



2025 STATE OF THE BAYS

HEALTHY WATERSHEDS FOR
A THRIVING COMMUNITY

Tillamook Estuaries Partnership
A National Estuary Project
www.tbnep.org





WHY

WE BELIEVE in the intrinsic value of nature. Our vision is to conserve and enhance the estuaries and watersheds of Tillamook County by creating productive dialogues around the natural resources at the social, cultural, and economic core of our community while providing active and adaptable environmental leadership that honors the community's principles and values and sustains our partners.

HOW

MISSION

Tillamook Estuaries Partnership (TEP) is a nonprofit organization dedicated to the conservation and restoration of Tillamook County's watersheds through active stewardship, scientific inquiry, community engagement, and education.

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Report design by Elise Wahl | Timberdoodle Studio
Large Wood photo by Nestucca, Neskowin, & Sand Lake Watersheds Council; Eelgrass photo by ODFW

WHERE

Nehalem Bay



Tillamook Bay



Netarts Bay



Sand Lake



Nestucca Bay



photos by Marc Hinz



Washington

Oregon

Manzanita

North Fork Nehalem
Nehalem River

Miami River
Kilchis River
Wilson River
Trask River

Tillamook
Tillamook River

101
Nestucca River

Little Nestucca
Neskowin
Neskowin Creek

TEP Study Area

Watershed Boundaries

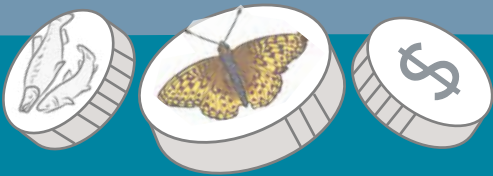
Tillamook County

OREGON

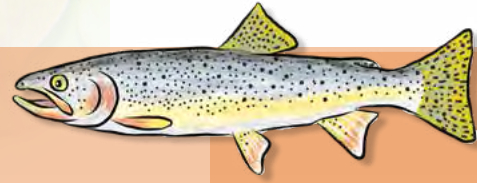
WHAT

SUMMARY OF STUDY-AREA PROJECTS (2020-2024)

**Stretching dollars
and showing a strong
return on investments**



**\$1 federal
= \$15 impact**



90.6 acres
of riparian and
wetland native plant
planting

**40 fish passage
structures**
replaced or upgraded



93 restoration projects

313 acres of wetland acquired or restored

TEP'S 10-YEAR ACTION PLAN

COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN (CCMP)

As part of the National Estuary Program, the Clean Water Act requires each location within the program to implement a Comprehensive Conservation and Management Plan, or CCMP. The purpose of this CCMP is to define the biggest issues facing the health of our estuaries and watersheds and present plans to effectively address those issues. TEP's revised CCMP is a 10-year action plan for 2019–2029 that utilizes the original 1999 CCMP as its foundation. Our CCMP goals are:

- Maintain and improve the beneficial uses of estuaries and watersheds for humans and native aquatic and terrestrial species (Monitoring);
- Conserve and restore ecological functions of Tillamook County's estuaries and watersheds to benefit native aquatic and terrestrial species and the communities that depend on them (Habitat Restoration);
- Foster awareness of Tillamook County's estuaries and watersheds, engage in problem solving, and take action to conserve and enhance our natural resources (Community Education & Engagement).

HABITAT RESTORATION

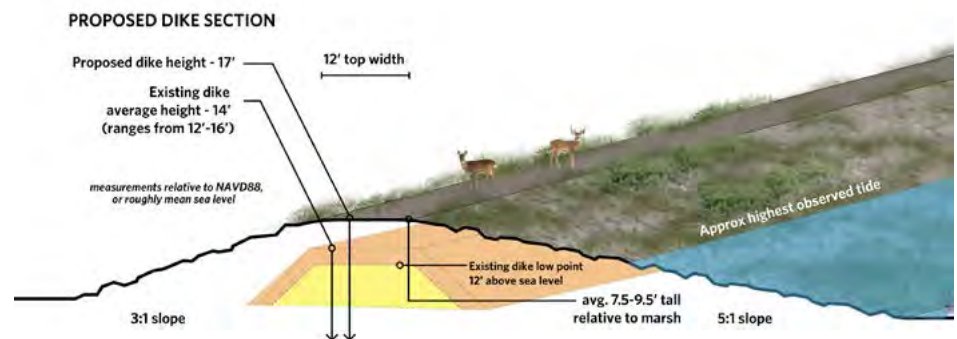
Conserve and restore ecological functions of Tillamook County's estuaries and watersheds to benefit native aquatic and terrestrial species and the communities that depend on them.

SITKA SEDGE

An Oregon Parks and Recreation Department (OPRD) property, Sitka Sedge is a stunning tidal wetland and estuary with accessible recreation opportunities and critical salmon habitat. It also lies north of the village of Tierra del Mar, where a failing tide gate and dike cut off tidal flow, hindering fish passage, and contributing to local flooding. Sudden or unexpected failure of the dike during a storm surge may have serious consequences for the low-lying community of Tierra del Mar behind it. Additionally, native fish that once spawned in upstream waters cannot access their native creeks.

To address these issues, OPRD and Tillamook Estuaries Partnership are working together to design and install a new dike and tide gate system. Construction of a shorter dike at a narrow point between coastal forest and Sandlake Road will reconnect tidal marsh to the Sand Lake estuary. Marshes provide a buffer from tidal flow by reducing wave impact and absorbing water. Breaching the existing dike will open the tidal basin, where inflow can spread across the marsh, reducing the threat of flooding in Tierra del Mar. A modern muted tidal regulator will adjust to incoming water levels, opening and closing automatically as necessary. Not only will these changes protect Tierra del Mar, but will also allow salmon, steelhead, and coastal cutthroat trout to reach their traditional spawning grounds, and reestablished tidal marsh will provide juvenile salmonids with nursery habitat.

Several years in the works, this collaborative project is nearing the next phase. Engineering, geotechnical, and hydrological studies, construction designs, and permitting processes will continue in 2025. Construction is planned for 2026 and 2027.



