

Klamath Secretarial Determination Process



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August 3, 2012

Mr. John Hefner
Senior Scientist, Atkins
1616 E. Millbrook Rd, Suite 310
Raleigh, NC 27609-4968

Dear Mr. Hefner:

Enclosed please find a copy of the report titled: *Klamath Dam Removal Overview Report for the Secretary of the Interior – an Assessment of Science and Technical Information, August 2012*, Department of the Interior and Department of Commerce, National Marine Fisheries Service (Overview Report). A January draft of this Overview Report was the subject of a panel peer review by six subject-matter experts that Atkins North America (Atkins) convened in January 2012 under federal contract. Atkins prepared a report of peer review comments from this panel in March 2012 titled: *Peer Review Panel Report on Draft Klamath Dam Removal Overview Report for the Secretary of the Interior (2012)* (Peer Review Panel Report).

Attached with this letter are detailed responses prepared by a federal team and their consultants to all the written comments from the peer review panel. I am requesting that you verify, as referee for the peer review process, that the peer review comments were addressed and that appropriate changes (if needed) were made to the Overview Report. In the majority of cases, the federal team agreed with a peer review comment or recommendation and changes were made directly to the Overview Report, and no further response is given in the attached table. In a few cases, however, the federal team felt a change was not warranted; in these cases, an explanation is provided in the attached table as to why a suggested or recommended change was not made to the Overview Report.

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The attached table of our responses uses the original numbering system by the peer reviewers, beginning with comment 2-1 and ending with comment 8-2, to facilitate the referee process. We have also enumerated their nine general comments (G-1 through G-9) in the attached

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table. For the most part, these general comments were captured in the panel's specific comments; however, some small differences existed so we did address these comments separately as well. When we could, our response to a peer review comment is simply to direct you to the section(s) of the Overview Report that was changed to further facilitate the referee process. The attached table will serve as the primary response document to the peer review comments. In addition to this table, I wanted to briefly respond in the body of this letter to the General Review Comments on pages 8 and 9 of the Peer Review Panel Report. All of these general comments we agree with and the resulting changes substantially improved the Overview Report.

G-1 Clarification of Scenarios – As suggested, an explanation of the scenarios being compared were expanded and discussed much earlier in the report and the Executive Summary to provide the reader early and expanded context.

G-2 Uncertainty – As suggested, we have greatly expanded discussion of certainty and uncertainty in the main body of the report, in the Executive Summary, and the Summary, particularly as it relates to the likely ecosystem responses (including changes to fish populations) if dams were removed and KBRA was implemented. Much of this discussion about the range of possible outcomes is qualitative, but we were quantitative when possible.

G-3 Sediment – We included much more information regarding the likely fate of various sediment fractions (particle sizes) in the reservoirs if dams were removed, including the fines, sands, and coarser material. In addition, we expanded discussion of the chemical characteristics of the sediment, showing data for some chemicals of interest.

G-4 Fish Passage – Existing fish passage facilities at Keno and Link River dams are now described in more detail.

G-5 Tribal Rights – Additional text was added for each tribe about the tribe's history, relationship with the Federal government, trust property, and associated rights.

G-6 Adaptive Management – It is now explicitly stated that implementation of KBRA would include a serious commitment to adaptive management in order to maximize benefits gained from various restoration actions.

G-7 Maps – As suggested, three additional maps were added to provide better geographical context for readers, including a larger and more comprehensive map of basin features and landmarks, a map of Reclamation's Klamath Project, and a map of precipitation in the basin.

G-8 Keno and Link River Dams – We have provided an explanation of the purposes of these dams for the agricultural community. These were not included as dams to be removed in the Klamath Hydroelectric Settlement Agreement, and thus no discussion of their removal is included in any of our analyses or in the Overview Report.

G-9 Reclamation's Klamath Project – A map of the Klamath Project, showing the location of agricultural land, canals, and National Wildlife Refuges, is now included in the Overview Report along with more narrative description.

It is clear to me that the peer review process has made this a better, clearer, and more complete Overview Report. I believe we have responded to all the panel peer review comments adequately and accurately. If you agree with this assessment, please provide me with a letter, as the peer review referee, verifying that the peer review process is complete and that all comments from the Peer Review Panel Report have been addressed. Please give me a call at 503-803-6392, or email me at ddlynch@usgs.gov, if you have any questions about the Overview Report, our responses to comments, or the referee process.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dennis Lynch', with a large, stylized flourish above the name.

Dennis Lynch
Program Manager
Klamath Secretarial Determination

Attached: Table of Responses to Peer Review Comments provided in *Peer Review Panel Report on Draft Klamath Dam Removal Overview Report for the Secretary of the Interior (2012)*

Federal Team Response to Comments and Recommendations in: *Peer Review Panel Report on Draft Klamath Dam Removal Overview Report for the Secretary of the Interior (2012)*

Prepared August 2, 2012

<u>Peer Review Panel Topics/Comments</u>	<u>Responses/Actions Taken</u>
<p>G-1: Clearly describe the two scenarios compared in the initial pages of the Executive Summary and Introduction, not just on p. 59. Explain that exclusion of agency Biological Opinions and potential FERC licensing stipulations from the <i>Dams Remain</i> scenario was due to the expectation that such additions to the current dam operations would not occur for decades for engineering and legal reasons. Further, the effectiveness of such additions is not ensured.</p>	<p>Descriptions of the scenarios have been added to:</p> <ul style="list-style-type: none"> • Executive Summary (Section ES.1.3, <i>Purpose and Scope of this Report</i>) and • Introduction (Section 1.1, <i>Purpose and Scope of this Report</i>). <p>In our descriptions of the scenarios, we chose to state that our “dams remain” scenario does not include installation of fish passage facilities without speculating on the future outcome, timeliness, or effectiveness of continuing a FERC relicensing process if this scenario took place. We simply don’t have information on the likely outcome of the Clean Water Act 401 Certification process, exactly what type of fish ladders PacifiCorp would build and how effective they may be in passing fish upstream and downstream, what legal challenges might be raised during the process, and how long those challenges may take to resolve. Consequently, rather than speculating on these points, we chose to clearly stated our assumed Dams Remain scenario and largely remain silent on a situation that is speculative and does not have citable references to support any statements.</p>
<p>G-2: Be more explicit in describing the relative uncertainties associated with various ecosystem responses to the two restoration scenarios. The Overview Report does not discuss the range of potential outcomes and associated unknowns to the degree expressed in the original technical reports. Some responses are known with high levels of confidence, while others involve substantial uncertainties. As written, the Overview Report does not reflect these differences effectively; for example, the discussion on p. 102 is very good but should be included earlier in the report.</p>	<p>A lengthy discussion (including tables in each section) on the uncertainties surrounding ecosystem/fisheries response has been added to:</p> <ul style="list-style-type: none"> • Section 4.1.4, <i>Summary of Effects on Fish and Associated Uncertainties</i> • Section 5.1 <i>Will Dam Removal and KBRA Advance Restoration of Salmonid and Other Fisheries of the Klamath Basin over 50 year.</i> • ES 2.1 <i>Anticipated Fish and Fisheries Response to Dam Removal and the KBRA.</i> <p>The uncertainties associated with the dams remain scenario, and the long term implications for fish, are discussed on page 13 of ES 2.1 and page 150 of Section 4.1.4. But it is extremely difficult to predict with any</p>

