

II. Bonneville's Fish and Wildlife Expenditures

A. History

With an expenditure of \$800,000 in 1978, Bonneville's fish and wildlife expenditures have grown in size and complexity to \$399 million in 1995.⁷ With carryover from one year to another and the fluctuating amount of forgone revenue and power purchases, which vary with annual water conditions, the amount can be more or less in a given year. Bonneville anticipates this amount will increase during its next five-year rate period, 2002-2006, and has reported that its proposed rates should be sufficient to accommodate as much as \$300 million per year in additional fish and wildlife

costs as well as ongoing hydropower operations. The actual amount will not be known until Bonneville implements the Council's amended program and the hydrosystem biological opinions, and when hydrosystem reimbursable expenses are known.

B. Total expenditures

Bonneville's annual fish and wildlife budget, anticipated to be \$435 million in the 1996-2001 Memorandum of Agreement (MOA), is divided into four major categories. These include:

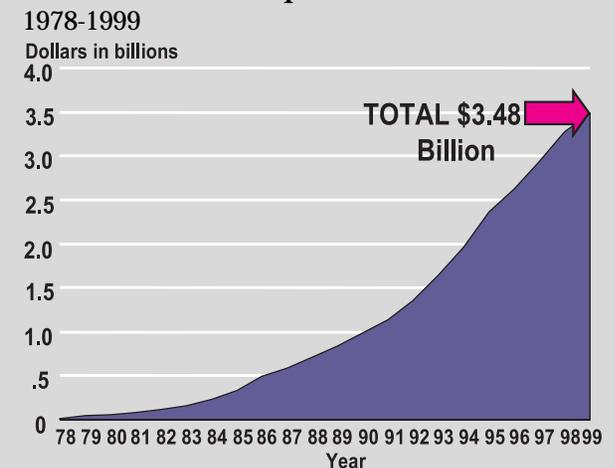
Direct program expenditures:
Through this budget, Bonneville

funds many of the initiatives in the Council's fish and wildlife program. This is perhaps the most diverse category of spending including research, monitoring and evaluation, hatchery construction and operation, wildlife land acquisitions, habitat projects and even Caspian tern decoys. In the MOA, the budget for these expenditures averages \$127 million per year, \$100 million in expense plus \$27 million in capital funding. From 1978 to 1999, the actual amount paid out as expense totaled \$810.9 million. Capital investment: Bonneville repays the U.S. Treasury for the

interest and amortization costs of fish facilities, many of which are constructed or operated by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and the Bureau of Reclamation on the Columbia River and its tributaries. In effect, the Treasury loans money for these projects, and Bonneville makes annual "mortgage" payments on these loans. Specifically, Bonneville repays the Treasury for federal agency investments in certain fish projects including hatcheries, dam modifications to abate dissolved gas, new barges for transportation of juvenile salmon, ladders for adult fish and bypass systems for juvenile fish at the dams. In the MOA, the budget for



FIG 1
BPA Fish and Wildlife
Cumulative Expenditures



these repayments average \$112 million per year, including the capital funding for the direct program. From 1978 to 1999 the actual amount totaled \$803.3 million.