Environmental Science Associates

BACKYARD PLANTING PROGRAM

Tillamook Estuary Partnership’s Backyard Planting Program (BYPP) is a free voluntary assistance program for private landowners in Tillamook County. The program aims to enhance stream health by removing invasive vegetation and planting native trees and shrubs along salmon-bearing waterways. Streams provide clean drinking water and habitat for fish and wildlife, and riparian areas are critical to stream health. Many lowland riparian areas in coastal watersheds are privately owned properties, and many have severely-impaired riparian conditions.

Participating in BYPP creates healthy riparian areas and provides benefits including -

- Shade to maintain cooler stream temperatures for salmon, and to prevent invasive plants from growing streamside.
- Stable stream banks that reduce erosion and flooding.
- Filtration of sediment, nutrients, and pollutants to promote clean water.
- Water storage and slow release to lower flood risk.
- Increased organic matter which supports the aquatic food chain.
- Large woody debris that slows water speed for fish habitat.
- Support for native birds, pollinators, and other animal species by providing shelter and food.



Tom McDermott



YEAR	TREES PLANTED	SHRUBS PLANTED	ACRES RESTORED	LINEAR FEET OF RIPARIAN AREA RESTORED
2020	850	560	3.5	6,025
2021	959	1,049	5.7	4,860
2022	3,270	916	9.4	9,650
2023	2,010	665	7.6	10,250
2024	3,110	995	12	16,300



The Salmon SuperHwy (SSH) is a unique community partnership using a strategic scaled approach to complete 93 priority culvert and bridge upgrades in Tillamook County. Over the last five years, 26 projects reconnected 64 miles of river, bringing the SSH totals to 54 projects completed and 132 miles of reestablished spawning and rearing habitat for chinook, coho and chum salmon, steelhead, cutthroat trout, and lamprey. Additionally, Salmon SuperHwy efforts created 340 jobs in the county, approximately 250 in the last five years alone.

Three priority projects completed in the last five years reduced road and land flooding, created secure evacuation routes for humans, and opened river miles for salmonids.

Although Miami-Foley Road is an emergency alternative for US 101, the Peterson Creek culvert at the confluence with the Miami River faced catastrophic failure. In partnership with Tillamook Estuaries Partnership, replacing the culvert in 2020 with a clear-span bridge sufficient to withstand a 100-year flood ensured an escape route for residents, and reconstructing the riverbed opened safe passage to upstream fish habitat.

A tertiary drainage of the Nestucca River, Alder Creek was connected to Three Rivers by two undersized culverts. Replacing these dilapidated structures with a box culvert restored free flow to the creek, clearing passage to the headwaters and opening fish spawning and rearing habitat,

including 14 acres of beaver wetlands that support juvenile salmonids. This 2021 project benefits residents with the increased storm capacity that the new bridge provides, preventing road flooding and surrounding pastures.

Trask River Road is the only way in and out of the Trask watershed for residents and emergency vehicles, but the Green Creek culvert regularly backed up, overflowing the road. With failure imminent, Public Works was on standby throughout winter high waters. At the other end of the seasonal spectrum, the only cold water refugia for lower Trask River fish escaping summer heat was under the inaccessible riparian canopy of Green Creek. Replacing the culvert in 2023 with a clear-span bridge improved health and safety for humans and fish.

Nine projects restoring nearly nine and a half miles of stream habitat and 16 acres of wetlands are on deck for 2025. This work is supported and funded by SSH partners, including National Oceanic and Atmospheric Administration, Oregon Department of Fish and Wildlife, U.S. Forest Service, Tillamook County, U.S. Fish & Wildlife Service, Oregon Watershed Enhancement Board, US Department of Transportation.



SAND LAKE LARGE WOOD PROJECT

Stream complexity is the primary limiting factor of endangered Oregon Coast coho salmon. Installing log structures slows water to form downstream pools that create refuges for aquatic organisms; both juvenile salmon and their prey. Log placement also captures and sorts stream sediments, which provide a nutrient source for aquatic insects, improves stream channel connectivity with floodplains, creates cover, and forms off-channel flow refugia for salmonids.

Implemented in 2023, the Sand Lake large wood project installed forty-eight log structures across Andy, Sand, and Jewel Creeks with timber donated by the Confederated Tribes of Siletz Indians and Stimson Lumber. The first year of monitoring showed improved stream complexity and floodplain connections, and increased spawning habitat. Nestucca, Neskowin, and Sand Lake Watersheds Council (NNSLWC) staff and Derek Wiley (Oregon Department of Fish and Wildlife) noted more redds (salmon spawning locations) in the stream stretches with large wood, including areas that previously lacked the small gravel needed for redd formation. Project monitoring is continuous with the goal of seeing more habitat improvements.



Natalie Nites



Zac Mallon

COAL CREEK LARGE WOODY DEBRIS PLACEMENT

Erosion along an access road, and a riverbank threatening to collapse beneath a landowner's yurt, prompted the Nehalem Bay Watershed Council (NBWC) to launch a large woody debris placement project on the West Fork of Coal Creek. After scouting this stretch of river, the team confirmed that it overlapped with priority coho salmon anchor habitat. In partnership with Troy Laws (Oregon Department of Fish and Wildlife (ODFW, retired), NBWC proposed large wood placement as a win-win possibility for protecting landowner property and improving fish habitat.

Implemented in 2020 in cooperation with nine landowners across six properties, NBWC and ODFW introduced large woody debris along a quarter mile of West Fork Coal Creek. Six structures were installed that successfully reduced the impact of the energy and volume of water in the erosion-prone areas, while enhancing fish habitat by activating historic side channels and engaging floodplains.

After such a large and successful partnership with multiple landowners, NBWC created a documentary that shows a realistic vision of what landowners experience when large woody debris is placed on their property. The documentary is available on the NBWC YouTube channel.

Oregon Watershed Enhancement Board (OWEB) Council Capacity funds supported feasibility work and Wild Salmon Center funded implementation. Documentary production was supported by funding from Wild Salmon Center and OWEB Landowner Engagement.



