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March 7, 2005

MEMORANDUM

TO: Council

FROM: Steve Waste, Manager Program Analysis and Evaluation

SUBJECT: Briefing on the Public Comment on the Research Plan

Action

This is an informational briefing and no action is required by the Council.

Recommendation

Staff recommends the Council support the efforts of the Columbia Basin Fish and Wildlife Authority and several federal agencies to convene a Regional Research Partnership to facilitate collaboration in the implementation of the research plan.

Background

A formal public comment period on the draft Columbia River Basin Research Plan was held from October 1 to October 30, 2004. The Council then granted a request from the Columbia Basin Fish and Wildlife Authority for a 30-day extension to the review period.

A total of 28 comments were received from the tribes (three), state agencies (eight), federal agencies (eight), local governments (one), academic institutions (two), consulting firms (four), and private individuals (two). A list of all the entities that provided comments is presented in Attachment 1. Comments from two key parties were received about eight weeks after the close of the extension period but have been included in the revisions.

The types of comments received ranged from very general points affecting the organization of the document, to very specific comments on a particular research topic. Where appropriate, the more specific comments were incorporated into the draft by either making the suggested revisions and/or including new text and recommendations. The general comments with implications for the content or organization of the entire document are summarized and

addressed in Attachment 2. These comments are identified by topical headings, attributed to the originating entity, and followed by a response from Council staff.

Analysis

Collaboration - In the spirit of collaboration, many reviewers offered suggestions for improving the statement of objectives and identified additional key management questions. The majority of reviewers identified collaboration as the key to completing and implementing the research plan. CBFWA offered to continue working with Council staff through the revision process and to help sponsor the Regional Research Partnership.

Regional Research Partnership - In the draft plan the recommendation for a Regional Research Partnership appeared towards the end of the document without a lot of explanation. Widespread support for this concept was expressed through the public comments, which recommended that such a partnership: collaboratively identify regional research priorities; facilitate implementation of the plan through cost-sharing and other means; and, develop means for the dissemination of research results. Several meetings were held with potential partners to discuss these points, with CBFWA in Portland, and with NOAA, USGS, EPA in Seattle. The comments indicated strong support for the Council's research plan as a document that facilitates a regional approach to research, and also inaugurates a process for coordinating existing research initiatives.

Change the Organization of the Plan - Suggestions for reorganizing the plan ranged from the specific, to the general e.g., re-sequence and/or integrate sections of the plan. Several entities suggested not organizing the research recommendations by the familiar format of All-Hs, and to instead organize the research recommendations by sources of mortality. Some entities recommend decreasing the number of recommendations, yet most offered additional research recommendations. Many reviewers also recommend revisions be made to ensure parity for resident fish and wildlife.

Plan Audience and Length - The Draft Columbia River Basin Research Plan was 52 pages in length. The intended audience was the Council and other policy makers and it was primarily structured as a plan for the Fish and Wildlife Program. Several reviewers recommended expanding the overview for each research topic into a synthesis of the knowledge on that topic. Others recommended providing more structure and detail throughout the plan, and the inclusion of descriptions of other research plans within the region. Consequently, revising the plan to incorporate such additional information and to meet the Four Governors directive to develop a regional research plan will require a longer document.

Next Steps

Complete revisions to Chapter II of the draft research plan and provide to CBFWA Workgroup for review by the end of March. (Revisions to Chapters I and III have already been completed.)

Convene Regional Research Partnership in mid-April to: develop process for identifying research priorities and identify immediate regional research priorities.

Integrate findings of ISAB Harvest Report and ISRP Retrospective Report that will be completed April 20, 2005.

Present final draft for ISAB/ISRP review, April 27, 2005.

Complete ISAB/ISRP review period, May 30, 2005.

Complete revisions to plan based on ISAB/ISRP review July, 2005.

Present final research plan to Council, August, 2005.

