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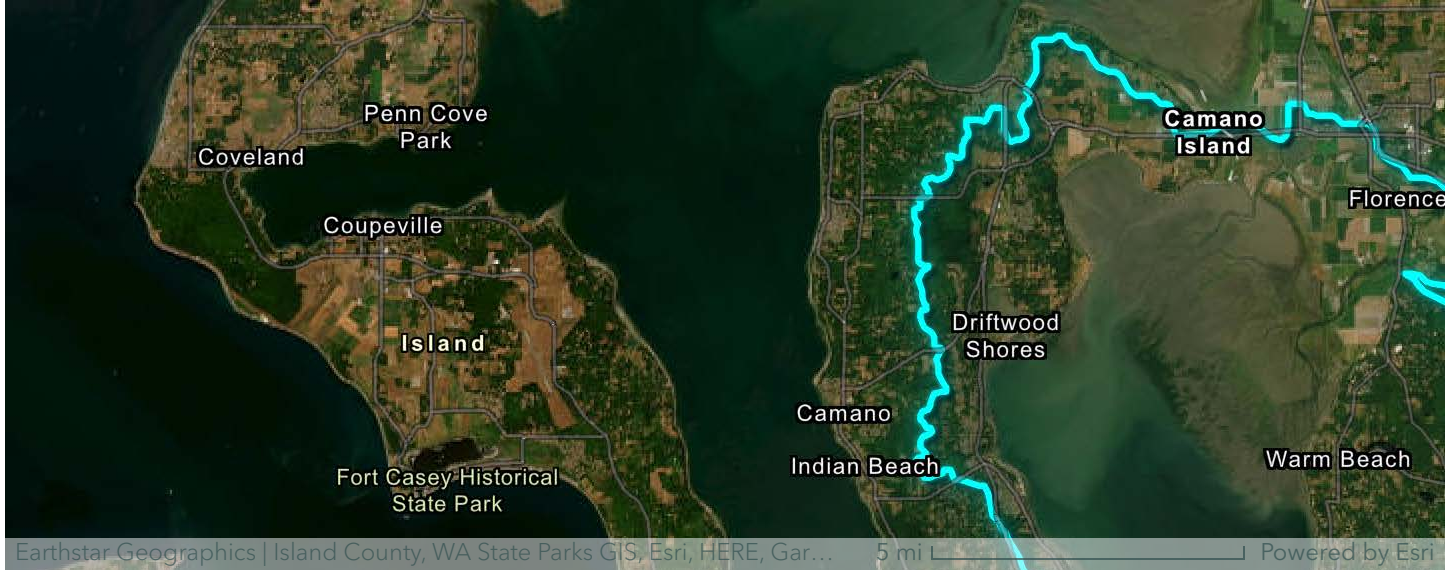

OVERVIEW

Where the Water Meets the Sea

A diverse landscape of forests, farms, wetlands, and beaches, Port Susan is positioned between the shorelines of Snohomish County and Island County. The Stillaguamish River and streams from eastern Camano Island and Snohomish County form the Stillaguamish Delta – a complex system of tidal wetlands and mudflats, teeming with aquatic life. Young salmon, migrating gray whales, shorebirds, and shellfish all call this place home. It is one of the Salish Sea's last remaining ecological hotspots and is a refuge of biodiversity.

Since Time Immemorial

Since Time Immemorial, these lands and waters, which supply vital resources such as shellfish and salmon — an integral source of tribal nations' way of life — are and have been the ancestral homelands of the Tulalip Tribes and Stillaguamish Tribe of Indians. As such, these lands and waters remain a center of cultural knowledge, traditions, and history.

Maintaining access to traditional first foods like salmon and clams are essential to tribal sovereignty. Treaty rights reserved through the 1855 Treaty of Point Elliott and affirmed through numerous court decisions secured tribal nations' rights to take fish and shellfish from waters and tidelands in all usual and accustomed places. These rights include co-management authority of tribes to monitor and steward the operation of fisheries, hatcheries, and aquaculture facilities as well as habitat management and restoration.

