Components of the Fish and Wildlife Budget in 2002

Elements of the direct program

In 2002, Bonneville's direct-program obligations totaled $147 million. Habitat projects accounted for $48.8 million or 33.2 percent of the total; fish production accounted for $34.2 million or 23.3 percent; mainstem Columbia and Snake river habitat expenditures totaled $3.4 million or 2.3 percent[4]; and fish harvest programs accounted for $1.6 million, or less than 1 percent. Bonneville also reported direct program expenditures of $25 million for research and evaluation or 17 percent of the total; $17.9 million or 12.2 percent for monitoring; $7.3 million or 4.9 percent for regional coordination efforts related to the fish and wildlife program, such as the work of the Columbia Basin Fish and Wildlife Authority; and $9.9 million or 6.7 percent for Bonneville's internal program support.

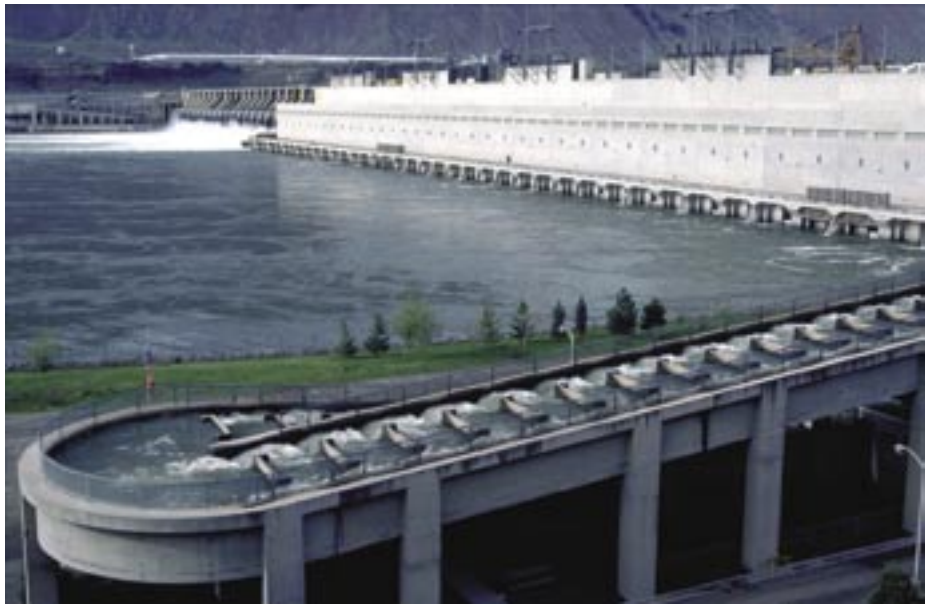
In terms of species, Bonneville's direct program obligations in 2002 included $109.3 million for anadromous fish, $16.8 million for resident fish and $10.4 million for wildlife. These total $136.6 million, which is $1.4 million less than the total obligations. The difference is in Bonneville's internal expenditures for program and project support that supported all three areas. Given these allocations, expenditures for anadromous fish accounted for 80 percent of the total, resident fish expenditures accounted for 12 percent and wildlife expenditures accounted for 8 percent.

"High priority" and "action plan" projects

In 2001 and 2002 Bonneville provided funding for "high priority" and "action plan" projects to deliver on-the-ground, immediate biological benefits to threatened and endangered fish that were affected by the drought and emergency hydropower operations in 2000 and 2001.

"High priority" projects responded to specific direction in the Council's 2000 revision of its Columbia River Basin Fish and Wildlife Program. In November 2000, following the October completion of the revision, the Council requested recommendations[5] for projects that could proceed in advance of subbasin planning to bring immediate benefits to species listed for protection under the Endangered Species Act. In March 2001, the Council recommended to Bonneville 17 projects totaling $19 million in funding.[6] In May, Bonneville agreed to fund some of the projects totaling $14.7 million,[7] later reduced to $9.7 million by deferring some of the projects for later consideration during the Council's normal fish and wildlife project review process. Bonneville obligated $3.5 million of the high-priority project funding in 2001 and $6.2 million in 2002.

In May 2001, Bonneville opened a solicitation[8] for "action plan" projects for one-time, emergency funding that would bring immediate benefit to anadromous fish — ESA-listed as well as unlisted species — directly affected by emergency hydropower operations. Bonneville had declared a power emergency in early 2001 and, in the spring and early summer, sharply reduced the amount of water spilled over dams during the salmon and steelhead migration period in order to keep water in reservoirs for power generation.



4 These do not include expenditures on fish passage facilities at the federal dams, which are reported separately in the "reimbursable" category and are not funded through the Council's direct program.

5 Letter of November 13, 2000, from Stephen Crow, executive director of the Council, and Sarah McNary, director of Bonneville's fish and wildlife division, to potential project sponsors.

6 Letter of March 26, 2001, from Frank L. Cassidy, Jr., Council Chair, to Stephen J. Wright, Bonneville Administrator.

7 Letter of May 8, 2001, from Robert Austin, Deputy Director of Bonneville's Fish and Wildlife Division, to Bob Lohn, director of the Council's Fish and Wildlife Division.

8 Letter of May 10, 2001, to potential project sponsors from Alexandra B. Smith, Bonneville's vice president for environment, fish and wildlife, and Paul Norman, Bonneville's senior vice president, Power Business Line.