Attachment 1. List of Reviewers of the Columbia River Basin Research Plan

Alaska resource and Economic Development, Inc. (consulting firm, Wrangell, Alaska)
Columbia Basin Fish and Wildlife Authority
Columbia River Inter-Tribal Fish Commission
Confederated Tribes of the Umatilla Indian Reservation
Oregon State University, Institute for Natural Resources
Economic Development Council, Clatsop County
ESSA Technologies Limited (consulting firm Vancouver, British Columbia, Canada)
Federal Caucus
Lathim, Mr. Del (citizen, Pasco Washington)
Lower Columbia River Estuary Partnership
Montana Department of Fish, Wildlife, and Parks
Natural Solutions (consulting firm, Helena MT.)
Northwest Fisheries Science Center, NOAA
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Pacific States Marine Fisheries Commission
Taylor, Mr. Bernie (citizen, Newberg, Oregon)
Tinsley, Mr. Thomas (citizen, Springfield, Oregon)
University of Notre Dame, Department of Biological Sciences
US Bureau of Reclamation
US Department of Energy, Bonneville Power Administration
US Fish and Wildlife Service
US Forest Service
US Environmental Protection Agency
US Geological Survey
Washington Department of Fish and Wildlife
Washington Department of Ecology
Wyoming Game and Fish Department

Attachment 2. General Comments on the Columbia River Basin Research Plan

This attachment summarizes the recommendations identified in the public review of the draft Columbia River Basin Research Plan that have implications for the content or organization of the entire document. These are presented under the headings in the outline below, identified by the name of the source, and followed by a response from Council staff. More specific comments were also received that addressed particular topics addressed by the plan. These were incorporated directly into the draft by making suggested revisions and including new text and recommendations. This document was developed to:

1. Focus discussion of these issues amongst Council staff;
2. Facilitate resolution of these issues with the workgroup convened by CBFWA; and,
3. Provide the framework for the cover letter to accompany the final plan.

Outline of General Comments by Topic

Collaboration: the Key to Developing and Implementing a Regional Research Plan

Use Collaborative Approach to Complete and Implement the Plan

Ensure Parity for Resident Fish and Wildlife

Improve Statement of Objectives

Identify Key Management Questions

Regional Research Partnership

Collaborative Identification of Research Priorities

Implementing the Plan

Dissemination of Results

Change the Organization of the Plan

Citation of Sources

Do Not Organize Research Recommendations by All-Hs

Organize Research Recommendations by Sources of Mortality

Decrease the Number of Recommendations

Re-sequence and Integrate Sections of the Plan

Plan Audience and Length

Expand Overviews into Syntheses

Provide More Structure and Detail

Describe Other Research Plans

Collaboration: the Key to Implementing a Regional Research Plan

Use Collaborative Approach to Complete and Implement the Plan

CBFWA - The Research Plan must be developed and implemented collaboratively by federal, state, and tribal entities, and rely on independent scientific review for quality control.

ODWF - The Research Plan proposed by the Council should be developed collaboratively. As sovereign co-managers of fish and wildlife and their environments, the states and tribes should not be relegated to peer reviewer status.

[NPCC Response:- CBFWA will convene and host a workgroup comprised of members of it's the Anadromous Fish, Resident Fish, and Wildlife Committees and any other entity interested in participating to work with Council staff towards the completion of the plan. The plan will be presented to the ISAB and ISRP for their review after the workgroup has completed its work.]

Ensure Parity for Resident Fish and Wildlife

CBFWA and ODFW - The Research Plan does not adequately or equitably address resident fish and wildlife research needs. Two approaches to resolve the deficiency are:

1. Provide narratives for resident fish that are comparable to those that have been presented for anadromous fish. Narratives should include information contained in documents such as recovery, management, and subbasin plans.
2. Delete the specific references to “salmonids” and “anadromous fish” and replace with “fish” where appropriate and feasible. By generalizing the narratives, the Research Plan would better serve all aspects of the Columbia River Basin Fish and Wildlife Program.

[NPCC Response: Agree. If the document is to remain short we will use the second approach. If the plan will be lengthened in order to address several other issues raised by the review then the first approach will be adopted.]

