

Independent Scientific Review Panel

for the Northwest Power and Conservation Council; 851 SW 6th Avenue, Suite 1100; Portland, Oregon 97204

Independent Scientific Advisory Board

for the Council, Columbia River Basin Indian Tribes, and the National Marine Fisheries Service

Memorandum (ISRP 2005-20 Part 1)

December 20, 2005

To: Doug Marker, Fish and Wildlife Division Director, Northwest Power and Conservation Council

From: ISRP and ISAB

Subject: Review of the *Draft* Columbia River Basin Research Plan (November 2005 version)

Summary

In May and June 2005, the ISAB and ISRP (ISAB/RP) jointly reviewed an earlier draft of the research plan. Although the ISAB/RP found that draft to represent an important first step to develop a much needed regional planning document, the ISAB/RP suggested that the plan could be significantly improved by reducing redundancy, eliminating unnecessary detail, and focusing more closely on key elements. Such changes were recommended to make the document clear, compelling, flexible, and useful as a planning and prioritizing tool. The ISAB/RP understood that to be a preliminary review and suggested a follow-up review of a revised plan.

The November 2005 version of the plan is much improved from the draft the ISAB/RP reviewed last spring. This iteration has taken the earlier critique seriously, and many of the ISAB/RP's previous comments are incorporated into this version. In particular, the document now has a shorter and more focused list of research priorities, with a more appropriate level of background information to motivate those. The organization is also much improved and more synthesis is demonstrated. The sharper focus and shorter core sections make the Plan more useful. However, to be of highest use to decision-makers and researchers, the plan can be further improved by another round of organization and editing. In its current form, regional managers and researchers likely will have difficulty using the Plan to set research priorities under the Fish and Wildlife Program (FWP or Program).

Although the draft plan covers the range of needed topics and critical uncertainties, it is still too long and repetitive, and consequently loses focus. Much material is repeated in sections II, III, and IV. This is an understandable outcome, given the many sources of information that were used to produce the plan, but some courageous slashing and reorganization will lead to vast improvements.

It should be kept in mind that the Plan is a framework guidance document for decision-makers and investigators. As such it needs to be to the point and avoid digression. Additional synthesis and reorganization is needed, and the descriptive and peripheral detail in the overview sections needs to be vastly shortened. The plan should present only enough summary information to clarify the identification of critical uncertainties or development of research recommendations. A more balanced structure, along the lines suggested below, with a shorter summary and questions that identify general themes rather than specific research issues, would improve the research plan and its utility.

To be maximally effective, the Plan should be much shorter and more to-the-point. A roughly 15-page Plan that is effectively an Executive Summary/Plan, with other details as appendices, would likely suffice and be most accessible to users. This is especially true given the stated intent to invoke more regional planning and research (e.g., the proposed Regional Research Partnership, the incorporation of subbasin planning and provincial integration) and to incorporate ongoing scientific input and review (e.g., revising the work plan associated with the Plan each three years, ISRP/AB or other independent review). We attach an example 15-page summary plan extracted from the draft Plan we reviewed, and suggest that this length and format would serve well the purposes of the Council's Research Plan. This example summary plan is intended to address most of the ISAB/RP's comments described below.

Overall Comments on the Plan

In general, the document is too long, sometimes not well focused, and very repetitive. It covers a plethora of issues related to the understanding, management, and recovery of fish and wildlife (but mostly of fish stocks) in the Columbia River Basin, and it provides considerable background related to most of these issues. The Plan is intended for various audiences; sometimes it addresses policy-makers, other times researchers. This makes it unnecessarily difficult to follow. Additionally, not all critical uncertainties in Section II are presented in the same format, and there are apparently uncertainties in Section III as well, with yet a different format that makes them hard to identify. Much of what was in Section III seemed to concern monitoring at a level that had no direct relationship to research. Further editing to give the Plan a common voice and style would greatly improve its readability. The draft plan might benefit from comparison to the "Gold Standard" of the National Research Council's advice on "How To Write a Science Plan." It's quite possible that the current draft of the Council's plan has most of the necessary parts, but would benefit from some professional editing and graphic artwork.