Bonneville asked that the action-plan projects be designed to increase tributary flows, improve tributary spawning and rearing habitat, screen water diversions in tributaries or relocate or plant fish in tributaries. In June, the Council recommended projects totaling $24.2 million[9]; Bonneville agreed to fund some of these for a total of $9.6 million,[10] later reduced to $7.4 million. Bonneville obligated $4.06 million to these projects in 2001 (all for salmon and steelhead except for $261,411 for a resident fish project) and $3.4 million in 2002. None of the projects targeted wildlife. Because the projects responded directly to power system operations, the projects were funded through Bonneville's Power Business Line. Other fish and wildlife projects are funded through a separate budget for the fish and wildlife program.

Bonneville intended these projects as short-term actions that would occur in 2001 to help fish affected by the power system emergency. However, while Bonneville committed to a budget in 2001, it was 2002 before contracts were written with project sponsors and the work was under way.

Power purchases and forgone revenue

Power purchases

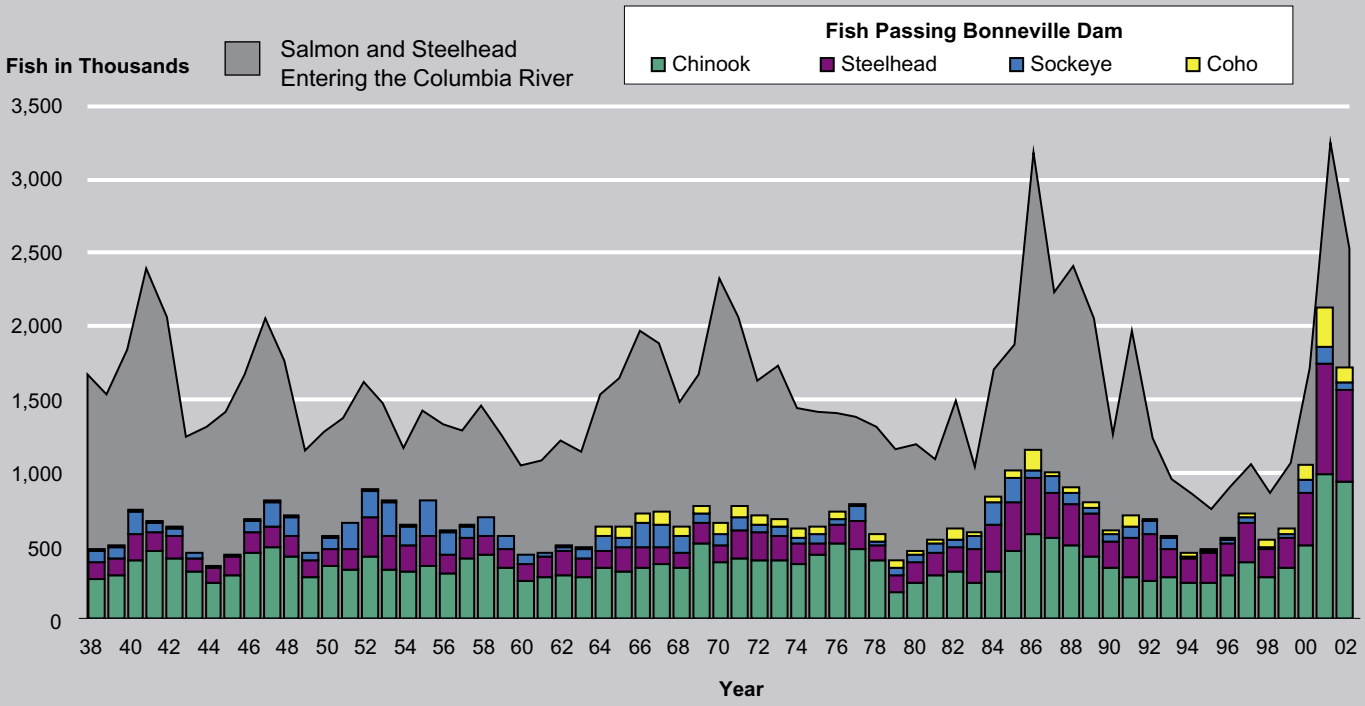
To determine how much of its power purchases to attribute to lost hydropower that results from fish operations at the dams, Bonneville performs two annual calculations of its total power purchases — one that includes the Biological Opinion requirements for river operations and one that does not. Bonneville attributes the difference in power purchases to the fish requirements and, therefore, assigns the costs to its fish and wildlife budget. In 2002, Bonneville assigned power purchases totaling $147.8 million to its fish and wildlife budget.

Forgone revenue

The biological opinions and the Council's fish and wildlife program include dam operations that take water away from turbines, such as spilling water to assist juvenile fish migration. These operations result in lost income for Bonneville. The budget term for this lost income is forgone revenue. To determine forgone revenue, Bonneville calculates the net value of the hydropower revenues gained and lost as a result of fish operations. Bonneville charges forgone revenue against its fish and wildlife budget as an expense. For 2002, Bonneville calculated a forgone revenue of $12.6 million.

Reduced hydropower generation is the primary cause of forgone revenue, but other uses of the river system also take water away from power generation. The dams of the Federal Columbia River Power System were authorized for multiple purposes in addition to hydropower. These include irrigation, navigation, recreation and, at some dams, flood control. Collectively the non-power uses of the dams account for 22.3 percent of their authorized purposes, and hydropower accounts for 77.7 percent.