Improve Statement of Objectives

CRITFC - There is no clear statement of the plan's objectives or measures of success other than a general statement about helping “the region with a basis for establishing priorities for new investment and judging the relative priority of continued investment in ongoing research.” This weak generalization does not reflect the more specific objectives and criteria for research found in Appendix A (a much more useful statement of objectives).

ODFW - The objectives are to identify critical uncertainties, formulate research recommendations and priorities, and to increase accountability through improved monitoring and evaluation, coordination, and accessibility. Despite the stated need and objectives, the draft Research Plan is simply sets of recommendations for high priority research not currently being addressed.

USGS - A clear description of resource management's goals and objectives, developed in light of existing environmental information and formation of a conceptual model (that addresses scaling issues) would be helpful.

[NPCC Response: The discussion of objectives of the plan that appear in Appendix A. will be further developed and moved up into the first section of the plan.]

Identify Key Management Questions

US Forest Service - Listed management needs associated with each research topic were very general and could be improved by sharpening their focus. We recommend that both the management needs and the research that directly addresses them be more explicitly stated and clearly linked.

BPA - Include in the final plan a more complete discussion of a prioritized key management questions considered to be the most critical to address through targeted investment, and to consider the relative value of particular research efforts, a more deliberate allocation of implementation responsibility, and a principled means for the distribution or application of limited funds. We emphasize that all recommendations should be tied – clearly and directly – to a Fish and Wildlife Program management question or decision need. Where the question is the same as or overlapping with other regional agency mandates, that overlap should be noted for coordination and cost-sharing opportunities and commitments.

US Bureau of Reclamation - We see a two-step process in the development of a systematic research and monitoring program. First the key management questions must be identified. Then the most experienced scientists and field researchers must devise a research program that assesses the management questions in a manner that promotes adaptive management. The Council will play a major role in this two-step process through a rigorous assessment of the key management questions in the Council's ongoing subbasin planning process.

CRITFC - The plan often lacks a clear logical path between the “management needs,” “critical uncertainties,” and “Council's research recommendations” sections. The plan lacks any perspective of management needs across the different topic areas or for all life stages of a population.

WDFW - In a number of cases critical uncertainties were identified in the plan, but there were no research recommendations to address them and vice versa.

[NPCC Response: The need for greater specificity within, and linkage between, the treatment of critical uncertainties, management questions and research recommendations for each topic will be addressed by incorporating the many helpful comments and recommendations we received.]

Regional Research Partnership

Federal Caucus - The Federal Caucus supports a regional forum “to clarify short and long-term research needs.”

USGS - Some research recommendations appear to be too extensive or beyond the scope of the Fish and Wildlife Program management needs. List all of the issues where large-scale, multi-institutional, coordination is needed.

BPA - Identify certain multi-agency requirements that need to be resolved and agreed to through cooperative funding. A more systematic and strategic approach to cost-sharing and leveraging investment by other parties is likely warranted. Other alternatives exist which could be evaluated and included in the plan.

[**Response** - There is broad support for a Regional Research Partnership, with the exception of BPA. The alternatives they offer can be discussed at the workgroup meeting.]

Collaborative Identification of Research Priorities

ODFW - Council staff should not independently, without collaboration from state, tribal, and federal fish and wildlife managers, determine research priorities. Managers should not be “advised” on which activities offer the most benefits. Rather, managers should be an integral part of a collaborative process to make recommendations and decisions.

BPA - A prioritized set of questions could be used to help identify the relative value of research efforts, assist in a more deliberate distribution of limited funds, and provide a vehicle for better top-down guidance to research implementation. Clearly some will be ranked higher in importance than others. This necessary prioritization must be part of any final plan. Otherwise it is a “plan” in name only, comprised of one overwhelming – and very expensive – list of tasks.

CRITFC The plan is a “wish list” of research ideas and does not identify research priorities. There is no basis for choosing one research recommendation over another. Overall, the “critical uncertainties” described in the draft plan are good ones but will obviously cost millions of dollars to answer. We recommend that the final plan identify those questions considered to be the most critical, with respect to uncertainties, to help focus future research.