	<p>certainty what will happen to fish and ecological conditions when several offsetting factors will be operating over the next 50 years, such as climate change and implementation of TMDLs (and other restoration actions). Moreover, there are no definitive trends in the current status of fish populations, either upward or downward, that we know with certainty would continue.</p>
<p>G-3: Include more information on (1) the fate of released sediments, (2) particle sizes of the sediments, including the sand-sized particles, and (3) chemical characteristics of the sediment. As is the case with most dam removals, the fate of the sediments behind the dams is of primary importance.</p>	<p>Reservoir sediment information and the transport of those sediments if dams were removed has been added to:</p> <ul style="list-style-type: none"> • New Sections 4.1.3.1, <i>Reservoir Sediment Volume, Composition, and Erosion Potential</i>, • New Sections 4.1.3.3, <i>Sediment Transport</i>
<p>G-4: Present an assessment of the fish passage facilities at the Keno and Link River dams. These dams are to remain with implementation of the <i>Dams Out with KBRA</i> scenario; however, much of the anticipated success of repopulating the upper Klamath Basin with anadromous salmon and steelhead depends on successful passage at these dams. The fish passage facilities at these dams and the ability of adults to pass upstream and juveniles downstream are inadequately presented in the Overview Report.</p>	<p>Additional information to describe status and purpose of Keno and Link River dams and fish passage at these dams was added to:</p> <ul style="list-style-type: none"> • Section 1.2.3.1 <i>Link River and Keno Dams</i> • Section 4.1.1.3, <i>Habitat Access and Quality (Text Box Existing Fish Passage at Link River and Keno Dams)</i> on page 108.
<p>G-5: Clarify the various situations of the six tribes involved in decisions about the future of dams, fisheries, irrigation, and other water uses in the Klamath watershed because each has its own history and sometimes different federal relationships and entitlements. Some individual Indians have trust lands secured through allotments or homesteads with water rights and riparian settings.</p>	<p>Additional text was added for each tribe about the tribe's history, relationship with the Federal government, trust property, and associated rights to:</p> <ul style="list-style-type: none"> • Section 4.4.2.3 <i>Tribal History, Historical and Current Effects of Dams, and Effects of Dam Removal</i>
<p>G-6: Explicitly state that the <i>Dams Out with KBRA</i> scenario represents a serious commitment to an appropriately scaled monitoring and assessment program. This monitoring and assessment program is critical, both for developing an adaptive management program for the Klamath system and for capitalizing on this opportunity to learn about ecosystem responses to dam removal in general.</p>	<p>Clarification has been added to the description of the scenarios and KBRA description in:</p> <ul style="list-style-type: none"> • Section 1.1 <i>Purpose and Scope of this Report (unenumerated scenario Dam Removal and Implementation of the KBRA)</i> • Section 1.2.8 <i>Klamath Basin Restoration Agreement</i> (page 85)

<p>G-7: Include additional and improved maps to place the Overview Report in an informative geographic context. Of greatest importance is to include a large, detailed map showing the locations of places and features important to the report. Wherever possible, show features and locations mentioned in the Overview Report on one map. Current maps are deficient in this regard.</p>	<p>Three additional maps have been added to:</p> <ul style="list-style-type: none"> • Section 1 Figure 1.1 <i>Major Features of the Klamath Basin</i> • Section 1.2.1 Hydrologic Setting Figure 1-3 (basin precipitation) • Section 1.2.3 Figure 1-6 <i>Reclamation's Klamath Project</i>
<p>G-8: Explain the rationale for leaving Keno and Link River dams in place while others are proposed for removal early in the Overview Report. The reasons appear to be tied to Reclamation's Klamath Project.</p>	<p>Additional information to describe Reclamation's Klamath Project and the status of fish passage on Keno and Link River dams was added to:</p> <ul style="list-style-type: none"> • Section 1.2.3.1 <i>Link River and Keno Dams</i>
<p>G-9: Explain Reclamation's Klamath Project with additional text and maps so that the reader understands its extent and significance for water management, agriculture, and wildlife refuges. Important provisions of the KBRA and the retention of Keno and Link River dams are tied to this irrigation project.</p>	<p>Additional information to describe Reclamation's Klamath Project and Keno and Link River Dams was added to:</p> <ul style="list-style-type: none"> • Section 1.2.3, <i>Reclamation's Klamath Project</i> • Figure 1-6 <i>Reclamation's Klamath Project</i> • Section 1.2.3.1 <i>Link River and Keno Dams</i>
<p>2-1: Keno and Link River dams are integral parts of the Klamath River ecosystem in both the <i>Dams Remain</i> and the <i>Dams Out with KBRA</i> scenarios. Add descriptive text, images, and tabular data to Section ES 1.2 or to the Introduction regarding the Keno and Link River dams.</p>	<p>Additional information to describe Reclamation's Klamath Project and the status of fish passage on Keno and Link River dams was added to the Introduction, Section 4, and the descriptions of the Dam Removal and Implementation of the KBRA scenario in the ES and Introduction:</p> <ul style="list-style-type: none"> • Section 1.2.3, <i>Reclamation's Klamath Project</i> • Section 1.2.3.1 <i>Link River and Keno Dams</i> • Section 4.1.1.3, <i>Habitat Access and Quality</i> (Text Box: <i>Existing Fish Passage at Link River and Keno Dams</i>) • Sections ES.1.3 and 1.1 <i>Dam Removal and Implementation of the KBRA</i>
<p>2-2: Add at least three maps: general geography, hydrography of the Klamath Reclamation Project, and precipitation distribution in the Klamath Basin.</p>	<p>Three additional maps have been added to:</p> <ul style="list-style-type: none"> • Section 1 Figure 1.1 <i>Major Features of the Klamath Basin</i> • Section 1.2.1 Hydrologic Setting Figure 1-3 (basin precipitation) • Section 1.2.3 Figure 1-6 <i>Reclamation's Klamath Project</i>
<p>2-3: In Section 4.4.1, the Overview Report does not clearly explain how the Net Economic Development (NED) account differs in concept</p>	<p>Additional explanation regarding the differences between the RED and NED accounts has been added to:</p>

