ON OUR WATCH:

Salmon are ours to save

2016 STATE OF SALMON IN WATERSHEDS
GOVERNOR’S UPDATE

The 2016 State of Salmon in Watersheds is the Governor’s biennial report on salmon, their habitat, and the progress of statewide salmon recovery efforts. More data and stories about salmon recovery: stateofsalmon.wa.gov.
Why we fight for salmon

Salmon connect us, feed us, and, in many ways, restore us. The migratory reach of the salmon defines the boundaries of the Pacific Northwest. Our state is blessed with salmon in every region. They journey from our coasts and across mountains, through our ports, cities, and suburban backyards; they traverse farms and orchards and great forests through mighty rivers and small streams, persisting in our dynamic, diverse, and shared geography.

Salmon are a cultural touchstone and an economic engine, and they’re great to eat.

Indian tribes rely upon them as a major source of food and a foundation of their way of life.

Salmon give back. All that we do to rebuild their once mighty runs restores the land and water upon which all our lives depend.

Nearly 20 years of sustained statewide efforts by thousands of Washington residents to restore salmon to our landscape has made our communities more resilient in the face of warming temperatures, drought, forest fires, and sea level rise.

We know how to restore salmon, but the challenges are accelerating. Salmon are in trouble, and we need to step up and double down, innovate, and make good on our investments.
Salmon recovery brings multiple benefits

From clean water to more resilient communities, salmon recovery efforts provide a high return on investment for the state and its residents.

**BENEFITS**

- **Reconnected floodplains** reduce flood risks for communities.
- **Free-flowing rivers** with intact floodplains provide complex natural habitat for fish, plants, and animals.
- **Natural shorelines and estuaries** filter pollutants, support shellfish, and shelter salmon.
- **Clean and reliably available water** is essential for drinking water, irrigation, swimming, and boating.
- **Healthy forests** absorb carbon, offer refuge for wildlife, and provide economic opportunity for rural communities and recreation for outdoor enthusiasts.
- **Free-flowing rivers** with intact floodplains provide complex natural habitat for fish, plants, and animals.

All of these make our communities more resilient in the face of climate change and its impacts—warmer temperatures, greater stresses on our forests, changes in our river and stream flows, rising sea levels.

For more than a century, salmon in the Northwest have been hampered by obstructed passage, overdrawn water, polluted runoff, and habitat loss through urban and rural development, agriculture, and forestry. We overfished, and we relied too heavily on hatchery programs whose impacts weren’t fully understood without addressing habitat concerns.

“Salmon Stories” in our stateofsalmon.wa.gov Web site are visually-based stories from tribes, salmon recovery groups, and agencies around the state.

**SALMON RECOVERY STIMULATES LOCAL AND RURAL ECONOMIES IN WASHINGTON**

- Every $1 million spent on watershed restoration results in an average of 16.7 jobs.
- 80 percent of grant money stays in the county where a project is located.
- For every estimated $1 million spent on watershed restoration, $2.2–$2.5 million is generated in total economic activity.
- Salmon recovery funding since 1999 has resulted in more than $1.1 billion in total economic activity.

Photo credit: Cheri Scalf and Mike Hovis
Salmon are in trouble

We measure salmon recovery in several ways: the number of fish that return to the spawning grounds; the available level of tribal, sport, and commercial harvest; and the health of our rivers, streams, and forests. These data best indicate salmon health when evaluated at watershed and regional scales against specific goals for each species. For more information, visit our Web site, stateofsalmon.wa.gov, where we report on salmon recovery by region.

In most of the state, salmon are below the abundance recovery goals set in our federally approved recovery plans.

**Below Goal (Endangered Species Act-Listed Salmon in Washington)**

<table>
<thead>
<tr>
<th>Getting Worse</th>
<th>Not Making Progress</th>
<th>Showing Signs of Progress</th>
<th>Approaching Goal</th>
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<tbody>
<tr>
<td>Puget Sound Chinook</td>
<td>Upper Columbia River steelhead</td>
<td>Middle Columbia River steelhead</td>
<td>Hood Canal summer chum</td>
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<tr>
<td>Puget Sound steelhead</td>
<td>Lower Columbia River chum</td>
<td>Lake Ozette sockeye</td>
<td>Snake River fall Chinook</td>
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<td>Upper Columbia River spring Chinook</td>
<td>Lower Columbia River fall Chinook</td>
<td>Lower Columbia River coho</td>
<td>Snake River spring and summer Chinook</td>
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<td>Lower Columbia River spring Chinook</td>
<td>Snake River steelhead</td>
<td>Snake River steelhead</td>
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STATEWIDE RECOVERY

Our statewide locally led road to recovery

As envisioned in the Statewide Strategy to Recover Salmon: Extinction is not an Option (1999), Washington State has crafted an effective network of organizations and governments committed to recover at-risk salmon and steelhead and the habitats upon which they depend.

