

Our shorelines

WHERE WE
LIVE
WORK
& PLAY

San Juan County's shorelines are constantly changing both naturally and through human actions. As the population of our islands increase, it is important to ensure smart, safe growth that protects the shorelines and ensures a healthy and prosperous future for our community.

San Juan County's picturesque shorelines provide more than just beautiful views. Underwater, eelgrass meadows and kelp beds serve as feeding, refuge and migration corridors for crab, forage fish, salmon, and whales. Our shorelines support world class outdoor recreation and tourism, and make this a wonderful place to live, work and visit.

San Juan County is updating its shoreline program this year. Since the previous update 15 years ago, a lot has been learned about the importance of marine species, nearshore habitats and coastal geology. Inclusion of new local research and participation by all citizens can result in a sensible and comprehensive shoreline program update. You can learn more about the science and policy involved at an upcoming Sound Science Shoreline Forum – see back for details.

Guests on an Outdoor Odysseys kayak tour looking at eelgrass off Posey Island. Photo by West Howland.

What is the Shoreline Master Program?

In 1972, voters of Washington approved the Shoreline Management Act to help prevent harm to the state's fragile resources from uncoordinated and piecemeal development. The Act creates a partnership between local governments and the Washington State Department of Ecology. It directs over 260 towns, cities and counties to carry out the Act's policies through local programs.

The County's Shoreline Master Program (SMP) must:

Protect and restore natural shoreline functions,

Promote public access and enjoyment of public shores and waters, and

Plan for and foster reasonable and appropriate uses.

HEALTHY SHORELINES BENEFIT PEOPLE AND NATURE

The Shoreline Management Act requires local governments to update their shoreline program at regular intervals to make sure that they consider changed circumstances and rely upon the most current scientific information available. Since San Juan County's last update in 1998, both orca and their preferred food, Chinook salmon, have been federally

protected under the Endangered Species Act. Due to these listings, a great deal of research has focused on our shorelines. Example maps of the northwest portion of San Juan Island show some of the local data gathered since the County last updated its shoreline program.



- highest priority salmon recovery shoretype
- - - high priority salmon recovery shoretype
- moderate priority salmon recovery shoretype
- surf smelt spawning habitat
- eelgrass outerline (deep water edge of bed)
- bull kelp
- Pacific herring spawning grounds

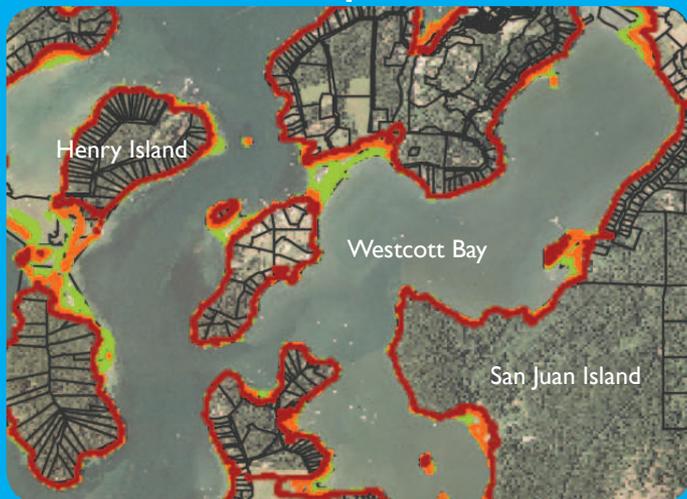
MARINE FOOD WEB

San Juan County's shorelines provide food for people and wildlife. Over the past 12 years, researchers in San Juan County have documented the locations where salmon prey lay their eggs (10 linear miles of beaches for surf smelt and sand lance and four herring spawning areas). Other marine research has documented the location of bull kelp forests (180 linear miles) and the outside edge of all eelgrass beds (140 linear miles). One study found that multiple species of juvenile salmon utilize all of San Juan County shorelines!

Local information about where marine species eat, travel and reproduce helps us plan for future shoreline development. It also guides restoration and protection efforts.