A research plan is a document that provides a list of major research themes to be promoted for some given period of time. It should include the motivation for the choice of these questions and context for the chosen list of issues. It should provide some background on the current knowledge of each of these questions. And, it should provide enough information so that each of the identified issues can be translated into RFPs and ultimately into project proposals. It need not provide enabling legislation, records of decisions, or historical background unless that information is directly pertinent to the projects that the plan hopes to promote.

Balancing comprehensiveness with accessibility is a problem the ISAB and ISRP deal with on most of their reports; usually resolved by the inclusion of an Executive Summary. We suggest that a 10-15 page Summary Plan (see attached example of reduction of the draft to a 15-page summary plan) would be more effective than the current draft Plan, and that the material in the draft Plan, in very significantly reduced form, could appear as appended background information, bringing the total length of the document to perhaps 40-50 pages. The 10-15 page Summary Plan would provide a regionally agreed upon list of critical uncertainties (two to several for each category). A brief rationale for each uncertainty could describe how reducing the uncertainty would benefit the recovery and protection of native fish and wildlife in the region. Readers expect all the key information in the text, with appendices for further detail only.

Throughout the document (and especially in Section III), it seemed the program was an anadromous fish research plan, with scarce note of resident fish or wildlife. For example, Table A in Appendix I includes one row of wildlife criteria that are almost too general to be of much use, especially without reference to any particular issues or questions.

The goal of integration with the subbasin plans was claimed, but there is little evidence of how this is to be achieved. For example, a table that related subbasin plans and critical uncertainties might help establish how often and where a particular uncertainty was identified during that phase of planning and could help researchers determine suitable research sites.

The plan notes that knowledge gaps will be identified before the plan is finalized. It seems this should precede selection of the research priorities, as recognized gaps might lead that choice in some other direction.

Regional Research Partnership

Because of the significance of the Regional Research Partnership, it might be wise to reorganize the plan to highlight this proposal. The partnership discussion could be moved to one of the first sections of the plan by simply outlining the problems with coordination of research efforts across the basin and the inefficiencies these problems introduce into efforts to address key scientific uncertainties. This point and the potential value of a regional coordinating body could be made before the discussion of key uncertainties with no loss in coherence; articulating the uncertainties is not required to make the case that the partnership may be able to address some of the administrative and organizational issues that have plagued basin research and monitoring efforts in the past.

Who will sit at the Regional Research Partnership table? According to the Plan, the partnership will be open to nearly all key stakeholders, yet it appears from the text that the groundwork for such a partnership is being laid almost exclusively among federal agencies. The concern here is that the need for research coordination in the Columbia River Basin has been voiced for years, but efforts to identify common research needs and prioritize them have remained unsuccessful. The federal agencies, states, tribes, industries, and conservation groups never have agreed. Therefore, the expectations for a Regional Research Partnership probably ought to be a bit more modest until such a partnership develops the requisite mutual trust to

move things forward. It would be a significant achievement for the Council simply to get things started.

The ISAB/RP encourage emphasizing the development of a partnership between the Council, PNAMP, and NED. The demise of the Fish Passage Center will greatly reduce the basin's metadata sharing capabilities, and the sooner a new arrangement emerges to help fill the void, the better. Similarly, starting a Columbia River Journal remains a recommended option for improving data sharing and collaboration. It could be an electronic journal, and papers in it would need to be peer reviewed.

Section I: Introduction

The Introduction could be much improved by reorganization and shortening to remove redundancy and peripheral material. For instance, the objectives of the FWP do not need to be elaborated in detail, because the emphasis should be the objectives of the research plan. The Introduction should give context to the Plan and provide objectives, scope, and interface information. Throughout, say what this Plan is, but don't waste space describing what it is not.

