

Burnt and Powder

Review Summary

Individual plans were submitted for the Burnt and Powder subbasins, but the plans share so much in common -- significant amounts of identical text, the same terrestrial approach, similar QHA analysis for fish -- that the ISRP/AB provides one checklist for both plans. Generally, comments and review ratings apply equally to both subbasins. Comments specific to either the Burnt or Powder are identified.

The Burnt and Powder Subbasin Plans contain much of the assessment information and analysis called for in the Council's 2000 Fish and Wildlife Program and Subbasin Technical Guide. The wildlife assessments are especially well done. The plans, however, need additional work on their aquatic assessment, Inventory, and Management Plan components before they can most effectively guide fish and wildlife project solicitation, development, review, and selection.

Assessment

The terrestrial component of the Assessments is well-developed and adequate for use in developing the Management Plan. The key findings, especially linkages between species, are done very well for terrestrial species and habitat, although possible conflicts between the needs of various species are not addressed.

The matrix approach to selecting and characterizing focal species is useful, replicable, and adds to the transparency of the process. For the Burnt and Powder, redband trout are used as a focal species. They are a Species of Concern with the USFWS and NOAA Fisheries. The Powder also includes bull trout as a focal species. Bull trout are not present in the Burnt, which is the primary distinguishing factor between the plans.

The aquatic limiting factors provided in the plans are the metrics generated by the QHA analysis, but a narrative is needed to better explain and justify these limiting factors. Specifically, the plans provide a list of generic habitat issues such as riparian condition, habitat diversity, sediment, etc., that do not provide an adequate basis (e.g. reach specific impacts, restoration needs) for prioritization of management activities. Overall, the plans aquatic sections are inadequate in regard to status of species, and status of the environment with respect to its suitability for native species. The potential for conflict with the many introduced/exotic species is great and, very likely, mostly unknown.

The characterization of environmental conditions in the basin reaches the general conclusion that the habitat can be better, but makes no attempt to show how much better (i.e., potential). Future and no action scenarios are not considered. The issue of mining is dropped in spite of huge past and potential future impacts. These issues need attention to improve the plan.

Private land is treated like uncharted territory, but in many subbasins, such as the Fifteenmile and Asotin, work with private landowners has been very effective in implementing actions intended to improve habitat, especially through USDA programs.

Inventory

Overall, the Inventories provide a rough outline of public programs, but need to better address project specific, private, and NGO elements. The analysis of program gaps is the most important part of an Inventory in informing the Management Plan, but these Inventories do not include such analyses.

Management Plan

The Burnt and Powder plans' potential effectiveness diminishes in the objectives section because many of their biological objectives are too broadly framed. The linkage from the strategies to the biological objectives, vision and assessment is not explicitly shown. Their strategies are very broad, and could essentially have been designed without much assessment or analysis. A realistic look at the basin is needed to show what is likely to be attainable given the changes in physical and biotic environments. Needs for the persistence of focal species (assuming they are adequate representatives) should be described (via modeling, expert opinion, etc.) and used as the basis for trying to define how the population structure necessary for their persistence can be provided and protected. Monitoring strategies are also needed to evaluate whether or not these population conditions are being developed and whether they provide long-term dynamic stability. The Management Plan should show that these monitoring and evaluation results would feed back into adaptive management.

The planners state they are going to protect and enhance native redband trout populations while concurrently stocking artificially bred non-native rainbow trout. This strategy may not be consistent with the Council's Fish and Wildlife Program and Artificial Production Review. Stocked rainbow trout are likely to adversely affect native redband populations if there is any overlap in their distributions. Therefore, the Management Plan needs to describe the potential problems of stocking rainbow trout and what will be done to avoid them.

