Seattle, King County

Puget Sound Salmon Recovery Region Indicators

Human Population: 4,093,500

Counties: All or parts of Whatcom, Skagit, Island, San Juan, Snohomish, King, Pierce, Thurston, Mason, Kitsap, Jefferson, and Clallam.

Treaty Tribes: Lummi, Nooksack, Stillaguamish, Jamestown S'Klallam, Muckleshoot, Nisqually, Port Gamble S'Klallam, Lower Elwha S'Klallam, Puyallup, Samish, Sauk-Suiattle, Skokomish, Squaxin Island, Stillaquamish, Suquamish, Swinomish, Tulalip, Upper Skagit.

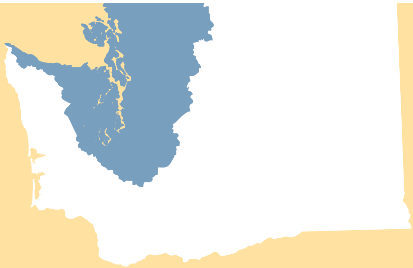
Listed Fish: Chinook (threatened), Hood Canal summer chum (threatened), bull trout (threatened).

Regional Recovery Organization: Puget Sound Shared Strategy (http://www.sharedsalmonstrategy.org/). For Hood Canal summer chum, Hood Canal Coordinating Council (http://www.hccc.cog.wa.us/).

