

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: North Central Puget Sound Action Area Profile

Physical Description

With over one million linear feet of shoreline, and extensive bluffs, pocket estuaries, protected bays, harbors, and lagoons, the North Central Action Area has been the delight of beach dwellers and mariners for thousands of years. Steep bluffs along the coastline provide a supply of sediment that drifts along the shore, building beaches and forming spits, lagoons, deltas, and tideflats. The Gig Harbor peninsula has steep bluffs along three sides, especially along the Tacoma Narrows. Although much of the North Central Action Area is relatively protected from wind and waves, the east side of Bainbridge Island, Port Madison, and (of course) Foulweather Bluff are exposed to high wind and wave energy.

Bainbridge Island, approximately five miles wide by ten miles long, is one of the largest islands in Puget Sound and has 53 miles of shoreline. Agate Passage and Rich Passage are characterized by high currents due to the circulation of Puget Sound tides through these narrow openings. In the upland areas, many streams originate from lakes, groundwater runoff, or swamp-like wetlands, and are highly productive for the insect populations enjoyed by salmon. Practically all of the precipitation in this region falls as rain. The northern tip of the Kitsap Peninsula is the driest area, with 30 annual inches, while Green and Gold Mountains (elevation 1,700 ft.) receive approximately 70. Temperatures rarely drop below freezing, thus the only water sources come from precipitation and there is no water supply from snowpack in the Olympic or Cascade Mountains.

Land Use, Population, and Economy

In 1900, Port Blakely on the southern end of Bainbridge Island was the site of the largest lumber mill in the world. Founded by sea captain William Renton in 1864, the mill shipped lumber to California, Australia, Europe and the eastern United States. The sawmill branched into shipbuilding in the early 1900s. By 1923 the mill was closed forever and the area became a ghost town. Today the mill site has scattered suburban cottages and some permanent homes. The transformation of Port Blakely is fairly typical of the environmental and social history of the North Central Puget Sound Action Area. Accessible forests were harvested in the late 19th Century until natural resource and economic conditions necessitated a transition to other industries, and residential development spread along the marine shoreline.

North Central Puget Sound's ports are important centers for commerce, military installations, and as critical hubs for marine transportation. Cross-sound commuting began centuries ago as canoes paddled by the Suquamish, Duwamish and Puyallup people travelled frequently between the Kitsap Peninsula and Elliott and Commencement Bays. The "Mosquito Fleet" of small steamers in the early 20th Century eventually gave way to modern auto ferries. Today more than half of the 25 million annual passengers on the Washington State Ferry System

PugetSoundPartnership

our sound, our community, our chance

travel back and forth across Puget Sound from the east side of Kitsap County. Bainbridge Island hosts the ferry system's maintenance and repair facility. Recreational vessels are moored throughout the North Central Action Area; the Port of Silverdale alone has over 500 moorings. Other recreational amenities of the region include several state and local parks suitable for boat launching, beach walking, kite flying, bird watching, picnicking and kayaking. Bridges at Agate Passage and the Tacoma Narrows link the North Central Action Area to other parts of Puget Sound.

The U.S. military presence in North Central Puget Sound began in the 1880s when Port Orchard was selected as a repair facility to support naval operations in the Pacific Ocean, and since that time the region has played a pivotal role for military operations in several wars and conflicts. The Puget Sound Naval Shipyard in Bremerton was founded in 1891, and is currently Kitsap County's largest employer. The Manchester refueling station was built in 1938. The Keyport Naval Undersea Warfare Center, located on Liberty Bay since 1914, actively supports undersea activities of the US Naval fleet around the world.

The Port Madison Indian Reservation is the center of the Suquamish tribal community, and the houses within the reservation are clustered in the villages of Suquamish and Indianola. Incorporated cities in the North Central Action Area include Bainbridge Island (pop. 23,000), Port Orchard (8,500), Poulsbo (7,500), and Gig Harbor (6,800). Bremerton has a population of 36,000 and is the largest city in the Action Area. Incorporated cities and Urban Growth Areas make up 44% of the land base.