An important component of the plans, as described carefully right from the outset, is to be compatible with private landowners' concerns and existing land use practices. In the overview, a public outreach process is described, but no specific mention is made of who, if anyone, participated or what their input consisted of. It is unclear how much effort was expended reaching the public (with the exception of the sponsoring conservation districts). Reviewers found no description of a watershed council, although one exists that is advisory to the County Court. Subbasin planning team leaders attended a watershed council meeting, but apparently no watershed council people were part of the plan preparation. It appears that no public meetings were held to discuss the plan, and no public comments seem to have been received. This is a serious limitation of a locally led process, and limited public involvement may explain why the Management Plan is weak on actual planning compared to its technical strength in the Assessment. Better inclusion (or evidence) of public participation would increase the likelihood that the plan would be successfully implemented.

A general research, monitoring and evaluation (RME) approach is outlined in the Management Plan, but a description is needed of how information gained would be used to implement any kind of adaptive management.

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 Assessments provide adequate orientations to the subbasins, but reviewers could not find descriptions of the size of the subbasins. What is the situation regarding American Indian treaty rights and representation in the subbasin? Jurisdiction is covered more in the Inventory.		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 plans' coverage of the subbasins' macro-environments is detailed and very useful; reviewers especially appreciate the economic and demographic information. Statements of stream discharge in terms of acre-feet are inconvenient and would be better stated in terms of cfs or cubic meters per minute.		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: Anthropogenic disturbances are covered at a very general level.		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: Adequate.		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: ESA species are listed but are not to habitats. American Indian use of plants is covered in the same table as their traditional use of animals.		Yes	2
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 Assessments take a geographic rather than functional approach to this question when the latter would be more useful. The size of the subbasins is not indicated except on a map.		Partial	1
I.A.2.2	Does the assessment describe this subbasin's relationship to Endangered Species Act planning units (NOAA Fisheries-designated evolutionarily significant units (ESU) and U.S. Fish and Wildlife Service-designated bull trout planning units.) ¹ where this information was available during the planning process?		
Reviewers: Adequate.		Yes	0
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: Relevant external environmental conditions are briefly, but well, covered.		Yes	1
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 plans briefly say human population is not expected to change, but recent trends suggest otherwise; retirees and telecommuters have discovered Eastern Oregon. Global climate change may have profound impacts in the subbasins, but it is not mentioned. The resumption of intensive mining is also possible in the future but is not addressed.		Partial	2
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 current content of the overviews is all well presented, and compares favorably in terms of thoroughness to other subbasin plans. The Burnt River is in very poor shape, with mining impacts in the lower portion. The overview should more fully discuss the social impacts or hardships that meeting CWA 303d standards may entail.	Yes	1
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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 matrix approach to selecting and characterizing focal species is useful, replicable, and adds to the transparency of the process. For the Burnt, one focal fish species, the redband trout, is used. It is a Species of Concern with the USFWS and NOAA Fisheries. Bull trout are not present in the Burnt. For the Powder, redband and bull trout are aquatic focal species. The presence of bull trout is the primary distinguishing factor between the plans.	Yes	0
I.B.2. Does the assessment identify and characterize focal species populations; i.e. delineate unique population units and, as applicable and where information is available, meta-populations, subpopulations and/or other genetic/behavioral groupings used by scientists or managers?		
Reviewers: The Assessments adequately identify and characterize focal aquatic species populations, to the degree data exist. The reliability of their use of QHA is uncertain. Burnt: There are three distinct redband trout populations, and a bit of genetic analysis is provided on these. Powder: It is hard to know what kind of confidence to put into the delineation.	Yes	1
I.B.3. Does the assessment describe the current and historic status of each focal species population and summarize available population data (abundance, productivity, spatial structure, etc., with particular emphasis on trend data)?		