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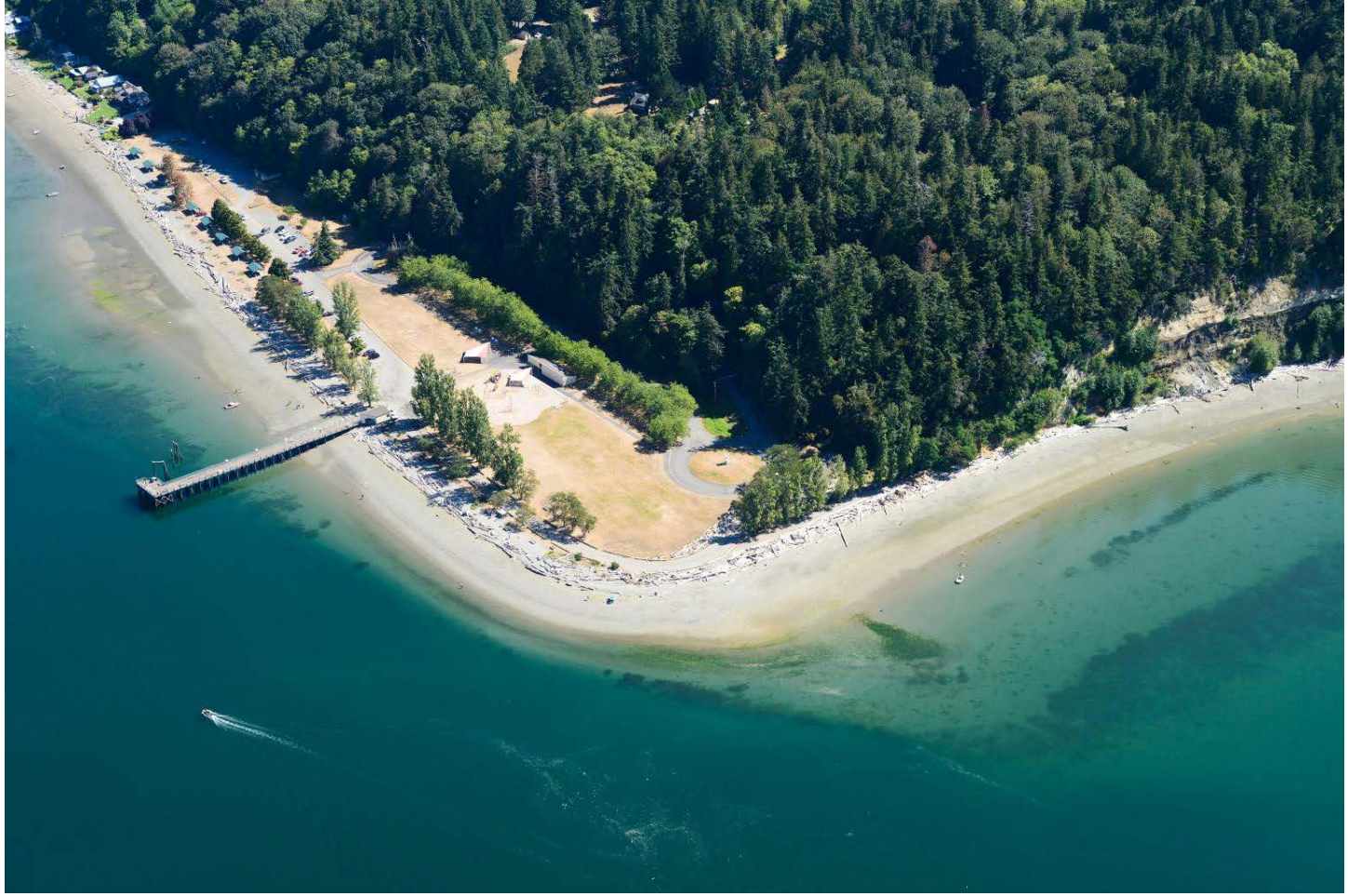


Connection to Human Wellbeing

Port Susan's nature and beauty attracts many to this special place. Drawn to the region's fertile land and mild climate, farmers have supplied the region's agricultural needs for generations. Rich marine resources support the commercial fishing industry and local economies and bring recreational anglers from near and far. Scenic beaches, shorelines, and channels offer a perfect getaway for residents and visitors to explore the area's natural surroundings.

A VITAL ECOSYSTEM

Following colonial settlement, tidal wetlands were converted to other uses, leaving only a fraction remaining. These wetlands provide critical habitat for more than 200 types of animals and are essential for a functioning marine food web.

Threatened species such as Chinook salmon and steelhead rely on these wetlands during their migration to the Pacific Ocean. Eelgrass beds offer refuge from predators and a place for fish to acclimate from fresh stream waters to salt water. Populations of forage fish such as herring provide an abundant source of food for shorebirds. Harbor seals attract transient orcas, while burrowing shrimp supply a food staple for bottom-feeding gray whales.