Recovery Planning Status: Currently preparing recovery plans—with drafts due in June 2005—for Puget Sound Chinook and, through the Hood Canal Coordinating Council, for Hood Canal summer chum.

WRIAs / Water Resource Inventory Areas

1. Nooksack
2. San Juan
3. Lower Skagit
4. Upper Skagit
5. Stillaguamish
6. Island
7. Snohomish
8. Cedar / Sammish
9. Green / Duwamish
10. Puyallup / White
11. Nisqually
12. Chambers / Clover
13. Deschutes
14. Kennedy / Goldsborough
15. Kitsap
16. Skokomish / Dosewallips
17. Quilcene / Snow
18. Elwha / Dungeness



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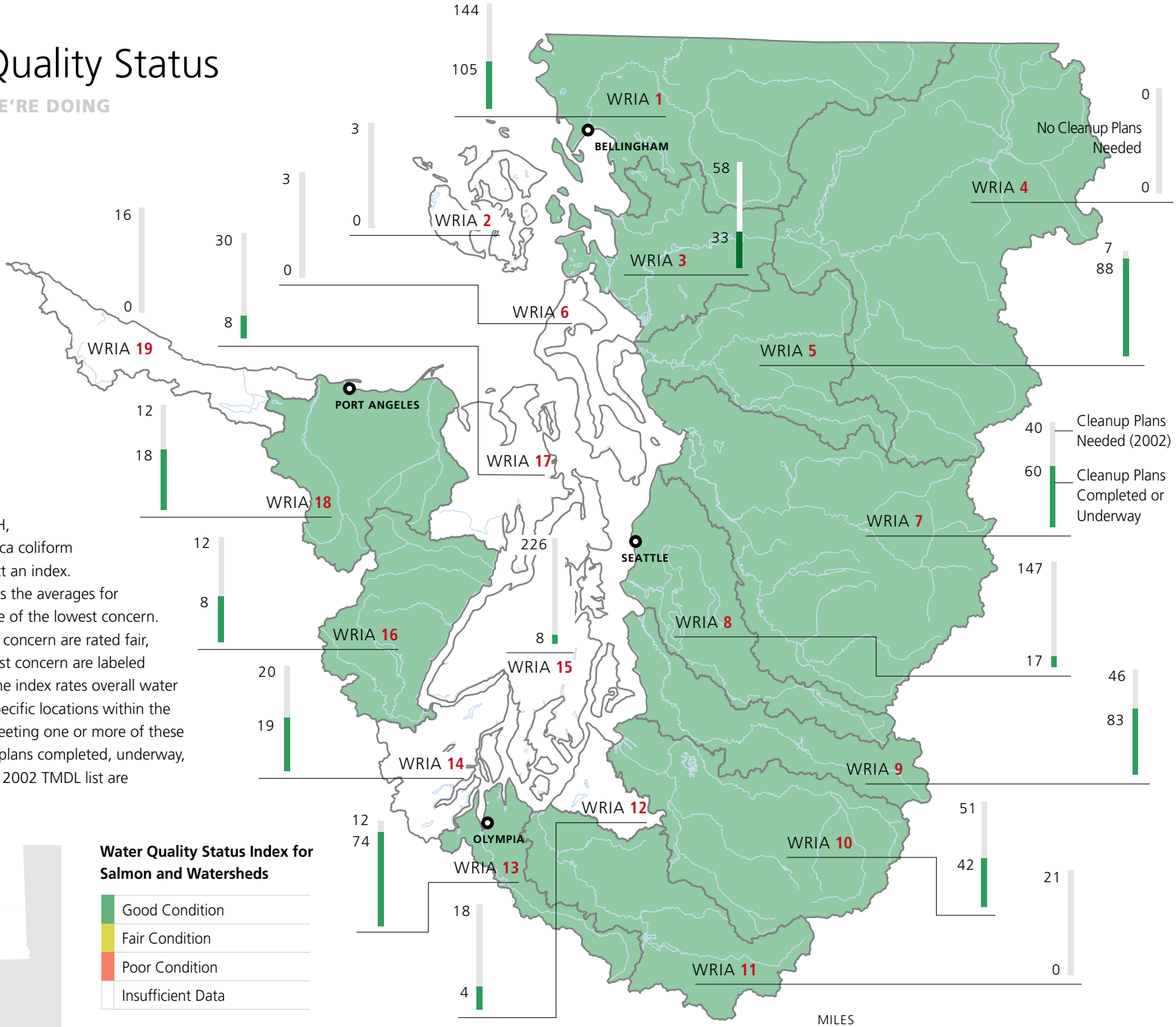
Water Quality Status