<p>from the Regional Economic Development (RED) account. Further, the section fails to explain how the estimated changes in county tax revenues could be used in the context of the other two economic measures. In the introduction to Section 4.4.1, clearly explain the differences between the economic measures included in the NED account and the measures included in the RED account. Also explain the role of the estimated change in local property tax revenues.</p>	<ul style="list-style-type: none"> • Section 4.4.1 Economic Analysis (pages 195-196) <p>County tax revenues (property taxes as well as other taxes) are not relevant in the context of the NED analysis. In general, for a NED analysis tax revenues would be considered a transfer payment and not be included in an analysis of net economic benefits. In the context of the RED analysis, changes in local tax revenues might be one of a number of metrics reported in the results of a regional economic analysis. However, in order to simplify the presentation and focus on key results, estimated changes in tax revenues were not reported.</p> <p>No change has been made to the Overview Report relative to the RED and NED accounts and the role of property tax changes in the context of the two accounts.</p>
<p>3-1: The two restoration scenarios under consideration are not described clearly enough in the Executive Summary. In the Executive Summary, clearly define the two restoration scenarios under consideration, in particular the <i>Dams Remain</i> scenario.</p>	<p>Detailed descriptions of the scenarios have been added to:</p> <ul style="list-style-type: none"> • Executive Summary (Section ES.1.3, <i>Purpose and Scope of this Report</i>) • Introduction (Section 1.1, <i>Purpose and Scope of this Report</i>). • Section 4 (pages 85-87)
<p>3-2: The expected hydrologic responses to the two restoration scenarios are not highlighted sufficiently in the Executive Summary. Improve the Executive Summary by including a graph that summarizes the annual hydrograph under three scenarios: historic (free-flowing), current (with all dams), and restored (<i>Dams Out with KBRA</i>). This comparison is not conveniently made anywhere in the Overview Report. It is central to the restoration proposal and should be highlighted accordingly.</p>	<p>More information on historical and recent hydrology in the basin, as well as a comparison of likely hydrologic conditions under the two scenarios being compared, was added to:</p> <ul style="list-style-type: none"> • Section 4.1.1.1 Hydrology • Executive Summary (Section ES-2.2 Hydrology Response to Dam Removal with KBRA) • Figure ES-13 (Iron Gate Flows and Upper Klamath Lake levels with and without KBRA) <p>In addition, the hydrologic assumptions for the two scenarios being compared are briefly described on pages 9-10, 52-53, and 85-87.</p> <p>The focus of the hydrologic changes was to compare flows and Upper Klamath Lake levels for the two scenarios being compared. In addition, flow</p>

	<p>conditions prior to 1913 are discussed to provide some indication of flow conditions prior to some of the major changes in the basin's hydrology. However, it is important to note that little hydrologic data exists to describe the natural historical flow patterns. Flow condition are also discussed for the period 1961 to 2000 to show conditions related to major hydrologic changes in the basin (e.g. development of irrigated agriculture and the construction of dams) and the effects of FERC's stipulated minimum flows.</p>
<p>3-3: The introductory section of ES.3 does not clearly state that the Keno and Link River dams would remain in operation in the <i>Dams Out with KBRA</i> scenario. State clearly that the Keno and Link River dams would remain in operation in the <i>Dams Out with KBRA</i> scenario, and provide the rationale for this decision.</p>	<p>Additional information to describe the status and purpose of Keno and Link River dams with dams out and implementation of the KBRA scenario was added to:</p> <ul style="list-style-type: none"> • Section ES 1.3 Purpose and Scope of this Report (scenario descriptions) • Section 1.2.3, <i>Reclamation's Klamath Project</i> • Section 1.2.3.1 <i>Link River and Keno Dams</i>
<p>3-4: Update the Executive Summary to reflect revisions to the main body of the Overview Report. Update the Executive Summary once other edits to the main body of the Overview Report have been made in response to other comments in this peer review report.</p>	<p>The ES was updated with changes from the main body of the document.</p>
<p>3-5: The Summary and Findings section does not sufficiently express the uncertainties in the responses to restoration options. Edit the Summary and Findings section to qualify conclusions appropriately.</p>	<p>Lengthy discussions on the uncertainties surrounding ecosystem/fish response has been added to:</p> <ul style="list-style-type: none"> • Section 4.1.4, <i>Summary of Effects on Fish and Associated Uncertainties</i> • Section 5.1 <i>Will Dam Removal and KBRA Advance Restoration of Salmonid and Other Fisheries of the Klamath Basin over a 50-year time frame.</i> • ES 2.1 <i>Anticipated Fish and Fisheries Response to Dam Removal and the KBRA.</i>
<p>4-1: The public often misunderstands what science is and how it is used in the decision- making process for resources such as the Klamath River, and though the Overview Report briefly mentions the roles of science and decision making, the discussion is too limited to be effective. Expand the discussion of science in sections ES.1 and ES.1.1 to more fully outline how science works.</p>	<p>Additional information on the science and decision making process has been added to:</p> <ul style="list-style-type: none"> • Section ES 1.4.2 <i>Scientific Method and Data Collection</i>
<p>4-2: Make the process of evaluating the scientific</p>	<p>Sections 3.3 covering the <i>Science Method and Data</i></p>

<p>information clearer (e.g., in Section 3) and ensure that the Secretary understands the scientific limitations of the advice provided by its expert panels. Provide an enhanced discussion and flow chart of the development and synthesis of scientific information for the Secretarial Determination.</p>	<p><i>Collection</i> was greatly expanded to address all these points, including how science needs were identified, how studies were designed, how conclusions were reached, how expert panels were used, and how topical reports were prepared and reviewed, including this Overview Report.</p> <p>The last three paragraphs of Section 3.3.4 <i>Preparation and Review of Fish Expert Panel Reports</i> address the peer review comment on limitations of the advice provided by two of the expert panels.</p>
<p>5a-1: The Overview Report does not discuss the range of potential outcomes and associated unknowns to the degree expressed in the original technical reports. Edit the Overview Report to clarify the distinction between responses known with high certainty versus those that have, and always will have, high uncertainties associated with them. This is particularly critical for the discussion of expected responses of fish populations to restoration.</p>	<p>A discussion on what is known and what is not known well (certainties and uncertainties) surrounding ecosystem/fish response has been added to:</p> <ul style="list-style-type: none"> • Section 4.1.4, <i>Summary of Effects on Fish and Associated Uncertainties</i> • Section 5.1 <i>Will Dam Removal and KBRA Advance Restoration of Salmonid and Other Fisheries of the Klamath Basin over 50 year.</i> • ES 2.1 <i>Anticipated Fish and Fisheries Response to Dam Removal and the KBRA.</i>
<p>5a-2: Although some sections appropriately cite the relevant source literature, the Overview Report does not consistently cite relevant source reports for its summary discussions. Improve each topical section by citing the primary technical document from which it obtained and summarized the information.</p>	<p>Background document citations were added with a reference to Table 3-1 (List of Studies and Reports... for the SDOR) if applicable to:</p> <ul style="list-style-type: none"> • Section 4.1 <i>Expected Effects of Dam Removal and KBRA on physical, chemical, and biological processes that support salmonid and other Fish Populations</i> • Section 4.4.7 <i>Real Estate</i> • Section 4.4.12 <i>(Individual and Household Views</i> <p>Other document sections either already reference the main background document or do not have a main document to reference.</p>
<p>5a-3: Consideration of hatcheries is scattered throughout the Overview Report and is difficult to understand. Present hatchery considerations as a consolidated discussion of both current operations within the Klamath system and their likely use as part of the KBRA.</p>	<p>Information on fish hatcheries was added and consolidated in the following sections:</p> <ul style="list-style-type: none"> • Section 1.2.4.1 <i>Klamath Basin Hatcheries</i> • Section 4.1.2. <i>Chinook Salmon</i> (Text Box on page 127: <i>Future of Iron Gate Hatchery</i>)
<p>5b-1: The KBRA includes discussions on fish</p>	<p>Developing more detailed implementation plans for</p>