Watch Documentary

MCCOY WETLAND RECONNECTION

Lower Nehalem Community Trust

RESTORING CRITICAL TIDAL WETLANDS IN THE NEHALEM RIVER ESTUARY - LOWER NEHALEM COMMUNITY TRUST

After nearly a century of tidal disconnection in McCoy Wetland, Lower Nehalem Community Trust is developing engineering designs to restore tidal flow and critical native salmonid habitat to 4 acres of historic tidal marsh. At the north end of Wheeler, McCoy Wetland will be reconnected with Botts Marsh to the south and the Nehalem River to the west by breaching a failing pasture dike and creating new tidal channels. This will restore historic tidal flow and allow input of marine-derived nutrients and sediment to combat sea-level rise.

Restoring McCoy Wetland will increase off-channel sanctuary habitat, foraging areas, and smolting grounds for juvenile coho. This restoration will also benefit migrating juvenile chum and chinook salmon, especially during critical early life stages.

The Lower Nehalem Community Trust is working in partnership with the Wild Salmon Center, Nehalem Bay Watershed Council, Oregon Department of Fish & Wildlife, Tillamook Estuaries Partnership, and Waterways Consulting to develop permit-ready restoration plans. Restoration work is planned for 2026.



NATIVE PLANT NURSERY

Steward native plant species to support the communities that depend on them and the surrounding watersheds.

TILLAMOOK ESTUARIES PARTNERSHIP'S NATIVE PLANT NURSERY

Because lack of access to high quality plant material has been a significant impediment to coastal habitat restoration efforts, TEP's Native Plant Nursery has been producing hardy plants for estuarine, streamside, and meadow revegetation. Since 2020, this nursery has propagated 60 native species and distributed 390,000 plants.

SUPPORTING OREGON'S INCARCERATED YOUTH

In addition to providing plants to restoration projects, the nursery serves as a bridge to society for Oregon's incarcerated youth. A rotating crew of eight young people, between ages 16 and 24, carry out the majority of plant production tasks. In exchange, TEP offers them one of the highest salaries for incarcerated persons in the state, soft-skill development, and a positive work reference after their release. In the past 5 years, 170 individuals worked 28,800 labor hours at the nursery.



Oregon Youth Authority:

176 youth employed for
28,835 hours

Native Plant Nursery:

396,400 plants propagated



THE OREGON SILVERSPOT BUTTERFLY

The Oregon Silverspot butterfly (OSB) is a coastal butterfly that was federally listed as threatened in 1980. It exists solely in five populations on the Oregon and North California Coasts. These butterflies live in coastal grassland habitat that include the early blue violet, the caterpillar's only host plant. U.S. Forest Service land managers partnered with the Northwest Youth Corps to reclaim butterfly habitat on Mt. Hebo by removing encroaching forest. They also facilitate enhancing meadow species for butterflies by working with Coffee Creek Correctional Facility to plant 14,500 violets and nectar plugs, most sourced from Tillamook Estuaries Partnership's Native Plant Nursery.

U.S. Fish and Wildlife Service land managers at the Nestucca Bay Wildlife Refuge use prescribed fire, mechanical treatments, and spot spraying herbicide to create more OSB habitat. In 2024, university researchers conducted mark and recapture studies on captive-reared butterflies to better understand how they move and use meadows.





COASTAL NATIVE SEED PARTNERSHIP

The Coastal Native Seed Partnership (CNSP) was founded in 2020 by 22 coastal restoration organizations and native plant producers to increase availability and affordability of native seed for Pacific Northwest coastal habitat restoration. The CNSP is housed and coordinated by the Institute for Applied Ecology and funded by the Oregon Watershed Enhancement Board (OWEB). Over the past five years, the CNSP developed a strategic plan, assessed coastal demand for native seed, and engaged farmers in producing more native plant seeds (seed amplification) for seven ecologically important meadow species. Additionally, coastal ecologists created a 20-species short-list, which will guide ongoing seed amplification efforts.

TILLAMOOK ESTUARIES PARTNERSHIP NATIVE SEED COLLECTION

In support of the National and Oregon Native Seed Strategies and their shared goal of creating availability of the “right seed at the right place at the right time,” TEP significantly increased the volume and diversity of native seeds collected. Seeds are primarily used by TEP and their partners to produce two and three year-old container plants for restoration projects.



New Plant Populations Scouted	658
Propagation Species Increase	2020: 40 SP. 2024: 63 SP.
Seed Species Increase	2020: 30 SP. 2024: 50 SP.
Number of seeds	210M TOTAL. 145M IN 2024 VS 15M IN 2022



Sam Derrenbacher

THE NORTHWEST OREGON RESTORATION PARTNERSHIP

The Northwest Oregon Restoration Partnership (NORP) is a collaborative group of 30 entities that joined to source locally adapted plants for habitat improvement efforts on the north and central Oregon coast.

With the Native Plant Nursery run by Tillamook Estuaries Partnership serving as the production hub, NORP partners have worked together for over 15 years to share best practices and coordinate restoration and funding efforts. Through partnership, NORP members receive subsidies on plant materials needed for on-the-ground restoration. These plants can then be used as matching funds in grant applications. For this approach, NORP received the National Stewardship Award from the Bureau of Land Management in 2010.

In 2022, the NORP steering committee voted to increase long-term program sustainability by overhauling their pricing model. Revisions are now scheduled for two-year intervals with the goal of NORP providing a minimum of 30% of nursery operating expenses in the future.



NORP DELIVERABLES 2020-2024

228 Restoration projects

65 Riparian miles restored

578 Riparian acres restored

82 Wetland acres restored

1,360 Upland/Meadow acres restored

MONITORING

Maintain and improve the beneficial uses of estuaries and watersheds for humans and native aquatic and terrestrial species.

THE SHELLFISH AND ESTUARINE ASSESSMENT OF COASTAL OREGON

The Shellfish and Estuarine Assessment of Coastal Oregon (SEACOR) team is a dedicated work group within the Oregon Department of Fish and Wildlife (ODFW) Shellfish Program that conducts periodic surveys of bay clam populations and estuarine habitats in Oregon's major bays and estuaries. SEACOR's primary focus is documenting the composition of bay clam communities, characterizing habitats where bay clams occur, and determining the abundance, biomass, and preferred habitat type of each species.

SEACOR project data are used by the ODFW Shellfish Program to manage state shellfish and estuarine resources, especially bay clam recreational and commercial fisheries. Datasets provide stock estimates used to adjust commercial dive clam quotas in Tillamook Bay and commercial intertidal cockle rake harvest quotas in Netarts and Tillamook Bays. SEACOR data are also used to update habitat resource maps, especially native eelgrass (*Zostera marina*) distribution. SEACOR recently completed the 2022–2024 estuarine assessment of Tillamook Bay; the report is coming in fall–winter 2025.



