

# MYTHBUSTERS #3

## Public Power Council Fish and Wildlife Committee *Revealing Fish and Wildlife Myths*

**MYTH:** *Lost generation costs are not real.*

### **THE FACTS:**

- Spill and flow augmentation reduce the amount of water available to generate power, which:
  - ⇒ Reduces BPA's ability to meet contractual obligations to provide power, requiring them to purchase replacement power, and
  - ⇒ Reduces the ability of BPA to sell surplus power produced and reduce rates.
- The Northwest Power Act requires lost generation costs to be identified in order to do a cost-benefit analysis of fish and wildlife mitigation actions.
- The method for calculating these costs is based on fundamental economic theory.
- Cost-based rates are increased by both the additional costs of replacement power and the loss of a source of power revenue.
- To achieve an honest cost-benefit evaluation, estimates of specific biological benefit of hydro system mitigation actions are needed.

### **What arguments are used to support this myth?**

- **No right to the river.** Parties suggest that to estimate lost generation assumes that the Federal Agencies have the right to generate electricity using all water in the river. Those that do not support the lost generation concept suggest that the water in the river is to be used for fish first and that Federal Agencies cannot assume that they can generate with any of the water in the river.
  - ⇒ **Counter:** *Legally, the project authorizations provided the Federal Agencies with the authority to use the water in the river.*
- **Speculative.** Parties argue that estimates of lost generation are just speculative estimates of what BPA believes they would have purchased or generated and earned.
  - ⇒ **Counter:** *Bonneville uses actual system capacity, streamflow, load, and market price data to estimate the lost revenue impacts.*
- **Actions are non-discretionary.** Parties argue that these actions are mandatory and that the Federal agencies have no discretion in whether to implement the operations. Therefore, lost generation should be accepted and reflected as a change in the value of the asset rather than an annual fish and wildlife cost.
  - ⇒ **Counter:** *Operations can and do change regularly with current conditions and new information and, therefore, are discretionary.*
- **No lost generation for other uses.** Parties argue that costs of lost generation are selectively applied to fish mitigation and are not developed or calculated for the other non-power uses such as irrigation, flood control, navigation and recreation.
  - ⇒ **Counter:** *The Council has estimated the opportunity cost of irrigation to be approximately 625 average megawatts. Flood control, transportation, and recreation have small opportunity costs and have not been estimated.*

### **What this means:**

- The costs associated with lost generation are legitimate and appropriate to be included in cost and rate impact evaluations.
- Quantifying the impact of lost generation is needed in order to make informed decisions about the relative cost-effectiveness of measures.
- The Region needs to clearly define the benefits of hydro system mitigation to fish and wildlife, in order to provide honest cost-effectiveness evaluation.

## What are the supporting arguments for this fact?

- 1. Spill and flow augmentation reduce the amount of water available to generate power.** On average the FCRPS has reduced energy production by approximately 1000 aMW as a result of operational changes related to fish passage. These changes come at an average estimated cost of \$350 million.
  - The impact can be significant in poor water or market conditions. During the 2001 Power Crisis, Bonneville spent approximately \$1.5 billion on purchases for replacement power.
- 2. The Northwest Power Act requires lost generation costs to be identified in order to do a cost-benefit analysis of fish and wildlife mitigation actions.** Section 4(h)(6)(c) of the Power Act instructs the Council to *“utilize, where equally effective alternative means of achieving the same sound biological objective exist, the alternative with the minimum economic cost...”*
  - To pick the least cost alternative, the Council must have appropriate cost estimates. In order to compare the cost effectiveness of a new hatchery to a new operational measure, an estimate of the impact of lost generation is necessary to compare to the capital and O&M costs of the hatchery.
- 3. Cost-based rates are impacted by the additional costs for replacement power and the loss of a source of power revenue.** Revenue generated from the sale of surplus power is used to reduce cost-based power rates for utility customers. A reduction in surplus power revenue without any corresponding reduction in costs will increase cost-based power rates.
- 4. The method for calculating these impacts is based on fundamental economic theory.** The cost of BPA’s reduced ability to sell power is developed by estimating the amount of power that could have been produced and the price at which it could have been sold. This method is based on the fundamental economic theory of opportunity cost which is defined as *“the value of a product foregone to produce or obtain another product.”*
- 5. To achieve a meaningful cost-benefit evaluation, estimates of biological benefit are needed.** Effective cost-benefit analysis is predicated upon both good cost estimates as well as good estimates of the benefits received for those costs. The Region currently has a limited number of meaningful measures for biological benefits associated with hydro system mitigation actions. Without benefit estimates, decision makers are left with only half of the equation and costs alone cannot determine the efficacy of a project.