

SUMMARY
ECONOMIC ANALYSIS OF CRITICAL HABITAT DESIGNATION
FOR THE BULL TROUT

Background

In November 2002, the U.S. Fish and Wildlife Service proposed designation of critical habitat for the Columbia River and Klamath River distinct population segments of bull trout (*Salvelinus confluentus*), hereafter "bull trout," in the states of Idaho, Montana, Oregon, and Washington. The proposed designation includes 18,469 river miles and 532,721 acres of lake and reservoir habitat divided into 25 units.

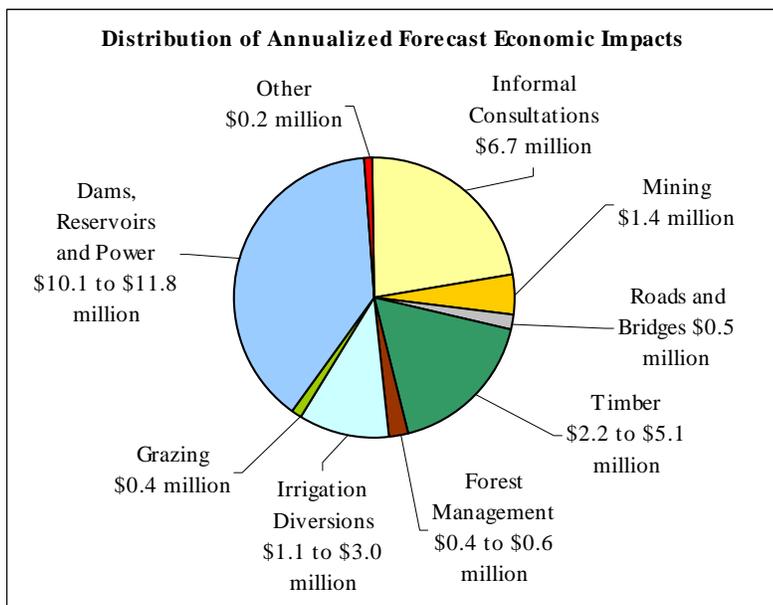
KEY FINDINGS

- Coextensive costs associated with critical habitat designation for the bull trout are forecast to be \$230 million to \$300 million over the next ten years.
- Federal agencies are expected to bear 75 percent of these costs (most significantly dam and reservoir operations and timber harvest); with private entities incurring the remaining 25 percent (most significantly irrigated agriculture, mining, and hydroelectric facility re-licensing).
- U.S. Forest Service (USFS) and Bureau of Reclamation (BOR)-related activities account for approximately two-thirds of forecast costs.
- Project modification costs account for as much as 70 percent of forecast costs. Administrative costs represent the remaining 30 percent.
- Dam and reservoir-related activities, including power facility re-licensing, account for 51 percent of forecast costs. Timber harvest, agricultural water diversions and mining account for 22 percent, 13 percent, and six percent of costs, respectively.
- On a cost per unit basis, the highest costs are expected to occur in Unit 20, the Middle Columbia River Basin (17 percent). The next most costly unit is Unit 4, the Willamette River Basin (15 percent), followed by Unit 16, the Salmon River Basin (11 percent).
- In terms of river miles, approximately 15 percent of the total forecast costs are associated with one percent of the proposed designation, 30 percent with four percent of the proposed designation, and 45 percent with ten percent of the proposed designation. When expressed in terms of the expected cost per river mile, the three most costly units are the Willamette River (Unit 4), Middle Columbia River (Unit 20) and Malheur River (Unit 13) basins.
- Small business impacts are expected in the Middle Columbia River Basin (Unit 20) for agriculture, Lower Columbia River (Unit 19) and Northeast Washington River basins (Unit 22) for hydroelectric producers, and John Day River Basin (Unit 8) and Hells Canyon Complex (Unit 12) for placer mining.

Major Effects of the Proposed Rule

Dam and Reservoir Operations: Most of the forecast costs resulting from designation (51 percent) are dam and reservoir related (excluding agricultural water diversions). These include impacts on Army Corps of Engineers and BOR dam and reservoir operations, Bonneville Power Administration operation of the Federal Columbia River Power System, and private entity hydroelectric re-licensing activities with the Federal Energy Regulatory Commission. The types of impacts include provision of fish passage, changes

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in operations, habitat protection or restoration, and fishery studies. The designation is expected to impact small hydroelectric producers in Washington, Oregon, Idaho and Montana. Specifically, the resulting costs could have a significant economic impact on the financial operations of Cowlitz County and Pend Orielle County Public Utility Districts, located in the Lower Columbia River (Unit 19) and Northeast Washington River (Unit 22) basins, respectively.

Agriculture Irrigation: Irrigators could be impacted by potential reductions in water deliveries from Federal irrigation impoundments to maintain instream flow

during dry years (13 percent of forecast costs). Reductions in contractual BOR water deliveries are expected to occur in the Middle Columbia River Basin (Unit 20). Impacts on small business farming operations in this unit are possible. While reductions in USFS water deliveries are also projected, there is a large degree of uncertainty as to where the reductions might occur. Forecasts of the likely impact of designation on irrigated agriculture requires consideration of complex hydrologic and climatic conditions, government policies and water law and regulations.

Timber: The remaining forecast costs are primarily associated with timber harvest (22 percent). The types of impacts include harvest reduction, fishery study and monitoring costs, costs related to roads and culverts, and changes to log yarding systems. While the additional costs associated with timber harvest activities may be incurred by private entities, it is expected that a large portion of the costs may be passed onto the Federal government through lower bids for timber. These impacts are likely to occur in the Salmon River (Unit 16), Clark Fork River (Unit 2), Southwest Idaho River (Unit 17) and Clearwater River (Unit 15) basins as these units contain the largest portion of USFS managed lands.

Mining and Other Activities: Section 7-related costs are also forecast for mining (six percent). These include large-scale hard rock mining and recreational suction dredging activities in the Clearwater River (Unit 15) and Clark Fork River (Unit 2) basins and placer mining operations in the John Day River Basin (Unit 8) and Hells Canyon Complex (Unit 12). Because of reductions in the length of the mining season, placer miners are expected to bear most of the mining impacts, with timing restrictions significantly affecting approximately 15 operations annually. Of the remaining activities, grazing, forest management, road and bridge construction and maintenance and other activities, each account for less than three percent of forecast costs.

Cost by Unit: On a cost per unit basis, the highest costs are expected to occur in the Middle Columbia River (Unit 20, 17 percent), Willamette River (Unit 4, 15 percent), and Salmon River (Unit 16, 11 percent) basins. Considering the cost per river mile, the Willamette River (Unit 4) and Middle Columbia River (Unit 20) basins are the most costly units. Together these units account for 30 percent of the costs (approximately \$10 million, annualized) with only four percent of the proposed miles of the designation. Overall, approximately ten percent of the river miles account for about 45 percent of the total costs.

Annualized Total Cost By Unit, High Range (\$ millions)

