



US Army Corps
of Engineers®



COOPERATIVE EFFORTS, FUNDING AND TECHNOLOGY PRODUCE INCREASED SALMON RUNS IN WASHINGTON STATE

Columbia and Snake River Salmon Runs Increasing

- Snake River basin spring/summer chinook increased from over 2,707 in 2000 to over 9,882 — a **265% increase**.
- Snake River basin fall chinook increased from over 2,458 in 2000 to over 8,718 in 2001 — a **255% increase**.
- Upper Columbia River spring chinook increased from 1,577 in 2000 to over 14,794 in 2001 — an **883% increase**.
- Snake River steelhead runs increased from over 115,161 in 2000 to over 259,145 in 2001 — a **125% increase**.
- Upper Columbia River steelhead increased from 7,796 in 2000 to over 20,837 in 2001/2002 — a **167% increase**.

More Funding for Washington Salmon Programs

- Between 2001 and 2003, NOAA Fisheries has provided \$ 91.5 million to the Washington Salmon Recovery Funding Board for state, local, and tribal salmon habitat and enhancement projects through the Pacific Coastal Salmon Recovery Fund. The State has provided an additional \$42.8 million supporting 150 salmon projects.
- Over the past three years, NOAA Fisheries has provided \$16.9 million for 29 Pacific Coastal Tribes and their commissions and \$7.4 million for six Columbia River tribes and their commissions.
- In 2001 and 2002, NOAA Fisheries fully funded the Pacific Salmon Treaty with Canada, providing over \$60 million for the Northern and Southern Fund and other related activities, affecting Washington.
- Between 2001 and 2003, NOAA Restoration Center has funded additional Washington habitat restoration projects to benefit salmon totaling \$1.25 million.
- Between 2001 and 2003, NOAA Fisheries has provided over \$45 million for operations and research funding for several Columbia River mitigation hatcheries in Washington authorized under the Mitchell Act.
- The U.S. Bureau of Reclamation has provided nearly \$15 million between 2001 and 2003 for partnership projects in Washington to remove obstacles to fish passage, provide fish screens, and restore key habitat areas for salmon.
- President Bush's FY 2004 U.S. Department of Interior budget includes a \$900,000 increase for the operation and maintenance of federal and tribal hatcheries and salmon research facilities in the State of Washington. From 2001-2003, the Administration's funding of federal and tribal hatcheries in Washington has increased from approximately \$10.5 million to approximately \$13 million—a 25 percent increase.
- The President's FY 2003 and FY 2004 budgets include an additional \$2 million for the U.S. Army Corps of Engineers to initiate key restoration work in the Lower Columbia River Estuary.
- Through the Department of Interior's conservation grant program, the Administration has provided \$18 million in Washington-specific salmon and bull trout grants, and since 2000, \$12.8 million has been provided to the National Fish and Wildlife Foundation's Washington Salmon Conservation program, which has leveraged an additional \$18 million of non-federal funds to support 110 grants to state, local, and community entities.
- The President's FY 2003 and FY 2004 budget requests include total increases of \$15 million for implementation of the federal Columbia River Biological Opinion for subbasin planning, hatchery reform development, and salmon enhancements in priority watersheds in Washington and other states.

New Technology to Improve Fish Passage through Federal Dams

- Through the U.S. Army Corps of Engineers' Columbia River Fish Mitigation Project, a number of significant fish passage and survival improvements have been made to the eight federal dams along the Columbia and Snake Rivers. As a result, approximately **99 percent** of returning adult salmon are surviving passage of each of the four lower Columbia and four lower Snake dams. In addition, research on Snake River spring/summer chinook indicates that the survival rate of juvenile fish that migrate in-river and successfully pass the eight Corps dams on the lower Snake and Columbia Rivers has improved to the survival rates of the 1960s and 1970s when fewer dams were in place.