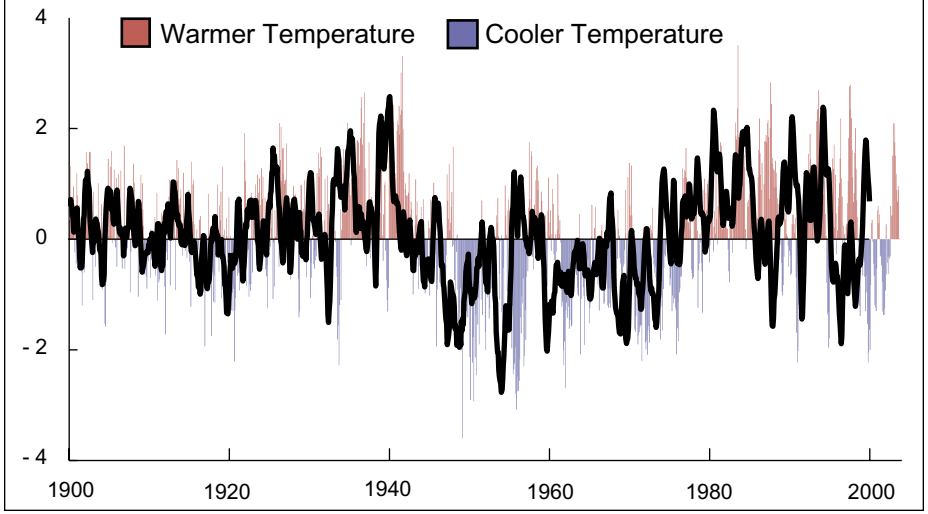
FIGURE 7
Salmon and Steelhead Entering the Columbia River and Passing Bonneville Dam
1938-2002



9 Letter of June 29, 2001, from Bob Lohn to Sarah McNary.

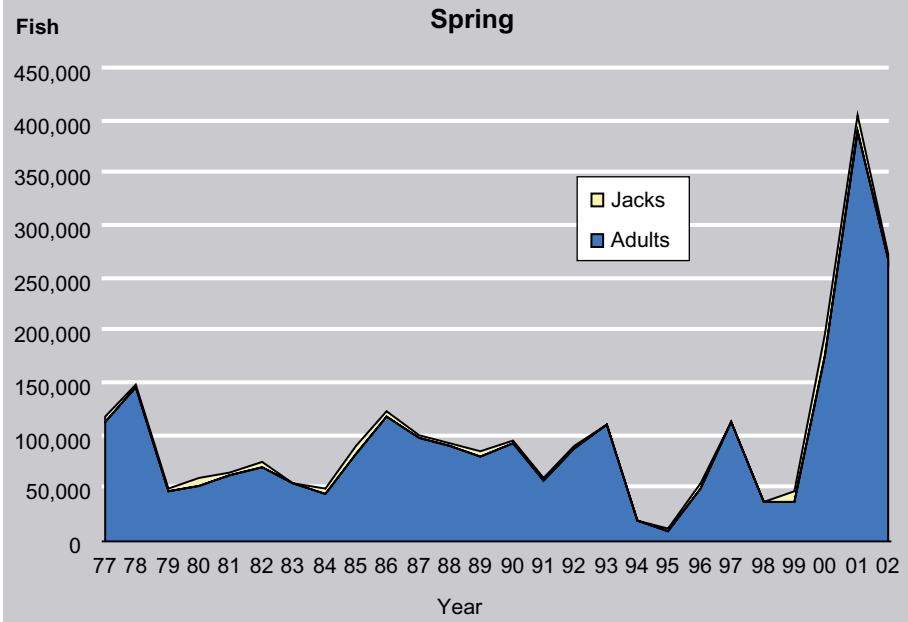
10 Letter of July 12, 2001, from Robert Austin to Bob Lohn.

FIGURE 8
Ocean Cycle Temperature Cycles
January 1900 - September 2003



In the Northwest Power Act, Congress directed Bonneville to make expenditures for fish and wildlife protection, mitigation and enhancement for both power and non-power purposes, on a reimbursement basis. The Act also states that electricity consumers shall pay only for measures that mitigate the impacts of hydropower. In order to clearly identify the responsibility of consumers, the Act directs Bonneville to allocate its expenditures among the various purposes of the dams based on existing accounting procedures of the federal power system. As a practice, Bonneville pays 100 percent of the costs and then takes a credit against its annual debt-service payment to the U.S. Treasury for the 22.3 percent of authorized purposes of the dams that are not related to hydropower — navigation, recreation, flood control, and so on (prior to Fiscal Year 2001, the amount was 27 percent but was recalculated due to a change in the allocation of purposes at Grand Coulee Dam). In 2002, Bonneville calculated a total credit of $66.4 million.