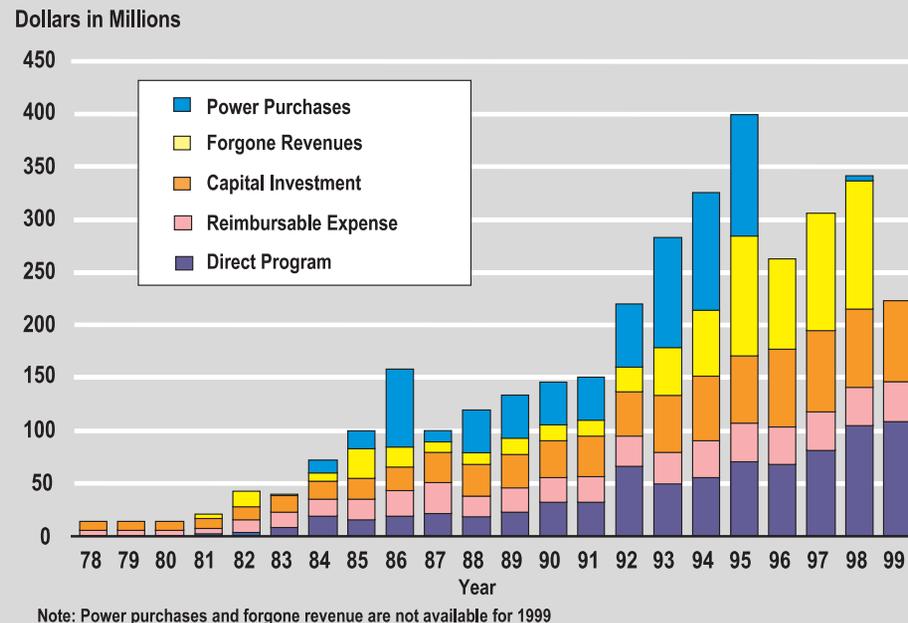
Reimbursable expenses: These are the operations and maintenance costs of some of the facilities mentioned in the capital investment budget above. This category also includes that part of the Northwest Power Planning Council's budget dedicated to fish and wildlife. In the MOA, budgets for reimbursable expenses average \$40 million per year; from 1978 to 1999 they totaled \$502.9 million.

Forgone revenue: In a good water year, Bonneville can meet its water flow targets for fish more easily, but during a dry year the needs are more demanding. Bonneville calculates the value of electric-

ity that it must forgo producing in order to reschedule flows or divert water over the spillways for fish as required by the biological opinions of the National Marine Fisheries Service or U.S. Fish and Wildlife Service, or called for in the Council's program. For example, the Council's program includes measures to change river operations to provide improved flows for salmon and steelhead in the Columbia and Snake rivers, and also for endangered white sturgeon in the Kootenai River below Libby Dam. This forgone revenue is charged against Bonneville's fish and wildlife budget as an annual expense. From 1978 to 1998, estimates of forgone revenue totaled \$698 million.

Power purchases: Also as a result of the annual water storage and river operations adopted to protect threatened and endangered species of fish, and to

FIG 2
BPA Fish and Wildlife
Total Annual Expenditures
1978-1999



mitigate impacts to other species of affected by the hydrosystem, Bonneville sometimes must buy power from other suppliers in order to meet its load requirements. Bonneville also charges these purchases against its fish and wildlife budget as an expense. In the MOA, forgone revenue and power purchases combined were expected to average \$183 million per year. From 1978 to 1998, actual estimates of power purchases totaled \$668.1 million.



C. Obligations by species

The Northwest Power Act assigns special significance to anadromous fish, those that migrate between fresh and salt water, among all of the fish and wildlife of the Columbia River Basin that have been affected by the construction and operation of hydro-

power dams. Thus, the Council has devoted much of its program, and therefore guided many of Bonneville's expenditures to mitigating the impacts of hydro-power on anadromous fish, primarily salmon and steelhead.