- At 7 of the 8 dams, new juvenile fish bypass systems guide fish away from turbines and through channels that run the length of the dam. At The Dalles dam spill is provided to achieve similar passage performance. The fish are bypassed to the river below the dam, or at the transport project that can be routed to a holding area for loading onto specially equipped barges or trucks. The Corps is finishing construction on a \$55 million project at the Bonneville Dam – the Second Powerhouse Corner Collector. Federal biologists expect this high flow surface bypass facility for young salmon to provide a one to three percent increase in juvenile fish survival past the Bonneville Second Powerhouse. The corner collector will work in conjunction with the existing second powerhouse screened juvenile bypass system. Together, these non-turbine routes should guide about 90 percent of all juvenile fish at the second powerhouse and achieve an estimated survival rate exceeding 95 percent.
- In 2001, at the Lower Granite Dam on the Snake River, the Corps installed a prototype fish passage innovation--the Removable Spillway Weir (RSW). The RSW allows juvenile salmon and steelhead to pass the dam nearer the water surface under lower velocities and lower pressures, providing a more efficient and less stressful dam passage route. The RSW structure also is designed to be "removable" by controlled descent to the bottom of the dam forebay. This capability permits returning the spillway to original flow capacity during major flood events. Testing for mechanical and biological effectiveness has produced promising results. The RSW, working together with existing prototype powerhouse surface collector and forebay guidance structure, allows about 70 percent of the fish to pass the spillway using about 10 percent of the river flow, providing not only fish benefits but also power savings to the region. The Corps is also evaluating potential implementation of an RSW at Ice Harbor Dam.
- At Ice Harbor Dam, the following specific improvements are underway or have been completed: (1) upgrades to the adult fishway entrances to the dam; (2) rehabilitation of the south shore fish ladder pumps auxiliary water and fish pump hydraulic systems to improve reliability; (3) a survival study of yearling and subyearling chinook that pass through the spillway; (4) installation of a detection system on the adult fishway to more accurately track salmon returns and help decisionmaking.

Strong Commitment to Estuary and Habitat Restoration

- Over the past three years, the NOAA Restoration Center has aided community-based restoration and damage assessment restoration projects resulting in over 69 new miles of Washington streams being restored.
- Since President Bush took office, NOAA Fisheries has helped provide funding for 243 state, local, and tribal salmon habitat and enhancement projects funded through the Washington Salmon Recovery Funding Board by the Pacific Coastal Salmon Recovery Fund (PCSRF) and 64 projects through the NOAA Restoration Center. These projects, on 86 Washington rivers and streams, include 64 instream passage improvement projects, 63 instream habitat restoration projects, 20 riparian habitat restoration projects, among others.
- Through NOAA Fisheries PCSRF funding, 210 Pacific Coastal tribal salmon habitat projects and 76 Columbia River tribal salmon habitat and enhancement projects have been completed.
- The Administration has worked to develop Habitat Conservation Plans with state and private landowners. The most significant effort, the Washington Forests and Fish Agreement, affects aquatic habitats and riparian areas within 10.3 million acres, 63 species, including listed salmon, steelhead and bull trout.
- The Department of Interior has also worked to protect fish and aquatic habitat on significant Washington holdings by Plum Creek Timber, Simpson, and Weyerhaeuser Companies.
- NOAA Fisheries and the U.S. Fish & Wildlife Service are completing consultation on an extensive road maintenance program to ensure conservation of listed salmon species in the Tri-County urban areas of the King, Pierce, and Snohomish counties.

Increased Commitment to Co-Managed Fish Hatchery Programs

- The Administration supports important salmon enhancement and supplementation projects in Washington, including numerous projects conducted by the Regional Fisheries Enhancement Groups and the State, and operation of 8 major federal and tribal hatchery facilities.
- The Administration has provided federal funding and support for many tribal hatchery enhancement projects, including the Nez Perce Tribe's efforts to restore coho salmon in the Snake River Basin. As a result of this effort, 1,400 adult coho salmon returned in 2001 through Lower Granite Dam. The long-term goal is to increase the number to 14,000.
- The Department of Interior has provided \$4 million through Congressional appropriations to fund the Hatchery Scientific Review Group (HSRG) — a successful cooperative effort with state, federal and tribal entities to recommend and implement reforms to 100 Puget Sound hatcheries to help recover and conserve naturally spawning populations and support sustainable fisheries.