

The Chehalis Basin Strategy: Building Resilience in 2022

What We've Accomplished Together This Year



Chehalis Basin Board members, Office of Chehalis Basin Director Andrea McNamara Doyle (second from left), and Gov. Jay Inslee (furthest right) break ground at the future Fry Creek pump station in Aberdeen.

THE CHEHALIS BASIN STRATEGY

The Chehalis Basin Strategy is a network of partners and projects who are hard at work to make the Chehalis Basin a safe, healthy, and plentiful place to live—for people, fish, and wildlife.

The Strategy is administered by the Washington Department of Ecology's **Office of Chehalis Basin** and led by the **Chehalis Basin Board**—a group of stakeholders with diverse interests and perspectives across the Basin.

Since 2012, state and local partners have invested nearly **\$100 million to fund more than 100 projects** that benefit both people and aquatic life.

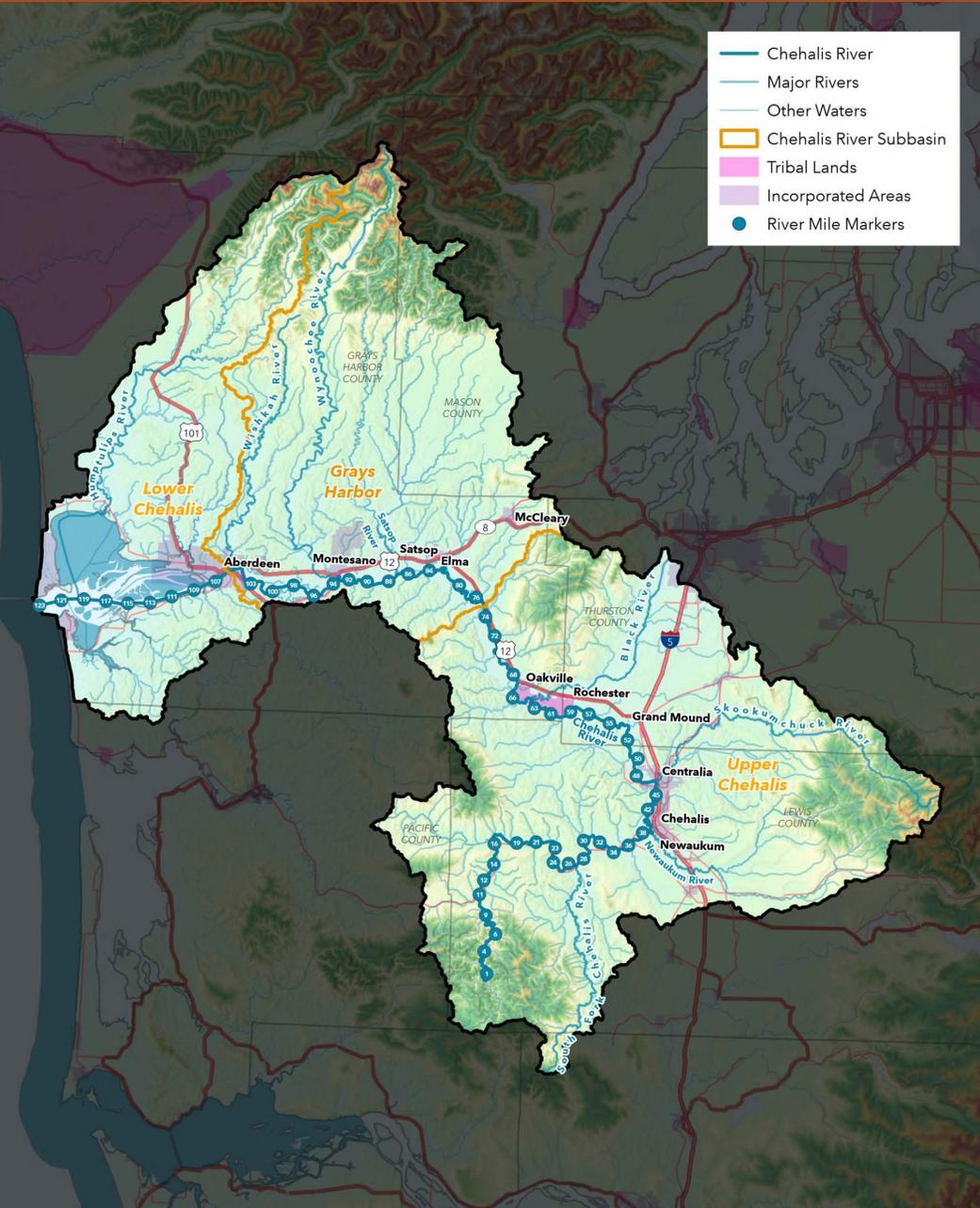
With a decade of science-based research and collaboration as our foundation, the number of Chehalis Basin Strategy projects has ramped up significantly in recent years and will continue to grow.