ORGANIZED BY REGION AND WATERSHED TO BEST EFFECT

To meet the needs of people and fish, recovery was organized by region and watershed. Recovery organizations were created to write and coordinate the implementation of plans to restore each salmon and steelhead population listed under the Endangered Species Act.

The recovery organizations are directed by county, city, tribal, and citizen representatives and advised by state and federal agency scientists. Their plans call for the integration of habitat recovery by willing landowners and changes to harvest, hatchery, and water quality management to improve salmon fitness, abundance, and survival. Regional organizations participate in local and long-range community planning to improve watershed health for people and salmon. With designated watershed “lead entities,” they identify and prioritize projects that will help implement their recovery plans, and then forward those projects for consideration to the Salmon Recovery Funding Board.

For nearly 20 years, thousands of Washington State residents have sustained this effort, making changes to their properties, serving on boards, and attending community meetings. This is an unprecedented, locally led, statewide approach to recover endangered species, and while we have enjoyed significant project funding support from the federal government, we do not have the funds necessary to fully staff the regional organizations charged with implementing these plans. As challenges mount, we must ensure that the government’s commitment is equal to that of its citizens.

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LOWER COLUMBIA CONSERVATION AND SUSTAINABLE FISHERIES PLAN

Historic hatchery and harvest practices are among many factors that contribute to the decline of the lower Columbia River’s 104 listed salmonid populations. The Lower Columbia Fish Recovery Board and the Washington Department of Fish and Wildlife are implementing a collaborative plan to reduce hatchery and harvest impacts, sustain fisheries, and help meet recovery goals. The plan is part of an all-H recovery strategy and includes the following:

- Changes in hatchery production levels
- Eliminating hatchery production on refuge streams
- Using natural-origin fish in hatchery programs
- Controlling hatchery fish in natural spawning areas
- Increasing harvest of hatchery fish
- Adaptive management protocols

The Washington Coast Region may represent the last best chance for the Pacific Northwest to protect wild and self-sustaining populations of salmon. While salmon and steelhead populations in the Washington Coast Region are seriously degraded from historic levels—experts suggest that the current abundance of coastal salmon runs is probably only about 10 percent of what it was a 100 years ago—they are healthier here than anywhere else in the state. This is largely because their habitat is more intact than elsewhere, and protecting this habitat is a high priority because it is far easier and less expensive to maintain good habitat than it is to recreate or restore degraded habitat. Science strongly suggests that investments made now in the Washington Coast Region can significantly contribute to the successful restoration of wild salmon populations. Rethinking recovery, by protecting populations before they are listed, is more likely to ensure the long-term sustainability of wild salmon.

For more on each region and more salmon recovery stories like the following, visit:

stateofsalmon.wa.gov
STATEWIDE RECOVERY, CONTINUED

SUSTAINED INVESTMENT IN SALMON HABITAT RECOVERY PROJECTS

The Salmon Recovery Funding Board, created in the Salmon Recovery Act of 1998 (RCW 77.85), sets statewide policy and distributes funding. Since 2000, it has invested more than $1 billion in salmon recovery projects. Its investment in 7 regional organizations and 25 lead entities engages thousands of people committed to implementing salmon recovery at the local level. These investments leverage funding from other sources, generate local matching resources and in-kind contributions from thousands of individuals, and are the foundation for salmon recovery in Washington.

ININVOLVEMENT OF LOCAL GOVERNMENTS

One of the key elements of the statewide strategy is habitat protection. Counties and cities are charged with protecting salmon habitat through use of the Growth Management Act, the Shoreline Management Act, land use plans, critical area ordinances, shoreline management plans, and other conservation and management practices.

IMPROVEMENTS THROUGH THE FOREST AND FISH AGREEMENT

Private forest landowners invested more than $170 million to remove fish barriers from forest roads through the Forest and Fish Agreement. The agreement protects riparian conditions and water quality, and reduces sediment through road maintenance and abandonment plans on forest lands.

ELIMINATING FISH BARRIERS

Removing barriers, such as inadequate culverts beneath road crossings or ineffective fish ladders at low head dams, allows salmon to quickly return to their historic spawning grounds. During the past 16 years, more than 6,500 fish passage barriers have been replaced with fish-friendly culverts and bridges in Washington streams. The Washington State Legislature created the Fish Barrier Removal Board in 2014 to address the estimated 35,000-45,000 fish passage barriers across the state.