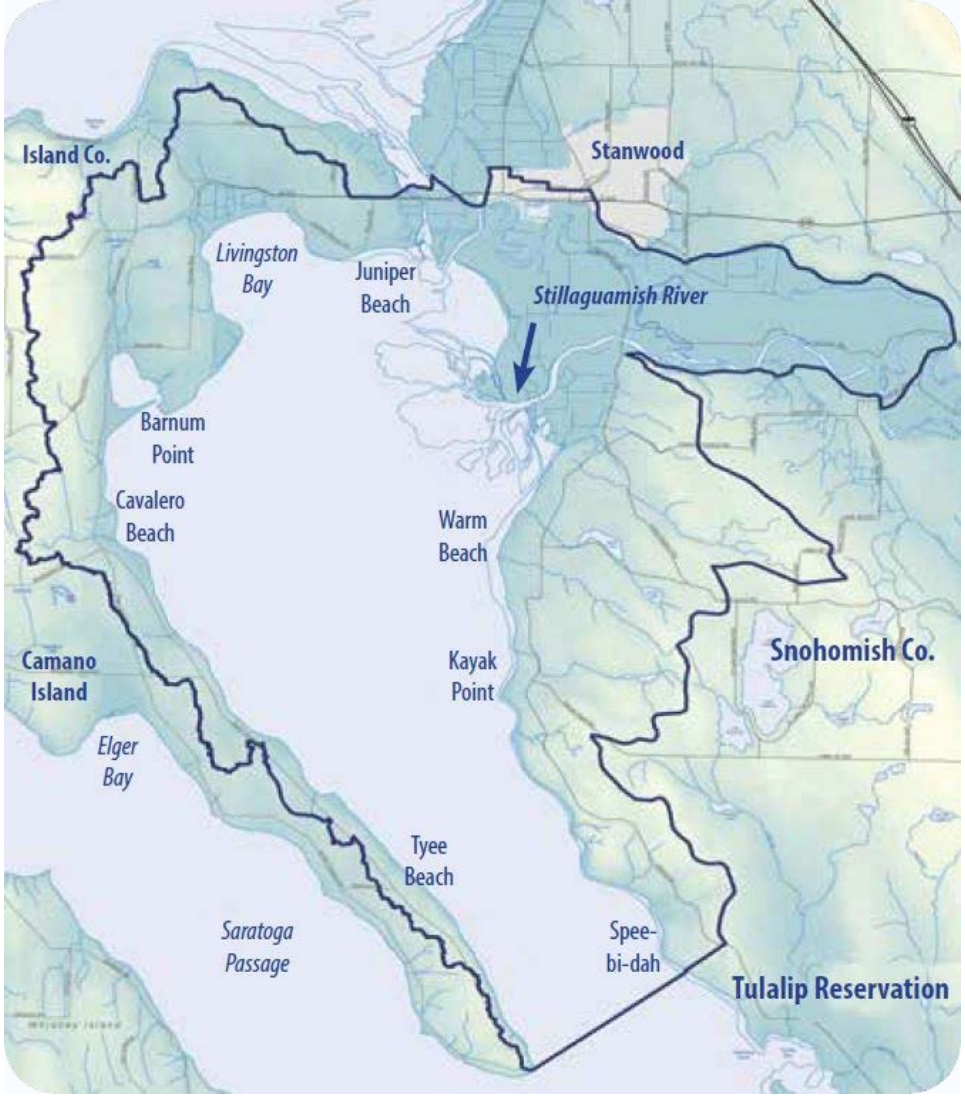
In Port Susan, **523 acres** of wetland habitat have been restored in the past 10 years – a **41 percent** increase since 2012, resulting in a total of **1,813 acres** of wetland habitat.

A Plan for Conservation

This restoration and many more conservation actions were achieved by a shared regionwide vision to protect Port Susan through a marine stewardship plan. A coalition between Snohomish and Island County Marine Resource Committees (MRCs), Tulalip Tribes, Stillaguamish Tribe, The Nature Conservancy, WSU Extension of Snohomish and Island Counties, Washington Sea Grant, community partners, and landowners developed the Port Susan Marine Stewardship Area Conservation Action Plan (CAP) in 2012, following years of collaboration.

The CAP serves as a key planning tool to outline conservation targets, threats, and strategies to achieve conservation goals at a local scale. It serves as an in-depth guide for landowners, tribal members, conservation groups, and residents to take actionable steps to protect Port Susan's biodiversity and resources. The CAP's conservation targets are ecosystem-focused, centered around six classifications of species and environments in need of protection.

Following the creation of the CAP, Port Susan was designated as a voluntary Marine Stewardship Area (MSA) by Snohomish and Island Counties in 2014.



Port Susan MSA extent

The MSA is a voluntary designation encouraging conservation of Port Susan's natural, cultural, and scenic values by inspiring government agencies, organizations, landowners, and citizens to take actions and advocate for the protection of these resources. Both the CAP and MSA designation provide a means to ensure that Port Susan's ecological health and economic and

recreational opportunities will be preserved for generations to come.

2014 Snohomish MSA Designation

Read the 2012 CAP

Many Threats Remain

While much progress has been made, there is still work to be done in Port Susan. Many of the same issues and challenges identified in the 2012 CAP still exist today. A variety of human-related impacts have affected the delicate ecological balance and functions of Port Susan. Polluted runoff, shoreline armor, derelict fishing gear, and failing historic levees contribute to water quality issues and disrupt habitat-forming processes. All of these issues were identified in the CAP and persist today.

Additionally, since the plan was first created, we have learned more information about how climate change, sea-level rise, ocean acidification, water chemistry, invasive species, and human activities are affecting the region. This context will inform efforts to preserve, protect, and restore Port Susan.

Derelict crab pots removed from Port Susan

CONSERVATION TARGETS

The Port Susan MSA CAP was built around key elements of the ecosystem to support a thriving marine environment. These conservation targets continue to be the organizing principle for tracking progress and holding ourselves accountable for achieving what the plan called for. We have been tracking our progress since 2012 through the number of Strategic Actions

completed or underway. Scroll down to see where we have succeeded and what work is still needed.

RIVER DELTA

The river delta is where the freshwater Stillaguamish River meets saltwater. This includes wetland habitats (or salt marsh), eelgrass, mud flats, and the physical processes that form them. These are

the environments that form important habitats for other conservation targets.

STATUS:

Meeting/Exceeding Objectives: 523 acres of tidal wetlands in the delta have been restored. This is over 2.5 times our 10-year goal of 200 acres!

Room for Improvement: While more projects are needed, one retrofit has been completed (Stanwood Irvine Slough). This project is part of our objective to reduce flood water flows in order to accommodate productive agriculture and enhance natural conditions in the delta.