How We Work

- **Integrated Approach** | We believe we don't have to choose between keeping people safe and protecting aquatic species—in fact, we have the science and solutions to do both better by addressing them at the same time.
- **Collaboration is Key** | We're a collaboration of community leaders, tribal, state, and local government officials, residents, scientists, business owners, and nonprofit organizations who are committed to the future of the Chehalis Basin. Rooted in a set of shared values, we accomplish more when we work together.
- **Immediate Action and Planning for the Long-Term** | We're putting solutions into action now to protect people, fish, and wildlife, while also planning for the future. More than 100 projects are completed or underway, while long-term resilience work gains momentum.

"I'm proud of where the Chehalis Basin Strategy is today, and the incredible collaboration that makes all of our work possible. There's a long way to go for salmon, habitat restoration, and protection against worsening floods, but the momentum we have now keeps me optimistic for the Basin's future."

— **Andrea McNamara Doyle** | Director, Office of Chehalis Basin



The Chehalis Basin Watershed.



Rainbows greet the fertile valleys of the Chehalis Basin.



Volunteers plant native trees with the Lewis County Stream Team.

2022 BY THE NUMBERS

- **14:** Organizations who are collaborating on Aquatic Species Restoration Plan projects
- **16:** Property owners who received personalized assistance to help protect their homes from flood damage in 2022
- **20:** Aquatic Species Restoration Plan projects approved for development, design, and/or construction
- **3:** Aquatic Species Restoration Plan projects constructed or in progress, resulting in:
 - » **7** acres of amphibian habitat restored
 - » **8.5** miles of river restored
 - » **18.5** miles of streams made accessible
 - » **58** protected acres of floodplain
 - » **269** acres of floodplain restored
 - » **283** acres of invasive species treated
 - » **143** acres of native plantings
- **30:** Landowners voluntarily engaged in Aquatic Species Restoration Plan projects
- **68:** Flood damage reduction projects completed or underway in the 2021–23 biennium

- **647:** The average number of days to complete a local flood damage reduction project
- **2,184:** People registered for high water alerts as part of the Chehalis Basin Flood Warning System (a 62% increase from 2021)
- **120,000+:** Visits to Chehalis Basin Flood Warning System website during January 2022's major floods
- **\$694,000:** The average cost of a local flood damage reduction project

“I’m super impressed with what the local community is doing for a variety of reasons. Number one is super collaboration. Everyone is working together from landowners, the Department of Ecology, to local mayors.”

— Governor Jay Inslee



Celina Abercrombie, WDFW, shows Gov. Inslee the Aquatic Species Restoration Plan’s large-scale project site along the Wynoochee River.

2022: WORK IN ACTION

The Chehalis Basin Strategy supports safe communities and healthy habitats across the region by creating solutions to reduce flood damage and reverse the loss of aquatic species, like salmon.

In 2022, we took action by:

1. Helping Residents And Communities Protect Homes And Businesses From Flood Damage

- Helped secure \$60 million in federal funding for the North Shore Levee project in Aberdeen and Hoquiam, including the new Fry Creek Pump Station.
- Provided funding for a total of 68 projects that are currently completed or underway with the Chehalis Basin River Flood Authority between 2021 and 2023, including flood storage, water supply resiliency, road projects, farm pads, bank stabilization, and more.
- Distributed emergency information and connected residents to resources in response to January 2022's major floods.
- Supported 16 property owners with technical assistance through our flood assistance program.
- Began developing library of Spanish language materials related to flood and safety information for Spanish-speaking residents in the Basin.