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:</p> <p>Burnt: The planners had "virtually no data" available, yet they applied QHA for aquatic focal species. The same appears to have been true in the Powder Subbasin. This must mean that QHA inputs were mainly in the form of rough professional opinion.</p> <p>Powder: Table 22 of the Powder Assessment is a diagram showing raw, stream-by-stream QHA output for redband trout; the table's caption characterize this as "habitat ranges." These "habitat ranges" and a map are referred to in the text as describing the subbasin's distribution of the species. The Burnt Assessment labels the same diagram of its QHA output as Figure 12 (captioned with more accurate description) and likewise refers to it in describing redband trout distribution. It is uncertain if this information can be used with confidence. More details should be provided.</p>	Partial	3
I.B.4. Does the assessment describe the population's life history, including identifying distinct life stages?		
Reviewers: Life history and ecology of the focal species is covered, although somewhat cursorily.	Yes	1
I.B.5. Does the assessment characterize the genetic diversity of the population, especially regarding possible effects of artificial production? Specifically does the assessment describe the historic and current status of introductions, artificial production, or captive breeding programs in this subbasin or affecting the subbasin through straying or other means, and describe the relationship between the artificial and naturally produced populations?		
Reviewers: The plans need further consideration of the effects of artificial production and stocking on native species. Reviewers have greater concern about this issue than is reflected in the plans, but the plans do not overlook this issue.	Yes	1
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: Historic and current harvest of focal species is not adequately covered but likely is not a critical issue here.	Partial	1
	<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>	
Reviewers: The Species Status sections are minimal but provide adequate and credible detail in most respects. The plans conclude that information is not available to assess the focal species' status. Some focal species appear to be stable, others' status are unknown. One aquatic focal species is listed and one is a species of concern.	Partial	2
<p>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></p>		
I.C.1. Environmental Conditions within the Subbasin	(Y)es, (P)artial, (N)o	Need for additional treatment (0-4)

I.C.1.1	Does the assessment describe the current condition of the environment in this subbasin, and characterize the condition of the environment under the following reference conditions: a) historic, ³ b) potential, ⁴ c) future/no new action, ⁵ and the potential condition of aquatic and terrestrial habitats within the subbasin? Does the assessment include a determination of the difference between current conditions and the various reference conditions?		
<p>Reviewers: The general conclusion seems to be that the habitat can be better, but no attempt to show how much better (i.e., potential) is provided. Future and no action scenarios are not considered. The issue of mining is dropped in spite of its huge past and potential future impacts. These issues need attention to improve the plan.</p> <p>QHA is used for both plans, but it is not clear if the Technical Team members are the same for both watersheds. It might be better if they are because at least in the Powder subbasin some fish survey data are available to help shape the QHA process. Reviewers would have to be extremely skeptical of QHA results in the Burnt subbasin if the Technical Team has no fish experience. The plans should better describe the composition of the Technical Teams and their abilities.</p>		Partial	3
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. The assessment unit classification using 6 th field HUCs (36 are in the Burnt) is adequate as an initial effort, but it is sketchy.		Yes	1
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: One of the primary concerns in the plans is barriers to migrating fish. The potential for introgression of genetic material caused by barrier removal needs greater attention in the subbasin plan.		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: The Assessments did not explicitly establish assumptions for external effects, but the reasoning is there. This information is difficult to obtain (or estimate) and is not highly relevant for these subbasins.		Partial	1
I.C.3. Environment / Population Relationships			

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.

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 plans provide a general assessment of environmental factors that are important for species survival during each life stage using a habitat model. There is likely insufficient data to do this thoroughly. The partial-2 rating is for the aquatic components. The terrestrial coverage is good.	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 effects of the environment on fish and wildlife are stated but only in general terms with the assumption that populations must have declined as a result of change. For terrestrial species, the habitat orientation is clear. Future and no action scenarios and the issue of mining need to be discussed better to improve the basis for planning effectively.	Partial	3

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 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: The Assessments describe several potential inter-species relations but describes no demonstrated impact.	Yes	1
I.D.2. Processes and Functions Does the assessment identify key ecological functions for species within this subbasin and assess the current status of ecological processes and functions in the subbasin?		
Reviewers: Key ecological functions are identified well for terrestrial species, but could be identified better for aquatic species.	Partial	2

