

Total Expenditures through Fiscal Year 2001

From 1978 through Fiscal Year 2001, Bonneville's fish and wildlife expenditures to implement the Council's program totalled \$6.01 billion. This represents a net increase of about \$2.5 billion from the cumulative total of \$3.5 billion we reported in our inaugural report in 2001, which covered the years 1978-1999. That total figure, however, did not include the cost of two key elements of fish and wildlife program expenditures in 1999. Power purchases and forgone revenues have been calculated since then and are included in the new total.⁵

Power Purchases Attributed to Fish Operations at the Dams

Of the \$6.01 billion spending total for the years 1978-2001, \$1.39 billion, or 23 percent, represents a calculation of power purchases attributable to fish operations at the dams in Fiscal Year 2001 alone. In general, power purchases that Bonneville attributes to fish operations are for lost energy production caused by spill, flow augmentation, lowered forebay elevations at the dams or other hydropower operations for fish required by the federal Biological Opinions, such as requirements for water storage in upstream reservoirs. Bonneville also purchases power to meet load — the demand of its customers. Power purchases to support fish operations are distinct from forgone revenues, which Bonneville also includes

in its accounting of total fish and wildlife costs. Forgone revenues are discussed in the next section of this report.

In its Fiscal Year 2001 annual report, Bonneville reported that its total power purchase costs increased by 262 percent compared to 2000, and that it had to purchase 137 percent more megawatt hours in 2001 than in 2000. According to the report, Bonneville's total expenditure for power in 2001 was \$2.29 billion — \$1.39 billion of this attributable to fish operations required by the Biological Opinions.

As noted earlier, because of California's energy crisis and the drought, 2001 was a year of extraordinarily high power prices for all West Coast power purchasers, including Bonneville. Like other power purchasers, Bonneville was forced into a West Coast power market characterized for the first several months of the year by tight supplies and high prices. In fact, in 2001 the relative cost in terms of power purchases of all dam operations, including non-power operations such as irrigation, recreation, flood control and navigation, rose to unprecedented levels.

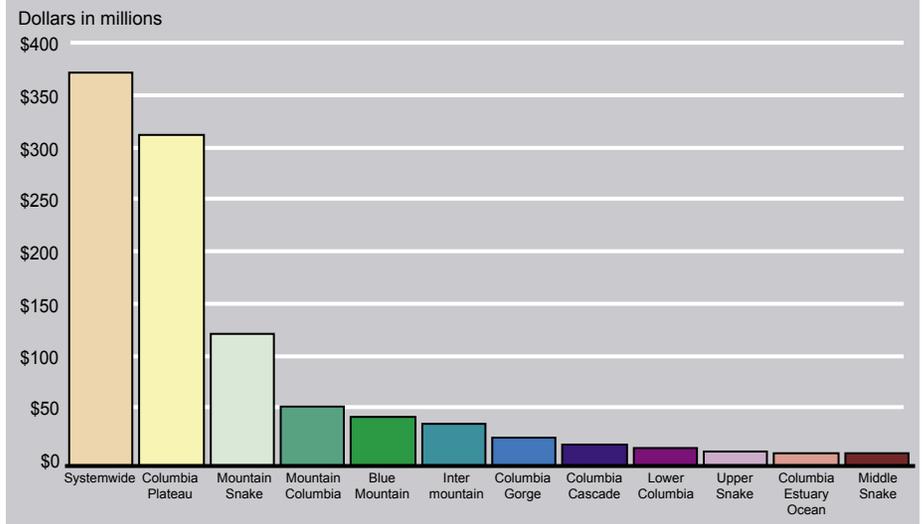
Collectively, non-power uses of the dams account for 23 percent of their authorized purposes; hydropower accounts for 77 percent. Bonneville pays all of the costs of dam operations

and then receives a credit against its annual debt-service payment to the U.S. Treasury for the 23 percent attributable to non-power uses. In 2001, the credit amounted to \$337 million (23 percent of \$1.39 billion), according to figures provided by Bonneville. In addition, Bonneville also received a credit of \$247 million in 2001 because of the power emergency. That money represented a portion of the credits that had accumulated over time. Thus, Bonneville received a credit against its Treasury payment of \$584 million in 2001, and so

the net power purchase costs attributable to fish operations were \$806 million.