<p>restoration and several other key factors associated with dam removal. The document does, however, acknowledge that specific implementation processes have not been thoroughly developed. Because of this, some uncertainty exists about the overall effectiveness of implementation efforts. Develop more detailed implementation plans so that, as the project moves forward, the types of uncertainty can better be identified and the level of uncertainty defined.</p>	<p>the KBRA was beyond the scope of the SDOR. The federal team was asked to evaluate the likely effects of both agreements, as currently written. The team agrees that identifying and defining uncertainty of the potential effects of KBRA is important in the event of an Affirmative Determination. Additional information on the KBRA's programs and how they would be developed and implemented in an environment of adaptive management are provided in:</p> <ul style="list-style-type: none"> • Section 1.2.8 <i>KBRA</i> • Section 4 under scenario description <i>Dam Removal and Implementation of the KBRA</i> <p>More planning is underway in the event that KBRA is implemented, which includes plans for fish habitat restoration, fish monitoring, and fish reintroduction. However, these planning efforts are not finalized and not available for referencing.</p>
<p>5b-2: The Overview Report does not adequately discuss the characteristics of reservoir sediments, particularly the sand fraction of those materials. Expand the discussion of reservoir sediments, possibly by expanding Section 4.3.1 or elsewhere.</p>	<p>Two new sections have been added to expand information provided on reservoir sediments and their transport if dams were removed:</p> <ul style="list-style-type: none"> • Section 4.1.3.1, <i>Reservoir Sediment Volume, Composition and Erosion Potential,</i> • Section 4.1.3.3, <i>Sediment Transport</i>
<p>5b-3: Although the Overview Report extensively discusses fine sediments (silt, clay, and organic particles), it does not include research results from the source documents for the downstream fate of sand eroded from the reservoirs. Expand the sediment discussions in the Overview Report (especially in, but not limited to, Section 4.3.1).</p>	<p>Two new sections have been added to expand information provided on reservoir sediments and their transport if dams were removed:</p> <ul style="list-style-type: none"> • Section 4.1.3.1, <i>Reservoir Sediment Volume, Composition, and Erosion Potential,</i> • Section 4.1.3.3, <i>Sediment Transport</i> <p>In addition, short descriptions of these topics were added to the ES, pages 21-22.</p>
<p>5b-4: Expand the sediment discussions in the Overview Report (especially in, but not limited to, Section 4.3.1).</p>	<p>Two new sections have been added to expand information provided on Reservoir Sediments and their transport of dams were removed:</p> <ul style="list-style-type: none"> • Section 4.1.3.1, <i>Reservoir Sediment Volume, Composition, and Erosion Potential,</i> • Section 4.1.3.3, <i>Sediment Transport</i> <p>In addition, short descriptions of these topics were added to the ES, pages 21-22.</p>
<p>5b-5: Section 4.4.9 provides only a brief review of</p>	<p>Additional information of representative data,</p>

<p>contaminants in reservoir sediments, and supplies no data. The Overview Report fails to adequately convey the certainty associated with the extensive database describing contaminants in the sediments. Improve Section 4.4.9 by expanding the discussion, including representative data, and indicating the nature of standards for sediment quality.</p>	<p>explanations of standards for comparison, and the multiple lines of evidence for the conclusions have been added to:</p> <ul style="list-style-type: none"> • Section 4.4.9, <i>Chemicals in Reservoir Sediments</i>. • Tables 4.4.9-1 and 4.4.9-2 • Section 4.4.9.4 <i>Chemicals in Reservoir Sediments Effects Summary</i>
<p>5b-6: The Overview Report mentions the mobility of bed sediments but does not provide enough text to show its importance as a connection between physical and biological processes. Add a brief paragraph describing the connections among depth of flow, size of bed particles, and biological implications of these connections.</p>	<p>Additional detail on the benefits of streambed mobility has been added to:</p> <ul style="list-style-type: none"> • Section 4.1.1.3, <i>Habitat Access and Quality</i>(Text Box on page 107: <i>Benefits of Streambed Mobility</i>) • Section 4.1.3.3, <i>Sediment Transport</i> (unenumerated section: <i>Following Dam Removal Long-term</i>)
<p>5b-7: Fish passage evaluations upstream from this dam removal project are beyond the scope of this study; however, there may be some benefit to briefly describing the normal operations of the two dams immediately upstream (Keno and Link River dams) and their relationship to or impact on the overall project. Briefly describe the two dams (including their fish passage facilities) immediately upstream from J.C. Boyle Dam. The addition of photos would also be helpful.</p>	<p>Additional information about Keno and Link River dams (including figure 1-7 and 1-8) and fish passage at these two facilities were added to:</p> <ul style="list-style-type: none"> • Section 1.2.3.1 <i>Link River and Keno Dams</i> • Section 4.1.1.3, <i>Habitat Access and Quality</i> (Text Box on page 108: <i>Existing Fish Passage at Link River and Keno Dams</i>)
<p>6a-1: The information is insufficient to fully understand the layout of the individual facilities at each dam. Provide additional information on the arrangement of the dams and associated facilities (i.e., locations of individual structures that supplement the photos). This information would provide a better understanding of how the layout and expanse of each individual project may affect the reservoir drawdown and dam removal options.</p>	<p>Maps of each of the facilities have been added to:</p> <ul style="list-style-type: none"> • Section 4.2.1, <i>Dam Removal Engineering and Construction</i>, Figures 4.2-3, 4.2-8, 4.2-13, 4.2-17
<p>6a-2: Diversion facilities used during the initial dam construction are appropriately planned to be used during reservoir drawdown. These facilities were abandoned after construction and must be rehabilitated prior to their use for reservoir drawdown. The Panel concurs that these features are important aspects for a successful drawdown of the reservoir, both in terms of time and elevation. Briefly define the steps necessary to rehabilitate the</p>	<p>Additional information was added to define the steps necessary to rehabilitate the abandoned diversion facilities used during construction at the three largest dam sites in:</p> <ul style="list-style-type: none"> • Section 4.2.1, <i>Dam Removal Engineering and Construction</i> <p>Additional detail on the risks of rehabilitating the existing outlet structures was not added to the</p>