I.E. Interpretation and Synthesis / Limiting Factors and Conditions
I.E.1. Limiting Factors and Conditions Does the assessment describe: 1) Historic factors or conditions that led to the decline of each focal species and of ecological functions and processes? 2) Current key factors or conditions within and without the subbasin that inhibit populations and ecological

processes and functions relative to their potential.		
<p>Reviewers: For the terrestrial species, this is a strong section of the plans and contains needed information for the Management Plans (Yes-0 rating for the terrestrial component). Tables on limiting factors are presented including data gaps.</p> <p>As mentioned earlier, the plans attribute declines to general categories of environmental change caused by management but provide no quantitative demonstration of cause and effect.</p> <p>The aquatic limiting factors provided in the plans are the metrics generated by QHA, but a narrative is needed to better explain and justify these limiting factors.</p>	Partial	3
<p>I.E.2. Key Findings</p> <p>Is the knowledge gained through the assessment synthesized in regard to: 1) the status of species, 2) the status of the subbasin environment, 3) the biological performance of focal species in relationship to the environment, 4) the health of the overall ecosystem, 5) potential conflicts and compatibilities between individual species and ecological processes, 6) a determination of the key factors that impede this subbasin from reaching optimal ecological functioning and biological performance?</p>		
<p>Reviewers: Again, the Partial-3 rating is for the aquatic component. The terrestrial component receives a Yes-0 rating. The key findings, especially linkages between species, are done very well for terrestrial species and habitat, but possible conflicts between the needs of various species are not addressed.</p> <p>For aquatics, the plans provide a list of generic habitat issues -- riparian condition, habitat diversity, sediment, etc -- that do not provide an adequate basis for any prioritization of management activities. The plans' aquatic sections are inadequate in regard to status of species, and status of the environment with respect to its suitability for native species. The potential for conflict with the many introduced/exotic species is great and, very likely, mostly unknown.</p> <p>In the Powder plan, figure 28 indicates all QHA protection/restoration "scores" are relatively low and homogeneous, especially for redband trout. Are these results meaningful?</p> <p>The current and future potential of private lands to contribute voluntarily to habitat and species conservation goals is not considered, but in many subbasins, such as the Fifteenmile and Asotin, work with private landowners has been very effective in implementing actions intended to improve habitat, especially through USDA programs. The presentation discussion suggests that landowners are, at best, not open to these opportunities. Given the key location of many of the private lands in these subbasins, how does this attitude, if true, affect the likelihood of cooperative improvement efforts, and hence of Council funding? Moreover, how many efforts have been made to enlist private landowners in voluntary conservation activities in the past? Is there a definitive event</p>	Partial	3

that soured private landowners on implementing voluntary restoration activities? The planners should look further into enlisting private landowners in voluntary restoration and protection activities.		
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 plans use limiting factors as hypotheses, but make no assumptions in regards to conditions that might bring about improvement (e.g. funding, regional priorities, etc.) or that might worsen situations such as extreme drought or an increased demand for minerals. Again, the Assessments do not include supporting data for assumptions regarding the significance of environmental changes.	Partial	2
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).		
Reviewers: The terrestrial component of the Assessment is adequate (Yes-1) but the aquatic portion needs work. In addition, the linkages between the aquatic and the terrestrial should be better described. For the aquatic components, more information is needed before the analysis can be viewed with confidence. Consideration of these subbasins as an "ecosystem" is sketchy at best. As noted earlier, the socio-economic data provided in the plans are useful and might have been followed up on in terms of where the human community will fit in to achieve the plans’ goals.	Partial	3

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 Inventories cover governmental protections well, but the planners might have been able to get some information about protections on private land from public records. Ranching is a primary land use in these subbasins and many Baker County ranches are OCB/FA certified sustainable, and therefore have implications for the subbasin planning process. Private forests may also subscribe to voluntary standards.		Partial	1
II.A.2	Does the inventory assess the adequacy of protections for fish, wildlife, and ecosystem resources?		
Reviewers: Although the planners' ability to assess the adequacy of protections for fish, wildlife, and ecosystem resources may have been limited with the data they had, more complete data may be available to better assess the adequacy of existing protections.		Partial	3
II.B. Existing Plans			
II.B.1	Does the inventory identify and review applicable local, state, tribal, and/or federal fish and/or wildlife management plans and water resource management plans that affect fish and wildlife?		
Reviewers: The Inventories generally identify applicable local and state management plans, but the inclusion of a discussion of tribal plans, USDA/CD project plans, and farms' plans would improve the Inventories.		Partial	1
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: Please see previous comment.		Partial	1
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: Fish and wildlife management projects and programs are generally described but more detail is needed. For example, BPA, weed board, and others are identified as programs, but projects are not identified.		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: Please see previous comment.		Partial	1
II.C.3	For each management program (or project where not clearly part of an overarching management program), does the inventory identify limiting factors or ecological processes the activity is designed to address?		