To determine how much of its power purchases to attribute to fish operations, Bonneville performs two annual calculations of its total power purchases — one that includes the Biological Opinion requirements for river operations and one that does not. Bonneville attributes the difference in power purchases to the fish requirements and, therefore, assigns the costs to its fish and wildlife budget. It is difficult to distinguish power purchases that

FIG 6
BPA Direct Program Budget
Obligations by Province
1978-2001



⁵ For the inaugural report, Bonneville was not able to provide figures for forgone revenues (\$197.8 million) and power purchases (\$47.6 million) in 1999.

occur in response to fish operations at the dams from purchases that occur to meet demand for power. Water that is run through a dam for power purposes may also benefit fish downstream by keeping river levels higher than they would be otherwise, for example. So rather than use actual river operations like these in its calculations, Bonneville uses an estimate of the firm load carrying capability of the federal hydropower system — without fish operations — as the base and compares this to actual operations to determine how much lost energy production to assign to fish requirements. Rather than actual prices paid for power, Bonneville uses the Dow-

Jones Mid-Columbia average monthly price of bulk electricity to calculate the value of the power purchases. These calculations yield average losses and costs, which Bonneville believes is the fairest method of calculating them, as actual costs and power purchases will vary through the year.

Forgone Power Revenues Attributed to Fish Operations at the Dams

Of the \$6.01 billion spending total, approximately 20 percent (\$1.2 billion) was attributed to forgone hydropower revenues. These revenues were not realized due to lost energy production

caused by spill, flow augmentation, lowered forebay elevations at the dams or other hydropower operations required by the Council's program and the Biological Opinions.

To determine forgone revenues, Bonneville calculates the net value of the hydropower revenues gained and lost as a result of the fish measures. During average and near-average water years, Bonneville can absorb forgone revenues and still meet its financial obligations. In drier years, when the reduced water supply means less available hydropower, unrealized income from lost power sales becomes more controversial because of the impact on Bonneville's budget — especially if Bonneville has to purchase energy at other times of the year or raise its rates to compensate for lost revenues.

As with power purchases, not all spill is related to the fish operations. For example, from time to time water is evacuated from reservoirs for flood control purposes (sometimes through spill) or because there is no market at the moment for hydropower. Bonneville prepared such an accounting for spills that occurred between 1997 and 2000, and the data was reported by NOAA Fisheries in annual reports to the Oregon Department of Environmental Quality. While the amounts varied, less than half of the spill in those years was in response to fish operations, according to the Fish Passage Center. Forgone revenues that result from these river operations have not been calculated separately for this report, but the Council

will work with Bonneville to provide such an accounting in future reports.

2001 was a dry year, but Bonneville's forgone revenues and increased power purchase costs were lower than they might have been because, as noted at the beginning of this report, Bonneville declared a power emergency and provided only a portion of the required fish measures. For the year, Bonneville reported forgone revenues of \$115.9 million. That is less than in 2000, when forgone revenues totaled \$193.1 million, but significantly less water was spilled at the dams in 2001 than in 2000.

