

Independent Economic Analysis Board

Task 138

Interactions Between the Fish and Wildlife Program and the Sixth Power Plan (Phase 1)

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IEAB Member

Background

- Council staff is presently working to develop the Sixth Power Plan
- The IEAB was asked to look at interactions between the Power Plan and the Fish and Wildlife Program

IEAB Approach

The IEAB identified a number of potential interactions:

- **Effects of mainstem actions including the 2008 BiOp and Columbia River Fish Accords on generation and survival**
- **Increased power costs may reduce demand**
- **Uncertainties about mainstem improvements and spill levels that should be acknowledged**
- **Potential role of environmental credit markets**
- **Impacts from integration of wind and solar generation**
- **Impacts from changes in water storage and use**
- **Others**

Mainstem Actions from 2008 BiOp and Fish Accords

- Impacts of spill have been well studied
- 2008 BiOp & Accords will increase FWP costs by \$90 million and reduce generation by \$15 million relative to 2004 BiOp
- Passing costs on to BPA customers could reduce demand by
59 to 177 MWa in short run
295 to 472 MWa in the long run.

Other Mainstem Changes May Affect Fish And Hydropower

- Recent and projected changes in fish bypass facilities could affect fish passage and hydropower generation
 - Removable and temporary spillway weirs
 - Effects of litigation
- Would it be cost effective to reduce spill and spend the savings on other actions such as habitat improvement?
 - Potential is limited by ESA and other commitments

Environmental Credit Markets

- Sixth Power Plan will address the “carbon footprint” of the region’s power system
- BPA’s Wildlife Mitigation Program has protected ~300,000 acres that have carbon sequestration benefits
- Can the carbon credits from habitat projects offset carbon emissions from generation?
- Can sale of environmental credits help defray cost of habitat projects?
- The Sixth Power Plan should recognize potential for participating in environmental credit markets
- The IEAB would like to continue monitoring how these markets develop



John Day Dam and Wind Turbines, 4/13/09, 2:30 pm

Emerging Generation Technologies

- Wind generation only works when wind blows, solar only when the sun shines
- Hydropower is increasingly valuable to fill in the gaps, but is constrained by fish needs
 - When not enough wind ...
 - When too much wind ...
- Integration may require “power emergency” rules, pump storage, improved transmission system, and/or real time pricing
- Sixth Power Plan needs to recognize integration costs
- Additional study is needed to show the full costs of emerging generation systems, and their linkage to fish and wildlife concerns

Changes In Water Storage And Use

- Recent proposals for water projects in upper basin
 - Proposed storage, artificial recharge in Idaho
 - Proposed storage, draft Lake Roosevelt in Washington
 - Artificial recharge, possible storage in Oregon
- Proponents argue that projects have fish benefits
- Projects increase upstream water use and change timing
 - impact on hydropower
- Roosevelt drawdown and Idaho recharge are probable
 - other storage proposals are very uncertain
- Several small dams in region are being removed for fish
 - little effect on PNW hydropower generation
- IEAB could monitor proposals and likely effects

Summary

- **The Sixth Power Plan needs to address:**
 - **Effects that 2008 BiOp and Accords will have on power generation, cost and demand**
 - **Effect that mainstem passage changes and litigation may have on fish survival, spill, and generation**
 - **Potential carbon offsets and other credits from habitat projects**
 - **Implications of fish constraints on cost of integrating alternative generation**
 - **Hydropower impacts of possible changes in water storage and use**
- **Many of these topics would benefit from additional IEAB analysis in a Phase 2 study**

Questions?