The record shows that

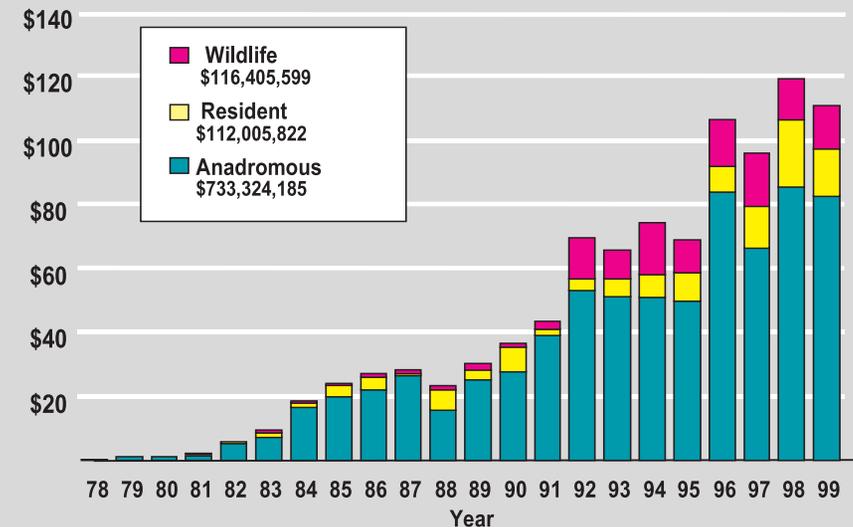
anadromous fish have been the primary beneficiaries of Bonneville's fish and wildlife expenditures. There are some small exceptions, but four of Bonneville's five major fish and wildlife budget categories — these are forgone revenue, power purchases, capital investment and reimbursable

low levels in the past, will be accorded a higher percentage of budget outlay in the future.”⁹ Accordingly, beginning in Fiscal Year 1996 the Council recommended that Bonneville allocate not less than 15 percent of its direct program budget to resident fish (those that spend their lives in fresh



FIG 3
BPA Direct Program Budget
Obligations by Species
1978-1999

Dollars in millions



expense — primarily are for measures to improve anadromous fish survival and production.⁸

In the 1994-95 program revision, however, the Council noted that “funding for resident fish and wildlife mitigation, having proceeded at

water) and not less than 15 percent to wildlife, leaving 70 percent for anadromous fish.

Figure 3 shows that most of Bonneville's expenditures in the fifth category, the direct program budget, are also dedicated to anadromous fish.

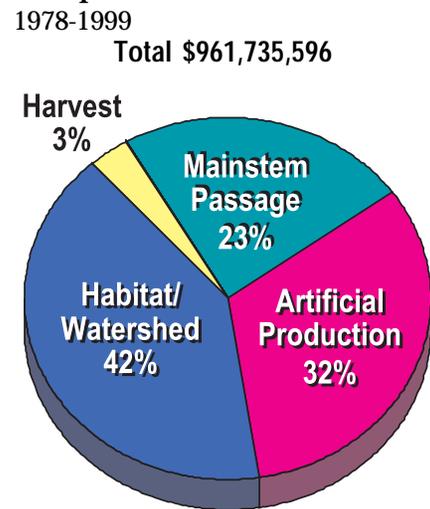
D. Obligations by Purpose

Of the five major categories of fish and wildlife expenditures, three focus primarily on improving mainstem passage: capital investment,¹⁰ forgone revenue and power purchases. Combined, these account for \$2.67 billion between 1978 and 1999, or about 76 percent of Bonneville's total fish and wildlife expenditures of \$3.48 billion in that period. The fourth category, reimbursable expense, is primarily dedicated to artificial production and the fifth, the direct program, is spread over a variety of purposes. Direct program expenditures are detailed in the following figures, which show budget obligations by general purpose and also by specific purpose.

For example, between 1978 and 1999, habitat and watershed projects, primarily enhancement and restoration efforts, have totaled \$390.6 million (42 percent of the direct program expenses); artificial production facilities, primarily hatchery construction, have accounted for \$312.3 million (32 percent of the direct program); mainstem projects, primarily monitoring of anadromous fish passage at dams, totaled \$225.6 million (23 percent of the direct program); and harvest activities, primarily law enforcement, totaled \$33.1 million (3 percent of the direct program).

This is essentially broken down by the four Hs — habitat, harvest, hatcheries and hydropower — in Figure 4, where mainstem passage is related to hydropower and artificial production represents hatcheries.