The North Shore Levee will protect thousands in Aberdeen and Hoquiam.



Pump stations, like the Chehalis-Centralia airport pump station here, save millions in economic value and have some of the highest returns on investment.

Project Spotlight: North Shore Levee Promises Protection For Coastal Communities

The cities of Aberdeen and Hoquiam, known for their tourism, timber, and fishing industries, face increasing flood risk from the ocean, rivers, and rainwater runoff.

The North Shore Levee project, comprising two floodwall and levee systems spanning 6.2 miles, will provide long-term flood risk reduction and climate change resiliency benefits and provide a more secure future for the coastal cities.

In August 2022, the project was awarded \$50 million from the Federal Emergency Management Agency's (FEMA) Building Resilient Infrastructure and Communities program. In March 2022, U.S. Rep. Derek Kilmer helped secure nearly \$10 million in federal funding for the project.

With significant funding secured, this project remains on track for construction. Once complete, it's estimated this project will:

- Protect 5,100 properties and over 1,300 businesses in Aberdeen and Hoquiam against flood damage.

- Reduce annual flood insurance premiums for local homeowners and businesses by over \$1 million, keeping that money local and in people's pocketbooks.
- Attract positive development, create and maintain over 1,300 new jobs, and bring revenue to Grays Harbor.

The project also includes the construction of the **Fry Creek Pump Station**, which will replace the existing pump station and keep the community safe and functional during flood events.

The project is supported by the Office of Chehalis Basin, along with additional local and federal funding and partnership. Since the Office of Chehalis Basin launched in 2017, it has committed \$17 million of state funds to this project through the Chehalis Basin Strategy.

“This federal recognition proves that community-driven solutions right here in the Harbor are on par with some of the largest cities and flood risk reduction efforts in the country.”

— **Vickie Raines** | Chehalis Basin Board Chair and Grays Harbor
County Commissioner



Assessing the area around Mill Creek in Lewis County. Credit: Jared Wenzelburger at *The Chronicle*.

“Unnaturally high erosion threatens homes and farms in the Chehalis Basin, but the rock riprap traditionally used to slow erosion is harmful to aquatic life. The projects we built this year use environmentally friendly bioengineered materials. It’s this integrated approach that sets the Strategy apart.”

— Nat Kale | Principal Planner, Office of Chehalis Basin

What is the Aquatic Species Restoration Plan (ASRP)?

The ASRP is a science-based roadmap for restoring aquatic species habitat and protecting ecosystems along the rivers and streams in the Chehalis Basin. It is led by the Confederated Tribes of the Chehalis Reservation, the Quinault Indian Nation, and the Washington Department of Fish and Wildlife.

2. Working With Landowners To Slow Harmful Erosion And Restore Habitats For Salmon And Other Aquatic Life

- Completed construction for two large-scale habitat restoration efforts in the Satsop and Wynoochee River watersheds as part of the Aquatic Species Restoration Plan. These large projects spanned multiple years!
- Completed first season of work on large-scale habitat restoration at Stillman Creek, a tributary to the Chehalis River.
- Constructed two beaver dam analogues, an experimental restoration technique.
- Funded three fish migration barrier removal projects, which protect county road crossings above current and future flood levels.
- Installed approximately 88 engineered log jams across three sites.
- Funded six erosion management projects in Lewis County and Grays Harbor County.
- Formed a Basin-wide working group and developed a framework for erosion control across the Chehalis Basin.