<p>abandoned diversion facilities used during construction at J.C. Boyle Dam, Copco 1 Dam, and Iron Gate Dam. Include a discussion on their benefit in terms of drawdown duration and reservoir level. Include potential risks or impacts to schedules if these diversion facilities cannot be successfully rehabilitated.</p>	<p>Overview Report. Such detail would be addressed in the Definite Plan for dam removal under an Affirmative Secretarial Determination. The need for a focus on this subject in the Definite Plan is identified in Section 4.3.1 <i>Effects to Aquatic Species and Fisheries from Extended Downstream Sediment Transport</i> (last paragraph).</p>
<p>6a-3: Logistics for draining the reservoirs in conjunction with dam removal activities are not clear. Elaborate on the reservoir drawdown options at each dam in conjunction with dam removal sequencing. Perhaps figures could be developed to illustrate the various phases of reservoir drawdown, including the components available for drawdown during each phase and the concurrent stages of removal of the various dam components.</p>	<p>Additional information was added on the reservoir drawdown process and options at each reservoir and a dam removal sequencing/construction timeline to:</p> <ul style="list-style-type: none"> • Section 4.2.1, <i>Dam Removal Engineering and Construction</i>
<p>6b-1: Background information is not provided for the decision-makers to understand the process for developing cost estimates. Add a brief discussion regarding the information used to develop the detailed cost estimates for the removal of dams and associated structures.</p>	<p>Additional information applicable to all dam cost estimates was added to:</p> <ul style="list-style-type: none"> • Section 4.2.1.1, <i>J.C. Boyle Dam</i>(unenumerated section: <i>Estimated Costs</i>)
<p>6c-1: Add a statement that methods for fish capture and release will comply with appropriate state and federal requirements.</p>	<p>Statement was added to:</p> <ul style="list-style-type: none"> • Section 4.2.1.1, <i>J.C. Boyle Dam</i> (unenumerated section: <i>Fish Relocation</i>)
<p>6c-2: Because original plans, specifications, measured drawings, and historical photos document all phases and features of the PacifiCorp hydropower facilities, they can be submitted to the Library of Congress as mitigation for removal or partial removal under Section 106 of the NHPA.</p>	<p>The team is aware that that historic information can be submitted to the Library of Congress as mitigation for removal or partial removal under Section 106 of the NHPA. Additional information regarding potential documentation of the historic hydroelectric facilities is included in:</p> <ul style="list-style-type: none"> • Section 4.4.3 <i>Prehistoric and Historic Cultural Resources.</i> • Section 4.4.3.3 <i>Effect of Dam Removal</i>
<p>6c-3: Meet the concern raised by some tribal communities about the potential impacts of <i>Dams Out with KBRA</i> by specific reference to NAGPRA and its protocols.</p>	<p>Additional language on NAGPRA and its protocols was added to:</p> <ul style="list-style-type: none"> • Section 4.4.3.4 <i>National Historic Preservation Act Consultations</i> • Section 4.2.1.1, <i>J.C. Boyle Dam</i>(unenumerated section [page 162]: <i>Mitigation Actions, Culturally and Historically Significant Sites</i>)
<p>6c-4: Add language that recognizes the need to</p>	<p>Additional language recognizing the need to</p>

<p>coordinate final layouts of recreational sites with the appropriate stakeholders during the final design process. Some features identified in the partial removal plans may be considered for public access.</p>	<p>coordinate final layouts of recreational sites with the appropriate stakeholders was added to section:</p> <ul style="list-style-type: none"> Section 4.2.1.1, <i>J.C. Boyle Dam</i>(unenumerated section [page 162]: <i>Mitigation Actions, Development of New or Modification of Existing Recreational Facilities</i>)
<p>6c-5: Mention the potential for land exchanges between PacifiCorp and the Bureau of Land Management, the State of California, the State of Oregon, or Siskiyou and Klamath counties for the acquisition of new properties, including those with historical cultural resources, for recreation and heritage tourism in the Klamath River corridor between Keno and Iron Gate dams.</p>	<p>There is no question that opportunities for mutually beneficial land exchanges between PacifiCorp and various government agencies could arise out of KHSA. But absent any expressed plans to do so (other than the transfer of parcel B lands to the states mentioned below), it would be too speculative to include in this type of discussion in the Overview Report.</p> <p>Section 4.4.7 <i>Real Estate</i> explains that about 8,000 acres of land owned by PacifiCorp (known as Parcel B lands) that are presently inundated by the reservoirs or otherwise associated with the Klamath Hydroelectric Project will be transferred to the respective state (California or Oregon) as appropriate. These lands would be managed for public interest purposes such as fish and wildlife habitat restoration and enhancement, public education, and public recreational access. This would allow for development of new recreation sites and facilities to mitigate for removal of existing sites.</p>
<p>6c-6: Consider using language that states that final fencing requirements must be identified during the final design process after decisions have been made on full versus partial dam removal, land disposition, and the extent and type of reservoir revegetation.</p>	<p>A statement has been added that fencing requirements would be finalized in the Definite Plan. See Section 4.2.1.1, <i>J.C. Boyle Dam</i> (unenumerated section: <i>Mitigation Actions, Fencing</i>).</p>
<p>6c-7: Identify the need for culvert relocation or protection and describe the most probable method for providing protection.</p>	<p>Information has been added to:</p> <ul style="list-style-type: none"> Section 4.2.1.1, <i>J.C. Boyle Dam</i>(unenumerated section: <i>Mitigation Actions, Culvert Relocation</i>)
<p>6c-8: Assess mitigation locations and measures in final designs.</p>	<p>The federal team concurs with this recommendation for more detailed assessments if a Definite Plan for dam removal is prepared. No specific change was made to the Overview Report.</p>
<p>6c-9: Consider adding language that indicates that for the partial dam removal options, replacement</p>	<p>Information has been added to:</p> <ul style="list-style-type: none"> Section 4.2.1.1, <i>J.C. Boyle Dam</i>(unenumerated

<p>of bat habitat may not be required.</p>	<p>section: <i>Bat Habitat Replacement</i>)</p>
<p>6c-10: Make certain that the current determination (level of investigations) is sufficient to withstand any claims of groundwater impacts beyond the limits of the current studies. Experience would suggest that unwarranted claims are likely to appear but may be difficult to dispute.</p>	<p>Information has been added to:</p> <ul style="list-style-type: none"> Section 4.2.1.2, Copco 1 Dam (unenumerated section: <i>Mitigation Actions, Groundwater Wells</i>)
<p>6c-12: The level of studies that has been performed to date is appropriate, but language should be added that identifies plans for sharing this information with affected public entities. If this has already been done, so indicate in the Overview Report.</p>	<p>A sentence was added, as described in the comment, to:</p> <ul style="list-style-type: none"> Section 4.2.1.4, Iron Gate Dam (unenumerated section [page 182]: <i>Mitigation Actions, Expansion of the 100-Year Floodplain</i>) <p>Section 4.2.1.4, Iron Gate Dam (unenumerated section [page 183]: <i>Mitigation Actions, Flood Warning System</i>) discusses how a flood warning system would be developed and how flood warning information would be shared with agencies and the public.</p>
<p>6c-13: Provide background information on the relocation effort. The new bridge would need to be at least above the 100-year flood level and probably designed to current load standards. Depending on the topographic setting in the vicinity of the existing roads, the span may be quite long. Further, there may be some merit to constructing the new bridge prior to dam removal if there would be a benefit to the dam removal contractor for site access.</p>	<p>Information has been added that flood levels need to be considered in final design (Definite Plan) to:</p> <ul style="list-style-type: none"> Section 4.2.1.4, Iron Gate Dam (unenumerated section: <i>Mitigation Actions, Bridge and Culvert Relocation</i>)
<p>6c-14: Describe typical modifications that may be needed to address the higher concentrations of fine sediment.</p>	<p>Information has been added to:</p> <ul style="list-style-type: none"> Section 4.2.1.4, Iron Gate Dam (unenumerated section: <i>Mitigation Actions, Downstream Water Intake Protection</i>)
<p>6c-15: There may be a benefit to pointing out the addition of a higher construction contingency cost based on the level of design effort, with the realization that final designs will need to be coordinated with the City and other affected entities. The rationale for eliminating the river crossing is not justified at this time, unless existing data suggest that the bedrock in the vicinity of the existing crossing is very deep; if not, a safe design</p>	<p>Information has been added to:</p> <ul style="list-style-type: none"> Section 4.2.1.4, Iron Gate Dam (unenumerated section: <i>City of Yreka Water Supply Pipeline</i>) <p>This section identifies that the DRE and City of Yreka would consult on a final pipeline design; that a buried pipeline would likely require bedrock digging, and thus could become cost</p>