FIGURE 9
Spring and Summer Chinook Passing Bonneville Dam
1977-2002



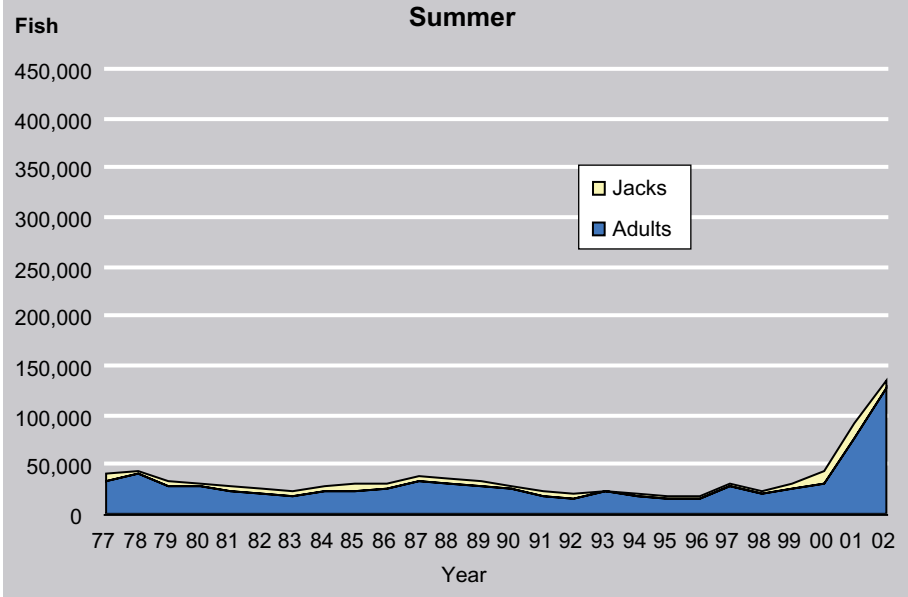
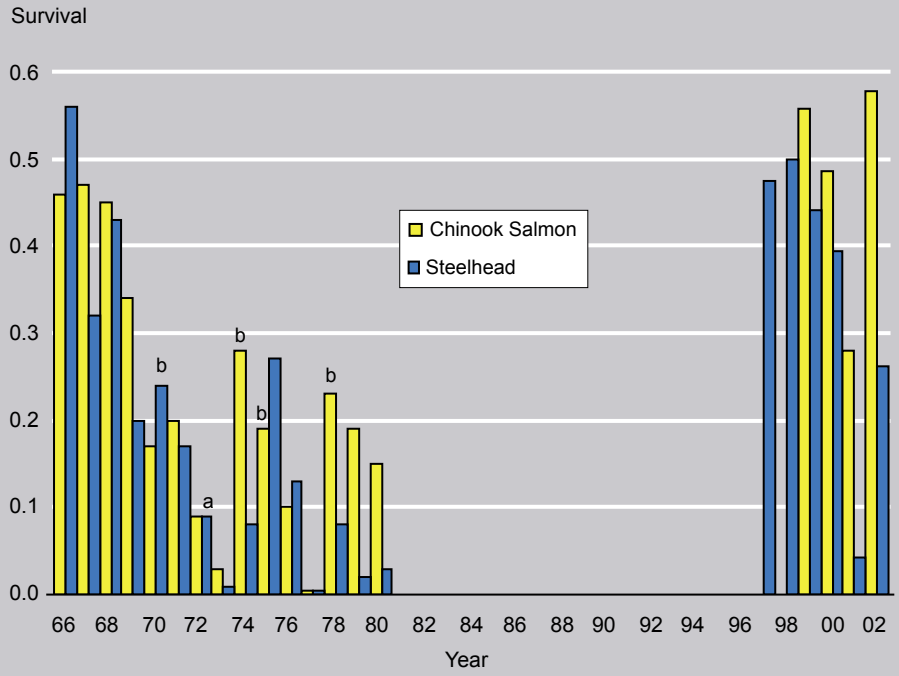


FIGURE 10
Estimated Inriver Juvenile Survival through the Hydrosystem*
1966-1980, 1997-2002



a Extrapolation based on three dam and reservoirs as survival estimates between Ice Harbor Dam and The Dalles Dam did not change between 1966 and 1970 after completion of John Day in 1968.