- Held a two-day Aquatic Species Restoration Plan symposium to share knowledge and key learnings from around the region.
- **20:** Aquatic Species Restoration Plan projects approved for development, design, and/or construction.
- **3:** Aquatic Species Restoration Plan projects constructed or in progress, resulting in:
 - » **7** acres of amphibian habitat restored
 - » **8.5** miles of river restored
 - » **18.5** miles of streams made accessible
 - » **58** protected acres of floodplain
 - » **269** acres of floodplain restored
 - » **283** acres of invasive species treated
 - » **143** acres of native plantings
- Worked with more than 30 voluntary landowners.



In 2022, teams celebrated the completion of a major large-scale habitat restoration project along the Wynoochee River.

Project Spotlight: Family Home Saved And Habitat Restored Along The Wynoochee River

In 2018, Washington Department of Fish and Wildlife, Forterra, and Grays Harbor Conservation District began working with landowners to conduct a one and a quarter-mile-long **restoration project in the Wynoochee River watershed**, as part of a large-scale project for the Aquatic Species Restoration Plan. The project includes 65 engineered log jams to aid in slowing erosion, collecting wood, and increasing floodplain reconnection, and involves revegetating 14 acres of floodplain forest.

Along this stretch of river sat the family home of Rebecca Robison. In the past few decades, Rebecca saw her property lose over 30 acres of land to river erosion, and her home was in danger of falling into the river. The team determined that it would be a major win not only for Rebecca, but also for the habitat, if they could move the home to a safer, more stable location.

Construction began in 2021, the **home was relocated in spring 2022**, and the remainder of the habitat restoration was completed in summer 2022. The project planting and maintenance will continue to be managed by Grays Harbor Conservation District until 2025 to ensure the restoration efforts' long-term success.

“My parents owned most of the acreage affected—losing 30 acres over the past 26 years. To see great trees being taken by the river, or farmland that had been worked for 100 years being washed away in a flash was tragic. Preserving the ecosystem of the river and the shoreline were of great interest to my mother. To be a part of restoring nature is humbling, and my family and I look forward to continuing to be active participants in making the Aquatic Species Restoration Plan a success.”

— **Rebecca Robison** | Grays Harbor resident and landowner



Rebecca Robison receives a pin from Gov. Jay Inslee for being the “Washingtonian of the Day.”



The Robison family’s property is moved to safety, away from the encroaching Wynoochee River.”

“Relocating Becca’s house has been a unique, rewarding challenge for the Conservation District. Being able to move a landowner to a safer living location, simultaneously opening up more acreage for salmon restoration, has been a great win-win project. All of the partners involved have a lot to be proud of.”

— **Anthony Waldrop** | Grays Harbor Conservation District Project Manager

The Skookumchuck Dam Study

The Skookumchuck Dam, owned by TransAlta, is over 50 years old, and the coal-fired power plant it was built to serve will shut down in 2025.

As a part of the Chehalis Basin Strategy, the Office of Chehalis Basin is currently **studying ways that the Skookumchuck Dam could be improved for flood damage reduction and/or outcomes for fish.** This early study looks into the feasibility of adjusting dam discharges, modifying the structure of the dam, or removing it.

The Office of Chehalis Basin has been working with TransAlta, the Washington Department of Fish and Wildlife, the Confederated Tribes of the Chehalis Reservation, the Quinault Indian Nation, the cities of Centralia and Bucoda, and others to examine the possible future of the dam.

The team completed Phase 1 of the study in 2022, and Phase 2 is currently underway. In early 2023, conclusions will be shared with the Chehalis Basin Board, who can decide whether to request additional studies, select an option to pursue further, or take no further steps.



For more information, and to **watch the two webinars that OCB hosted on the dam this year**, visit chehalisbasinstrategy.com/skookumchuck-dam-study/



3. Preparing The Region For More Frequent Major And Catastrophic Flooding

- Improved the Chehalis River Basin Flood Warning System.
 - » Hosted a Basin-wide online training on the Flood Warning System.
 - » Improved the system's real-time accuracy by updating stream gauges.
 - » Installed a new river gauge at China Creek in Centralia.
- Hosted three Basin-wide webinars focused on:
 - » Updated climate change data and flooding predictions.
 - » Training on the Flood Warning System.
 - » Assessing flood risk and knowing available resources.
- Continued moving the proposed Chehalis River Dam through the state and federal environmental review processes. This project is proposed by the Chehalis River Flood Control Zone District.
 - » Agencies incorporated updated climate change data into the environmental review process.
 - » Agencies began updating analysis in response to public comments submitted on the draft Environmental Impact Statements.

