

The Puget Sound Partnership Presents: Draft Action Area Profiles

An important part of the Puget Sound Partnership's work is connecting with citizens, watershed groups and local governments. The legislation that created the Partnership established seven geographic action areas around the Sound to address and tackle problems specific to those areas.

Each of the seven action areas plays a unique role in sustaining the Puget Sound ecosystem. Distinct natural features and ecological process, urban and rural centers, wildlife populations, economics and history, and stressors on the environment characterize the different areas. In an effort to broadly describe the individual areas and ultimately develop tailored solutions to problems, the Partnership compiled information about each action area into an informative overview. The profiles are not meant to be detailed summaries of each action area; rather they are guided tours of what gives it a sense of place and the unique role in the ecosystem. The profiles will be refined to reflect the management actions needed to address threats in each area and be included in the Action Agenda.

The profiles are made up of three sections: the narrative, the action area map, and the action area concept diagram.

- Narrative
 - physical characteristics, demographics, land use, ecosystem characteristics and assets, and threats/stressors
- Action area map
 - base map for each action area, the incorporated and urban growth areas, public lands, tribal reservations, and major landmarks that are described in the text, and points of interest
- Action area concept diagram
 - graphic representation of the narrative related to ecosystem services and stressors

Please take some time to read through these action area profiles and familiarize yourself with an area you may or may not know much about. This is an opportunity to gain some insight and understanding as to how each action area is unique and why it needs attention.

The Puget Sound Partnership Presents: San Juan Action Area Profile

Physical Description

Located at the nexus of the Strait of Juan de Fuca, the Georgia Strait, and Puget Sound, the 428 separate islands that make up San Juan County are considered by many to be the crown jewels of Puget Sound. San Juan County has the smallest land mass of any county in Washington State, but with 408 miles of marine shoreline, has more than any other county in the nation. Geologically, the San Juans are distinctly different from mainland Washington and Vancouver Island, and are dominated by bedrock and thinner glacial deposits relative to other parts of Puget Sound. Their unique location in the Puget Sound marine crossroads gives the San Juans a wide diversity of flora and fauna. San Juan County is affected by the “rainshadow” of the Olympic Mountains, and receives 20 to 30 inches of annual rainfall. There are no major rivers on the San Juan Islands, but several small creeks flow on a year-round basis. Additionally, the Fraser River in British Columbia influences the temperature and sedimentation in San Juan County waters. Only one percent of the land is paved, and 70% is forested. Lakes and freshwater wetlands cover an estimated 4% of the landscape.

Land Use, Population, and Economy

The San Juans are an extremely popular summer destination, and the number of residents swells from 15,804 who live there year-round to 33,460 in the summer. Thousands of additional tourists camp, moor, or stay in area lodging. Most of the county is rural, with 75% of the population living outside the “urban” areas of Friday Harbor, Eastsound, and Lopez Village. Population growth in the islands is very high, with a growth rate of 40% from 1990 to 2000. There are 5,700 shoreline parcels in San Juan County, and approximately 50% have already been developed. Some islands have no public access and few accommodate automobiles. Public access to the water is extremely limited on many islands.

The economy is driven by residential and commercial construction, tourism and government (including schools). Tourism is highly dependent on the clean marine and fresh water, spectacular views, and opportunities for boating, bird watching, whale watching and cycling. There is significant marine oriented commerce including marinas, fishing, boat building and repair, and education and research from organizations such as the UW Friday Harbor Labs, SeaDoc Society, and Seattle Pacific University marine labs. High quality shellfish farming occurs in San Juan County and there is a growing sustainable agricultural movement. Several tribes from the Point-No-Point and Point Elliott treaty areas exercise fishing rights in the San Juan Islands region.

Unique ecosystem characteristics and assets

Public involvement in the stewardship of the San Juan Islands is considered by area residents to be one of their foremost ecosystem assets. There are many government and non-governmental efforts devoted to protecting the San Juan Islands. The San Juan Preservation Trust is the oldest private land trust in Washington State. The San Juan County Land Bank protects natural areas and is the only county-based land bank in the State. In 2007, the San Juan County Council adopted the San Juan County Marine Stewardship Area Plan, the culmination of three years of effort by the San Juan Marine Resources Committee, with contributions from numerous scientists, technical advisors, resource managers, community leaders, business owners, and citizens. The Marine Stewardship Area Plan is intended to sustain the many services that the ecosystem provides for county citizens, fish and wildlife, and the economics of the County. Examples include sustainable tourism, commercial and recreational fisheries for clams, crab and spot prawns, and clean beaches and waters. There are currently no beaches in the San Juan Islands that are closed to swimming or to shellfish harvest for health reasons. Protected upland areas are located at Moran State Park, San Juan Historical National Park, Turtleback Mountain, and Lopez Hill. Yellow Island contains an intact prairie.