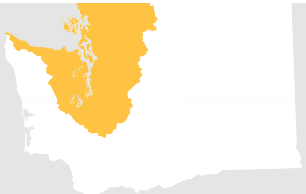
AND WHAT WE'RE DOING



On our map
dissolved oxygen, pH, temperature, and feca coliform are used to construct an index. A good rating means the averages for the last five years are of the lowest concern. Waters of moderate concern are rated fair, and waters of highest concern are labeled as poor. Although the index rates overall water quality in a basin, specific locations within the basin may not be meeting one or more of these standards. Cleanup plans completed, underway, or remaining on the 2002 TMDL list are shown by WRIA.

Water Quality Status Index for Salmon and Watersheds

- Good Condition
- Fair Condition
- Poor Condition
- Insufficient Data

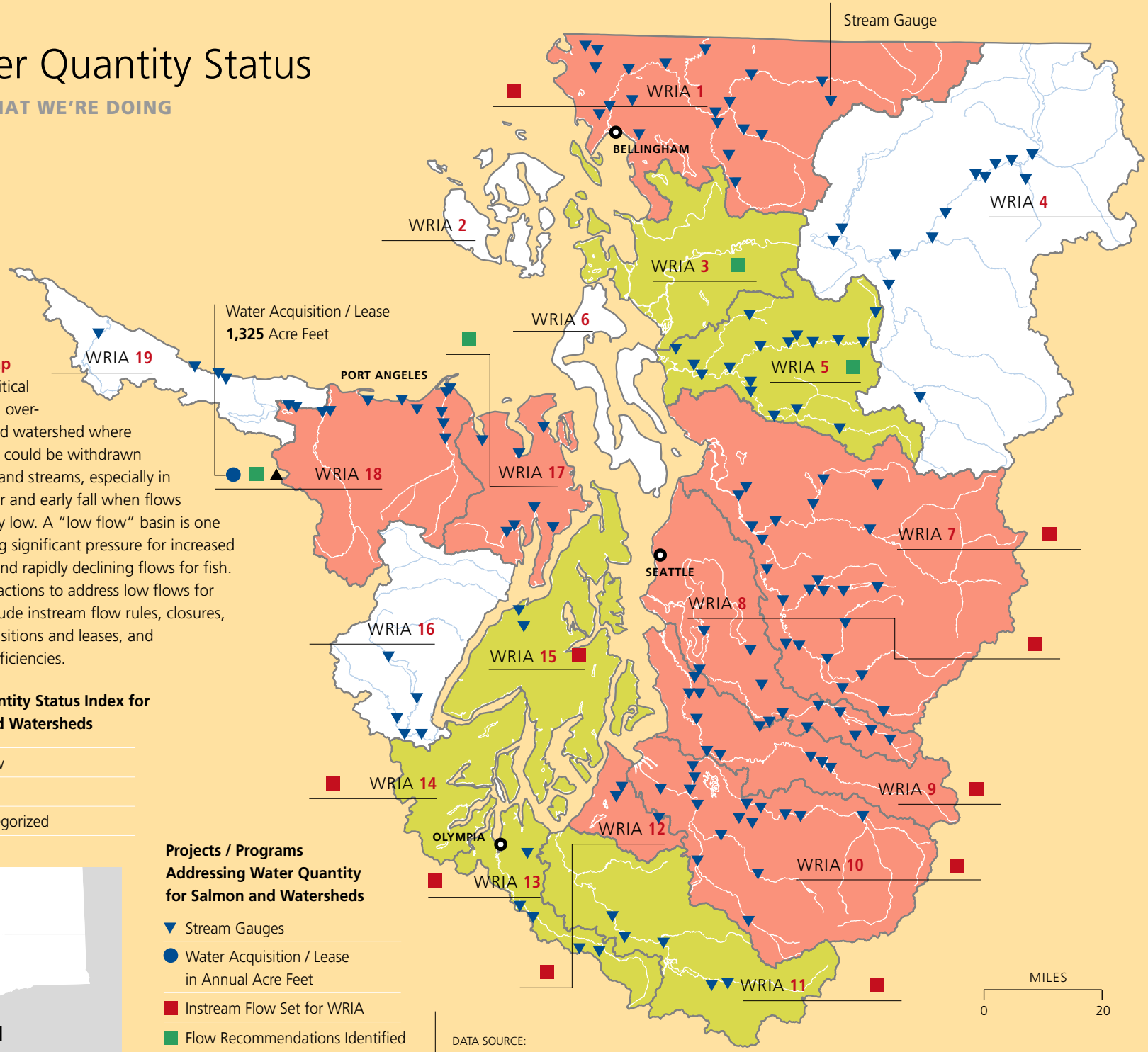


Puget Sound Salmon Recovery Region

DATA SOURCE: WASHINGTON DEPARTMENT OF ECOLOGY

Water Quantity Status

AND WHAT WE'RE DOING



On our map
a "water-critical basin" is an over-appropriated watershed where more water could be withdrawn from rivers and streams, especially in late summer and early fall when flows are naturally low. A "low flow" basin is one experiencing significant pressure for increased water use and rapidly declining flows for fish. Significant actions to address low flows for salmon include instream flow rules, closures, water acquisitions and leases, and irrigation efficiencies.

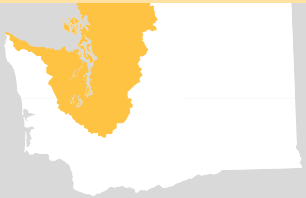
Water Quantity Status Index for Salmon and Watersheds

- Low Flow
- Critical
- Not Categorized

Projects / Programs Addressing Water Quantity for Salmon and Watersheds

- ▼ Stream Gauges
- ● Water Acquisition / Lease in Annual Acre Feet
- ■ Instream Flow Set for WRIA
- ■ Flow Recommendations Identified
- ▲ Irrigation Efficiency Projects