The identified time frames (6 years for the Plan, with 3-year organization and review of implementation work plans) are good, as is the suggestion for continuing review of work plans that will aid in implementation of the Plan.

Section I should state that the Research Plan intends to identify research in support of Council's Fish and Wildlife Program that is appropriate for the Council to fund; research that is funded in part by the Council, is broader in scope than the Fish and Wildlife Program, and ultimately is necessary to reduce the uncertainties in the Principles that form the conceptual foundation of the Program and the strategies outlined in the Program; and, research that is inappropriate for the Council to fund, but whose findings need to be synthesized to update and inform the conceptual foundation and strategies used in the Council's Program. In the current draft, these three different aspects of research relevant to the Council program are not articulated until section IV.

The Council's principles that form their conceptual foundation should be mentioned. The purpose of the research plan should be to inform the conceptual foundation and strategies in the Council's program. Introduction of the Council's ecosystem approach up front in the document would motivate the implied need to continue to improve integration across research themes, habitats (tributaries, mainstem, estuary, ocean, and terrestrial), species, and subbasins/provinces. The concept of connectivity does not come through in the current text, in part because the myriad of detail.

Section II. Critical Management Uncertainties

Section II, which presents the research agenda, draws heavily from various ISRP and ISAB reports, a reasonable and appropriate use of these documents, which constitute recent

reviews and syntheses that were commissioned from independent panels of experts. This provides an efficient way to set short-term research agendas.

Section II, the core research agenda, lists 61 priority uncertainties/questions. The set of topics is well chosen and covers the current scope of understanding of critical information needs, using a familiar and tractable set of categories. However, the number of priority questions remains too large, and the questions themselves vary considerably in generality/specificity and include redundancy. Additionally, some of the research questions are unclear or not well-cast to motivate definitive research. The ISAB/RP suggest some synthesis/rewording in the 15-page example Summary Plan.

The lists of uncertainties, though much improved, still suffer from inconsistency. Some still contain some very specific uncertainties, while others are very general, which is probably the correct level for a basinwide research plan. The critical uncertainties identified in section II are of variable utility: some are framed too narrowly, and others are worded so vaguely that they do not have clear associated metrics or experiments. The earlier ISAB/RP review intended to suggest that the key uncertainties should be framed in very general terms, but some of the uncertainties listed in the latest draft are still overly specific.

In addition, there is some inconsistency in the format in which the uncertainties are presented. For example, those listed in the Hydrosystem section include explanatory language following each italicized uncertainty. Lists in all the other sections do not expand on each key uncertainty within the list itself, but provide the required background in the general discussion at the beginning of each section. The same format should be used for all the key research topics. Also, the overviews do not seem to provide similar levels of detail, or even seem to be addressed to the same audience.

Additional care needs to be given to the wording of each uncertainty. For example, under Natural Variation and Ocean Productivity, the first Critical Management Uncertainty was “Should hatchery production be scaled back during periods of low ocean productivity in order to minimize competition in the estuary or marine environments?” In this instance, the described uncertainty is worded in a fashion that restricts the thinking about the issue. Wording such as “What are the anticipated consequences for natural stock abundance and productivity, harvest opportunities, and marine food webs from modifying hatchery production in response to marine productivity?” permits considering modifications of hatchery releases beyond just reductions during periods of low ocean productivity.

Section III: Monitoring and Evaluation

The Monitoring and Evaluation (M&E) component of the Research Plan is given its own lengthy section, probably reflecting the early stage of M&E in the Columbia River Basin and the Fish and Wildlife Program, as well as the efforts of the Council to bring together a coordinated M&E group, but the section is very rough and unintegrated, and the length is unbalanced and distracting. Too much background information is presented, much of which is presented elsewhere and is unnecessary here or is peripheral and can be eliminated. This section should be

reduced to the minimum information necessary to establish the need for M&E and describe the existing M&E structure in the region. All that is necessary is a succinct overview and a list of critical uncertainties.