ODFW SEACOR

10,328 clams measured in Tillamook Bay

1,655 juvenile Dungeness crabs measured in Tillamook Bay

1,948 Acres surveyed



ODFW SEACOR

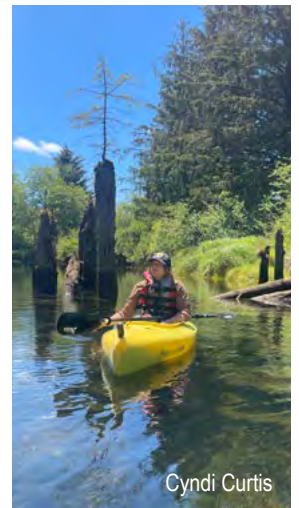
OCEAN ACIDIFICATION AND HYPOXIA

Negative impacts of ocean acidification and hypoxia (OAH) are particularly severe in Oregon, where the coast is subject to some of the lowest pH and dissolved oxygen levels on the west coast. Low pH means high acidity, and high acidity causes dissolution of oyster shells. Tillamook Estuaries Partnership (TEP) began collecting OAH data to establish baseline information on patterns of OAH in Tillamook Bay.

Data collection for that OAH study is done by instruments installed on the Garibaldi Dock at the north end of the bay. The time-series data collected from the two TEP sites in Tillamook Bay represent the first high quality pH data from the bay and are currently our best understanding of ocean acidification and hypoxia conditions experienced by shellfish growing in the Bay. TEP partnered with Oregon State University, the Department of Environmental Quality (DEQ), and Environmental Protection Agency (EPA) to provide data management, analysis, and results.

TIDAL SWAMP RESTORATION SUITABILITY MAPPING

The Wild Salmon Center (WSC) and partners are developing maps to highlight potential tidal swamp restoration areas across the Nehalem, Tillamook, and Nestucca estuaries. Dominated by woody vegetation, such as Sitka spruce, willow and Oregon crabapple, tidal swamps are wetlands that experience daily water fluctuations driven by ocean tides. Swamps provide critical storm surge protection, cold water inputs, juvenile salmon habitat, carbon sequestration, and more. Historically common in the Pacific Northwest, tidal swamps are now rare, with more than 90% lost since the 1800s. Estuary restoration efforts mostly focus on grassy marsh habitats, leaving tidal swamp restoration as a relatively new practice. Salinity and elevation control tidal swamp establishment; they need tidal influence but are not successful if too wet or too salty.



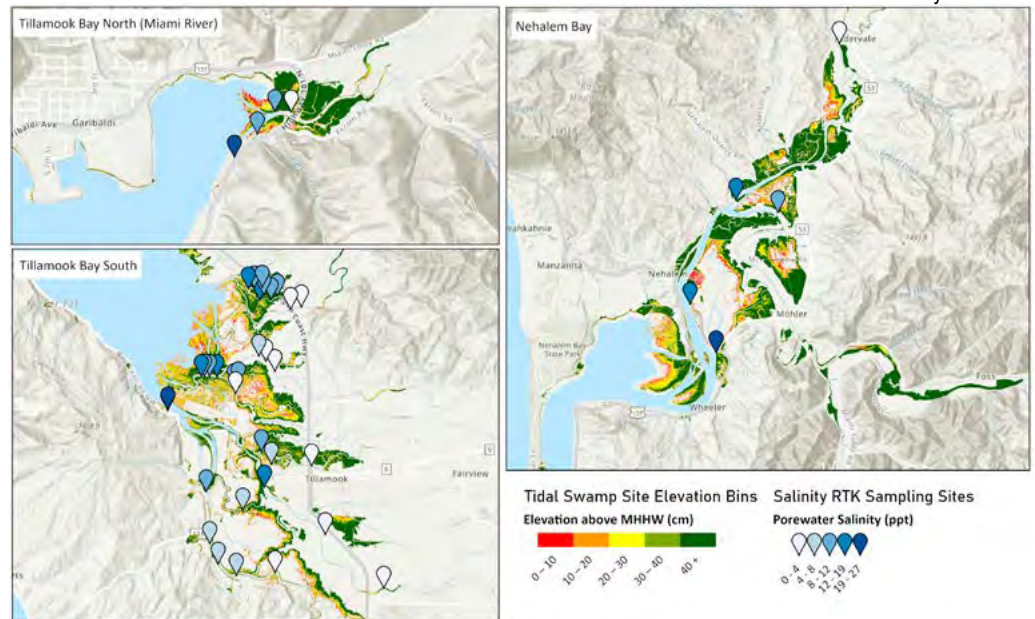
Cyndi Curtis

This mapping effort will document salinity and elevation conditions where existing tidal swamps are thriving and identify areas where future restoration efforts may be successful. After identifying favorable elevations for tidal swamps in the estuary, soil salinity data determine if conditions are too brackish or are suitable for forested swamp plantings. Salinity data collection occurred in 2024 and will continue in 2025.

This project is in partnership with Laura Brophy with the Institute of Applied Ecology and the Monitoring Program at Tillamook Estuaries Partnership.

Diagram shows salinity sampling sites & elevation bins.

Cyndi Curtis



Conrad Ely ODFW

OREGON AMERICAN BEAVER ACTIVITY SURVEY

Following the 2022 redesignation of beaver in Oregon from a “predatory animal” to “furbearer,” Oregon Department of Fish and Wildlife, in partnership with Oregon State University, developed the statewide American Beaver Activity Survey to assess beaver occupancy, movement, and limiting factors. Locally, the Upper Nehalem headwaters (UNH) were chosen as Beaver Emphasis Areas (BEA) for the North Coast Watershed District. Annual coordinated statewide surveys began in 2024.

During the first year, 140 surveys were conducted in the UNH BEA. Preliminary data indicate historic and/or current beaver activity in 99% (139/140) of sites surveyed, with 20% (28/140) of sites active or occupied (at the time of surveying). It is too early to extrapolate conclusions from these data, and the UNH may not be representative of the rest of the North Coast. Nonetheless, it is encouraging that survey efforts are yielding data which offer a better understanding of beavers and their habitat in Oregon.