Work to Do: We need to develop profitable and environmentally sustainable opportunities to farm under changing delta conditions.

River Delta

9 of 11 Strategic Actions have Progress

CHINOOK SALMON

An iconic species in the Northwest, Puget Sound Chinook salmon were listed as threatened under the Endangered Species Act in 1999. Port Susan is an important place for rearing juvenile Chinook to adapt to the saltwater and make their way to the Pacific Ocean. Two populations of Chinook salmon migrate back

through Port Susan as adults, heading to the Stillaguamish River to spawn.

STATUS:

Meeting/Exceeding Objectives: We have increased landowner awareness of environmental stewardship as it relates to water quality, which is important for Chinook salmon.

Room for Improvement: We still need local governments to incentivize the maintenance of ecosystem goods and services to benefit salmon and Port Susan marine ecosystem.

Work to Do: We have not yet prevented the introduction of commercial and residential landscaping chemicals into surface waters.

Chinook Salmon

3 out of 7 Strategic Actions have Progress

BEACHES/FORAGE FISH

Beaches are instrumental in providing spawning areas for forage fish and maintaining sediment deposition from functioning vegetated bluffs. Forage fish are small schooling fishes that form critical links between the zooplankton community and the rest of the food web from salmon to marine mammals. Certain forage

fish in Port Susan spawn on the beaches and need shade to ensure that their eggs survive.

STATUS:

Meeting/Exceeding Objectives: We have implemented education programs targeted at contractors, engineers, realtors, and landowners to encourage soft shore armoring. More than 500 people have been reached through Shore Friendly workshops!

Room for Improvement: Through a series of Shore Friendly workshops, volunteers have removed degraded vegetation (buffers) along the marine shoreline, but we are not tracking loss and gain to determine the full impact of this progress.

Work to Do: Island County needs to improve regulations and incentives for tree and buffer protections into its Shoreline Master Plan update.

Beaches/Forage Fish

7 out of 9 Strategic Actions have Progress

DUNGENESS CRAB

This species (*Cancer magister*) is listed as a Priority Species by the state. They are an important resource for recreational, commercial, and tribal harvests, and are a vital food source for many other species. In Port Susan, the state and tribes are co-

managers – meaning they help define and manage harvest. Port Susan is a popular place for a variety of people to go crabbing.

STATUS:

Meeting/Exceeding Objectives: Partners in Port Susan including the Sound Water Stewards, Northwest Straits Commission, and the Island County MRC have conducted Crabber Education to ensure all rules for crabbing are understood and followed. Escape cords, which are critical for allowing crabs to escape from a lost or abandoned pot, were shown to be used in 91% and 95% of the crab pots checked in 2013 and 2021, respectively.

Room for Improvement: Derelict crab pots and crab rings are a threat to the species. In 2013, 45 derelict crab pots were removed and in 2021 over 60 were removed. While a success, consistent removal efforts are needed to ensure the threat is removed.

Work to Do: We need to increase enforcement of harvest regulations in Port Susan.

Dungeness Crab

2 out of 3 Strategic Actions have Progress

SHELLFISH

This conservation target represents a whole ecological community that includes several species of clams, mussels, and sand shrimp. They act as filter feeders in the intertidal and subtidal habitats helping to maintain water quality and sequester nitrogen.

STATUS:

Meeting/Exceeding Objectives: While we are not yet meeting the objectives in the plan, there were efforts from 2012-2018 to hold an Annual Shellfish Dinner in Stanwood, which celebrated the shellfish in Port Susan and educated the community about this critical resource.

Room for Improvement: Partners are coordinating on mapping marine vegetation, but there is more work to do for removing invasive spartina (a non-native plant) in Snohomish and Island Counties.

Work to Do: We need to develop and implement an early-warning pH monitoring system. Shellfish cannot form shells when the water is too acidic.

Shellfish

1 out of 4 Strategic Actions have Progress

SHOREBIRDS

Port Susan is one of only four sites in Puget Sound that regularly supports more than 20,000 shorebirds in a season. Some key species that are part of this conservation target include Dunlin, Western Sandpipers, and Least Sandpipers. None breed in Port

Susan, but they respond to tidal cycles and use a variety of habitat types.

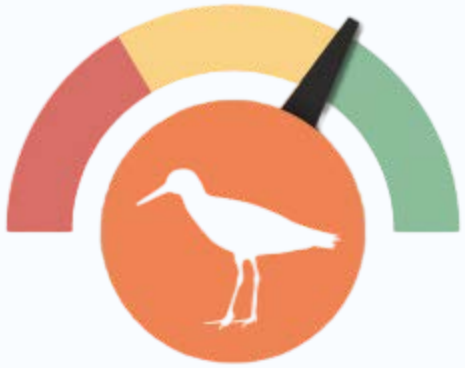
STATUS:

Meeting/Exceeding Objectives: Both counties have personnel or volunteers trained in oil spill response.