- » The District began looking at alignment adjustments in response to public comments.
- Launched the **Local Actions Non-Dam Alternative (LAND)** process, tasked with developing and evaluating a comprehensive, Basin-wide flood damage reduction approach that includes alternatives to the proposed Chehalis River Dam.
- This effort is co-chaired by representatives of the Confederated Tribes of the Chehalis Reservation and Economic Alliance of Lewis County.
- This year, we:
 - » Formed a steering group of Basin-wide leaders to guide the process.
 - » Conducted a three-day workshop, attended by community members from across the Basin, to root the process in community values.
 - » Consulted with experts and began developing alternatives, which will be ready for review in 2023.



Residents paddle the waters of 2007's catastrophic flood. Photo credit: *The Chronicle*.

Project Spotlight: Flood Warning System Keeps Hundreds Of Thousands Safe During January 2022 Floods

ChehalisRiverFlood.com

The Chehalis River Basin Flood Warning System is a public website with forecasts, inundation maps, and real-time river-level data and alarms that save people's lives. It contains more than 300 weather sensors across 100 different sites in the Basin, as well as 13 high-water gauges.

In January 2022, major flooding hit the Chehalis Basin. The Flood Warning System was instrumental in keeping residents aware, prepared, and informed in their decisions.

The Flood Warning System:

- Received 120,000+ visits during January's flood events—record-level usage.
- Helped residents get their livestock and farming equipment to high ground. There was no notable livestock loss reported during this flood event, compared to widespread losses during the 2007 and 2009 floods.
- Increased its alert sign-ups by 62% since 2021 (2,245 total).

“Thank you for getting me signed up [for alerts], and thank you for your ongoing work on behalf of our community. All of this work with flood gauges and warnings and other mitigations is making a real difference.”

— Mayor Kelly Smith Johnston | Centralia

The Raymer Street and Chehalis-Centralia Airport pump systems both performed successfully during the flood event. The Raymer Street Pump Station in Hoquiam pumped 51 million gallons of water out of the Raymer drainage basin, keeping the area safe and dry. The Chehalis-Centralia Airport system pumped 518 million gallons of water, protecting \$45 million worth of public infrastructure and private assets while keeping more than 1,000 jobs from interruption.



Chehalis River flooding in January 2022. Credit: Jared Wenzelburger at *The Chronicle*.

LOOKING AHEAD

The 2023–2025 Biennium

In addition to funding near-term projects, the Chehalis Basin Strategy is planning for large-scale, long-term solutions.

The Chehalis Basin Board is moving closer to determining the viability of various projects, including the proposed Chehalis River Dam and the Local Actions Non-Dam Alternative. The Board will be ready this biennium to make recommendations on a comprehensive, Basin-wide strategy for flood damage reduction.

Large-scale habitat restoration continues to make huge strides as part of the Aquatic Species Restoration Plan, and we're thrilled to support regional implementation teams in their essential on-the-ground work.

Together, Chehalis Basin Strategy projects and partners are making a difference on the interconnected issues of flood damage and salmon decline. We look forward to continuing to collaborate for a safer, more abundant, and more resilient future.

Projects Continuing Through 2023

- Large-scale habitat restoration at Stillman Creek, which is over two-thirds complete and the largest Aquatic Species Restoration Plan project to date.
- Construction of the North Shore Levee, including the West Segment and Fry Creek Pump Station.

- Purchasing pumps and generators for three pump stations in Aberdeen and Hoquiam.
- Planning for four comprehensive planning projects, including surface water management, roadmaps, and erosion analysis in Aberdeen, Cosmopolis, Hoquiam, and Chehalis.
- Designing and/or permitting for three projects, including pump stations, Port of Grays Harbor's Haul Road Protection Project, and the Lower Satsop Right Bank Conservation Project.
- Federal and state environmental impact statements for the proposed Chehalis River Dam (proposed by Chehalis River Basin Flood Control Zone District).
- Alternatives developed by Local Actions Non-Dam Steering Group and shared with the public and Chehalis Basin Board.
- Construction of additional beaver dam analogues as part of the Aquatic Species Restoration Plan.