SEAGRASS

Seagrass forms the backbone of our estuary habitat, providing a nursery for valuable coastal species including young salmon, Dungeness crab, and pacific herring. It is also an important food source for black brant. Oregon's seagrass is under threat, with southern Oregon estuaries losing a significant portion of their beds in the last decade. Tillamook Estuaries Partnership is listening to community concerns and monitoring this critical resource to ensure a thriving estuary for generations to come.



 Drone Flight Area
 Estimated Seagrass Area

 Drone Flight Area
 Estimated Seagrass Area

TEP is analyzing images from annual drone flights and satellite repositories with machine learning techniques to estimate the area of seagrass beds in Tillamook Bay.

~1,800 ACRES - Area flown
~800 ACRES - Estimated area of seagrass

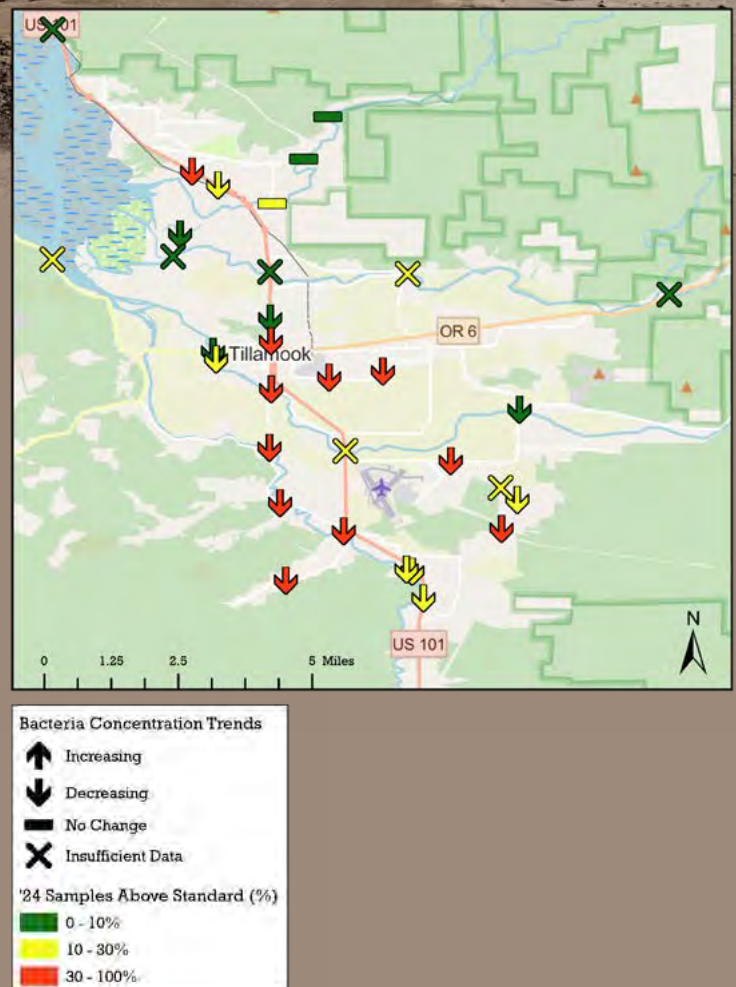
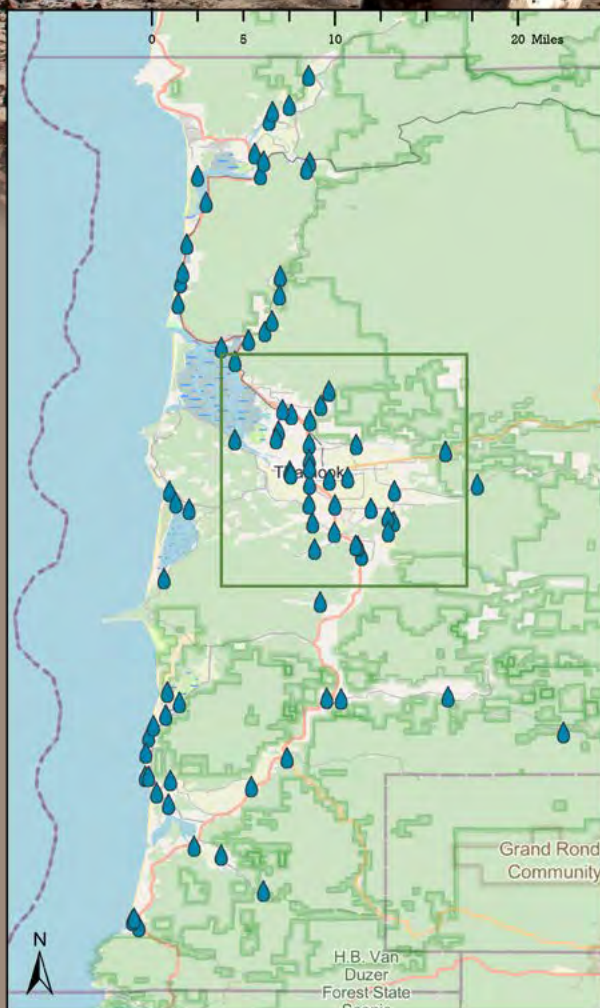


BACTERIA

Bacteria in our watersheds can come from the digestive tract of warm blooded animals like humans, birds, and cows causing illness in people and closing shellfish harvests. Tillamook Estuaries Partnership tracks E. coli bacteria levels in rivers, streams, and beaches across Tillamook County. We use these data to inform the community about when and where recreation is safe and to track bacterial input and trends over time.