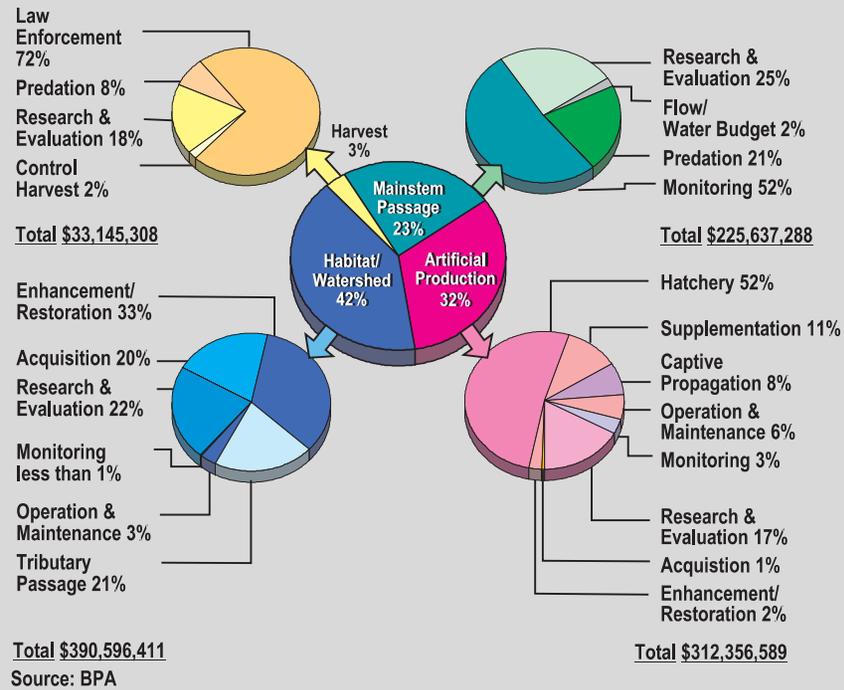
FIG 4
BPA Direct Program Budget
Obligations General
Purpose