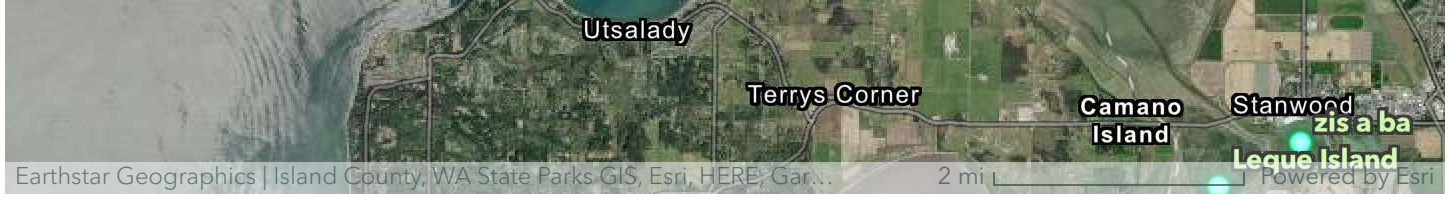
Room for Improvement: More work is needed in setting back dikes in areas with failing infrastructure to restore portions of the delta and offer increased protection to agricultural lands. The rich farmlands, tidal flats, estuaries, and hedgerows of the Stillaguamish River provide the right environment for migratory shorebirds.

Work to Do: Vast mudflats and tidally influenced channels create critical habitat for shorebirds. To protect this habitat, we need to limit future development in the floodplain.

Shorebirds



2 out of 3 Strategic Actions have Progress



CONSERVATION IN ACTION

MSA partners have led many notable efforts in Port Susan. These include restoration projects, public education and outreach programs, collaborative planning efforts, research, scientific monitoring, and building successful partnerships.

River Delta Restoration

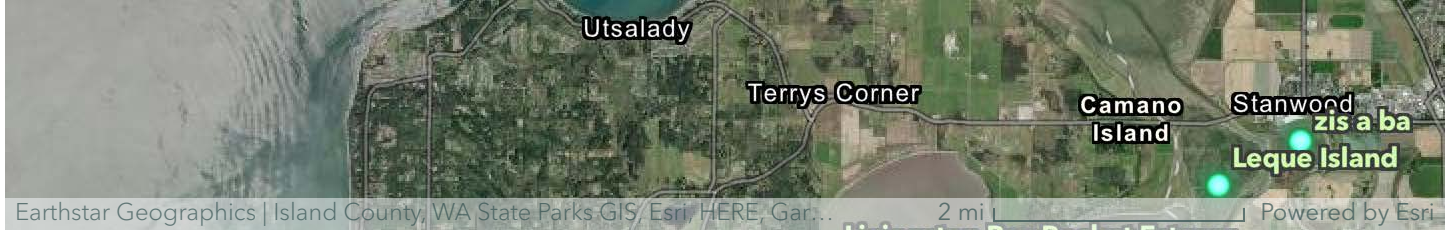
523 ACRES RESTORED

2.5 TIMES THE 10-YEAR GOAL

Stream Restoration

THREE CULVERTS CORRECTED TO INCREASE FISH ACCESS TO OVER

1.75 MILES OF STREAMS



A Landscape Restored

In the last 10 years, MSA partners have restored **523 acres** of estuary and almost **2 miles** of streams in Port Susan across multiple projects. A few of these exciting projects are highlighted here in a virtual site tour. ***Click on each button below to view the project location on the interactive map***:

Leque Island

Located west of Stanwood between Port Susan and Skagit Bays, Leque Island was once diked and leveed and used for agricultural production. Through the Leque Island Restoration Project, partners removed 2.4 miles of levees and excavated over 5 miles of new tidal channels, restoring 276 acres of habitat while building flood protection for nearby Stanwood.

These restoration actions reestablished tidal flows that had been disconnected for 140 years. As a result, fish access was improved into Leque Island tidal marsh habitat – more than 15 species have been recorded post-construction, including Chinook, chum, and coho.

Partners involved: *Washington Department of Fish and Wildlife, Ducks Unlimited, Stillaguamish Tribe of Indians, The Nature Conservancy, Skagit River System Cooperative*

Greenwood Creek

Located a short distance from Stanwood's Warm Beach, a small stream thought to be a drainage ditch has one of the highest densities of juvenile Chinook of all coastal streams sampled in the Whidbey Basin. Through the Greenwood Creek Stream Enhancement Project, partners removed a degraded culvert,

widened the stream, realigned 250 feet of creek habitat, and replaced invasive species with native vegetation to retain banks and provide shade for rearing salmon.

Greenwood Creek: Before restoration

Greenwood Creek: After restoration

"If we are truly committed to seeing salmon stocks rebound to harvestable levels, we must work together on recovery projects both large and small…Greenwood Creek represents a small project with a huge benefit."

-Mel Sheldon Jr., Tulalip Tribes

Partners involved: *Tulalip Tribes, Skagit River System Cooperative, Snohomish County*

zis a ba

Just east of Leque Island, this former homesteading site was purchased by the Stillaguamish Tribe of Indians in 2012 and was renamed zis a ba, honoring a former tribal chief. It is an important rearing site for juvenile salmon, particularly the Stillaguamish and Skagit Chinook populations. In 2017, a total of 88 acres of tidal wetlands that had been previously diked and disconnected were restored.

Key project elements included the removal of 7,000 feet of levees, installation of 131 pieces of wood, and excavation of 17,000 feet of tidal channels.

"Before 1880...this area, it was wild, it was full of habitat, it was alive – and so we're trying to take one little piece of that and get that back."