<p>for a river crossing is achievable.</p>	<p>prohibitive; and that final design may or may not include an elevated steel pipeline bridge.</p>
<p>6d-1: Gaps exist in the level of understanding of the engineering for the dam removal processes as described under Question 6a. These gaps can easily be addressed by incorporating much of the information already available in the reference reports.</p>	<p>Information has been added to the Overview Report. Please see responses to comments 6a-1 through 6a-3 for specific locations where new information was added.</p>
<p>6d-2: Information for mitigation measures is generally adequate for a feasibility-level design. Recommendations for enhancing the level of understanding are in Question 6c.</p>	<p>See responses to comments 6c1- 6c15.</p>
<p>6d-3: Individual summary cost estimates for the dam removal alternatives are adequate; however, discussion could be added (Question 6d-4) that describes the basis for developing these estimates. Such background will instill more confidence in the cost figures by the decision-makers.</p>	<p>Brief information has been added on how the estimates were developed for all costs in:</p> <ul style="list-style-type: none"> • Section 4.2.1.1, <i>J.C. Boyle Dam</i>(unenumerated section: <i>Estimated Costs</i>) <p>A detailed description of how the most probable cost estimates, and the range of cost estimates, were developed is technically complicated and the federal made a decision to forego any attempt to summarize those methodologies in an Overview Report (see our response below for dropping the description of the Monte Carlo modeling). A sidebar was added on page 163 titled <i>Understanding the Estimated Costs</i> to help the reader better understand cost estimates.</p>
<p>6d-4: The quantitative procedure used to generate the range of costs associated with dam removals in Section 4.2.1 is unclear. The short description of the Monte Carlo model in the sidebar on p. 108 does not provide enough detail to understand how the likely range of costs was generated for each dam. Explain what cost variables were assigned probability distributions and how these were derived. Use one dam as an example.</p>	<p>Brief additional information was added to:</p> <ul style="list-style-type: none"> • Section 4.2.1.4, <i>J.C. Boyle Dam</i> (unenumerated section: <i>Estimated Costs</i>) <p>We agree that the short description of the Monte Carlo modeling in the sidebar was inadequate. As noted in the <i>Purpose and Scope of this Report</i> (Section 1.1), the Overview Report was not intended to provide technical descriptions of the methods used in the source documents, but to focus on summarizing conclusions and findings. The federal team determined that a description of the Monte Carlo modeling was too complicated to summarize in a useful way for this audience, and that it was also unnecessary given that it is well documented in the Detailed Plan and really not the focus of an Overview Report.</p>

<p>7a-1: The risks and uncertainties of dam removal are not as clear, particularly in the Executive Summary, as they should be. Certain aspects of the system response to restoration are better defined (more certain) than others. Such distinctions are important. Edit the Overview Report to highlight the distinction between what is known with confidence and critical uncertainties.</p>	<p>A discussion on the uncertainties surrounding ecosystem/fish response has been added to:</p> <ul style="list-style-type: none"> • Section 4.1.4, <i>Summary of Effects on Fish and Associated Uncertainties</i> • Section 5.1 <i>Will Dam Removal and KBRA Advance Restoration of Salmonid and Other Fisheries of the Klamath Basin over 50 year.</i> • ES 2.1 <i>Anticipated Fish and Fisheries Response to Dam Removal and the KBRA.</i>
<p>7a-2: The <i>Dams Remain</i> scenario has substantial risks and uncertainties that are not described as well as those for the <i>Dams Out with KBRA</i> scenario. Clearly describe the scenarios early in the Executive Summary and Introduction. Explain that there are numerous uncertainties for both the <i>Dams Remain</i> scenario and the <i>Dams Out with KBRA</i> scenario.</p>	<p>Fuller descriptions of the two scenarios are provided earlier in the Overview Report in the <i>Purpose and Scope of this Report</i> sections (ES.1.3 and 1.1).</p> <p>Uncertainties of the effects of the two scenarios are discussed in much greater detail throughout ES.2.1 <i>Anticipated Fish and Fisheries Response to Dam Removal and KBRA</i>; however, the emphasis remains on discussing the uncertainties associated with ecological conditions and fish responses, both short term and long term, if dams were removed and KBRA was implemented. The uncertainties associated with the dams remain scenario, and the long term implications for fish, are discussed on page 13 of ES 2.1. But it is extremely difficult to predict with any certainty what will happen to fish and ecological conditions when several offsetting factors will be operating over the next 50 years, such as climate change and implementation of TMDLs (and other restoration actions). Moreover, there are no definitive trends in the current status of fish populations, either upward or downward, that we know with certainty would continue.</p> <p>These same discussions of ecological and fisheries uncertainties for the two scenarios are now also contained in Section 4.1.4 <i>Summary of Effects on Fish and Associated Uncertainties</i>.</p>
<p>7a-3: Issues that may impact project costs are listed but are not adequately explained. The risk of implementing the plan for rehabilitating the existing diversion structures could be included. Elaborate on how these specific issues will affect schedule and ultimately project delays and costs. Assess the impacts for potential problems that</p>	<p>Statements that a delayed or protracted rehabilitation of the diversion structures could impact costs, schedule, and fish was added to:</p> <ul style="list-style-type: none"> • Section 4.3.1 <i>Effects to Aquatic Species and Fisheries from Extended Downstream Sediment Transport</i> • Section 4.3.2 <i>Cost Exceedence to a Federal</i>

