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Washington

September 4, 2013

## MEMORANDUM

**TO:** Council Members

**FROM:** Tony Grover – Director, Fish and Wildlife Division  
Jim Ruff – Manager, Mainstem Passage and River Operations

**SUBJECT:** Briefing on the IEAB Annual Report

Dr. Roger Mann, who is the Chair of the Council's Independent Economic Analysis Board (IEAB), will provide a briefing on the IEAB's 2013 Annual Report to the Council at the September 11, 2013, meeting in Coeur d'Alene, Idaho. Dr. Mann will update the Council about the IEAB's work activities in 2013, as well as suggesting some potential ideas for additional work in 2014. The IEAB's Annual Report is attached for your review.

Attachment

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**Independent Economic Analysis Board**  
for the Northwest Power & Conservation Council  
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Portland, Oregon 97204  
[www.nwcouncil.org/fw/ieab](http://www.nwcouncil.org/fw/ieab)

September 4, 2013

Council Members:

This letter is to update the Council regarding our activities in 2013 and to suggest some ideas for additional work in 2014.

The IEAB currently consists of five members:

Roger Mann, Chair.  
William Jaeger, Vice-chair  
Noelwah Netusil  
JunJie Wu, and  
Daniel Huppert

The IEAB has been operating under a new charter since 2011. We are meeting by phone at least three times a year, in person at least once per year, and by phone as needed.

Our main activity in 2013 was the preparation of the report, *Cost-Effectiveness of Fish Tagging Technologies and Programs in the Columbia River Basin*, published June 2. This report, led by Bill Jaeger, was certainly one of our most ambitious to date. The report documents a large modeling effort, literally covering the entire Columbia Basin, which used optimization techniques to explore fish tagging cost-effectiveness. In addition, Dr. Jaeger, IEAB members and other experts explored some fundamental issues in fish tagging economics which include cost data, the characteristics and substitutability of different tagging technologies, economies of scale, redundancy, and economics of sample size. We were able to draw important conclusions regarding the roles of PIT, CWT and genetic tagging and the comparative cost-effectiveness of CWT and genetic methods for harvest monitoring.

Our other major activity in 2013 was preparation of the report, *Invasive Mussels Update: Economic Risk of Zebra and Quagga Mussels in the Columbia River Basin*. This report updates and expands on information we provided in a 2010 report. Originally, we expected the report to develop a quantitative framework for assessing the economics and financing of mussel prevention. With major uncertainties regarding the potential costs of invasive mussels in the region, common sense dictated that we should continue to develop information that could help to reduce such uncertainties. As with the 2010 report, we benefited from a high level of involvement by Council staff and outside scientists. The report finds that, while prevention efforts have expanded, there are still policies and programs that could be improved. New information has confirmed our 2010 finding that, in a large share of the Basin, invasive mussels represent a substantial threat to the Council's Fish and Wildlife Program investments.

Possible topics and issues we have identified for 2014 include:

Continue tagging model development. The IEAB would like to continue to participate in model development to improve cost estimation, consider more tagging programs, and compare multiple scenarios regarding tagging policies. The extent and timing of any work will depend on the availability of Dr. Jaeger.

Habitat restoration versus protection. The Fish and Wildlife Program is often faced with decisions about habitat restoration or protection. The IEAB could explore the potential for economic comparisons of restoration and preservation. There are many possible types of habitats, and even within a given type of habitat, results can be case-specific. It would be useful to identify some real-world instances where both restoration and protection are possible, but one approach might be more cost-effective than the other. In particular, the IEAB could explore the economics of restoration or protection for shallow fish habitat in estuaries.

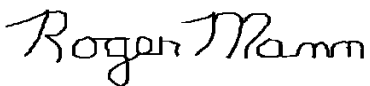
Discounting of habitat investments for salmonids. Fish and Wildlife Program investments have a variety of time frames for their expected improvements, from nearly immediate (for example, culvert replacements for passage) to decades (establishing forested habitat). Economic discounting deals with the extent to which future benefits of investments should be diminished to account for time preference. The IEAB could review discounting theory and investigate how alternative discounting methods might be applied to the benefits of Fish and Wildlife investments.

Risk, uncertainty and monitoring costs. Fish and wildlife investments involve a range of risks and uncertainties regarding their outcome. Monitoring of programs and projects provides information regarding actual outcomes. This project would explore how the appropriate size of monitoring investments might be based on expected size of benefits, risk, uncertainty, and potential for adaptive change.

Finally, the U.S. Army Corps of Engineers and other federal agencies are developing guidelines for utilizing appropriate methodologies and practices for the valuation of ecosystem services. The Council staff will obtain available information about these practices and share it with the IEAB. If appropriate, Council staff will arrange for an IEAB briefing and, if there are important implications for the Fish and Wildlife Program, the IEAB would propose a task to inform the Council regarding: 1) potential implications of federal agency economic protocols; and 2) potential applications of ecosystem valuation methods within the Fish and Wildlife Program.

For the IEAB,

Roger Mann

A handwritten signature in black ink that reads "Roger Mann". The signature is written in a cursive, slightly slanted style.

Cc: All Council