1,965 Volunteer Hours

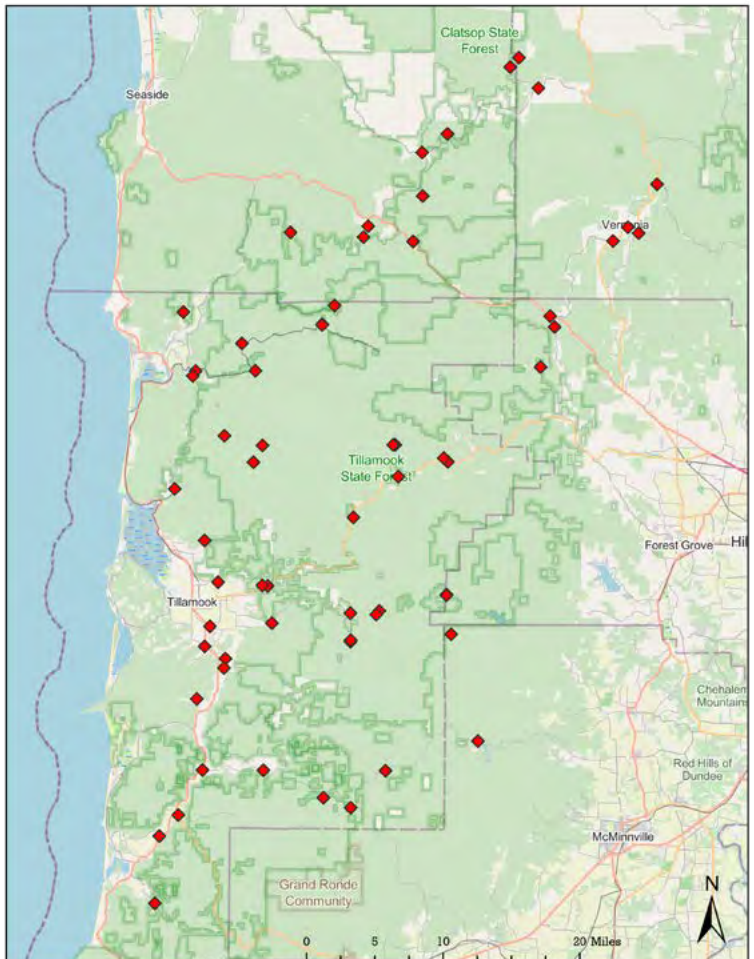


Tillamook still has high bacteria counts, but long-term trends show an overall reduction over the last decade. These data identify bacteria hot-spots and help TEP prioritize areas for septic system repair and replacement. This effort will reduce bacteria and improve water quality in our waterways.

TEMPERATURE

Juvenile coho salmon spend the first year of life in freshwater, relying on cold summer water temperatures to grow and thrive. However, Tillamook's estuaries, upland rivers, and streams are often too hot for juvenile salmon to survive. Oregon guidelines indicate safe water temperatures that vary based on salmon use. The maximum temperature for migratory areas like mainstem rivers is 18 degrees Celsius (64° F), while tributaries and streams should not exceed 16 degrees Celsius (61° F). To determine whether Tillamook waterways remain under these thresholds, TEP has tracked temperatures in mainstem rivers since 2006. In 2022, this effort expanded to include 40 additional sites in important tributaries throughout the county.

TEP partnered with Nehalem Bay Watershed Council to investigate a potential restoration project at the mouth of the Salmonberry River, where temperature data have been collected since 2006. A drone with an infrared camera helped identify how cooler Salmonberry water interacts with the Nehalem. Temperature data were also examined across a summer showing that the Salmonberry was consistently cooler by 2–3 degrees Celsius (3–5° F), but was still warmer than the ideal 18 degrees Celsius for juvenile salmon.



Map of Tillamook County temperature logger locations. Red dots indicate where a temperature logger is placed and records temperature for the summer months.



80% IN 2024

Percent of sites exceeding temperature standards

1.01 MILLION

Total data points





SOUTHERN FLOW CORRIDOR

The 642-acre Southern Flow Corridor: Landowner's Preferred Alternative project (SFC) at the confluence of the Wilson, Tillamook, and Trask Rivers brought together local, state, and federal partners to address flooding concerns and restore salmon habitat. Nine years after restoration, ongoing research shows decreased flooding on the Highway 101 corridor north of Tillamook.

Additionally, since restoration in 2016, a sustained increase in juvenile salmon use at SFC has been recorded. These two factors make this project a win for everyone. TEP continues to partner with the community and researchers to monitor the SFC as it changes over time and to identify opportunities for additional restoration.



A drone was used to image high-tide flooding at SFC, giving scientists a valuable aerial view.

COMMUNITY ENGAGEMENT

Foster awareness of Tillamook County's estuaries and watersheds, engage in problem solving, and take action to conserve and enhance our natural resources

CHILDREN'S CLEAN WATER FESTIVAL

A partnership of 18 local organizations works to provide a variety of STEAM (science, technology, engineering, arts, and math) programs to hundreds of Tillamook County K-12 students. One landmark STEAM event is the annual Children's Clean Water Festival (CCWF) that taught more than 6,000 fourth-grade students about the importance of clean water across Tillamook County watersheds. Now, people who attended the CCWF as 4th-grade students are returning to the festival as chaperones for their 4th-grade children.

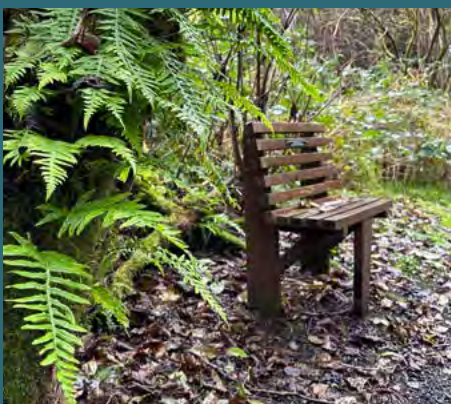
Highlights from the last 5 years include salmon and marine debris games and owl pellet dissections. Children learned about the salmon lifecycle, the impacts of plastic pollution on the threatened Western Snowy Plover and the food cycle from finding mouse bones in owl pellets. When asked about their experience at the CCWF and after exploring a tide pool touch tank, one student wrote, *"Today I learned that when sea cucumbers are scared, they throw up their innards."*



Lara Janzen

ESTUARY SCIENCE CENTER

We are excited to announce we have successfully purchased property to build our new Estuary Science Center (ESC). The ESC, abutting Kilchis Point Reserve, will serve as headquarters for the Tillamook Estuaries Partnership and include a state-of-the-art laboratory, a community room/classroom and several interpretive areas.



