outcomes?</p>		

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.

Reviewers: The plans biological objectives are worded quite generally. They aim to “restore anadromous passage, habitat” etc.	Partia	3
III.B.4. Are biological objectives identified for both the short and long-term?		
Reviewers: Short and longer-term biological objectives are defined better for wildlife than for fish. The planning horizon of the document is five to ten years. Distinctions within this period are not made, except for those strategies listed as higher priority, based on their ability to be implemented in five years.	Partia	2
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 is not clear whether or not the biological objectives are complementary to programs of tribal, state and federal land or water quality management agencies in the subbasin because not all participants have participated in developing these objectives and the plan’s Inventory is too incomplete to be used as a basis to make this judgment.	Partia	3
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: The plan makes only a brief statement that the biological objectives will be consistent with the CWA.	Partia	3
III.B.7. <i>Endangered Species Act</i> : The USFWS and NOAA Fisheries are developing recovery plans for listed species (bull trout, white sturgeon, salmon). Recognizing that those ESA-based efforts are in various states of completion across the Columbia basin (some efforts are well underway, others just beginning), does the management plan describe how the objectives of the subbasin management plan are reflective of and integrated with the ESA-based goals for listed species within the subbasin? ⁹		
Reviewers: The plan makes a brief statement that the biological objectives will be consistent regarding ESA recovery plans for listed steelhead and Chinook salmon.	Partia	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.)		

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.

Reviewers: The differences between WDFW/YN (Yakima Nation) and Klickitat County are apparent regarding the issue of the removal of Condit Dam, but these disagreements are not fully described and discussed. This information will have to be added, as the tribes and federal agencies have not yet approved of the objectives and strategies in the subbasin plan.	Partia	3
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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		
Reviewer: Strategies for fish are described in only general terms in the text: e.g. protection, restoration, and rehabilitation. However, Tables 33 and 34 get much more specific, and list strategies directed at objectives such as, "provide anadromous access above Condit Dam," "improve anadromous habitat above Condit Dam," etc. Strategies for wildlife follow a similar pattern, with specific objectives and strategies outlined in tables. Why is degradation listed as a strategy? It is acknowledged that degradation will not help achieve the biological objectives. "Substitution and degradation should be considered a last option" is an odd phrase.	Yes	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 strategies appear to be consistent with the Council's Fish and Wildlife Program, although they make no specific reference to it.	Yes	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.

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.

Reviewers: The Assessment makes some mention of the Council's guidance on approaches, but the Management Plan does not have detail on this.	No	2
III.C.4. Prioritization. Does the Strategies Section describe a proposed sequence and prioritization of strategies?		
Reviewers: The plan implies prioritization, but it does not explicitly describe it. It does offer both primary and secondary tier locations for strategy implementation according to whether they can be implemented in next five years. The plan addresses significant limiting factors and the degree of likelihood of success for each project. The prioritization is done in terms of short-term feasibility, but the prioritization is not done in terms of what actions would have the greatest impact towards meeting the plan's objectives. Such strategizing is better done for wildlife than for fish. The fish side is a list that, it appears, could have been created without the Assessment or Inventory. Planners need to discuss plans for fish reintroduction post-dam removal.	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: The additional assessment needs are mentioned in the strategies section. The Assessment that the plan already encompasses is mostly complete. If the planners feel that they have no additional assessment needs, they should insert a comment to that effect.	No	0
III.C.6. Clean Water Act: Does the management plan describe how the strategies are reflective of and integrated with the water quality management plan and Total Maximum Daily Load schedule within that particular state?		
Reviewers: The plan makes a brief mention of the CWA in the biological objectives section.	No	3
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 plan does not mention any ESA-based efforts that are specific to the subbasin.	No	3

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

<p>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 only researches needs noted are found in the strategies section in Table 33 of the Management Plan. The research agenda is structured around specific types of projects that address the strategies.</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 plan identifies monitoring objectives in only a very general way. For the types of projects it lists, it does specify indicator variables.</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's list of project types includes measurable indicators of project performance, but they are not specific to subbasin.</p>		<p>Partial</p>	<p>3</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 infrastructure.</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>		
<p>Reviewers: The plan does not describe the coordination and implementation of a data archive.</p>		<p>No</p>	<p>3</p>

III.D.6	<p>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?</p>
<p>Reviewers: The plan's RME section is primarily a guide taken from Washington State Salmon Recovery Funding Board documents and does not provide monitoring objectives and indicators of project performance specific to this subbasin. It is more directed at a suite of projects than as part of the overall logic path, although the projects are tied to the strategies.</p>	<p>Partial 3</p>
	<p>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>
<p>Reviewers: Some sections of the Management Plan, especially the RME section, are incomplete. The Management Plan is thin and will need to be more fully integrated with the Assessment and Inventory.</p> <p>This subbasin presents a great opportunity for research if Condit Dam is removed. This plan can likely provide some direction on project development, funding, and review.</p> <p>As indicated in the introduction of the Management Plan, at the time of its submission to the Council, the plan was primarily a WDFW plan because the Yakama Nation and Klickitat County did not have time to participate in crafting it or reviewing it.</p>	<p>Partial 3</p>

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: The Management Plan is strong on its ecological focus. It is lacking in explicit acknowledgement of scale and hierarchy. It is not experimental nor does it build in adaptive processes. It acknowledges the role of human actions, but does not include much assessment about how to influence them.</p> <p>Discussion during the presentation indicated that implementation of wildlife restoration explicitly considered issues such as the social acceptability of restoration of beaver. Some actions not considered acceptable are not included in the plan. This should be explicitly addressed in the plan: e.g. we chose X because... we chose not to do Y because...</p>	<p>Partial</p>	<p>2</p>
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