Data Sources: Juvenile Salmon and Forage Fish Presence and Abundance in Shoreline Habitats of the San Juan Islands, 2012. Skagit Systems Research Cooperative and NOAA Fisheries. Outerline of Eelgrass, 2004. FRIENDS, WDNR and the UW; Pacific Herring Spawning Grounds, WDFW. Forage Fish Spawning Beaches, 2004. FRIENDS and WDFW; Bull Kelp, 2007. FRIENDS and WDNR.

Protecting shorelines is an investment with a big payoff to our livelihoods, property values, our families, and the visitors who contribute to our economy. These protections provide healthy waters to fish, clam and boat in, and clean beaches to enjoy.



SEA LEVEL RISE

The long-term protection of shoreline property requires us to know which places are most vulnerable to the impacts of sea level rise. Maps of future sea level rise scenarios help property owners and land managers make good decisions about where to locate public infrastructure and private development. By looking ahead, the public and private costs of sea level rise can be reduced.

— Mean High High Water +9.1 ft — Mean High High Water +2 ft
— Mean High High Water +5 ft parcels

Data Source: San Juan County Sea Level Rise Inundation Maps, 2011. Coastal Geologic Services. A 'bathtub' model of two sea level rise scenarios - extreme high water plus 2 vertical feet and extreme high water plus 5 vertical feet were created.

SHORELINE MODIFICATIONS

Over 18 miles of local shores are armored with bulkheads, and nearly 500 docks and 2,000 buoys exist just offshore. The majority of these shoreline modifications are concentrated around the islands' sand and gravel shores. Information about current shoreline development and the effects on local natural resources helps the County plan for future shoreline development and uses; it can also guide restoration and protection actions.

● pilings ● groin — bulkhead
■ boat ramp ▲ buoy ■ dock

Data Source: Shoreline Modification Inventory, 2010. FRIENDS of the San Juans. Completed via a boat-based inventory of all shorelines.



Forage fish, like surf smelt, sand lance and herring, are a food source for larger fish such as salmon. They are critical to the marine food web. Loss of forage fish can lead to less salmon, seabirds and whales, decreasing wildlife viewing and fishing opportunities for all of us.

Surf smelt and sand lance lay their eggs on only 10 miles of beaches in San Juan County. Protections in the shoreline program can help ensure that these special places are wide enough, have the right kind of sand/gravel mixture and are shaded to protect the eggs from the sun.



This Chinook was legally caught off San Juan Island, July 2012.

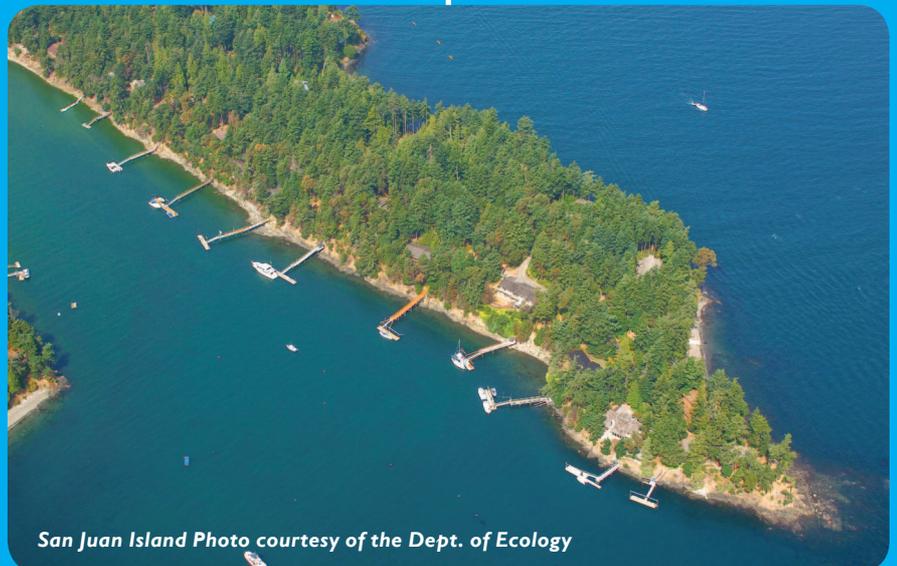


Bulkheads along roads & in front of homes, can cause the adjacent beach to lose sand and sediment. Over time, this results in the loss of beach habitat for forage fish and clams. Hardening a shoreline with a bulkhead can endanger neighboring properties and threaten valuable resources, such as salmon. Bulkheads are also expensive to build and maintain.