b Based on product of two non-rounded numbers

FIGURE 11
Where do the fish go?
Fish counted at each mainstem dam.
2002

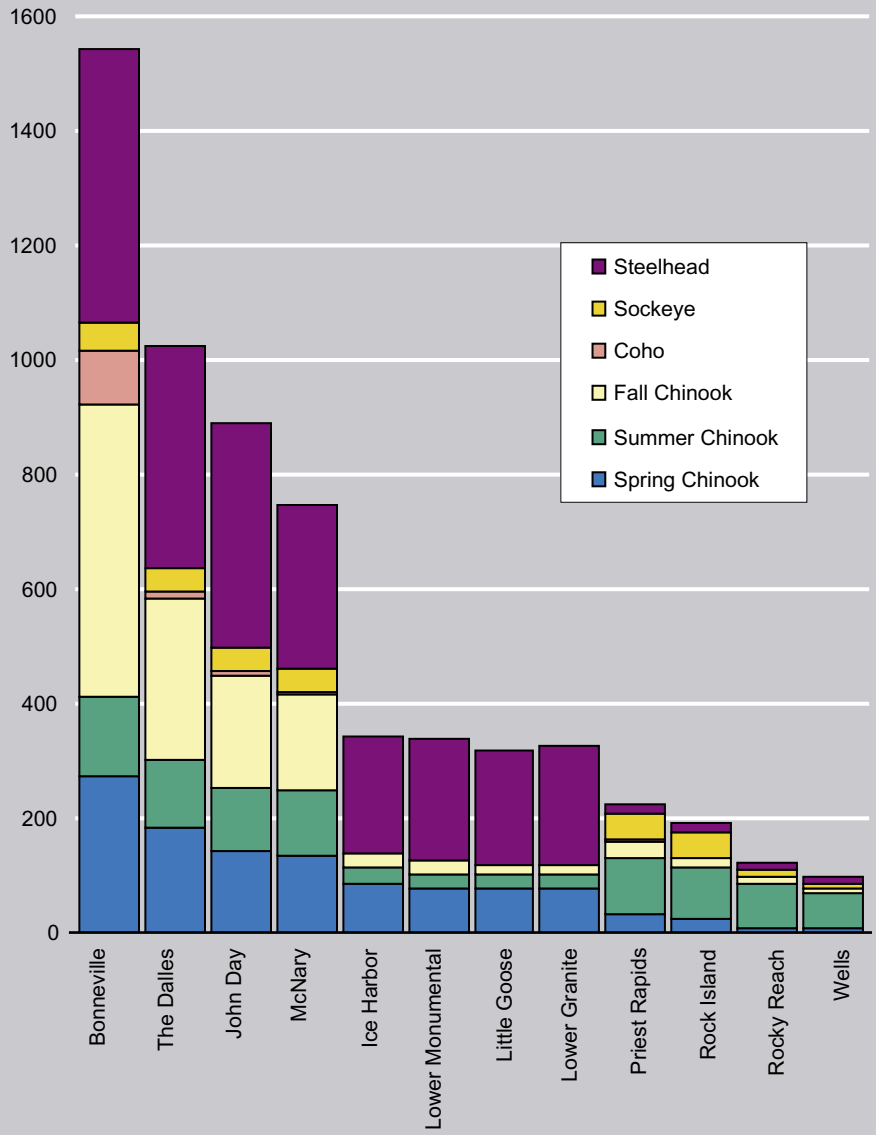


FIGURE 12
Wild Fish Passing Bonneville Dam
1990-2002

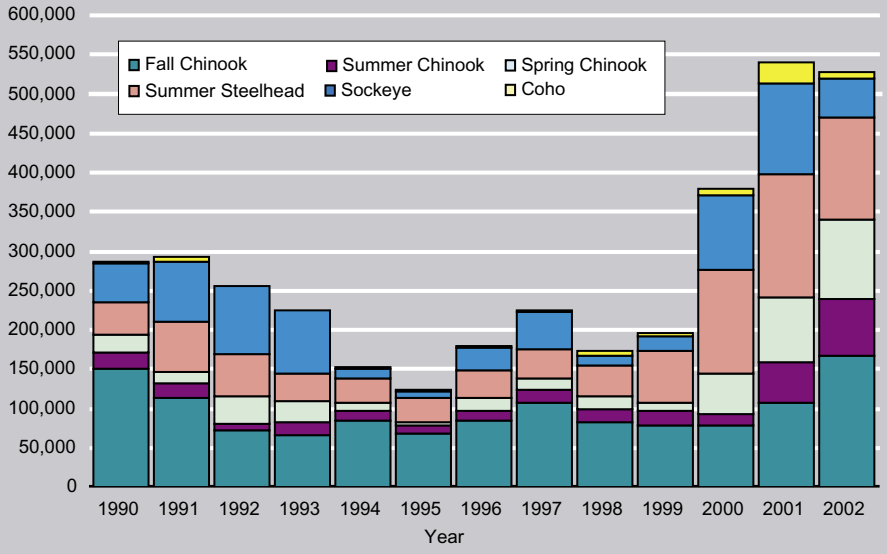
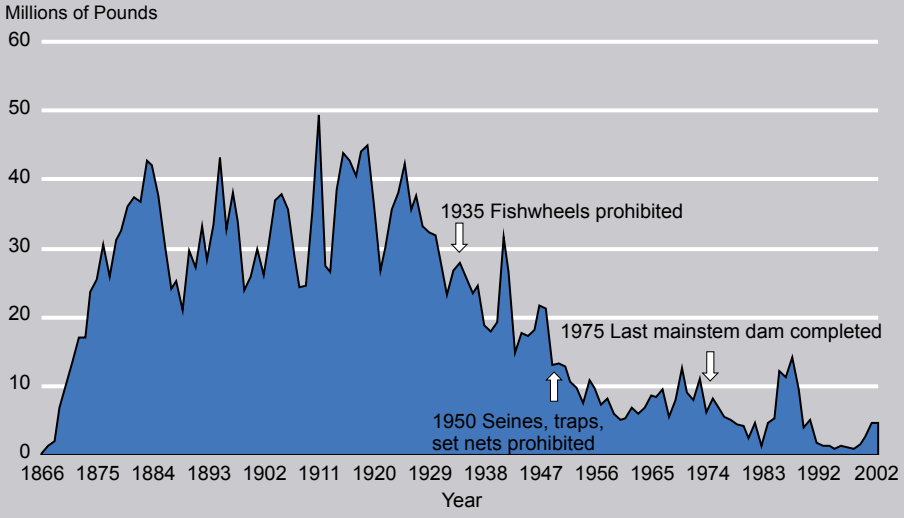


FIGURE 13
Commercial Landings of Salmon and Steelhead from the Columbia River
1866-2002

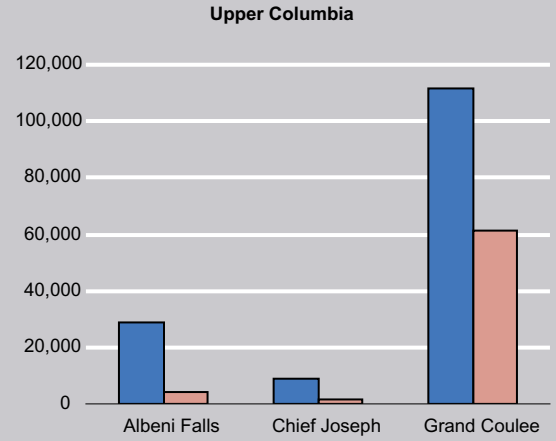


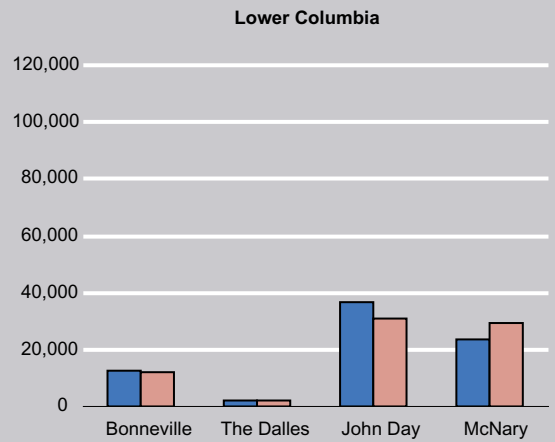
Endangered Species Act Status of Columbia River Basin Fish Populations*