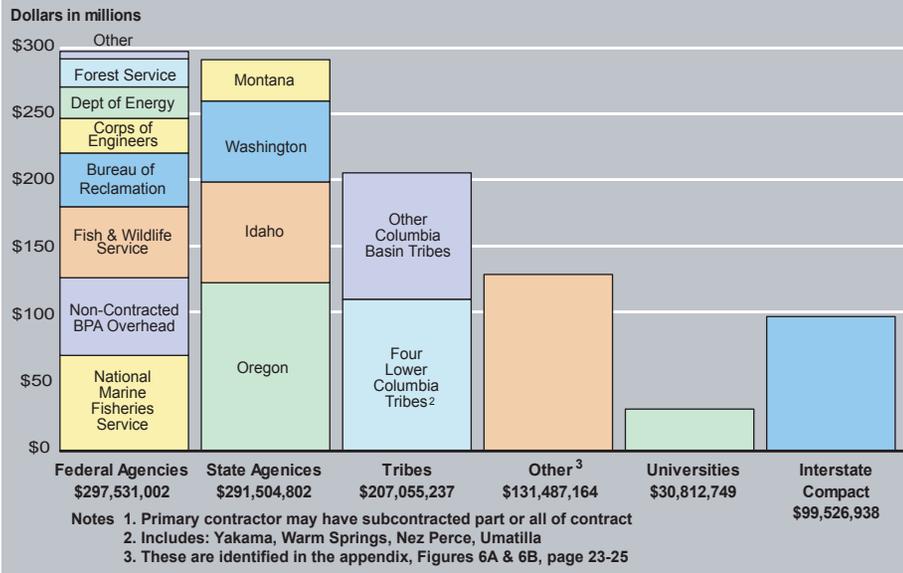
Direct Program Expenditures

The direct program, for which the Council provides oversight, accounted for \$1.02 billion between 1978 and 2001. This is approximately 16.9 percent of the total expenditures for that period.⁶

Bonneville provided a breakdown of its direct-program obligations by major categories for Fiscal Year 2000, but not for 2001. Figures for that year still were being calculated when this report was compiled.

For 2000, in which direct-program expenditures totaled \$115.2 million, habitat projects accounted for \$33.8 million (29.3 percent), artificial production of fish accounted for \$30.6 million (26.5 percent), mainstem Columbia and Snake river habitat expenditures totaled \$2.6 million (2.2 percent)⁷, and fish harvest programs amounted to \$1.2 million (1 percent). Bonneville also reported direct-program obligations of \$18.3 million for research and evaluation (15.8

**FIG 7
BPA Direct Program Budget
Obligations by Prime Contractor¹
1978-1999**



⁶ Direct program expenditures, 1978-2001, total \$1,020,200, or 16.9 percent of \$6,018,800,000.

percent), \$16.9 million for monitoring (14.6 percent), \$5.77 million (5 percent) for regional coordination efforts related to the fish and wildlife program, such as the work of the Columbia Basin Fish and Wildlife Authority, \$97,500 for data management (less than one-tenth of 1 percent) and \$5.72 million (4.9 percent) for Bonneville's internal program support.

It should be noted that Bonneville contracts with project sponsors to implement their projects, but that in most cases these "prime contractors" assign a portion of the work to others. This changes — significantly, in some cases — the amount of money actually received by the various parties that

implement the Council's fish and wildlife program. For example, between 1978 and 1999, the Oregon Department of Fish and Wildlife received \$121.4 million but distributed more than \$33 million of that amount to others — \$11.5 million of it to the Washington Department of Fish and Wildlife, for example. This disaggregated information — following the money from prime contractor to subcontractors — is not readily available for all contracts. But for the years following 2001, the Columbia Basin Fish and Wildlife Authority is able to track estimates of payments that will be made to subcontractors from information provided by project sponsors on their project proposal forms.

In terms of species, Bonneville's direct program obligations in Fiscal Year 2000 included \$83.6 million for anadromous (ocean-going) fish (72.6 percent of the total), \$19.5 million for resident fish (16.9 percent) and \$11.4 million for wildlife (9.9 percent).



⁷ This does not include the cost of improving fish passage survival at federal dams, which are reported separately. These expenditures are partially reimbursed by Bonneville to the federal agencies that operated the dams, either the U.S. Army Corps of Engineers or the Bureau of Reclamation. In 2000, the reimbursable expenditures totaled \$37.6 million. These are not part of the Council's direct program.