For more information, go to the stateofsalmon.wa.gov Web site.

1997–2015 FUNDS MANAGED BY THE WASHINGTON RECREATION AND CONSERVATION OFFICE (RCO)—BY REGION AND PROJECT TYPE

State Sources: Aquatic Lands Enhancement Account, Catastrophic Flood Relief program (through the Office of Financial Management), Coastal Restoration Grants, Estuary and Salmon Restoration Program, Family Forest Fish Passage Program, Puget Sound Acquisition and Restoration Fund, Salmon Recovery Fund (state match to federal grant), Washington Wildlife and Recreation Program.

Federal Sources: Coded Wire Tag Program, Environmental Protection Agency, hatchery reform funds, Land and Water Conservation Fund, Marine Shoreline Protection (through the Department of Fish and Wildlife), Pacific Coastal Salmon Recovery Fund, Pacific States Marine Fisheries Commission, and Puget Sound Chinook critical stock program.

*The $883 million total above and the regional pie charts do not include the local matching resources, which would bring the statewide total investment to more than $1 billion.
Treaty obligations confirmed by federal courts require the State to open habitat blocked by state-owned fish passage barriers (culverts) in western Washington. The court has ordered the Washington Department of Transportation (WSDOT) and other state agencies to correct 825 barriers (culverts) blocking fish passage by 2030. In the 2015-17 Biennium, WSDOT will spend $88.7 million on stand-alone fish passage projects. The current estimate to meet the injunction is $2.4 billion.

The Family Forest Fish Passage Program, developed in 2003, assists small-acreage forest landowners with repairing barriers. So far, 413 private barriers have been fixed opening nearly 1,000 miles of habitat.

**MITIGATING HYDROPOWER IMPACTS**

The Northwest Power and Conservation Council, Bonneville Power Administration’s Fish and Wildlife Program, and the Federal Energy Regulatory Commission licensing process support critical fish passage, habitat, and hatchery programs throughout the state.

**MANAGING HATCHERIES FOR HARVEST AND RECOVERY**

Congress established a hatchery review initiative in 2000, in recognition of the role hatcheries play in meeting harvest and conservation goals for salmon and steelhead. The initiative’s independent Hatchery Scientific Review Group (HSRG) made recommendations for improving hatcheries in Washington. Eighty-eight percent of Washington Department of Fish and Wildlife hatcheries are consistent with the independent HSRG recommendations for proper broodstock management. In addition, the department has updated and submitted new hatchery genetic management plans to meet NOAA Fisheries requirements and support salmon recovery. Ninety percent of these plans are under review. Due to past practices, hatchery stray rates in some watersheds remain significantly above HSRG recommendations and pose a risk to recovery. The department has established rigorous monitoring and adaptive management plans to meet federal permit requirements and reduce stray rates and risks to salmon recovery.

Tens of millions of dollars are needed for capital construction projects at Washington Department of Fish and Wildlife hatcheries to meet recovery goals.

**HARVEST CO-MANAGEMENT**

**HATCHERY AND GENETIC MANAGEMENT PLANS AT THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (SALMON, STEELHEAD, TROUT)**

Washington tribes and Washington State co-manage fisheries to provide harvest opportunities for salmon and steelhead. Conservation is the goal of co-management. Harvest is focused on healthy stocks of hatchery and naturally spawning salmon and steelhead. Beyond Washington, our salmon and steelhead are largely harvested in Alaska and Canada. Co-managers, in cooperation with federal agencies and other states, set fishing seasons. The goal of harvest management is to conserve weak stocks while providing limited harvest opportunities that do not jeopardize recovery efforts.

**SUPPORT FOR MAJOR REGIONAL INITIATIVES**

Regional initiatives that support salmon recovery receive broad support. These include the Puget Sound Acquisition and Restoration program, the Yakima Basin Integrated Water Resource Management Plan, and the Washington Coastal Restoration Initiative.

**CORRECTING URBAN STORM WATER RUNOFF**

Washington Department of Ecology has taken a performance-based approach with local governments. Governments adopting low-impact development codes to address urban storm water runoff will see cleaner, less erosive storm water runoff, and will depart from past practices that favored expensive collection, distribution, and treatment elsewhere.

**ENSURING CLEAN COLD WATER**

Washington Department of Ecology works with local communities to protect stream flows for fish while ensuring adequate water supplies that are safe to drink, sustaining farms and gardens, and allowing swimming, boating, and commerce. Washington’s Water Quality Assessment lists the status of all water bodies in the state as required by the federal Clean Water Act and is available on the Department of Ecology’s Web site.
The approach works

Seventeen years into the regional recovery efforts, we know that what we are doing works. We have learned how to create the conditions that lead to salmon survival: restored fish passage, healthy habitat, and hatchery- and harvest-management decisions that work in harmony with habitat recovery.