[**NPCC Response:** These comments reflect a consensus that the plan should set forth research priorities, and that the priorities should be determined collaboratively, not by the Council alone. The ISRP has recommended that the Research Plan address overarching management questions and assist in making decisions about the relative importance among projects by prioritizing future research. We agree with BPA and CRITFC that the Research Plan should be considered in draft form until research priorities are identified by the workgroup and proposed in the plan. The workgroup is an appropriate venue for developing an approach to the identification of regional research priorities that is simple enough to ensure practical application. For example the workgroup could prioritize between the key management questions and then prioritize between the research recommendations to answer those management question. The workgroup should complete its prioritization exercise early enough so that the research plan can be finalized and ahead of the Fish and Wildlife Program FY07 funding cycle and inform that process.]

Federal Caucus - Identify priority geographic areas for monitoring and research and the temporal and spatial scales these efforts need to occur.

[Response - This is a task in which the members of the Caucus such as the regulatory and action agencies should participate as ESA requires more specificity than the Fish and Wildlife Program e.g., that targets set forth in the products of the Technical Recovery Teams. The Research Plan should identify research recommendations that have broad application to other provinces, or to the entire Columbia basin. Subbasin plans identify research needs either within a subbasin (geographically specific), or a prevalent need within the province or subbasin. Through provincial review and project selection, research projects that can have application beyond the subbasin will be reviewed more favorably than those with a smaller geographic scope.]

CBFWA - A decision analysis framework for the plan should include:

1. Descriptions of the decisions that must be made relative to performance in the short, mid, and long terms, including the performance standards upon which those decisions will be based.
2. A list of who will make each of the decisions.
3. Descriptions of the information upon which those decisions will be based, including performance measures.
4. Descriptions of how information will be collected, including who, where, and when and how the information will be processed and used by decision makers, including how uncertainty and error in the information will be incorporated in decision making.

It should include methods to compare the magnitude of uncertainties across subject areas and a hierarchical approach for decision-making.

[Response - This approach might work for a Research Plan designed solely for implementing the Fish and Wildlife Program in which the Council identified performance standards. However, if we are to meet the directive of the Four Governors to develop a Regional Research Plan, then who determines the performance measures? The intent of the Fish and Wildlife Program is to take an adaptive management approach, where actions with uncertain results and risks are undertaken in an experimental framework. The concept of a Regional Research Partnership is being advanced to facilitate a cooperative, rather than a hierarchical approach to decision-making. The decision analysis framework proposed by CBFWA and ODFW doesn't need to be explicitly included in the Research Plan but the Regional Research Partnership section should define the process that will be used to prioritize research recommendations. This process could include some or all of the elements of CBFWA's decision analysis framework. Please provide an example of the practical application of this approach by a resource management decision-making body.]

NOAA - The biggest challenge facing the development of a comprehensive Research Plan for the Council's Fish and Wildlife Program will be the adoption of a regional or ecosystem focus – such a focus is necessary to make critical improvements in the Program. Currently the Program addresses many, but not all, facets necessary for understanding the Columbia River basin ecosystem; however, no framework exists for evaluating existing work for gaps or coverage relative to an ecosystem perspective nor for prioritizing future work. We see this Research Plan as the first step towards these goals. The challenges the Program will face stem from the need to: (i) involve additional research expertise (regional academic and federal research units), (ii) develop longer range funding and planning horizons (decade rather than 3yr), and (iii) prioritize across ecosystem components and critical uncertainties rather than geographic domains (habitats, species or trophic levels rather than subbasins). A carefully crafted Research Plan is the first

step in outlining a novel conceptual framework and motivating the necessary structural changes required for implementation.

[NPCC Response: Agree. NOAA provides a clear articulation of several points that when incorporated into the plan will significantly elevate the stature and utility of the plan.]