IN MEMORIAM: GREG FOSTER

Greg Foster's dedication to Tillamook Estuaries Partnership (TEP) and its partners had a lasting impact on our waterways and community. As a Volunteer Water Quality Monitoring Program Volunteer, biweekly Greg collected and processed water samples from Tillamook and Nehalem Bays. He served as secretary on the board of the Nehalem Bay Watershed Council, and was a dedicated local volunteer. Greg was a STEM (Science, Technology, Engineering, Math) coach for the Tillamook School District and outdoor education events for TEP and photographed many Children's Clean Water Festivals. Greg's contagious humor, love of nature, and passion for science will be deeply missed.

EXPLORE NATURE

A collaboration of local, environmental organizations, Explore Nature provides meaningful, nature-based events showcasing Tillamook County's unique treasures and what they do to conserve its natural resources, preserve natural resource-based industries, and restore biodiversity. Partners co-host public, guided hikes, walks, and paddles with the belief that our passion will inspire others to love and protect Tillamook County. A beautiful new website helps connect community members to 50 yearly events with



Tillamook Estuaries Partnership; Friends of Netarts Bay Watershed; Estuaries, Beach and Sea; Lower Nehalem Community Trust; Lower Nehalem Watershed Council; Nestucca, Neskowin, and Sand Lake Watersheds Council; North Coast Land Conservancy; and Tillamook Bay Watershed Council.



VOLUNTEER BACTERIA MONITORING PROGRAM

Tillamook Estuaries Partnership (TEP) closely monitors county waterways for contamination by bacteria, including *E. coli* in freshwater rivers and streams, and *Enterococcus* on saltwater beaches. Elevated levels of these bacteria can pose health risks to those who recreate here. Thanks to dedicated Water

Quality Program volunteers, some of whom have been involved for twenty years, TEP produces a publicly available map of current bacteria levels that is updated every other week.



VOLUNTEER FEATURE: JIM YOUNG

Jim Young has been a water quality volunteer with Tillamook Estuaries Partnership for 17 years! He is a marine biologist who spent his career working on water pollution for NOAA and the Pacific Northwest National Laboratory. He retired to the Oregon Coast and his love for clean water continues as a water quality monitoring volunteer. Every two weeks he goes out to his local estuary to collect water samples.

Jim is also involved with Netarts Bay WEBS as a founding member and presently as a volunteer on Tidepool Tours and Salt Marsh Photography seminars.

UPCOMING PROJECTS

RL Ross

TILLAMOOK RIVER WETLANDS

The Tillamook River Wetlands (TRW) project, is an incredible opportunity to improve emergency infrastructure and tidal wetland function in the Tillamook Bay watershed. TRW is situated at mile three of the Tillamook River, one of five major rivers entering Tillamook Bay. Tidally influenced, TRW consists of historic spruce swamp, emergent wetland, and tidal channels, all critical habitat for federally threatened Oregon Coast Coho salmon. The current road separating TRW and the Tillamook River is failing and was deemed in need of replacement by Tillamook County Public Works. Road replacement alternatives to benefit fish and people are under consideration, including restoring full tidal flow and connectivity to allow fish passage into the floodplain and adding emergency infrastructure that would provide a lifeline road for coastal communities.

JETTY CREEK

Home to ESA-listed coho and chum salmon, and coastal cutthroat trout, Jetty Creek is upstream from the mouth of the Nehalem River, and three miles north of Rockaway Beach. The primary drinking water source for Rockaway Beach, most of the watershed is designated for private timber management. Jetty Creek does not have the slow-moving pools necessary for juvenile salmon foraging, resting, and hiding from predators and falls short of Oregon Department of Fish and Wildlife (ODFW) benchmarks. Additionally, the simplified channel and gradient in Jetty Creek does not provide winter habitat for juvenile fish. In collaboration with Lewis and Clark Timberlands, fourteen large wood structures will be installed to provide overwintering habitat and stream complexity for juvenile salmonids.

SOUTHERN FLOW CORRIDOR SPRUCE SWAMP RESTORATION

Southern Flow Corridor (SFC) is a 521-acre site at the Trask, Tillamook, and Wilson Rivers confluence on Tillamook Bay. Its brackish tidal wetlands were restored through a successful cross-industry partnership in 2016. Native low marsh vegetation naturally replaced non-native, invasive reed canary grass (RCG) at lower elevations; however, the higher-elevation North Zone remains dominated by RCG. Historically, spruce swamp grew at higher elevations and provided healthy estuarine habitat for juvenile salmonids (chinook and coho). With no evidence that the spruce are naturally recolonizing the site after eight years, partners will plant 15 acres of spruce trees across SFC's highest-elevation, and will maintain the trees for four years to restore the historic swamp.

Project implementation partners include Tom McDermott & Tillamook County. Partners from the related Restore America's Estuaries (RAE) grant include Dr. Chris Janousek with Oregon State University & Dr. Laura Brophy with the Institute for Applied Ecology. Plants will be acquired from the North Oregon Restoration Partnership's Native Plant Nursery.



ENGAGING PARTNERS TO RESTORE COHO SALMON

Oregon Coast coho are a culturally, ecologically, and economically important species, and federally threatened, making them a priority for state and federal agencies. Since 2022, Tillamook Estuaries Partnership worked extensively with Wild Salmon Center and local partners to develop a Strategic Action Plan for coho recovery in the Tillamook Bay watershed. Ranging from private local businesses to federal agencies, twenty partners participate in this collaborative process.

