January 6, 2015

MEMORANDUM

TO: **Fish and Wildlife Committee members**

FROM: **Tony Grover**

SUBJECT: **IEAB proposal for Task 211 to identify Approaches to Improve Planning for Long-Term Costs of Fish and Wildlife Projects**

BACKGROUND:

Presenters: Dr. Terry Morlan, chair, and Dr. Roger Mann, member, Independent Economic Analysis Board

Summary The IEAB proposes to develop guidance for project sponsors that will assist and encourage them to: 1) disclose all expected costs; 2) provide a template for reporting all expected long-term costs, including maintenance, replacement and close-out costs; 3) consider how risk and uncertainty might affect long-term costs; and 4) consider, evaluate and select improved long-term alternatives. The IEAB will also develop economic information to assist in the development of the long-term maintenance plan and process identified in the Council's 2014 Fish and Wildlife Program.

Relevance The Council's 2014 Program suggests that "funding long-term maintenance of the assets that have been created by prior program investments" should be a top priority.[1] "There is a growing need throughout the Columbia River basin to protect or upgrade these investments as facilities age or become obsolete." Appendix P addresses

[1] Northwest Power and Conservation Council. 2014. Columbia River Basin Fish and Wildlife Program 2014. Pre-publication version. (October, 2014)

maintenance of Program investments. “Adequate and dependable operation and maintenance support is needed to ensure ongoing proper functioning of past infrastructure investments. Types of projects that require a long-term financial maintenance plan” include “fish screens, fishways and traps, hatcheries, lands and habitat actions.” Appendix P also states that the IEAB should assist a work group that will “define and develop a long-term maintenance plan and process.”

Workplan: This Task is an important component of the Council’s 1st priority in the 2014 Fish and Wildlife Program and is therefore a high priority of the 2015 fish and wildlife division workplan, which is being developed now.

Background: Projects often have important cost implications that are not foreseen or disclosed when projects are funded. Projects often have cost implications that extend beyond the existing two to five year planning horizon. Some projects become more costly to operate and maintain in the future, some may face costs associated with technological change or obsolescence, and some have future replacement, close-out, or decommissioning costs. Uncounted future costs can create a financial burden for the Program. Even if a cost can be foreseen, the amount and timing of the future cost can be highly uncertain. Better information on unforeseen or uncertain costs in both the short term (less than 5 years) and long term could help the Council make more informed decisions.

Project benefits can be increased, and costs reduced, by better cost planning that considers a project’s entire expected lifespan. Cost savings can be obtained by adopting project plans that provide similar or greater benefits at less long run total cost. Planning principles require that, where such superior alternatives may exist, these alternatives should be objectively compared to the proposed project. This task would provide guidance for staff and sponsors to help ensure that projects that are cost-effective in the long run are considered and implemented.

More Info: See attached document which is a description of Task 211: Approaches to Improve Planning for Long-Term Costs of Fish and Wildlife Projects

Independent Economic Analysis Board

Proposed Task 211

Approaches to Improve Planning for Long-Term Costs of Fish and Wildlife Projects

December 15 2014

BACKGROUND

The Council periodically reviews and recommends existing projects to Bonneville for a wide variety of fish and wildlife projects and activities that implement the Council's Columbia River Basin Fish and Wildlife Program (the Program). The Council's 2014 Program suggests that "funding long-term maintenance of the assets that have been created by prior program investments" should be a top priority.[1] "There is a growing need throughout the Columbia River basin to protect or upgrade these investments as facilities age or become obsolete." Appendix P addresses maintenance of Program investments. "Adequate and dependable operation and maintenance support is needed to ensure ongoing proper functioning of past infrastructure investments. Types of projects that require a long-term financial maintenance plan" include "fish screens, fishways and traps, hatcheries, lands and habitat actions." Appendix P also states that the IEAB should assist a work group that will "define and develop a long-term maintenance plan and process."

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This work would develop guidance for Council staff, BPA and sponsors to ensure more complete and long-run cost reporting, consideration of potential cost savings and reasonable alternatives, and planning for risk and uncertainty. The Council, working with

[1] Northwest Power and Conservation Council. 2014. Columbia River Basin Fish and Wildlife Program 2014. Pre-publication version. (October, 2014)

project sponsors and Bonneville, will use this information in its project reviews to improve the biological effectiveness and cost-effectiveness of Program expenditures. This information should also help the Council identify and support cost-effective fish and wildlife projects and assist Bonneville in planning for future Program costs.

STATEMENT OF WORK

The IEAB proposes to develop guidance for project sponsors that will assist and encourage them to: 1) disclose all expected costs; 2) provide a template for reporting all expected long-term costs, including maintenance, replacement and close-out costs; 3) consider how risk and uncertainty might affect long-term costs; and 4) consider, evaluate and select improved long-term alternatives. The IEAB will also develop economic information to assist in the development of the long-term maintenance plan and process identified in the Council's 2014 Fish and Wildlife Program.

Expanded short term project cost information

The IEAB will review existing guidance past experience for reporting costs, and results in terms of documented costs within the five year time frame to consider whether existing guidance could be improved. A few case studies where some costs were not anticipated will be explored. Sources of information to review include project proposal forms and guidance, contract language, annual reports and Pisces.