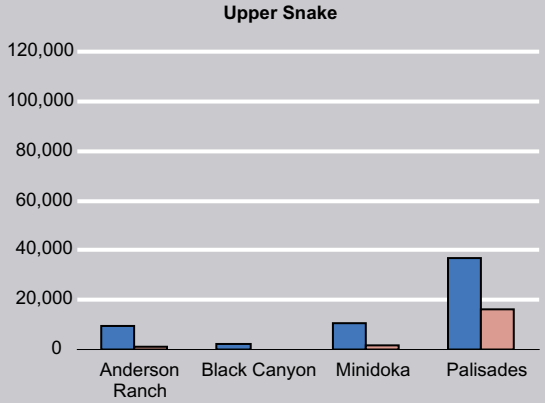
Species	Status	Date listed
Sockeye, Snake River	Endangered	1991
Chinook, Snake River Fall-run	Threatened	1992
Chinook, Snake River Spring/Summer-run	Threatened	1992
White Sturgeon, Kootenai River	Endangered	1994
Steelhead, Upper Columbia	Endangered	1997
Steelhead, Snake River Basin	Threatened	1997
Steelhead, Lower Columbia River	Threatened	1998
Bull Trout, Columbia Basin	Threatened	1998
Chinook, Lower Columbia River	Threatened	1999
Chinook, Upper Willamette River	Threatened	1999
Chinook, Upper Columbia River Spring-run	Endangered	1999
Chum, Columbia River	Threatened	1999
Steelhead, Upper Willamette	Threatened	1999
Steelhead, Middle Columbia River	Threatened	1999

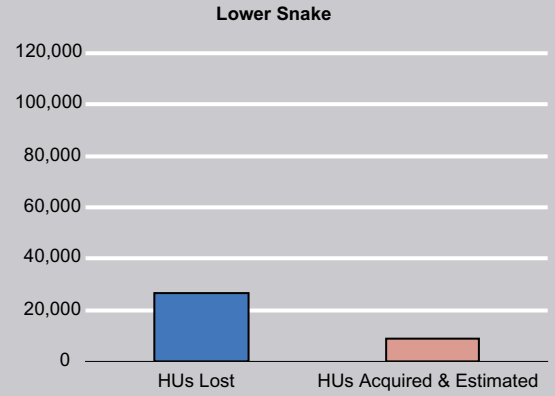
* The federal hydrosystem action agencies, which include the Corps of Engineers, Bonneville Power Administration and Bureau of Reclamation, developed performance indicators for the listed salmon and steelhead populations. See Appendix B.

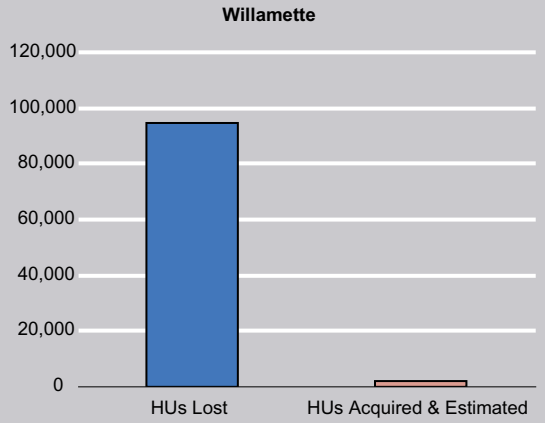
FIGURE 14
Wildlife Habitat Units: Lost & Acquired











* Note: Acres acquired within the state of Idaho for the Dworshak agreement are not measured in habitat units and are not included in these totals.