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 Inventory does not adequately identify limiting factors or ecological processes that each management program is designed to address.	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	
Reviewers: The successes and failures of projects are not adequately documented.	No	3
II.C.5	Does the inventory relate the assessment to the existing activities and identify the gaps between actions that have already been taken or are underway and additional actions that are needed to address the limiting factors and meet recovery and other goals, and identify inadequacies in both design and implementation?	
Reviewers: The program gap analysis is the heart of the Inventory, so its absence is a serious weakness.	No	4
	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: Overall, the Inventories provide a rough outline of public programs, but need to better address project specific, private, and NGO elements. The program gap analysis is the most important part of an Inventory in informing the Management Plan, but these Inventories do not include analyses of the adequacy of current activities or gaps in coverage of key limiting factors.	Partial	3

<p>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.</p> <p>These checklist tables incorporate Council Question 4, Consistency with the Provincial- and Basin-level Program: Are the vision, objectives, and strategies proposed in the subbasin management plan consistent with those adopted in the program for the province and/or basin levels? This is a three-part question and reviewers must be familiar with the vision, objectives, and strategies described in the 2000 Fish and Wildlife Program (pp. 13-33) and, for mainstem subbasin plans, the Mainstem Amendments (pp.11-28).</p>		
<p>III.A. The Vision for the Subbasin Does the Vision Section of the Management Plan 1) describe the desired future condition for the subbasin; 2) describe a vision that will drive development of the biological objectives and thereby the strategies that are incorporated to change conditions within the subbasin; and 3) incorporate the conditions, values and priorities of the subbasin in a manner that is consistent with the Vision described in the Council's 2000 Fish and Wildlife Program? (Council Question 4 to the ISRP):</p>	<p>(Y)es, (P)artial, (N)o</p>	<p>Need for additional treatment (0-4)</p>
Reviewers: The vision statements for the Burnt and Powder subbasins are very general, as is the Council's, and may not stimulate natural progression to any kind of desired future condition. The statements provide little guidance for developing meaningful objectives and strategies. The vision statement could be expanded beneficially to include more of the spirit of the Council's eight scientific principles. The Guiding Principles are an insightful addition.	Yes	2

III.B. Biological Objectives		
Does the Biological Objectives Section of the Management Plan describe physical and biological changes within the subbasin needed to achieve the vision?		
Reviewers: The biological objectives are an equal mix of what to do and how to do it. Although appropriate, they are so broad they are truisms. The 4th (and last) objective is not worded as an objective but rather as an approach or principle. Objectives need to be written such that progress can be measured in a monitoring program. Editorial Note: The Burnt Subbasin Plan includes language from the Powder plan regarding bull trout, but bull trout are not present in the Burnt subbasin.	Partial	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: The biological objectives in the plans are not organized in the manner suggested by the Fish and Wildlife Program relative to the origin of the impacts, or secondary effects, and are more focused on what could be improved in general in the fish, wildlife and habitat arena. It is not clear that completion of the objectives will accomplish the vision.	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: No formal logic path is presented, but the parts of the plans do appear to flow logically from each other.	Yes	0
III.B.3. Where possible, are the biological objectives empirically measurable and based on an explicit scientific rationale; i.e., quantitative with measurable outcomes?		
Reviewers: The extent to which the biological objectives are empirically measurable is covered in the RME section. The biological objectives are not always measurable for aquatics. For aquatics the reviewer rating is a Partial 3. The terrestrial section is better. An outline of indicators is presented but no details are given on how they will be assessed.	Partial	3
III.B.4. Are biological objectives identified for both the short and long-term?		
Reviewers: This is in the RME plans. Again the broadness of the objectives is a problem.	Yes	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: As broad as the objectives are, they probably do complement programs of tribal, state and federal land or water quality management agencies in the subbasins. Authors should address this explicitly and acknowledge where lack of knowledge is significant.	Partial	2
III.B.6. <i>Clean Water Act</i> : Does the management plan describe how the objectives and strategies are reflective of and		

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.