In two areas, salmon are close to recovery.

- **Hood Canal**—Summer chum are on the rebound and are approaching recovery goals.
- **Snake River**—Fishing for fall Chinook in the Snake River, in the southeast corner of the state, is once again a reality.

Visit [stateofsalmon.wa.gov](http://stateofsalmon.wa.gov) for more detail on each region’s successes and challenges.

But the challenges are outpacing progress

Despite some successes, salmon are still in trouble.

**CLIMATE CHANGE AND PREDATION**

Scientists predict that average annual temperatures in the Pacific Northwest will increase between 3.6 degrees Fahrenheit and 10.8 degrees Fahrenheit by the end of the century. Warmer air temperatures translate to warmer water temperatures. The effects from climate change include the following:

- Shrinking snowpack
- Drier summers and falls
- Wetter springs and winters
- Floods and forest fires
- Unfavorable ocean conditions for marine survival

Salmon need cool, clean water to survive. Major landscape alterations and climate change create environments that increase predators of salmon such as sea lions, birds, and other fish.

**POORLY MANAGED DEVELOPMENT**

Since 1999, when the statewide recovery strategy was adopted, the human population in Washington has increased 24 percent. By year 2040, the number of Washingtonians is estimated to increase by another 25 percent. This growing human population with its associated demands on resources is exerting serious pressure on an already compromised ecosystem, including the following:

- Development that results in habitat loss
- Water diversion and withdrawal for human and agricultural use
- Poor water quality in area streams resulting from increased development
- Forest and agricultural practices
Time to step up and make good on our investments

Salmon recovery works, but it’s not moving fast enough to meet the accelerating challenges. Washington State’s salmon recovery infrastructure has proven successes, and it is a critical part of meeting the challenges ahead. But without investment and strong habitat protection, it won’t work. We don’t need a new strategy or plan. Rather, we need a renewed commitment to the effort begun almost two decades ago: extinction is not an option. To continue our sport, tribal, and commercial fisheries and meet the challenges ahead to protect habitat, all of the salmon recovery interests must work together. No one state agency, organization, or local strategy can recover salmon alone—we must work together.
OUR FUTURE

The way forward

It took more than 150 years to bring salmon to the brink of extinction; it may take just as long to bring them all the way back. But every inch we earn delivers benefits for all. Now is the time to reinvest and reconnect to salmon recovery in our state.

FULLY FUND THE REGIONAL RECOVERY ORGANIZATIONS

Regional recovery organizations have never been funded to capacity so that they could fully lead implementation of recovery plans through a well-coordinated and integrated all-H approach. Habitat recovery, so critical to salmon survival, is an obvious need, yet the regional organizations must staff up to continue this work and meet other recovery needs.

INCREASE STATE AGENCY RESOURCES TO MEET SALMON RECOVERY COMMITMENTS

Many state agencies have committed to actions in the regional recovery plans, yet they have not all met their commitments, in part due to tight budgets. If salmon recovery in our state is to succeed, these agencies must be funded so they can keep their commitments and support the regional organizations in recovery efforts.

RESTORE ACCESS TO SPAWNING AND REARING HABITAT

Removing barriers to fish passage is one of the most effective ways to increase salmon production in freshwater. The recently-established Fish Barrier Removal Board is charged with coordinating removal of failing culverts, bridges, and other impediments blocking salmon access to prime spawning and rearing habitat. Carrying out the board's statewide program will open miles of habitat and connect previous investments.

COMMUNICATE TO BUILD TRUST AND SUCCESS

The Governor's Salmon Recovery Office plans to hold an annual statewide salmon policy forum for regional organizations, state agencies, and the Governor's Office to understand each other's priorities, align budgets, and test innovations. The Salmon Recovery Funding Board and Governor's Salmon Recovery Office will continue to support opportunities for the broader salmon recovery network to build relationships among partners, aid direct communication, and provide a venue for member organizations to coordinate and collaborate on salmon recovery issues. Washington State reaps multiple benefits from salmon recovery.

We are committed to continue and accelerate this fight.
RECREATIONAL FISHING IN WASHINGTON IS BIG BUSINESS

According to a study prepared by TCW Economics, recreational anglers in Washington State spent an estimated $904.8 million in 2006 on fishing-related equipment and trip-related items. This provides an economic boost to rural economies and enriches the Northwest way of life.