-Kerry Lyste, Stillaguamish Tribe Historic Preservation Officer

Partners involved: *Stillaguamish Tribe of Indians*

PUBLIC EDUCATION AND OUTREACH

Making Waterways Cleaner

Every year, stormwater pollution from urban spaces makes its way into Port Susan's watersheds. This runoff carries a variety of pollutants from motor oil to fertilizer, presenting many health concerns. Waste containing fecal coliform bacteria can shut down

shellfish harvesting, which limits commercial, tribal, and recreational harvest opportunities.

To address this issue, Snohomish County launched the Pet Waste Program. The program provides information for pet owners about safe pet-waste disposal and educational resources about how simple actions can keep these harmful bacteria out of streams and Port Susan.

Snohomish County and the Tulalip Tribes have also received funding from EPA's National Estuary Program to inform communities about proper septic system management to reduce levels of fecal coliform bacteria from human waste, which negatively impacts shellfish.

We Scoop

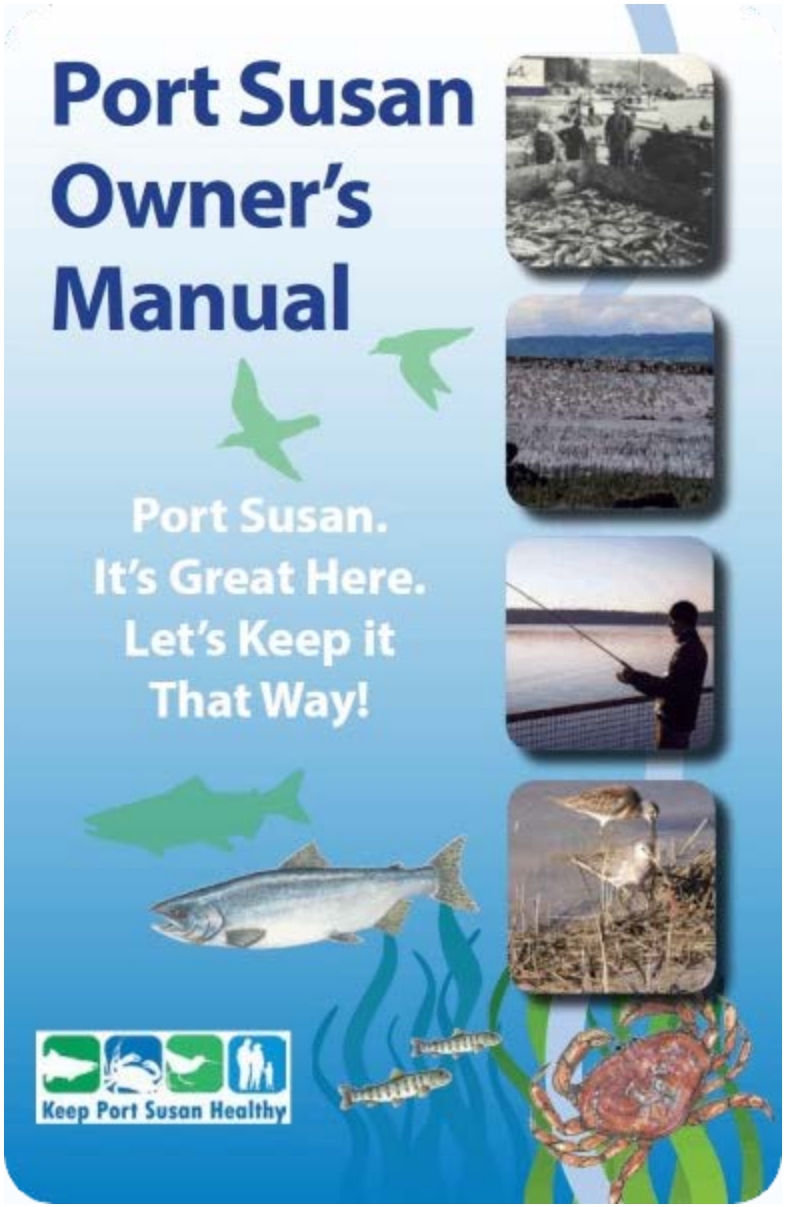
**Scoop the poop, bag it,
and place it in the trash.**