DATA SOURCE: WASHINGTON DEPARTMENT OF ECOLOGY

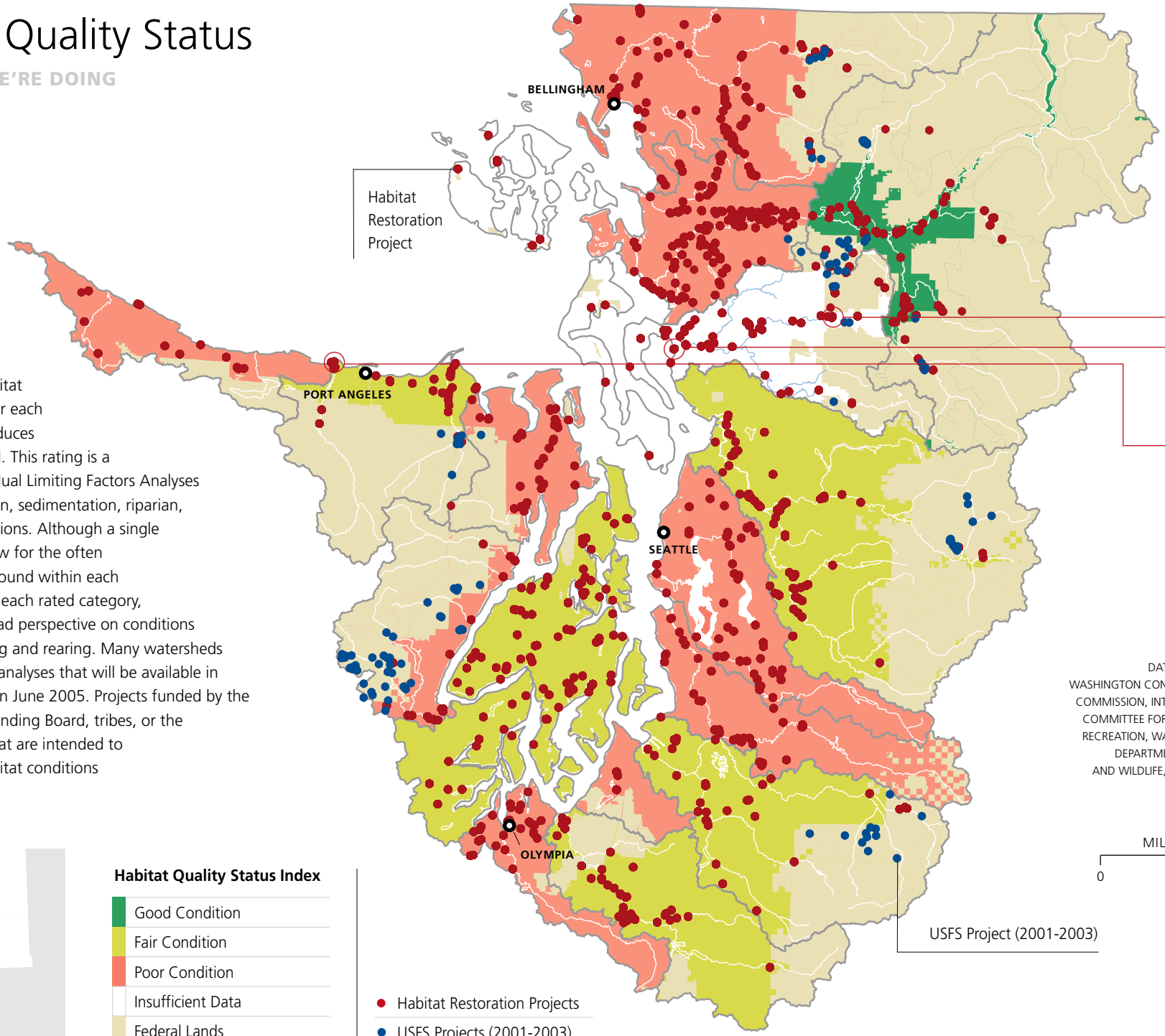


Puget Sound Salmon Recovery Region

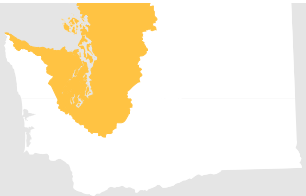
Habitat Quality Status

AND WHAT WE'RE DOING

On our map
a single salmon habitat rating is depicted for each watershed that produces salmon or steelhead. This rating is a distillation of individual Limiting Factors Analyses reports for floodplain, sedimentation, riparian, and instream conditions. Although a single rating does not allow for the often varying conditions found within each WRIA and between each rated category, it is useful for a broad perspective on conditions for salmon spawning and rearing. Many watersheds now have in-depth analyses that will be available in recovery plans due in June 2005. Projects funded by the Salmon Recovery Funding Board, tribes, or the US Forest Service that are intended to improve stream habitat conditions are shown.