** The Habitat Units lost and mitigated, by species and by dam, are shown in Table 14C, page 34.

FIGURE 15
Wildlife Habitat Units Lost and Acquired, Most Affected Species

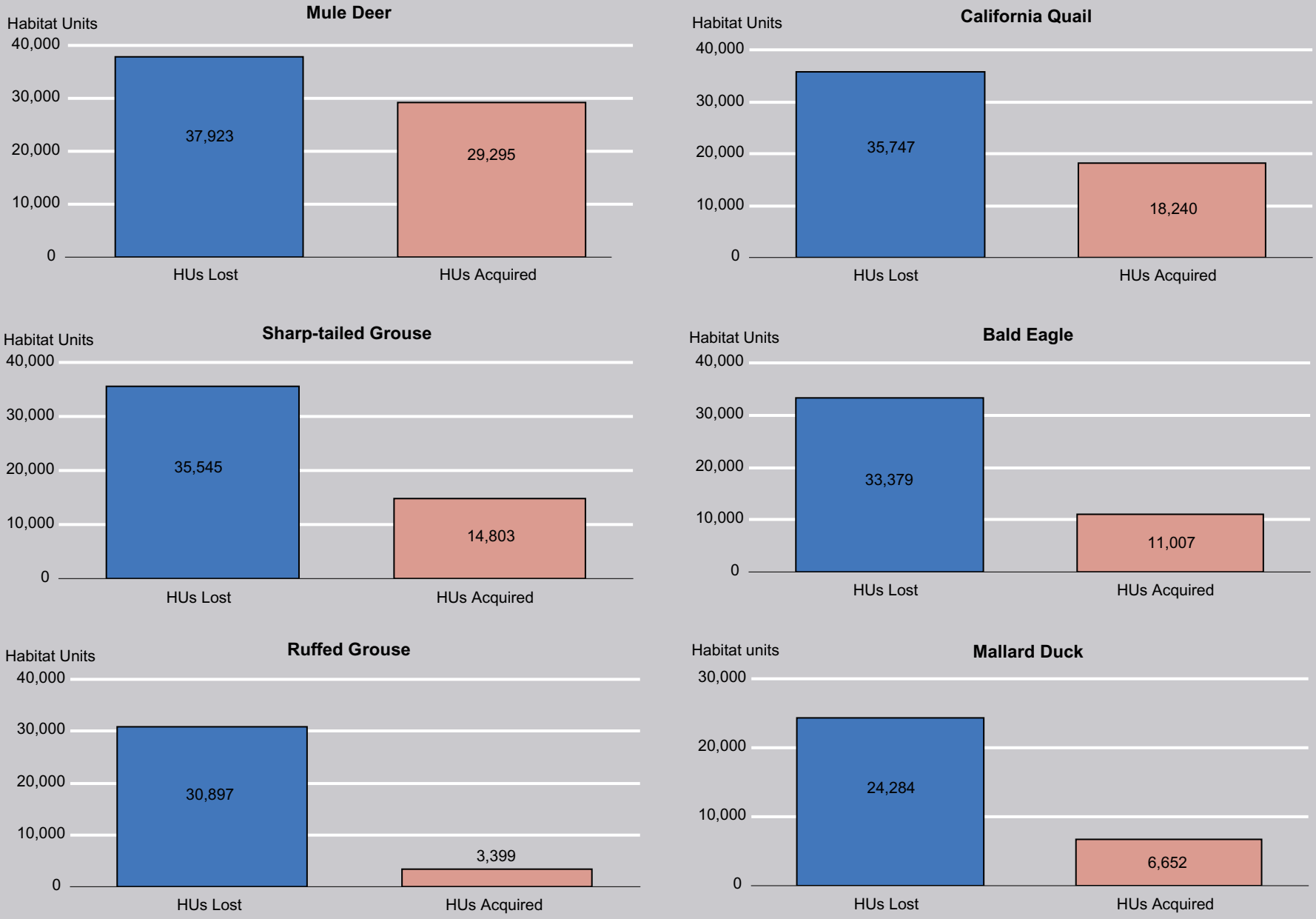


FIGURE 16
BPA Wildlife Acres Protected by Agency
1978-2002

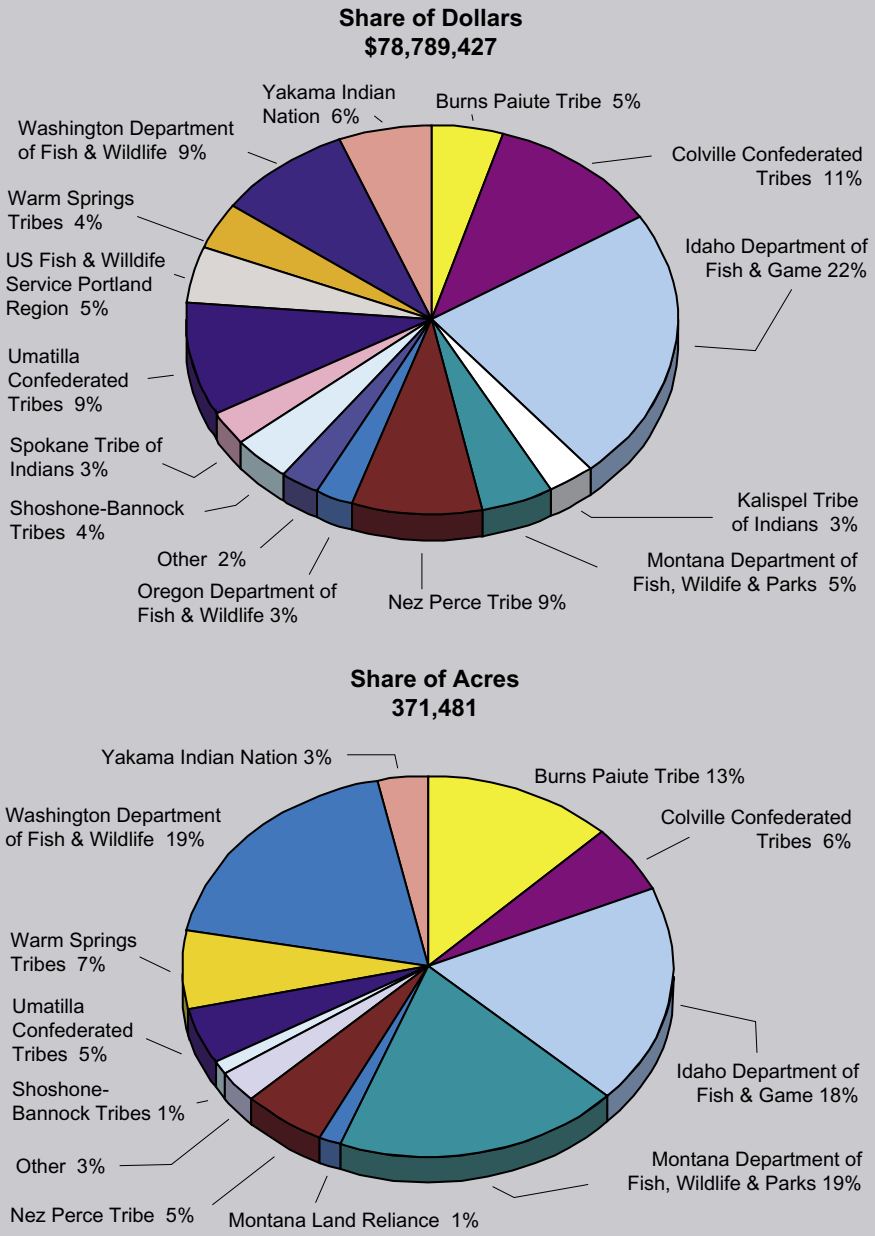
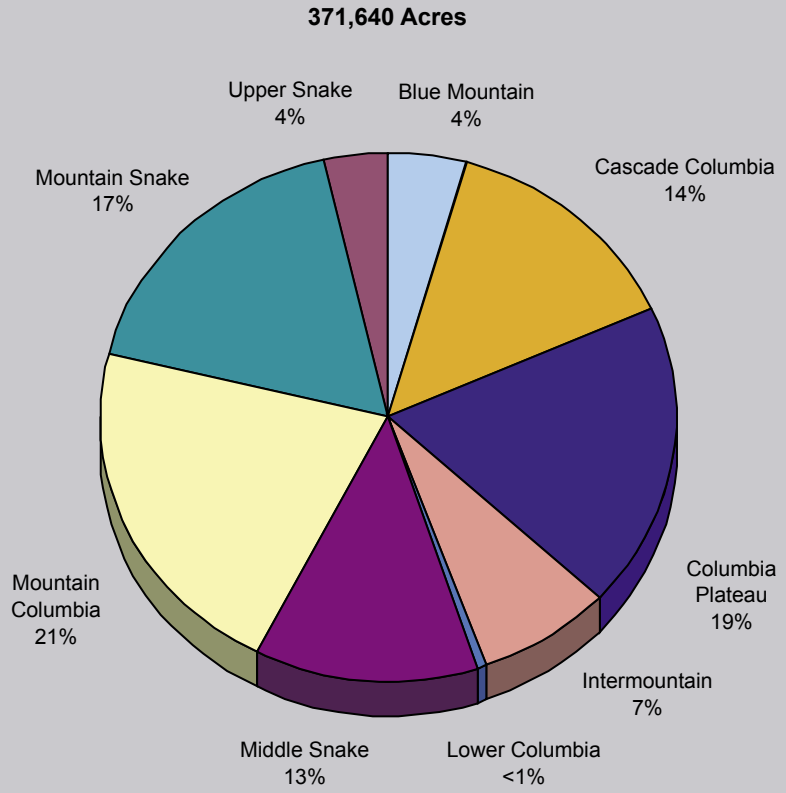


FIGURE 17
Properties Purchased by BPA for Wildlife Purposes by Province*
1978-2002



* This figure includes all types of property purchases. See Table 17, page 38.

Data Management Needs Improving

Data management problems at Bonneville regarding fish and wildlife continue to be a major distraction. The Council has requested timely financial data from Bonneville to support its work in prioritizing projects and recommending funding. Due to poor record keeping and open-ended contracts, Bonneville has had considerable difficulty accounting for past expenditures and even more problems when it attempted to forecast future expenditures.

On a positive note, the responses to data requests for this report have improved considerably. Before releasing the first report in January 2001, the Council worked with Bonneville for more than 18 months to compile data on fish and wildlife expenditures. We were hindered by the confusing state of data storage and availability in the basin. There was universal support among those we contacted at Bonneville, the fish and wildlife agencies and others to improve data collection and management. Accounting changes at Bonneville made it equally difficult to compile the second annual report, which we issued in November 2002 after another 18 months of work. The work was slow because of the difficulty and complexity of the accounting change-over. This resulted in changes to some of the data reporting categories that we used in the inaugural report, but the result is improved access to data. For the current report, Bonneville provided updates of our figures from the last report in less than a month.