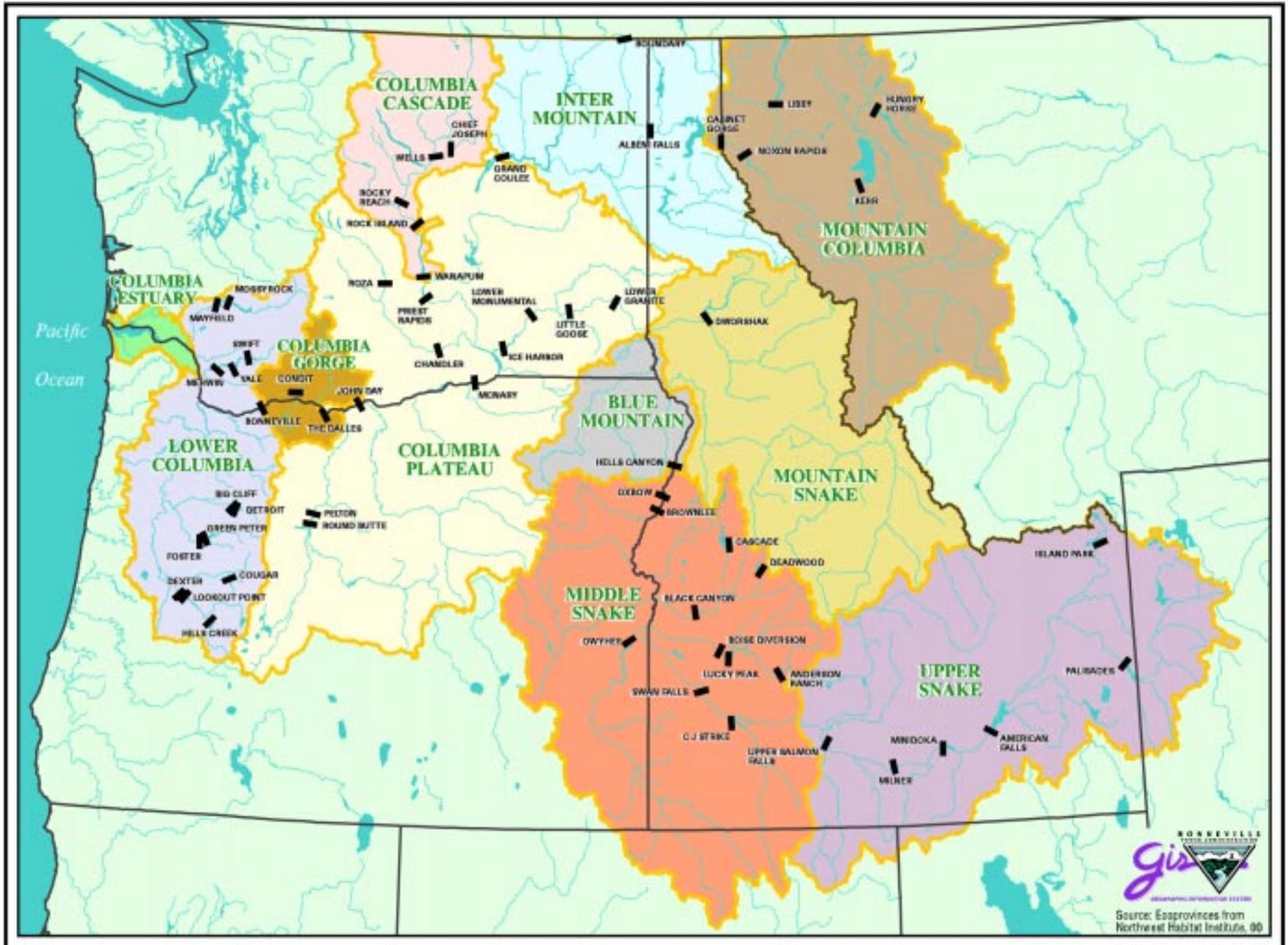
These spending patterns are broken down further into more specific categories in Figure 5. For example, research and evaluation is a prominent component of all four general purposes. Over the period from 1978 to 1999, \$202.1 million was spent on research and evaluation in all four areas, representing 21 percent of the direct program budget (excluding overhead). If we include monitoring, the numbers increase to \$330.5 million or 34.3 percent of the total budget. Obviously a significant share of the direct program budget has been spent on research, monitoring and evaluation. Most of this is focused on the freshwater part of the life cycle, with about 1 percent going to ocean and estuary research.



FIG 5
BPA Direct Program Budget
Obligations Specific Purpose
1978-1999



Ecological Provinces of the Columbia River Basin



E. Obligations by Province

Another way to describe Bonneville's direct program expenditures is geographically across the basin. Bonneville divides its expenditures into geographic divisions or provinces, as shown in the map on page 8.

Figure 6 shows that projects with general application across the basin, including general research and data centers, classified in the systemwide province, accounted for the largest share of the direct-program

expenditures, \$362 million. In dollar amounts, the next three most heavily funded provinces over the past 21 years have been the Columbia Plateau, the Mountain Snake, and the Mountain Columbia.

F. Obligations by Primary Contractor

The Council's program is implemented by a number of different entities, including state and federal fish and wildlife agencies, Indian tribes, university researchers,

local soil and water conservation districts and independent contractors and researchers. Prime contractors often assign the work to subcontractors, and so the entities receiving the largest amounts of money may be acting only as coordinating and contracting entities for those who do the work. An example is the Pacific States Marine Fisheries Commission which received nearly \$100 million as a prime contractor through the direct program between 1978 and 1999. A list of specific prime contractors, arranged in order of the amount

they received between 1996 and 1999, the only years such a list was available, is in the appendix to this report. Recipients of the largest amounts, along with the PSMFC, include the fish and wildlife departments in Oregon, Idaho, and Washington, and the Nez Perce and Yakama tribes.

For purposes of this report, Figure 7 divides primary contractors into six types: 1) federal agencies; 2) state agencies; 3) tribes; 4) universities; 5) interstate compacts and 6) all others. Federal and state agencies and tribes received the largest shares.