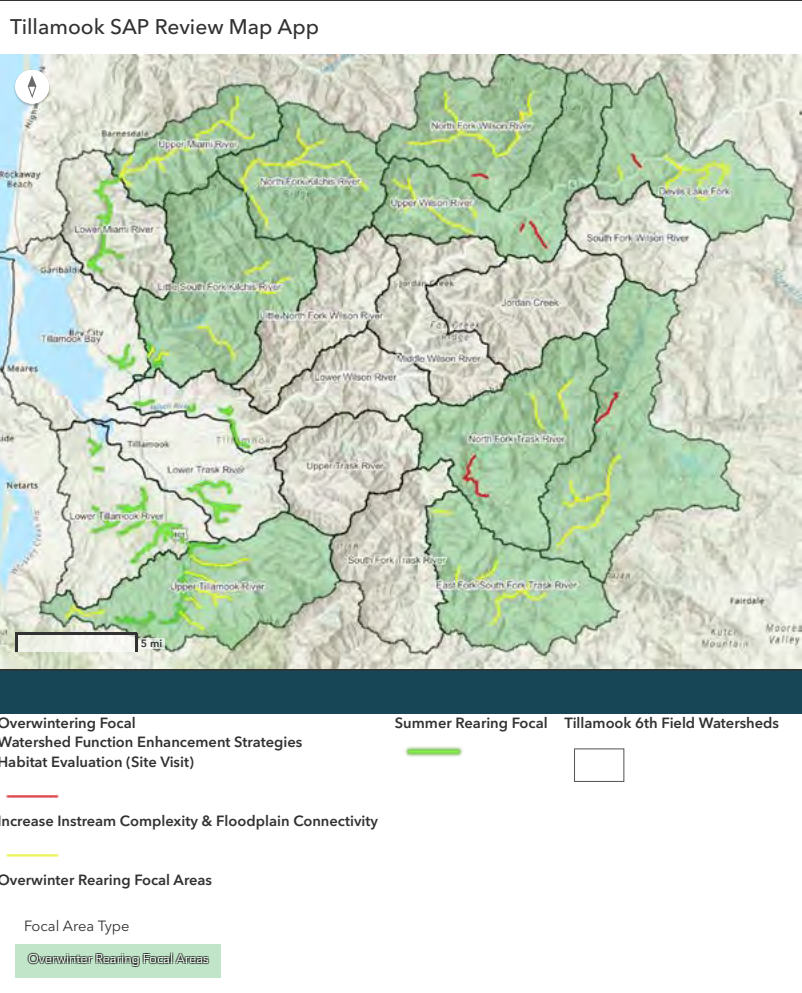
The plan includes long-term goals, and restoration priorities and partners are committed to community outreach and project implementation. The published Strategic Action Plan is anticipated by the end of 2025, and work to implement projects has begun.



Kovich

PARTNER LIST

- Wild Salmon Center
- USFWS
- NOAA Fisheries
- BLM
- ODF
- ODFW
- Oregon DEQ
- The Nature Conservancy,
- Tillamook Soil and Water Conservation District
- Natural Resources Conservation Service
- Stimson Lumber,
- Tillamook Creamery
- Trout Unlimited



ABBREVIATIONS AND ACRONYMS

TEP - Tillamook Estuaries Partnership
OPRD - Oregon Parks and Recreation Department
BYPP - BackYard Planting Program
SSH - Salmon SuperHwy
NNSLWC - Nestucca Neskowin Sand Lake Watersheds Council
NBWC - Nehalem Bay Watershed Council
ODFW - Oregon Department of Fish and Wildlife
OWEB - Oregon Watershed Enhancement Board
OSB - Oregon Silverspot butterfly
CNSP - Coastal Native Seed Partnership
NORP - Northwest Oregon Restoration Partnership
SEACOR - The Shellfish and Estuarine Assessment of Coastal Oregon
OAH - Ocean acidification and hypoxia
DEQ - Department of Environmental Quality
EPA - Environmental Protection Agency
DO - Dissolved Oxygen
WSC - Wild Salmon Center
UNH - Upper Nehalem headwaters
BEA - Beaver Emphasis Areas
SFC - Southern Flow Corridor
CCWF - Children's Clean Water Festival
STEAM - Science, Technology, Engineering, Arts, and Math
TRW - Tillamook River Wetlands
ESA - Ecological Society of America
SFC - Southern Flow Corridor
RCG - reed canary grass

PARTNERS

Arbor Day Foundation
Association of National Estuary Programs
Building Conservation Trust
Bureau of Land Management
Cascade Pacific Resource Conservation and Development
City of Bay City
City of Rockaway Beach
City of Tillamook
Coastal Native Seed Partnership
Department of Environmental Quality
Ecotrust
Encore Fellowship Program
Environmental Protection Agency
Environmental Science Associates
Friends of Cape Falcon Marine Reserve
Friends of Netarts Bay WEBS (Watershed, Estuary, Beach and Sea)
Gray Family Foundation
Gregory S Cermak and Melody L Oakley Fund for Disabilities, Education and the Environment
Institute for Applied Ecology
John Goche
John Robinson
Jubitz Foundation
Lewis and Clark Timberlands
Lower Nehalem Community Trust
Lower Nehalem Watershed Council
Meyer Memorial Trust
Mt. Adams Institute

National Fish and Wildlife Foundation
National Oceanic and Atmospheric Administration (NOAA)
National Park Service
Necanicum Watershed Council
Nehalem Bay Watershed Council
Nestucca, Neskowin and Sand Lake Watershed Councils
Northwest Oregon Restoration Partnership
Northwest Youth Corps
National Oceanic and Atmospheric Administration Fisheries
North Coast Land Conservancy
Natural Resources Conservation Service
Oregon Community Foundation
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Forestry
Oregon Parks and Recreation Department
Oregon State Marine Board
Oregon State University
Oregon Watershed Enhancement Board (OWEB)
Oregon Wildlife Foundation
Oregon Youth Authority
Pacific States Marine Fisheries Commission
Port of Garibaldi
Port of Tillamook Bay
Restore America's Estuaries
Salmon SuperHwy
Siuslaw Collaborative Watershed Restoration Program
Shellfish and Estuarine Assessment of Coastal Oregon
Stimson Lumber
Telenations / MediaTree
The Nature Conservancy
Tillamook Bay Flood Improvement District
Tillamook Bay Watershed Council
Tillamook County
Tillamook County Creamery Association
Tillamook County Cultural Coalition
Tillamook County Public Works
Tillamook County Soil and Water Conservation District
Tillamook Estuaries Partnership
Tillamook Public Utility District
Tom McDermott
Travel Oregon
Trout Unlimited
Twin Rocks Friends Camp
United States Fish and Wildlife Service
United States Forest Service
University of Oregon
US Department of Transportation
Visit Tillamook Coast
Wild Salmon Center
Tillamook School District
U.S. Coast Guard
U.S. Forest Service
Bird Alliance
Oregon Shores
Trout Unlimited
Pioneer Museum
Environmental Protection Agency

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Venturing Vows
Oregon State University Extension
Juntos Afuera
Seaside Aquarium
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