We expect that data management will continue to improve basinwide. In May 2000, following a review of fish and wildlife information management, the Council's Independent Scientific Review Panel reported that no organization was taking responsibility for comprehensive design of data collection.[11] The Panel recommended development of a coordinated, collaborative information system.

The Council and NOAA Fisheries responded with an effort to assess information management and develop recommendations for improving it. Perhaps the most difficult challenge in improving information management is that many types of information currently are collected by multiple agencies. The Council and NOAA Fisheries retained a consulting firm to analyze the disparate state of fish and wildlife information management in the Columbia River Basin. This analysis found strong interest in improving management, availability and integration of all information pertaining to hydrologic information, data about the abundance of fish and wildlife, regulations, water quality, fish hatcheries, land uses, fish passage at dams and scientific research. It also found that much of this information cannot be easily shared among agencies and the public because it is collected with different standards, compiled in different formats and stored in different places.

Through a public, collaborative process involving state, federal and tribal fish and wildlife scientists, managers and policymakers, and interested members of the public, the Council and NOAA Fisheries will be promoting the development of a system to serve as a repository for high quality, reliable and verifiable information that would be available to a broad range of users, including fish and wildlife program managers, researchers, scientists and the general public. A goal is to make all of the relevant data accessible through single Internet queries.

---

[11] "Review of Databases Funded Through the Columbia River Basin Fish and Wildlife Program," May 11, 2000, Council Document ISRP-2000-3.