Implementing the Plan

USGS - Its greatest challenge appears to be in the definition of specific research needs and the programmatic and administrative structures for decision-making. The current review process for BPA projects is cumbersome, and affords little opportunity for new ideas to be considered and funded. The draft Plan's advocacy of a more innovative proposal process is encouraging. Further the WFRC supports the draft Plan's call for funding of research across regional boundaries and greater reliance on a competitive process that focus research on priorities of greatest uncertainty. In this way, Requests for Proposals, with clear goals statements will make it easier for researchers to write effective proposals. The Statements of Work (associated with any specific RFP) should be subjected to a review process. More effort, utilizing expert panels of scientists coordinated by the ISRP, is needed to ensure the scientific planning process by which researchable questions of appropriate scale and staging are described i.e., as statements of information need, as precursors to more formal Requests for Proposals.

[NPCC Response: Agree, these are important objectives of the Research Plan.]

Dissemination of Results

WDFW - How will this new knowledge (research results) be transferred to other researchers and how it will be used to direct new research and applied on the ground to change the way we protect and restore fish and wildlife?

[NPCC Response: This is an important issue that is partially addressed in Appendix C. "Evaluation and Reporting of Results." The issue of using results to redirect future research, Council decision-making, and the overall direction of the Fish and Wildlife Program warrants further development within the program. It also would be an important task for the Regional Research Partnership to advance.]

Change the Organization of the Document

Citation of Sources

CBFWA -The document fails to identify who; i.e., what state, tribe or federal entity, identified these issues as critical unknowns or where they were described, e.g., recovery plans, state and tribal management plans. References to the corresponding entities and documents is essential and must be included. The same deficiencies apply to the "Management Needs" sections. The management needs have not been linked to any specific management agency in the basin. It is interesting that the NPCC is identifying the management needs for the state, tribal, and federal entities.

CRITFC - The sources of the management needs and resulting research recommendations need to be cited. Some of these statements appear to be outdated, do not include, or are in direct conflict with, Tribal needs.

[NPCC Response: The plan summarizes the source of uncertainties identified: the FWP, Biological Opinions, NWFSC Recovery Research Plan, ISAB and ISRP documents, etc. A conscious choice was made at the outset to not include any specific attribution to the source of the research recommendations in an effort to present them for consideration without eliciting any prejudice because of the source. In regards to scientific citations, again the choice was made to forego them in an effort to streamline the readability of the document for policy makers. Perhaps the inclusion of citations in the synthesis might provide the documentation sought by some without turning a planning document into scientific document. The Council is certainly not trying to identify the management needs of any entity for them, but rather is trying to create a composite statement of regional management needs that can be addressed by research. Finally, the Council did invite a cross-section of resource managers within the region to comment on a pre-release draft of the Research Plan with low response.]

Do Not Organize Research Recommendations by All-Hs

CBFWA and WDFW - A different approach might provide more integration among anadromous, resident fish and wildlife, or between topics. Specifically, not all but many topics affect all three. Move away from the 12 topics encompassed by All-Hs plus and reorganize under a different rubric so as to move towards: a more ecological approach; a life history approach; or sources of mortality for anadromous, resident fish and wildlife.

USGS - As written, the draft Plan seems to emphasize NOAA Fisheries' "4 H's" management categories for knowledge gaps identified in the salmon life cycle model across varying geographic scales. The "4-H framework" (as opposed to science areas), may not provide the strongest scientific basis or strategic directions for restoration science to guide the salmon recovery process.

[NPCC Response: Agree that the material might be organized differently and in a more holistic manner. Yet it is important to consider that the All-H concept is in widespread use within the Columbia River Basin, and most of the other related planning documents follow this approach. Therefore, the success of taking a more novel approach would largely depend on the willingness of other existing initiatives to follow suit.]

USGS - Conceptualization of the ecosystem science needed to restore, and enhance ecological functions along with aquatic productivity would better set the stage for management needs and research priorities. In addition, some discussions about the life cycles, habitats, and status of Pacific salmonids, other fishes and aquatic species, would provide a scientific basis for the needs assessment. This information would benefit discussions of the key physical and chemical processes important to sustaining populations and ecosystems and the nature of research and monitoring needed in the basin.