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 plans list 303d streams and acknowledge the CWA, but the plans do not adequately address the CWA issue, which has significant environmental and socioeconomic implications, as well as impacts on some focal species. Reviewers are aware that actions are underway in the Burnt that are not adequately described in the plan. The plan to implement BMPs should be followed through on.	Partial	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: Partial-3 for Powder. Yes -1 for Burnt Powder. In the Powder plan, it is not clear that the general objectives outlined and the objectives for the ESA (e.g., bull trout, pg. 135) are compatible.	Partial	3
III.B.8. If there are disagreements among co-managers that translate into differing biological objectives, are the differences and the alternative biological objectives fully presented? (The Council's review will examine whether the plan is consistent with legal rights and obligations of fish and wildlife agencies and tribes with jurisdiction over fish and wildlife in the subbasin, and agreed upon by co-managers in the subbasin.)		
Reviewers: Please see the ISRP/AB Review Summary comments on the public process.	na	na

III. C. Strategies¹⁰
III.C.1. Internal Consistency of the Plan. Does the Strategies Section of the Management Plan explain the linkage of the strategies to the subbasin biological objectives, vision and the subbasin assessment? (Council Questions 2 and 3) ¹¹

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.

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

Reviewers: The linkage between the strategies and the subbasins' biological objectives, visions and Assessments is not done explicitly. Strategies are very broad, and could essentially have been done without much assessment or analysis. Some are too broad to even understand, such as "establish buffers and riparian fences." What is the relation to Forest Practices buffers and what is to be accomplished with fencing? It seems the goal is to buffer and fence, not to achieve specific changes in riparian or wetland habitats. Much of the information necessary to answer this question is in section 3.6.	Partial	3
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: To be more consistent with the Fish and Wildlife Plan, the objectives and strategies need to be better oriented toward species.	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		
Reviewers: Guiding principles suggest some direction, but this section is more like a catalog of every possible practice than a carefully selected, focused approach.	Partial	2
III.C.4. Prioritization. Does the Strategies Section describe a proposed sequence and prioritization of strategies?		
Reviewers: The plans include some prioritization. "Purposes" are shown, which is great. Private land ownership does not preclude attempts to recommend priority and sequence. Private landowners are autonomous, but may share and coordinate efforts among themselves and with public entities. Many are responsive to incentives and almost all are genuinely eager to improve their overall management.	Partial	2
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 plans include a recommendation to collect more data.	Yes	2
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?		