DATA SOURCE: WASHINGTON CONSERVATION COMMISSION, INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION, WASHINGTON DEPARTMENT OF FISH AND WILDLIFE, US FOREST SERVICE



Puget Sound Salmon Recovery Region

Habitat Quality Status Index

- Good Condition
- Fair Condition
- Poor Condition
- Insufficient Data
- Federal Lands

- Habitat Restoration Projects
- USFS Projects (2001-2003)

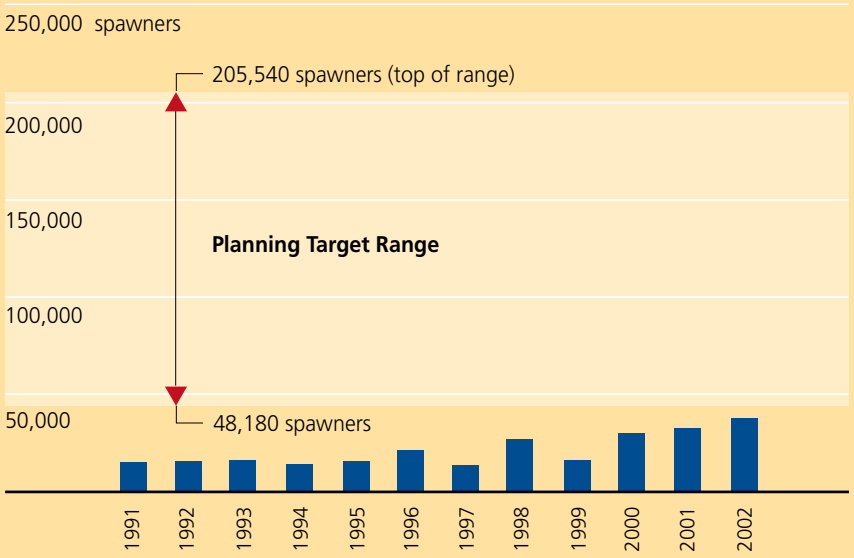
Stillaguamish Engineered Log Jam Monitoring
Volunteers are monitoring benefits to salmon from instream habitat projects.

Port Susan Bay Acquisition and Restoration Assesment
The Nature Conservancy identified and designed restoration actions for an acquisition of private tidal and estuarine wetlands.

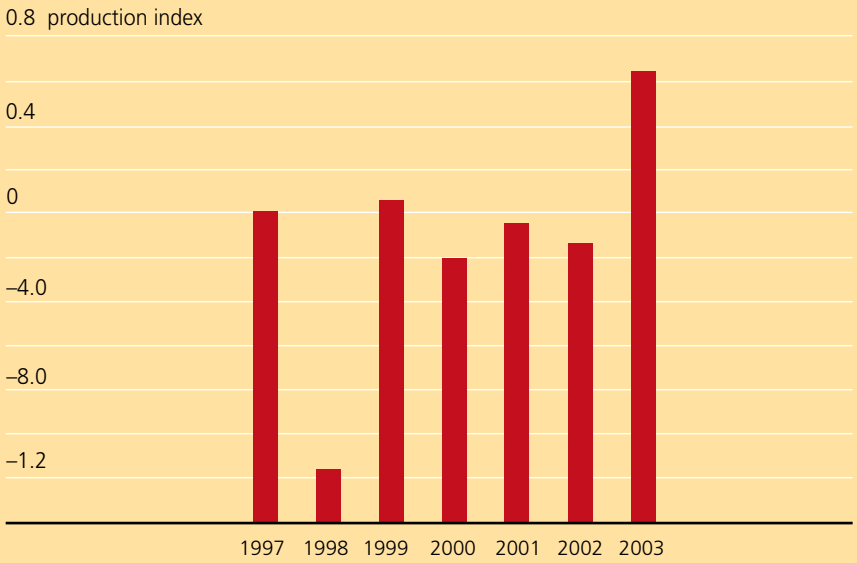
Elwha River Floodplain Restoration
The Lower Elwha Klallam Tribe improved natural habitats in the lower portion of the Elwha River.

Puget Sound Chinook

- Composite spawner abundance and planning target range for 14 of 22 populations.
- Planning Target Range from Puget Sound Shared Strategy.