[NPCC Response: Agree that additional discussion of life cycles, habitats, and status would enhance the plan as a stand-alone document. However, this information is available elsewhere and adding it would significantly lengthen the plan.]

Organize Recommendations by Sources of Mortality

WDFW - The plan attempts to collect uncertainties that have been generated in a variety of forums, each with potentially different goals and objectives. The result is a shotgun approach, without a clear organizing principle. The Council's Fish and Wildlife Program is primarily directed at the restoration of fish and wildlife populations. These populations need restoration because mortality rates have increased due to a variety of factors. At the highest level we suggest that the critical uncertainties can be covered under three general statements dealing with mortality factors:

1. What are the current sources and magnitudes of fish and wildlife mortality?
2. What are the most effective techniques and activities that can be used to modify the sources and levels of fish and wildlife mortality and improve access to other benefits?
3. What is the level and pattern of mortalities that is consistent with long-term survival and utilization of fish and wildlife resources?

These three questions may seem somewhat simplistic and over-general. However, if we could answer each one of them we would have the understanding to make a significant difference in the Columbia Basin. Answering the first question helps us understand the current status of the resources and where the likely areas of further research will be most fruitful. Answering the second question tells us what we need to do to make things better. Answering the third question tells us where we need to be if we are to be successful. This is a general question that integrates across all sources of mortality. It is closely tied to issues of variation in ocean survival, wet years and dry years, acceptable levels of total mortality, etc.

These three questions can be used as an organizing approach across a number of categories within the fish and wildlife program. They work equally well with anadromous fish, resident fish, and wildlife. They also work across the 4 Hs and could be used with other categorization schemes, such as a Research Plan organized around life history stages. These questions can provide a structure that will allow us to organize and classify the necessary research. This will also help rephrase some of the research topics in the draft into true questions.

NOAA - We ...suggest that a reprioritization based on quantitative analyses of how improvements to various stages of the salmonid life cycle could occur from Program activities appears warranted and would provide decision makers with a research prioritization framework that is linked to estimated gains in salmonid population productivity. We agree with your emerging issues - each is a potentially important but overlooked component of recovery.

[NPCC Response: This approach has merit and warrants further discussion within the workgroup after the current format is revised. However, this plan needs to support restoration work for resident fish and wildlife as well as salmonids.]

Decrease the Number of Recommendations

BPA - We also note the large number of research recommendations, and suggest there may be too many to manage at the outset. They may need to be pared back to less than five per primary area of emphasis. The absence of hypotheses or clear objectives in the plan makes it difficult to apprehend precisely why all these specific tasks are recommended, the priority in which they need to be done, or how the information developed will resolve key questions.

[NPCC Response: Disagree that the lists of recommendations should be reduced to a specific pre-determined number. The lists will communicate what other recommendations were considered during the setting of priorities, ahead of each funding cycle, but not deemed an immediate priority. This approach will preclude the repeated questioning of whether particular recommendations were considered. Further, the lists provide a starting point for the negotiation of the priorities and maintain a source pool for subsequent sets of priorities in future funding cycles. Many reviewers offered additional research questions and/or suggested deletion of some that were already proposed. Consequently, as a result of the revision process the lists will be validated, improved, and shortened or lengthened, but will not be unilaterally reduced by Council because they are “too long.” In essence, the identification of a few of the uncertainties as high priority by the workgroup would meet the intent of this suggestion.

BPA - Emerging issues are the responsibility of other state and federal agencies. Research recommendations in these areas should therefore be limited and identified as low priority, unless they have state or federal agency leadership roles and a substantial cost-share component included.”

[Response - Although BPA states that the “Emerging issues are the responsibility of other state and federal agencies” these agencies are members of the Federal Caucus, which was convened to facilitate salmon recovery. These emerging issues could potentially undercut progress on the part of the Federal Caucus and the Fish and Wildlife Program to achieve recovery. Therefore, BPA should work with the other members of the Federal Caucus as well as the Council to address emerging issues. The emerging issues may be key to the success of the program and thus are relevant to this plan.]