The IEAB will consider whether collection of additional information about short-run costs is justified, and whether such information could be provided by project sponsors. We will work with Council staff to determine if any short-run costs tend to be unreported, if they could make a difference to Program planning, if project sponsors could provide useful related information, and if this related information might be worth the reporting costs. If so, guidance will be developed to ensure full cost reporting. Potential changes to Pisces (and if applicable Taurus) and project proposal forms, will be considered and recommended.

Identification of Long term planning and O&M costs

More importantly, project sponsors use the proposal form currently report expected Program costs to be funded for a period of up to five years. Long term planning requires reporting of expected Program costs for the expected duration or useful life of the project. The guidance will ensure that a reasonable no-project alternative is used as a basis for comparison. The new guidance would support long term planning by obtaining information about the expected life of project costs and benefits, what costs might be expected in the future, including replacement costs of project components within the expected project life, likely operations and maintenance requirements in the long term, and how risk and uncertainty might affect the long-term future of projects and their costs and benefits.

The information to be requested may include:

- the *expected life of a project* measured as the longer of years of costs or years of anticipated benefits. If expected project life is no more than the proposed funding period then the query regarding long-term costs would be complete.
- the *expected life of project components* that may need to be replaced within the expected project life, and the *replacement cost* for these components;
- all *operations, maintenance and repair (OM&R) costs* for the entire expected project life;
- a summary of all ongoing *research, monitoring and evaluation* (RM&E) work required for the project;
- *decommissioning or close-out costs* expected at the end of the project's useful life should be reported.
- the extent to which project costs will be *reversible*, and how and when. Costs are reversible to the extent that project investments could be recovered by selling project assets, or allowing their conversions to some reasonably foreseeable alternative use. The amount of project funds that would no longer be obligated if the project had to end, and the expected salvage value of assets that could be sold, should be discussed qualitatively and quantified if possible.

Potential changes to Pisces, including a summary of long-term cost reporting will be considered and recommended.

Risks and uncertainties

There are always risks and uncertainties associated with expected project accomplishments and costs. For purposes here, risk exists where a probability distribution (a range of outcomes and their probabilities) involving the amount of accomplishment or cost can be estimated. Uncertainty exists where no such probability distribution or cost can be estimated. For example, flood risk is often estimated from the historical runoff probability distribution, but climate change means that historical floods may not be an accurate guide to the future.

Uncertainty involving the impact of future climate change on project costs or benefits should be explicitly addressed and reported. The consideration of climate change may be improved if some climate uncertainty can be expressed as potential climate scenarios rather than an open-ended question. The IEAB will work with Council staff to explore a routine for considering climate change for long-duration projects.

The guidance will ask sponsors what sources of risk and uncertainty could affect project benefits and long-run costs. A list of examples such as population growth and future development, invasive species, or increased use, will be provided.

More formal reporting of project alternatives

For most project actions, there are alternatives that could accomplish the same general objectives differently. A fair consideration of alternatives helps ensure that the best alternative in the long term is being proposed for funding. An alternative might involve

different size, methods, location, timing, duration, or technologies, among other differences. A list of typical alternatives for each given project action will be provided. For most projects, scale or size is an important choice that should be identified and defended.

The amount of effort that should be expended on alternatives analysis depends largely on the quality of alternatives and the size (cost) of the proposed alternative. The more expensive a project is, and the more alternatives for accomplishing the same project objectives exist, the more cost and time is justified in analyzing alternatives.

The guidance will suggest that any alternatives that might provide greater or similar biological benefits at similar or lower long-term cost should be described and evaluated. The types of alternatives that should be considered for each type of project will be suggested, and a template for reporting alternatives analysis will be provided.

Coordination

The IEAB will work closely with Tony Grover, Director of the Fish and Wildlife Program and other staff members of the Fish and Wildlife Division. A number of other parties including the ISRP and BPA, including Contracting Officers (COs) and CO Technical Representatives, will need to be consulted to assist with the project proposal guidance, including questions about how the guidance should be delivered, what different versions are appropriate for different situations, and who should be responsible for responding to the guidance.

DELIVERABLES

Deliverables will include

1) a report that summarizes and documents the IEAB's findings related to the long-term maintenance plan and process, including problems that need to be addressed, potential for improved Program management through more cost information, reporting of short and long-run costs, risk and uncertainty, and project alternatives, and recommended changes for cost planning and reporting, in particular, in Pisces.

2) A decision tree and supporting information including suggested language for new guidance for project sponsors.

The guidance will be structured as a series of questions, with explanations, where a decision tree structure will first guide staff and sponsors to the appropriate protocols, and then, to the appropriate questions, for their unique project situation. Important questions to segregate proposals involve project type such as habitat, hatcheries, harvest, fish passage or monitoring; project duration, measured as the number of years of costs and benefits; and size, measured as total cost. Supporting documentation for project sponsors to provide will be suggested.

LEVEL OF EFFORT

Budget

Labor: 200 hours IEAB members time @ $90/hour	$18,000
Total	$18,000