Puget Sound Wild Chinook Smolt Production Index

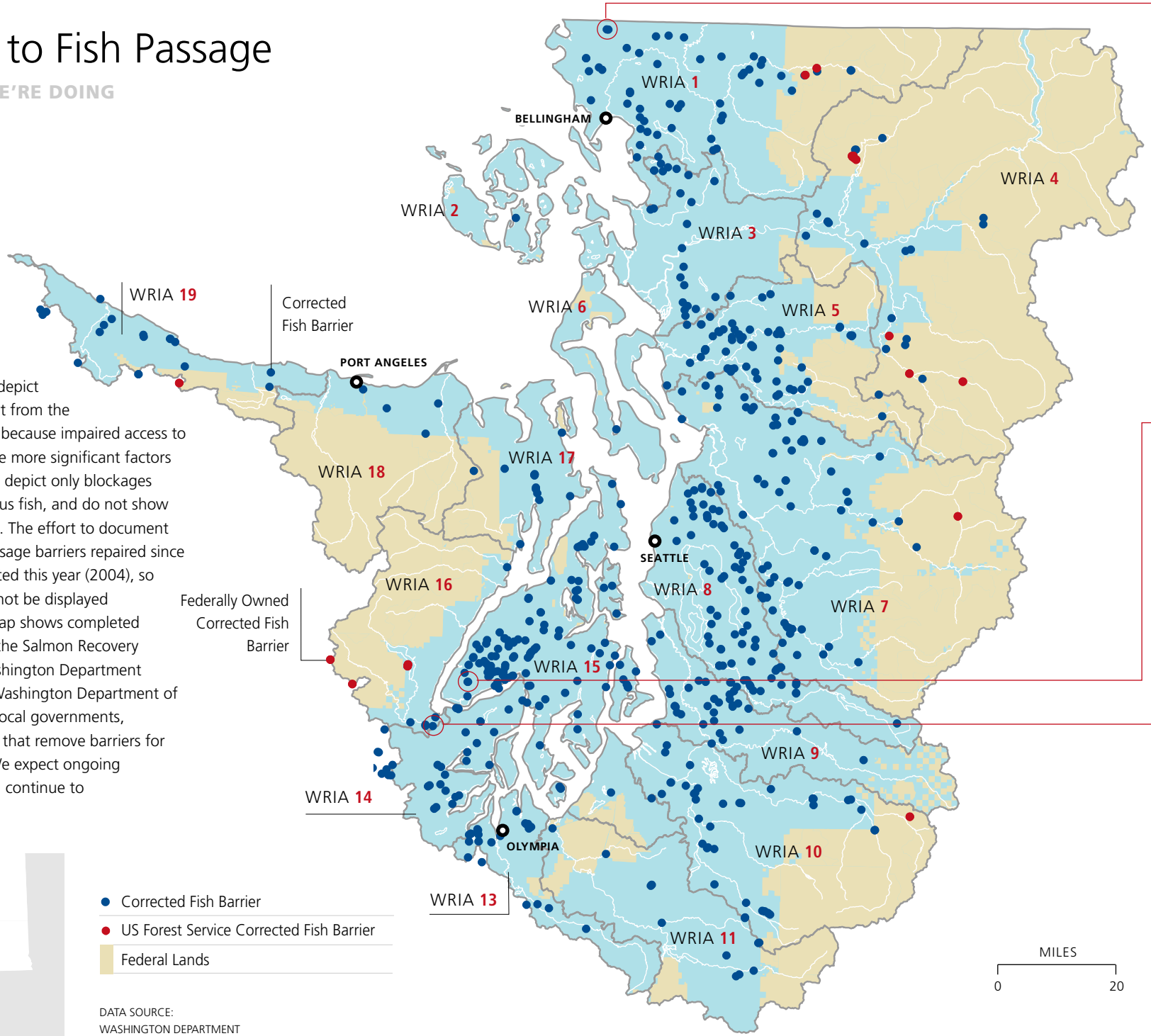


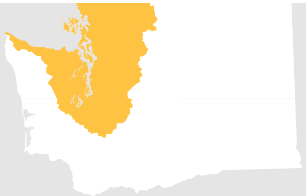
DATA SOURCE: CRAWFORD AND VOLKHARDT (2004)