USGS - It is important, within the context of life stage modeling, to consider the effects of global climate change and ocean conditions.

[NPCC Response: Agree.]

Re-sequence and Integrate Sections of the Plan

USGS - The draft Plan would be strengthened and its purpose clarified by including programmatic information (currently in appendices) in introductory sections. Given the complexity of human and natural resource issues and the many organizations involved in relevant research and management, it would be valuable for all readers to have a clear articulation upfront about the NPCC’s roles, authorities, and purposes with respect to science priorities, and restoration. Appendix C “Implementing the Columbia River Basin Research Plan” is an important section of the draft Plan and should be moved to a more prominent introductory position within the document.

[NPCC Response: Agree. The revised Research Plan will provide more context and explanation at the beginning of the document. However, this approach, coupled with repeated requests to add further explanation elsewhere in the document, will significantly lengthen the plan. If the final plan does become a much longer document an executive summary will be included to provide a concise “plan” for decision-makers that provides a summary of the goals and process and identifies some priority areas for research that should be undertaken immediately.]

BPA - Regional research and coordination efforts discussed in Chapter III need to be integrated within the subject areas in Chapter I. This would help achieve the goal of building on existing work and would explicitly identify regional coordination and cost sharing that is needed for many of the research recommendations.

[NPCC Response: The suggestion to co-locate all pieces of text relevant to each H in a single place has merit. This approach would serve to consolidate the discussion of each topic in one place and integrate related text that now appears in two sections. Another suggestion was to move section II forward, followed by the summary of existing management. An effective re-sequencing might be to bring the appendices back up front and consolidate with section II into one section, and then consolidate the “Critical Uncertainties” portion of section I with section III.]

CRITFC and USGS - Section III needs more clarification. It is incomplete if the intent is to show the array of funds and talent that can and should be pulled together to develop a regional research agenda. It is confusing to have highlighted research recommendations appear in Section III. The additional presentation of short-term and long-term research needs is also problematic. The purpose of the narratives would be enhanced by removal of the research recommendations and expanding the breadth and scope of the remaining discussions. (Move up to section II?)

USFWS - Disconnect between one set of research recommendations detailed in Section I and a separate set of short-term/long-term research recommendations listed in Section III.

BuRec - The Council’s Plan has identified management needs and made research recommendations in Section I. The list of needs is nearly comprehensive, but the research recommendations in Section III and I do not follow logically from the list. We note that the summary of existing management information needs is placed at the beginning of the document and comprises nearly half of the Draft Plan’s narrative content. Actual plan recommendations don’t begin until page 37. We suggest moving this section up in the final presentation of the Research Plan recommendations. At a minimum, the information at section II, *Charting a Course for the Future: Identifying Research Priorities* should be streamlined and put up-front in the document, to emphasize the critical need to focus on key Fish and Wildlife Program management decisions.

[NPCC Response: Agree, and will reorganize the material to provide better integration.]

LCREP - Integrate the topics of invasive species and toxic contaminants into the estuary section. Further, consider splitting habitat into tributary, mainstem, and estuary.

[NPCC Response: Agree there is merit in integrating invasive species and toxics into the estuary discussion. Disagree on splitting habitat three ways because the same could be done for some other, but not all, subject areas resulting in a partial re-organization and two approaches to presenting the information.]

Federal Caucus and BPA - Recovery plans not be considered as a separate category of research but be integrated in the plan.

[NPCC Response: Uncertain, have asked the parties to advise in light of their request to the Pacific Northwest Aquatic Monitoring Partnership for guidance on research and monitoring in support of recovery planning.]

Plan Audience and Length

BPA - We are somewhat troubled by the overall length of the document, and suggest it may be improved through editing for overall length, and a focusing on a more policy-level reader as its intended target audience.