Undertakings as large, complicated, and multifaceted as the Chehalis Basin Strategy can take significant time to complete, and projects sometimes experience delays—some unexpected, and some necessary to ensure funds are put to the best possible use.

We look forward to continuing important work on in-progress projects during the upcoming year.

Projects To Be Completed In 2023

- Construction of in-water habitat restoration at Stillman Creek (Lewis County).
- Construction of three barrier corrections on Wildcat Creek (Grays Harbor County).
- Construction of new sediment wedges and beaver dam analogues as part of the Aquatic Species Restoration Plan.
- Restoration at Blooms Preserve (Thurston County) to support Oregon spotted frog.

Projects Beginning In 2023

- Construction of the City of Montesano's Water Supply Resiliency project (planned).
- Farm pad expansion in Lewis County (planned).
- Design and permitting for the City of Chehalis' old wastewater treatment plant (planned).
- Large-scale restoration to improve fish passage on the Riverbend Ranch (Thurston County, Skookumchuck River).
- Two and one-half additional miles of large-scale restoration on the Satsop River (Grays Harbor County).

- Developing landowner incentives; building a strategy to protect existing high-quality habitats; and offering workshops on key learnings, as part of the Aquatic Species Restoration Plan Period.
- Analysis of South Fork Chehalis River channel migration zones.
- Study for the China Creek Flood Storage and Fish Habitat Restoration Project (phases 3 & 4) in Centralia.
- Construction for home elevations pilot program.
- Funding projects to reduce erosion and improve aquatic habitat, based on the framework developed by the erosion control work group in 2022.
- Twelve planned local projects as part of the Flood Authority, including pump stations, farm pads, erosion, infrastructure, and more.



BETTER TOGETHER

The Chehalis Basin Strategy would not be possible without the collaboration of our incredible network of partners, including local landowners across the Chehalis Basin. We are grateful to learn from you and work alongside you.

Thank you to the Confederated Tribes of the Chehalis Reservation and the Quinault Indian Nation, the original and continuing stewards of the Chehalis Basin.

“Collaboration is the cornerstone of the Chehalis Basin Strategy. We can’t do it alone. From engaged local landowners, between state agencies, up through the federal government, it will take all of us to create a healthier Chehalis Basin.”

— **Celina Abercrombie** | WDFW, Chehalis Basin Strategy Manager



Thank You To:

- Capitol Land Trust
- Chehalis River Basin Flood Authority and local jurisdictions
- Chehalis River Basin Flood Control Zone District
- Chehalis Basin Lead Entity
- Chehalis Basin Partnership
- Confederated Tribes of the Chehalis Reservation
- Forterra
- Grays Harbor County Conservation District
- Lewis County Conservation District
- Mason County Conservation District
- Port of Chehalis
- Port of Grays Harbor
- Quinault Indian Nation
- Thurston County Conservation District
- U.S. Army Corps of Engineers
- Washington Recreation and Conservation Office
- Washington State Conservation Commission
- Washington State Department of Ecology
- Washington State Department of Fish & Wildlife
- Washington State Department of Natural Resources
- Washington State Department of Transportation

We partner with dozens of additional entities across Chehalis Basin Strategy projects and are grateful for their stewardship of the Chehalis Basin.

Growing Our Team

In 2022, the Office of Chehalis Basin welcomed Katherine (Kat) Dickey as the Strategy's new **Flood Risk Reduction Program Coordinator**. In this role, Kat provides direct help to landowners, residents, and businesses in evaluating their individual flood risks and options for home-based flood preparation and mitigation projects. She connects people to the resources they need. We couldn't be happier that Kat has joined our team.



Agriculture in the Chehalis Basin.



The Chehalis River.

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