Puget Sound Starts Here.org

Building Community Awareness

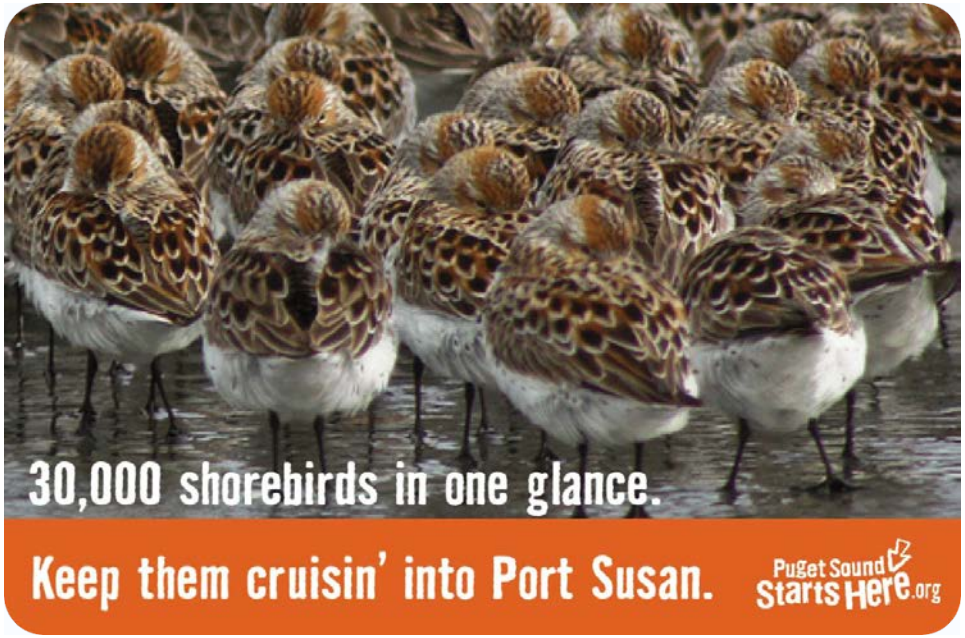
The Port Susan Owner's Manual is a reference for community members that provides background and tips to protect Port Susan. The booklet teaches readers about the human habits that impact environmental conditions and ultimately contribute to

species declines. The manual includes steps to reduce pollution and enhance watersheds, and provides an extensive list of resources for community members to refer to. Over 400 copies have so far been distributed at workshops, community events, and fairs throughout Port Susan.



Click here to view full Port Susan Owner's Manual

The community outreach campaign Keep Port Susan Healthy led by Island County, Snohomish Conservation District, and WSU Extension, hosted a series of four community open houses. These engaging public events featured speakers from the Tulalip Tribes and the Stillaguamish Tribe of Indians, Snohomish MRC, and local historians who discussed Port Susan's history and culture, as well as how residents could get involved to protect marine resources.



Resources for Homeowners

The Shore Friendly Program, led by the Northwest Straits Foundation, is a localized effort to educate waterfront property owners and community members on the impacts of shoreline armoring. The program's website, video series, a booklet on protecting property, and recurring public workshops inform homeowners about alternative erosion protections, including natural soft shore protection.

Log wracks can provide erosion control for beachfront properties

Since 2012, partners have hosted nine in-person and virtual workshops with 500 participants in Snohomish and Island Counties. These workshops describe how shoreline-armoring alternatives can benefit habitat and provide protection for their property. Over 100 site assessments have provided better shoreline options for homeowners.