The shoreline program can promote the use of buffers, setbacks, and other alternatives to bulkheads. Alternatives can meet property owners' needs and save money in the long-term while also protecting vital ecological functions of our shared waterways.

Eelgrass – a sea grass – provides some of the most important habitat in Puget Sound. For example, another critical forage fish, herring, lays their eggs on eelgrass. Docks impact the marine environment by blocking the sunlight that eelgrass requires to grow and may also force small fish into deeper waters, where they are at higher risk from predators.

Property owners who are thinking of building a dock could consider the following options: the feasibility of using a public marina to access their boat; using a mooring buoy; or sharing a dock with neighbors. The shoreline program can guide property owners to consider these options first in order to minimize the negative impacts of docks.



San Juan Island Photo courtesy of the Dept. of Ecology

Removal of shoreline vegetation reduces slope stability, shade, fish and wildlife habitat, and the filtering of stormwater runoff. Stormwater carries pollutants including sediments, toxins, and nutrients to the marine environment.

Maintaining a healthy buffer strip of native woody plants along the edge of bluffs and beaches is the best option for managing polluted runoff. A buffer serves as a filter, slowing runoff and capturing pollutants before they enter the water. Plant roots also help stabilize soil and can limit erosion. Buffers also provide shade and habitat for critical fish and wildlife species.



The closer a building is to the shoreline, the sooner storm events and erosion will threaten property, resulting in expensive engineered solutions that damage fish and wildlife habitat.

The shoreline program can help property owners ensure their homes will remain safe for the foreseeable future while also protecting natural resources for forage fish and salmon. Inclusion of erosion models and sea level rise scenarios in the shoreline program can help identify where to safely locate new development and infrastructure.

"Our waterfront home is about 100 feet from the shoreline on a steeply sloping hillside. Our view of the water is screened by Madrona trees and Douglas firs. We both strongly support strengthening island shoreline protections. Why? We believe that our property is more valuable if we and our neighbors protect the shoreline. Orcas pass daily in the summer. They need salmon. Salmon need forage fish. Juvenile salmon and forage fish need the protection of eelgrass beds. Eelgrass beds need clean water. Strengthening our shoreline protections will be good for ecosystems and for the long-term economy of these lovely islands."

Val and Leslie Veirs, Shoreline Property Owners, San Juan Island
(Photo credit: Cathy Britt)



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Who should get involved? You!



While not everyone in San Juan County lives right on the water, everyone benefits from and affects our shared shoreline resources. You can encourage San Juan County to create a shoreline program that honors stewardship and helps homeowners build smart.

San Juan County is required to provide public opportunities for your input at both the Planning Commission and County Council stages. This means that your participation is important and will make a difference.

To get involved or find more information, you can visit the following websites:

San Juan County - www.co.san-juan.wa.us/smp/

FRIENDS of the San Juans - www.sanjuans.org

Futurewise – www.futurewise.org

Washington State Dept. of Ecology -
www.ecy.wa.gov/programs/sea/shorelines/smp/



Attend a Sound Shoreline Science Forum near you!

Learn about wildlife, shoreline geology, and fascinating aspects of the Salish Sea, as well as get an update on the County's shoreline program. All forums will include presentations by leading scientists with a Q&A panel session.

Forums are FREE.

FRIDAY, MAY 10, Lopez Center, 1:00-3:30

FRIDAY, MAY 17, San Juan Grange, 1:00-4:30
(lunch at 12:00 – for \$10, pre-registration requested)

TUESDAY, JUNE 4, Eastsound Fire Hall, 1:00-3:30

For more information and to register for the science forums, visit <http://futurewise.org/action/events>

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