<p>could affect the ability to use the abandoned diversion structures.</p>	<p><i>DRE</i></p> <p>Additional information was added to define the steps necessary to rehabilitate the abandoned diversion facilities used during construction at the three largest dam sites in:</p> <ul style="list-style-type: none"> • Section 4.2.1, <i>Dam Removal Engineering and Construction</i> <p>Additional detail on the risks of rehabilitating the existing outlet structures was not added to the Overview Report. Such detail would be obtained during the development of a Definite Plan for dam removal under an Affirmative Secretarial Determination, as discussed in the first paragraph of Section 4.3 <i>Risks and Uncertainties of Dam Removal</i>. We have acknowledged that rehabilitating these structures represents a risk to cost and schedule and should be an important focus of a Definite Plan.</p>
<p>7a-4: The Overview Report proposes a method to reduce risks for monitoring construction costs so that early indications of potential overruns could be identified and appropriate actions taken through the identified “meet and confer” process (KHSA, Section 8.7.2) to minimize the potential for delaying construction. Consider a Request for Proposal process for dam removal activities. This process requires contractors to become more familiar with the project and better understand potential risks for meeting schedules and staying within their bid estimates.</p>	<p>In the event of an Affirmative Determination, full consideration of implementing a Request for Proposal process will occur during the contracting process that would include having the contractor(s) become more familiar with the project and better understand potential risks for meeting schedules and adhering to bid estimates. This would be the subject of a Definite Plan for Dam Removal, as discussed in the first paragraph of Section 4.3 <i>Risks and Uncertainties of Dam Removal</i>. The current Detailed Plan does not provide this level of specificity for future contracting strategies and thus is not discussed in the Overview Report.</p>
<p>7a-5: The ability to rehabilitate the existing diversion structures has not been presented as a potential risk to construction delays. Evaluate potential impacts that could occur if the diversion structures could not be rehabilitated.</p>	<p>Information detailing what is known about outlet structures and how these outlet structures would be renovated for the three largest dams has been added to:</p> <ul style="list-style-type: none"> • Section 4.2, <i>Dam Removal Detailed Plan and Estimated Cost</i> <p>Statements that a delayed or protracted rehabilitation of the diversion structures represents a risk and could impact costs, schedule, and fish was added to:</p> <ul style="list-style-type: none"> • Section 4.3.1 <i>Effects to Aquatic Species and</i>

	<p><i>Fisheries from Extended Downstream Sediment Transport</i></p> <ul style="list-style-type: none"> • Section 4.3.2 <i>Cost Exceedence to a Federal DRE</i> <p>More specific impacts to cost and schedule resulting from an inability to open the reservoir diversion structures were beyond the scope of the Detailed Plan this Overview Report summarizes. In the event of an Affirmative Determination, a focus of the Definite Plan would be ensuring that all old diversion structures could be successfully reopened on January 1, 2020 in order to begin reservoir drawdown.</p>
<p>7a-6: The risks of short-term flooding during dam removal are evaluated for each dam. The critical structures that pose the greatest risks are the embankments at J.C. Boyle and Iron Gate dams. Due to these risks, removal of these features has been scheduled for the normal low flow periods (July through September) when the risk is significantly less. Most of the other hydraulic structures at both of these facilities will already have been removed and the reservoirs drained to the lowest points possible. The evaluation of flood risk was based on a flood with a recurrence interval of 100 years based on the specific time of year. The selection of the 100-year flood is appropriately conservative for this level of study, and it appears that provisions for accommodating this event are reasonable. The Overview Report adequately evaluates flood risks during construction, and the analysis results are reasonable. In either Section 1.2.1 or Section 4.3.3, improve the presentation of the natural, unregulated flood regime of the river and use it in a comparison with the current hydrologic regime and the expected regime following dam removal.</p>	<p>More information on historical and recent hydrology in the basin, as well as a comparison of likely hydrologic conditions under the two scenarios being compared, was added to:</p> <ul style="list-style-type: none"> • Section 4.1.1.1 Hydrology • Executive Summary (Section ES-2.2 Hydrology Response to Dam Removal with KBRA) • Figure ES-13 (Iron Gate Flows and Upper Klamath Lake levels with and without KBRA) <p>In addition, the hydrologic assumptions for the two scenarios being compared are briefly described on pages 9-10, 52-53, and 85-87.</p> <p>The focus of the hydrologic changes was to compare flows and Upper Klamath Lake levels for the two scenarios being compared. In addition, flow conditions prior to 1913 are discussed to provide some indication of flow conditions prior to some of the major changes in the basin's hydrology. However, it is important to note that little hydrologic data exists to describe the natural historical flow patterns. Flow conditions are also discussed for the period 1961 to 2000 to show conditions related to major hydrologic changes in the basin (e.g. development of irrigated agriculture and the construction of dams) and the effects of FERC's stipulated minimum flows.</p>
<p>7a-7: Address the range of specific risks for cultural resources, both prehistoric and historic.</p>	<p>Additional information on risks to cultural resources was added to Section 4.4.3.3 <i>Effects of Dam Removal</i></p>

<p>7a-8: The Overview Report does not adequately address the partial removal of facilities in terms of the documented historical significance of the hydropower systems. Preservation (in whole or in part) of power houses, canals, penstocks, fish hatcheries, and ancillary structures has the potential to benefit recreation and education wherever it does not impede the natural geomorphic evolution of the river.</p>	<p>Additional information on significance of the hydropower systems to cultural resources was added to Section 4.4.3.3 <i>Effects of Dam Removal</i>.</p> <p>The need for a Heritage Education plan for public education regarding possible cultural resources (including any remains of the Four Facilities) along the Klamath River is mentioned in Section 4.2.1 in the unenumerated Culturally and Historically Significant subsection (page 161). The incorporation of remaining facilities with the partial removal scenario into Heritage Education will be determined through future NHPA 106 consultations, and the federal team chose not to speculate on the outcome of these consultations in the Overview Report.</p> <p>It is important to note that the eligibility of the Klamath Hydroelectric Project Historic District would need to be re-evaluated with an Affirmative Determination on dam removal because its eligibility was never formalized through consultations with the California and Oregon State Historic Preservation Officers.</p>
<p>7a-9: The <i>Dams Out with KBRA</i> scenario does not address the fate of the electrical transmission systems not to be used by PacifiCorp (Sections ES.3.1 and ES.3.2 or ES.4.4). Identify the costs and plans for the preservation, documentation, or removal of electrical transmission systems. Include an assessment of the transmission systems in the Section 106 compliance procedures under the NHPA.</p>	<p>If there is an Affirmative Secretarial Determination, the eligibility of many sites, such as the Klamath Hydroelectric Project Historic District transmission lines, will need to be re-evaluated because their eligibility was never formalized through consultations with the California and Oregon State Historic Preservation Officers.</p> <p>The Klamath Hydroelectric Project would be re-assessed to include identification of other contributing properties, including transmission lines that may be eligible for listing on the National Register or on their own merit. Mitigation measures include documentation of historic properties, including transmission lines, and the application of the Secretary of the Interior’s Treatment of Historic Properties guidelines to remaining historic properties for preservation.</p> <p>The need to evaluate the eligibility of transmission lines on the National Register is now included in:</p> <ul style="list-style-type: none"> • Section 4.4.3.3, <i>Effects of Dam Removal</i>.
<p>7b-1: Details of the KBRA are not adequately</p>	<p>Developing more detailed implementation plans for</p>