[NPCC Response: The call for shortening the document is appropriate for a policy level audience. Initial guidance was to develop a Research Plan for the Fish and Wildlife Program of 50 pages or less for a policy audience. However, the subsequent letter of the Four Governors directed the Council to produce a plan for coordinating research regionally, which expanded the audience for the plan to include participants in plan implementation. Many of these partners have recommended adding new material to the plan that would expand its length.]

Expand Overviews into Syntheses

CRITFC - There is no perspective of lessons learned from past and ongoing research. This should be done in the “critical uncertainties” sections by using liberal citations to relate statements to past or ongoing research conclusions.

ODFW - As discussed in Appendix A, the scope of the draft Research Plan “does not include recounting the factors and events contributing to the decline of fish and wildlife...” because “that history has been described by numerous other sources.” This is a serious limitation in the scope of the plan because these types of studies are critical to understanding which measures are likely to be most effective in meeting the mitigation and recovery objectives of regional programs including the specific objectives of the Council’s FWP (Appendix A, Page 54).

USGS - An initial high priority should be placed on efforts to access, compile, and develop the scientific understanding needed about the Columbia River Basin as the foundation of the needs assessment. There are ample opportunities within the Columbia River Basin planning to synthesize information across topics and scales to better address regional salmonid issues. Several of the NPCC recommendations suggest this goal and it is mentioned as a broad uncertainty. However, the information synthesis must be comprehensive and holistic in scope and scale. Consistency is important as well. For instance, salmon survival through the various passage routes at dams should be compared through all reservoirs in a consistent manner. As

future research and monitoring efforts evolve interim synthesis products will demonstrate areas where the greatest, and most cost-effective, benefit could be gained from adaptive management actions. This step is viewed as a critical element in the conduct of multi- and interdisciplinary research and monitoring approaches. It is seen as a necessary step to achieve improved understanding of system processes (Page 12) and restoring ecological functions and processes in a fragmented landscape.

[NPCC Response: Inclusion of a synthesis of prior history would strengthen the document, but would lengthen it as well.]

Provide More Structure and Detail

BPA - We suggest a more structured approach as to how the plan is organized. We recommend using the Tier 1, 2, 3 structure of the NOAA 2000 FCRPS Biological Opinion, the structure of the Federal RME Plan, or the Action Agencies RME section of their BiOp Implementation Plans. We do so to improve the integration and coordination of research initiatives funded through BPA Fish and Wildlife Program and BiOp RME implementation. Adoption of the Federal RME Plan structure, with additional linkages to management questions, would promote better coordination and integration of ESA recovery planning under the biological opinions with implementation of the region's Columbia Basin Fish and Wildlife Program.

[NPCC Response: It is unlikely that a diverse group of regional research partners would want to follow an approach developed for the implementation of a single biological opinion which has been superseded by other documents. Furthermore, the ISRP provided the Action Agencies with many comments on the Federal RME Plan, but there has been no response from the agencies back to the ISRP.]

BPA - The plan would be of more value if it were organized and described in the following manner:

- Identify a priority set of management questions or decisions that need to be answered in order for the Fish and Wildlife Program to effectively achieve its goals;
- Identify the monitoring or research that is currently taking place to answer these questions;
- Identify the gaps in monitoring and research that are remaining.

[NPCC Response: For each of the subject areas addressed, the draft Research Plan provides: an overview, critical uncertainties, management questions, and research recommendations. It profiles research activity taking place within the Fish and Wildlife Program, not within the region.]

Describe Other Research Plans

CRITFC -The plan is not well integrated with related research activities of the states, tribes, Corps of Engineers, Forest Service, USGS, NOAA Fisheries, EPA, FERC licensees, and other agencies. There is not specific description of these efforts (appropriately done in an 2 appendix), their areas of emphasis relative to the research recommendations, or how they might affect future funding decisions. Also needs clearer coordination with the draft subbasin plans.

[Response - Early drafts included a series of appendices for profiling the research activities of the other potential partners. These were dropped to make room for the introductory material that now comprises Appendices A-D. Again, the issue is whether or not to include a substantial amount of material that is available elsewhere e.g., on websites, annual reports.]