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 plans list 303d streams and acknowledges the CWA but the plans do not adequately address the CWA issue, which has significant environmental and socioeconomic implications as well as impacts on some focal species. Reviewers are aware that actions are underway in the Burnt that are not adequately described in the plan. The plan to implement BMPs should be followed through on.	Partial	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: Partial-3 for Powder. Yes -1 for Burnt Powder. In the Powder plan, it is not clear that the general objectives outlined and the objectives for ESA (e.g., bull trout, page 135) are compatible.	Partial	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 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 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?	(Yes, (P)artial, (No)	<i>Need for additional treatment (0-4)</i>
Reviewers: Some mention of research needs is made in the Assessments, but they are not summarized in this section		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: Monitoring needs are described in general terms only. If the planners improve the biological objectives, they will have more to work with here.		Partial	3
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: Indicators are not always provided for aquatics. Terrestrial indicators are adequate.		Partial	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: More detail is needed.		Partial	3
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: An adequate plan for coordination and implementation of RME is not provided.		No	4
III.D.6	Summary Question. RME Logic Path (Evaluation and Adaptive Management): Does the subbasin plan provide a scientifically supportable procedure for refining the biological objectives as new information becomes available about how fish, wildlife, and the environment interact, and in relationship to how the plans are implemented over time? (Council Question 7) Specifically, does the RME subsection describe a scientifically sound logic path for how to test if the subbasin plan's strategies are helping to reach the stated vision and objectives? I.e., Is the RME agenda adequately framed around the relationships between the assessment data and the stated vision, biological objectives, and strategies in describing uncertainties?		
Reviewers: A general RME approach is outlined, but a description is needed of how information gained would be used to implement any kind of adaptive management.		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 Burnt and Powder plans' potential effectiveness diminishes in the objectives section because many of their biological objectives are too broadly framed. The linkage from the strategies to the biological objectives, vision and Assessment is not explicitly shown. Their strategies are very broad, and could essentially have been designed without much assessment or analysis. A realistic look at the basin is needed to show what is likely to be attainable given the changes in physical and biotic environments. Needs for the persistence of focal species (assuming they are adequate representatives) should be described (modeling, expert opinion, etc.) and used as the basis for trying to define how the population structure necessary for their persistence can be provided and protected. Monitoring strategies are also needed to evaluate whether or not these population conditions are being developed and whether they provide long-term dynamic stability.		Partial	3

The Management Plan should show that these monitoring and evaluation results would feed back into adaptive management.

The planners state they are going to protect and enhance native redband trout populations while concurrently stocking artificially bred non-native rainbow trout. This strategy may not be consistent with the Council’s Fish and Wildlife Program and Artificial Production Review. Stocked rainbow trout are likely to adversely affect native redband populations if there is any overlap in their distributions. Therefore, the Management Plan needs to describe the potential problems of stocking rainbow trout and what will be done to avoid them.

An important component of the plans, as described carefully right from the outset, is to be compatible with private landowners’ concerns and existing land use practices. In the overview, a public outreach process is described, but no specific mention is made of whom, if anyone, participated or what their input consisted of. It is unclear how much effort was expended reaching the public (with the exception of the sponsoring conservation districts). Reviewers found no description of a watershed council, although one exists that is advisory to the County Court. Subbasin planning team leaders attended a watershed council meeting, but apparently no watershed council people were part of the plan preparation. It appears that no public meetings were held to discuss the plan, and no public comments seem to have been received. This is a serious limitation of a locally led process, and limited public involvement may explain why the Management Plan is weak on actual planning compared to its technical strength in the Assessment. Better inclusion (or evidence) of public participation would increase the likelihood that the plan would be successfully implemented.

The Plan acknowledges the need to consider economic needs, which is an important consideration.

General Council Question. Consistency with the Fish and Wildlife Program and its Scientific Foundation

The Council asks the ISRP to evaluate a subbasin plan for its consistency with the Scientific Foundation adopted as part of the Program and with the requirements for “biological objectives” as described in the program. The core of the Council’s Scientific Foundation is a set of eight Scientific Principles:

1. The abundance, productivity, and diversity of organisms are integrally linked to the characteristics of their ecosystem.
2. Ecosystems are dynamic, resilient and develop over time.
3. Biological systems operate on various spatial and time scales that can be organized hierarchically.
4. Habitats develop, and are maintained, by physical and biological processes.
5. Species play key roles in developing and maintaining ecological conditions.
6. Biological diversity allows ecosystems to persist in the face of environmental variation.
7. Ecological management is adaptive and experimental.
8. Ecosystem function, habitat structure and biological performance are affected by human actions.

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

Questions on consistency with the objectives and strategies section of the Fish and Wildlife Program are incorporated in the table above. Consistency with the Program’s scientific foundation is interwoven throughout the checklist, and this comment table provides reviewers a place to specifically summarize and identity how well the eight principles were addressed.

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

<p>Reviewers: Either overtly, or by demonstration, the plan is consistent with the principles above, but is very weak as noted earlier in RME, on #7, especially given statement in Executive Summary about emphasis in plan on adaptive management. The Management Plan should be augmented to draw explicit connection of its material with each of the eight principles.</p>	<p>Partial</p>	<p>2</p>
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