Section IV: Implementing Research Recommendations

This section contains much superfluous material. The section would benefit from much less detailed description of the funding process. The document might better have a separate section on Implementation, in which the Regional Research Partnership could be highlighted, as it is a bit buried now.

The uncertainties contained in the lists in Section II are prioritized in Section IV, but the relationship between these priorities and the Key Management Uncertainties listed in earlier sections is not explained. The current construction is confusing: if these are truly the key uncertainties, why go to the trouble of listing those uncertainties that don't make this list in the earlier sections of the plan? Wouldn't that demote the uncertainties that don't make the prioritized list to something less than key? Also, it would seem that a more formal process than a ranking of the key uncertainties by Council staff or by the ISAB/ISRP would be required to arrive at a final, prioritized list. The Regional Research Partnership could be an appropriate body, perhaps in conjunction with the ISAB/ISRP, to identify the list of key priorities. Such a process would engage partnership participants and provide some cross-institutional buy-in to the prioritization. The vision that a prioritized list of critical uncertainties will be developed suggests that the lengthy lists of uncertainties that were included in the first draft, and have now been moved to appendices, do not need to be included in the plan.

Appendices

The appendices are too long and would be more useful with some explanation of why each is included; A and B are fairly clear, but the roles of the others are not clearly explained. The "subject area" appendices should be combined to be consistent with any restructuring of the main document, with brief explanatory introduction stating what they contain. If these are more comprehensive lists of those in the main document, they should be listed at consistent levels of aggregation across sections, with sub-questions where appropriate. If they are just lists of every question identified in the workshop, they should be consolidate into themes (topical areas). Additionally, the appendices should be limited to only material that expands that presented in the plan to a degree useful to the reader. Does the reader really need to know all the detail about where these recommendations came from and prior efforts? Couldn't this be summarized?

The sentences that follow each list of Critical Management Uncertainties in Section II of the Plan should be removed to clarify that the Appendix only shows what input was received on the Plan and does not constitute part of the current research agenda.

Table A in Appendix A was readable and useful, assuming the management questions have been reviewed and confirmed as realistic. For example, have the "desired conditions or

objectives” (p. 113) been clearly identified for the estuary? Usually “desired conditions or objectives” are not shaped solely for scientific reasons, but researchers should be involved to inform other stakeholders if the objectives can actually be reached. Also, the list of metrics does not identify processes or changes in rates of processes as a desirable metrics (with some exceptions, e.g. growth). There is no mention of changes in primary or secondary production, for example, as possible ecosystem attributes to use. The list of metrics for both habitat and population measures are long, and research is needed to determine which ones are the most important for understanding the system and giving decision makers the best information.

Including the appendices has the positive effect of noting the contributions of all who tried to help form the Plan, but it should be made very clear that these appendices are not part of the Plan and are not to be considered a source of justification for priority of projects during the proposal review. Some of the questions/topics that appear in the appendices would not receive broad support as critical uncertainties in an independent review. (They did not in the last ISAB/RP review.) The appendices are supplemental to the Plan and should be clearly set apart if left in the Plan.

Terminology

The term “critical management uncertainties” is problematic, since this is a research plan. It is driven by management needs, of course, and brief mention of these can be made in the introduction (e.g. Why do we need a research plan? It’s because we have management mandates to conserve and restore fish and wildlife, and these actions are constrained by inadequate information, etc.) before moving on to research. Although management needs are the drivers of research needs, they should stay in the background of the plan. The ISAB/RP recommend the term “critical uncertainties” rather than “critical management uncertainties” and by that mean uncertainties critically needing research for their resolution.

The “Tier” terminology should be removed from the Plan, as its past use was inconsistent and so confusing.

There is a need for a mechanism to develop a lexicon for aquatic habitat types in the watershed and into the estuary to make sure researchers and managers speak the same language.