The unique location of the San Juans makes them a way-station for all 22 migrating populations of Puget Sound Chinook salmon as both juveniles and adults. Additionally, sockeye, pink, chum and coho salmon, Kokanee, steelhead, rainbow and coastal cutthroat trout and native char have been documented in the county's marine waters. Although most of the streams in San Juan County are small and do not support salmon, a small number of coho have recently been reported spawning in Cascade Creek and possibly other streams on Orcas Island, and a few creeks support introduced runs of chum. San Juan County provides excellent habitat for juvenile and adult salmon with at least 27 tidal marshes, inter- and sub-tidal flats, eelgrass meadows along the shorelines and in the bays, and kelp beds. At least 80 miles of potential forage fish spawning beaches are present. Eelgrass is found on 20% of all shorelines, and the San Juans contain one-third of all of the kelp in Puget Sound. The geology has created habitat conditions for rockfish that are not replicated anywhere else in Puget Sound. Approximately 74% of the shallow dominant rocky reef habitat in Puget Sound, comprised of boulder fields, rocky ledges and outcroppings, is found in the San Juan Archipelago.

Ecosystem Stressors

Although the San Juan/Whatcom Action Area has the least amount of shoreline modification of any other action area in Puget Sound (13¹%), several factors make

¹Still need to generate an appropriate figure from the GIS system for the County alone and possibly modify text to reflect the change. Local comments said to include the actual miles of shoreline modification if available.

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this a highly vulnerable portion of the Puget Sound ecosystem. With a projected growth rate of 35% in the next 20 years, San Juan County is one of the fastest growing areas of Puget Sound. The resident population is only a portion of the potential strain, as the summer tourist population quadruples in portions of the islands, and creates demand for marinas, roads, parking, water, and wastewater treatment. Growth and climate change are expected to create additional stress on the limited supplies of fresh water in the islands. There are no rivers and no snowpack to replenish groundwater supplies, and few aquifer recharge areas are present given the bedrock geology. Saltwater intrusion and drinking water contamination are already a significant problem in some areas of the County. The County is also sensitive to other growth-related impacts including stormwater, ferry vessels, ferry parking, and vessel traffic disturbance to wildlife (especially in the summer). Alteration and loss of nearshore habitat due to over-water structures and shoreline development such as loss of riparian buffers and shoreline armoring is a major threat. San Juan County is also ranked as the highest priority area for removing harmful derelict fishing gear in Puget Sound as determined by physical surveys of nets and pots and because the county has a significant amount of highly valued species (including the endangered Southern Resident Killer Whales, salmon and shore birds) and habitats that are damaged by the gear.

Based on monitoring information of mussels and harbor seals, contaminants within the food chain of the Northwest Straits region, including San Juan County, are lower than in other regions of Puget Sound. However, the impacts to marine species that reside in or transit the waters of the San Juans indicate that species abundance and health are a serious concern:

- Rockfish species once commonly caught in San Juan County are no longer abundant.
- Recreational and commercial salmon harvest and opportunities to harvest have declined substantially in recent years.
- Northern abalone, harvested recreationally before 1994, are now in danger of extinction
- Scientific data suggests that some non-native species found in San Juan County such as the Pacific oysters, tunicates, Japanese seaweed and purple varnish clams could limit habitat for native species
- The San Juan Islands provide core summer habitat for the ESA-listed Southern Resident Killer Whale population. The levels of persistent organic pollutants in Southern Resident Killer Whales are believed to be at levels that impact the health of these animals.
- Important species and habitats including eelgrass, herring, rockfish, and marine birds are in decline.

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These valuable species are also at risk from the significant threat of oil spills (both chronic and catastrophic) due to the location of the San Juan Islands at the intersection of major vessel transit lanes and the quantity of commercial and recreational vessel traffic. Strategies identified in the Puget Sound Salmon Recovery Plan, San Juan Salmon Recovery Plan, Southern Resident Killer Whale Recovery Plan and the San Juan County Marine Stewardship Area Plan have been developed to address many of the identified threats, but remain to be implemented. Protecting the San Juan ecosystem will require strong citizen participation and support. The top ranked strategy from the MSA plan is to foster a marine stewardship ethic in residents and visitors.

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