<p>described to fully understand the risks and uncertainties of the <i>Dams Out with KBRA</i> scenario. See recommendation and discussion under comment 5b1.</p>	<p>the KBRA was beyond the scope of the SDOR. The federal team was asked to evaluate the likely effects of both agreements, as currently written. The team agrees that identifying and defining uncertainty of the potential effects of KBRA is important in the event of an Affirmative Determination. Additional information on the KBRA’s programs and how they would be developed and implemented in an environment of adaptive management are provided in:</p> <ul style="list-style-type: none"> • Section 1.2.8 <i>KBRA</i> • Section 4 under scenario description <i>Dam Removal and Implementation of the KBRA</i> <p>More planning is underway in the event that KBRA is implemented, which includes plans for fish habitat restoration, fish monitoring, and fish reintroduction. However, these planning efforts are not finalized and not available for referencing.</p> <p>As included in the response to General Comment G-2 (above), uncertainties in the response of the ecosystem and fish populations to dam removal and KBRA implementation are now provided in:</p> <ul style="list-style-type: none"> • Section 4.1.4, <i>Summary of Effects on Fish and Associated Uncertainties</i> • Section 5.1 <i>Will Dam Removal and KBRA Advance Restoration of Salmonid and Other Fisheries of the Klamath Basin over a 50-year Time Frame.</i> • ES 2.1 <i>Anticipated Fish and Fisheries Response to Dam Removal and the KBRA.</i> <p>These uncertainty discussions already contain the uncertainty associated with the programmatic nature of KBRA and not knowing precisely how and where restoration actions will be implemented or how effective they are likely to be.</p>
<p>7b-2: Identify the possible presence of a dam partially constructed at the head of Ward’s Canyon prior to construction of Copco 1. Identify the risk that within the reservoir of Copco 1 may be remains of a dam that may also require removal to enhance fish passage and restore river conditions.</p>	<p>The report entitled “50 Years on the Klamath” by John C. Boyle describes the initial site for a dam on the Klamath River approximately 1,000 feet upstream of the current site of Copco 1 Dam, but indicates only that “drifts were run with shafts and open cuts” which produced questionable results for a dam site and work on that site was discontinued in July 1911.</p>

	<p>There would not seem to be any structures at that site. However, the same report indicates that “a wing dam of rock-filled cribs, 30 feet high, was made 100 feet upstream from the main dam” for diversion into the tunnel through the left abutment. This structure may still exist, and would be breached during the breach of the concrete dam, with minimal time and cost impacts.</p> <p>Investigations undertaken for the Definite Plan would further evaluate the presence of this wing dam and any measures that would be needed to breach this structure. No change was made to the Overview Report.</p>
<p>8b-1: The Overview Report contains several inconsistencies in dates and information about the six tribes. It does not appear that the authors used the information in <i>Current Effects of PacifiCorp Dams on Indian Trust Resources and Cultural Values</i> (2011), a report researched and written by Thomas Gates and Marilyn Novell. Additionally, the Overview Report overlooks several recent, peer-reviewed studies on the prehistory, historic landscape, and tribes in the project area (see Appendix C). Correct inconsistencies of fact and omission, especially in providing fuller details about the distinctive histories of the respective tribes and the nature of their relationships with the United States.</p>	<p>Inconsistencies of fact and omission as well as fuller details about the distinctive histories of the respective tribes and the nature of their relationships with the United States were revised in:</p> <ul style="list-style-type: none"> • Section 4.4.2.3 <i>Tribal History, Historical and Current Effects of Dams, and Effects of Dam Removal</i> <p>Most of the references listed in Appendix C of the peer review report are included as either primary or secondary sources in the underlying technical report, along with other applicable sources of information regarding cultural resources, ethnographies, and history of the project area. So these reports were not overlooked in our analyses; however, they were not all cited in the Overview Report but they have contributed to the general findings and conclusions summarized in the Overview Report by contributing to the content of the underlying technical reports.</p>
<p>8b-2: The Overview Report discusses the <i>Dams Out with KBRA</i> scenario but does not clarify that some of the tribes have guarantees of water rights and that such rights are protected by treaty, court decision, and congressional legislation. Explain that Indian water rights, even when not quantified for the tribes involved, are the consequence of important decisions and actions. Clarify that Indian water rights are guaranteed by treaty, court decision, and congressional legislation.</p>	<p>A new section on the importance of tribal water rights was added to:</p> <ul style="list-style-type: none"> • Section 4.4.2.2 <i>Importance of Tribal Water Rights</i> (unenumerated subsection on pages 268-269)
<p>8c-1: The Overview Report mentions Reclamation’s Klamath Project several times, but its relationship</p>	<p>Additional maps and discussions of major features in the basin and Reclamation’s Klamath Project were</p>

<p>with this project is not clear. Develop a large map showing and identifying all critical features of Restoration’s Klamath Project, especially any mentioned in the Overview Report’s text. Because the proximity of Restoration’s Klamath Project is significant relative to this project, it would be beneficial to decision-makers to have a complete understanding of the overall layout of features discussed in the Overview Report and the cited KBRA. The map could be included either in Section 1.2.2 or in Section 1.2.7 relative to the discussions on the KBRA.</p>	<p>added to:</p> <ul style="list-style-type: none"> • Section 1 Figure 1.1 <i>Major Features of the Klamath Basin</i> • Section 1.2.3 Figure 1-6 <i>Reclamation’s Klamath Project</i> (which includes a description of the Klamath Project). • Section 4.1.1.3 <i>Habitat Access and Quality</i> to describe Reclamation’s Klamath Project relative to fish passage on Keno and Link River dams (page 108). • Section ES.1 <i>Introduction</i> also now includes a map of the Reclamation’s Klamath Project for context.
<p>8c-2: In the context of the extensive economic research described in Section 4.4.1, concern exists about the use of the non-use value survey results. Explain why the non-use value of coho salmon enhancement is used to represent the low end of the economic value spectrum, in contrast to the “total economic value” for the dam removal and stream enhancement. Explain the role of coho salmon enhancement as a “stand-in” for a low estimate of total value for the dam removal action.</p>	<p>The enhanced description of <i>Total Quantified Benefits</i> in the beginning of Table 4.4.1-22 helps explain how and why the low and high benefits were derived. Footnotes 1 through 3 of this same table explain why reducing coho extinction is viewed as the best estimation of isolating people’s willingness to pay for a truly nonuse value. Other values in the Klamath nonuse valuation survey included benefits to agriculture output and fisheries harvest, which all have “use” value nationwide, and to recreation, which has use value in the region. Reducing the risk of coho extinction is not expected to restore a coho commercial or sport fishery by 2061, and consequently reducing their risk of extinction represents a nonuse value.</p> <p>This concept of why reducing the risk of coho extinction represents the best estimate of nonuse values in the Klamath nonuse valuation survey is also discussed in the main body of the Overview Report just prior to table 4.4.1-12, on pages 214 and 215, and in footnote 5 on page 215.</p>