Barriers to Fish Passage

AND WHAT WE'RE DOING

On our map we have chosen to depict barriers independent from the habitat quality map because impaired access to streams is one of the more significant factors limiting salmon. We depict only blockages affecting anadromous fish, and do not show bull trout blockages. The effort to document locations of fish passage barriers repaired since 1999 was just initiated this year (2004), so some projects may not be displayed on this map. This map shows completed projects funded by the Salmon Recovery Funding Board, Washington Department of Transportation, Washington Department of Natural Resources, local governments, or US Forest Service that remove barriers for anadromous fish. We expect ongoing mapping efforts will continue to reveal projects.





Puget Sound Salmon Recovery Region

- Corrected Fish Barrier
- US Forest Service Corrected Fish Barrier
- Federal Lands

DATA SOURCE: WASHINGTON DEPARTMENT OF FISH AND WILDLIFE, US FOREST SERVICE.

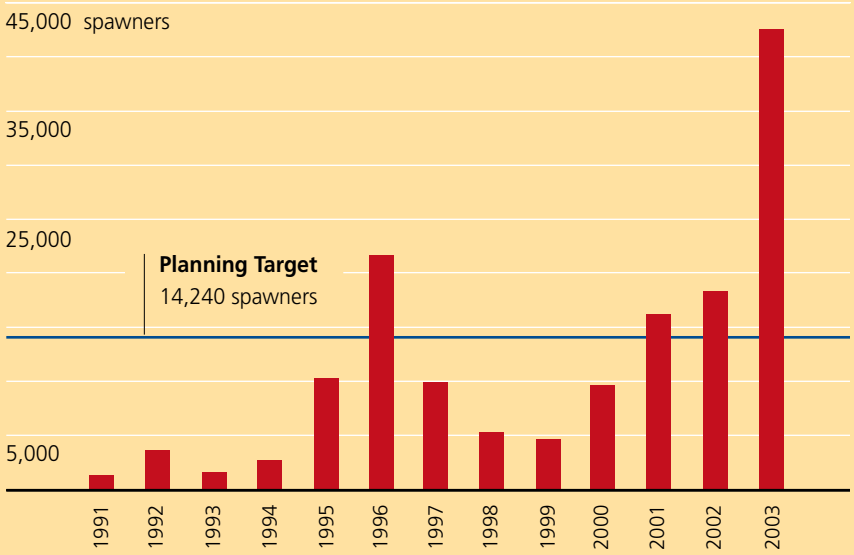
Leidi-Bertrand Creek Culverts
Bertrand Creek is a major tributary to the Nooksack River in Whatcom County. Through the Family Forest Fish Passage Program, two culverts were removed on tributaries to the creek, improving spawning and rearing conditions for almost 1/2 mile for coho and cutthroat trout.

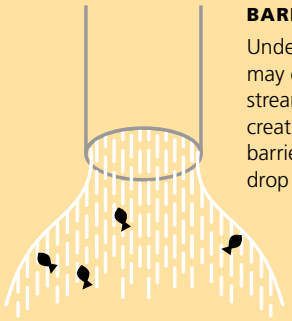
Erdman and Haven Creek Culvert
This project, part of the Family Forest Fish Passage Program (FFFPP), replaced two undersized culverts in the Hog Ranch road community of the Tahuya Peninsula in Mason County. Over six miles of stream were made accessible by the project.

Gosnell Creek Culvert and Riparian Restoration
An RFEG replaced two fish blockages and reduced flooding.

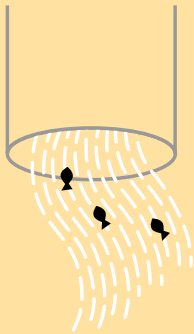
Hood Canal Summer Chum

- Composite spawner abundance and planning target for 15 of 15 populations.
- Planning target from Technical Recovery Team.





BARRIER
Undersized culverts may concentrate stream flow, thereby creating a velocity barrier and/or outfall drop



NON-BARRIER
Proper fish passage structures should be wider than the stream

DATA SOURCE: CRAWFORD AND VOLKHARDT (2004)