Public Outreach

NINE SHORE-FRIENDLY WORKSHOPS WITH OVER

500

PARTICIPANTS

Landowner Outreach

100

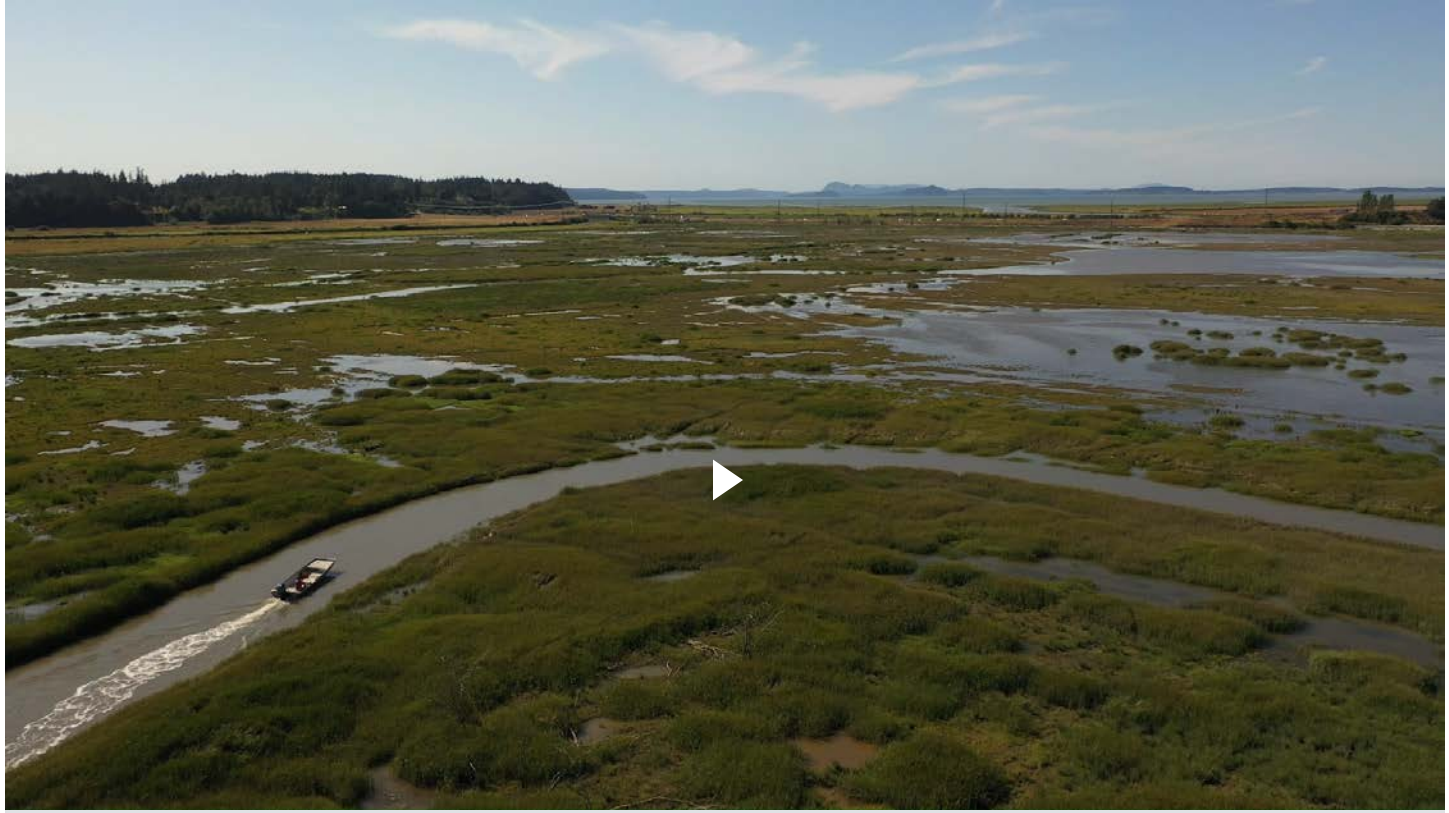
SITE VISITS

TO ASSESS OPTIONS TO REDUCE SHORELINE HARDENING

Resources for Farmers

The Agricultural Resilience Plan, developed through the Snohomish County Sustainable Lands Strategy, provides a plan to help farmers address future risks from climate impacts such as sea-level rise, saltwater intrusion, and development. The

countywide plan provides an organized planning approach for farmers to develop priority landscape-scale projects. As a result, the plan helps farmers improve agricultural resilience and implement best management practices in alignment with salmon recovery goals and sustainable farming practices. The plan identifies and prioritizes resilience projects that will keep farms viable into the future, including those in Port Susan.



RESEARCH AND MONITORING

Understanding the Risks of Groundwater Intrusion

In 2019, the Snohomish Conservation District conducted a study to assess sea-level rise impacts to groundwater and understand how projected sea level rise will affect agricultural operations in the Lower Snohomish and Stillaguamish River Basins.

The study found that areas within 5,000 feet of the shoreline are especially vulnerable to groundwater salinity intrusion, and areas within 10,000 feet may also be at risk. These locations would benefit from the Agricultural Resilience Plan noted above.

Species Surveys

Since 2001, an interagency cooperative effort led by the Washington Department of Fish and Wildlife (WDFW), has been conducting annual marine bird and mammal surveys to monitor species populations in inland waters of Puget Sound and the Strait of Juan de Fuca, and Washington coastal waters.

This data is entered in WDFW's mapping tool, so users can explore species abundance by regions and monitor population trends dating back to 2001.

Post-Project Monitoring

Following the zis a ba estuary restoration project, the Stillaguamish Tribe of Indians has been leading post-project monitoring with the Skagit River System Cooperative to observe how the project is functioning post-construction. The team's biologists and environmental scientists have been recording genetic information from juvenile salmon collected at the site to measure how the project is benefiting salmon and watershed health beyond the Stillaguamish River.

Eelgrass Monitoring and Mapping

From 2019-2022, the Snohomish County MRC and the Washington Department of Natural Resources conducted a comprehensive study to determine extent and distribution of eelgrass along the shoreline, as well as other marine vegetation. Eelgrass, a type of seagrass, acts as an indicator of the health of nearshore ecosystems. This data, collected every 7-10 years, is

used to study environmental responses to changes in water quality likely to affect species that live in seagrass habitat. Data is available to view through the MRC webmap.

Eelgrass (Zostera marina)

THE NEXT TEN YEARS

Maintaining the health of Port Susan is an ongoing process that will involve collaboration among government agencies, tribes, landowners, conservation partners, and the community alike. Research and monitoring is ongoing throughout Port Susan, and many exciting projects are in the works to meet the MRCs' conservation goals. But we've still got much work to do!

Restoring salmon habitat within the Stillaguamish delta remains a key focus. While good progress was made in the past 10 years, another 2,000+ acres are needed to reach the goal for salmon recovery, according to the Stillaguamish Watershed Council and the Snohomish-Stillaguamish Local Integrating Organization.

We will keep track of our overall progress and the strategic conservation actions using our progress tracker, which was developed during a 10-year review of the plan with partners in 2022.

Stillaguamish Watershed Council

Snohomish-Stillaguamish LIO

Ongoing Research

The Stillaguamish Tribe of Indians' waterfowl tracking effort in partnership with WDFW is part of a nationwide effort to learn about waterfowl migration routes, distribution, and survival rates. At zis a ba, the Tribe is banding ducks to help the state meet tagging objectives, and better understand bird response to estuary restoration, which will inform future projects.

Be an Environmental Steward

There is much more work to do to preserve these precious resources. You can help by referring to the Port Susan Owner's Manual, which discusses how our choices and actions impact Port

Susan and how you can support restoration work, through activities such as planting rain gardens and picking up pet waste. Together, through these actions and more, we can work together to protect Puget Sound.

Learn more and get involved with the MRCs:

Snohomish County MRC

Island County MRC

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