Unique ecosystem characteristics and assets

The east side of the Kitsap Peninsula constitutes almost half of the nearshore habitat in central and south Puget Sound. There are 39 pocket estuaries in the North Central Action area, with 17 of them at Port Madison and Sinclair Inlet. Overhanging vegetation along 27% of the shoreline provides cover for many species and populations of salmon from around the central and southern basins of Puget Sound. The salmon use the North Central nearshore area for refuge, resting, and feeding on their way to and from the ocean. An assessment of freshwater habitat for Puget Sound salmon recommended the designation of 13 local watersheds as salmon refuges. Parts of two watersheds are currently protected--the Gorst Creek watershed for municipal water source and the Chico Creek watershed for old-growth forest habitat. North Central streams are used by chum, coho and pink salmon, steelhead, and cutthroat trout. Chinook salmon from south and central Puget Sound use the nearshore for a refuge and occasionally stray into local streams. Hatchery programs operated by the Suquamish Tribe provide some harvest opportunities for their fishers and other regional anglers.

Ecosystem Stressors

The historic use of the ports of North Central Puget Sound left a toxic legacy from the lumber and shipbuilding industries. A Superfund site in Eagle Harbor on Bainbridge Island resulted primarily from the operation of the Wyckoff wood processing facility from 1903 to 1988. Sediment and groundwater were contaminated by creosote and other chemicals, and a 50 acre

“cap” was put into place to isolate contaminated sediment on the floor of the harbor. Pollution from other port operations and small industrial and commercial activities in North Central Puget Sound are cited by local residents as a continuing threat to marine life and human health.

Portions of the North Central Puget Sound Action Area are undergoing rapid conversion from rural forest and agriculture to an urban/ suburban landscape resulting in habitat that has become fragmented, paved, or degraded. Stormwater runoff and human and animal wastes threaten the quality of water, the patterns of streamflow, and the availability of groundwater for human use. In 2001, seven out of 19 of the larger sub-watersheds in the region had total impervious surface coverage exceeding 10% and one of them was almost 30%. Kitsap County is expected to grow by 43% in the next 20 years, adding another 100,000 people to the area population. Low impact development methods; coordination of land use, water supply and wastewater treatment; revising development regulations to prioritize protection of ecosystems; and better mitigation are all needed to protect stream health, marine waters, and aquifers. Eighty percent of drinking water presently comes from groundwater, requiring little treatment or delivery infrastructure. However, the growing acres of pavement have raised concern over recharge and sustainability of the aquifers throughout the area. Cumulative impacts of individual exempt wells and loss of recharge reduce local stream flows, many of which are closed to further water allocation. Pavement also results in flashy runoff and stormwater flooding. The growing human population has also increased problems from sewage, septic systems, and pet waste. Shellfish beds are closed in several locations.

Shoreline alteration and hardening is pervasive along the low and medium bank marine shorelines of the Kitsap Peninsula, Gig Harbor, Bainbridge Island and other parts of the region. Almost half of the Bainbridge Island shoreline has been modified, and the Island has 291 piers and docks and 108 boat ramps. Throughout the North Central area, 39% of the shoreline has been armored. Many of the sites are hardened by tidal construction, defined as a structure that blocks wave impact. The structures also block the natural flow of sand and gravel from marine bluffs that form regional beaches. Shoreline residents have a tendency to remove shade where it is needed, and create shade where it may cause harm. They remove overhanging vegetation that provides nearshore shade and cover for juvenile fish, and build structures that block the light for marine vegetation and the production of some fish species. The Nearshore Assessment of East Kitsap County (excluding Bainbridge Island) found 298 structures overhanging the ordinary high water mark. Decks accounted for approximately half of the structures. Houses, at 25%, were the next largest category. Other issues of concern in the North Central Action Area are related to vehicular traffic and paved surfaces, degraded streams and pocket estuaries, aquaculture and geoduck harvest, and concerns over climate change and water supplies.

North Central Puget Sound Action Area
DRAFT
July 11, 2008

Cities (Incorporated Areas)

Bainbridge Island
 Bremerton
 Gig Harbor
 Port Orchard
 Poulsbo

Counties

Kitsap
 Pierce

WRIAs

(15) Kitsap

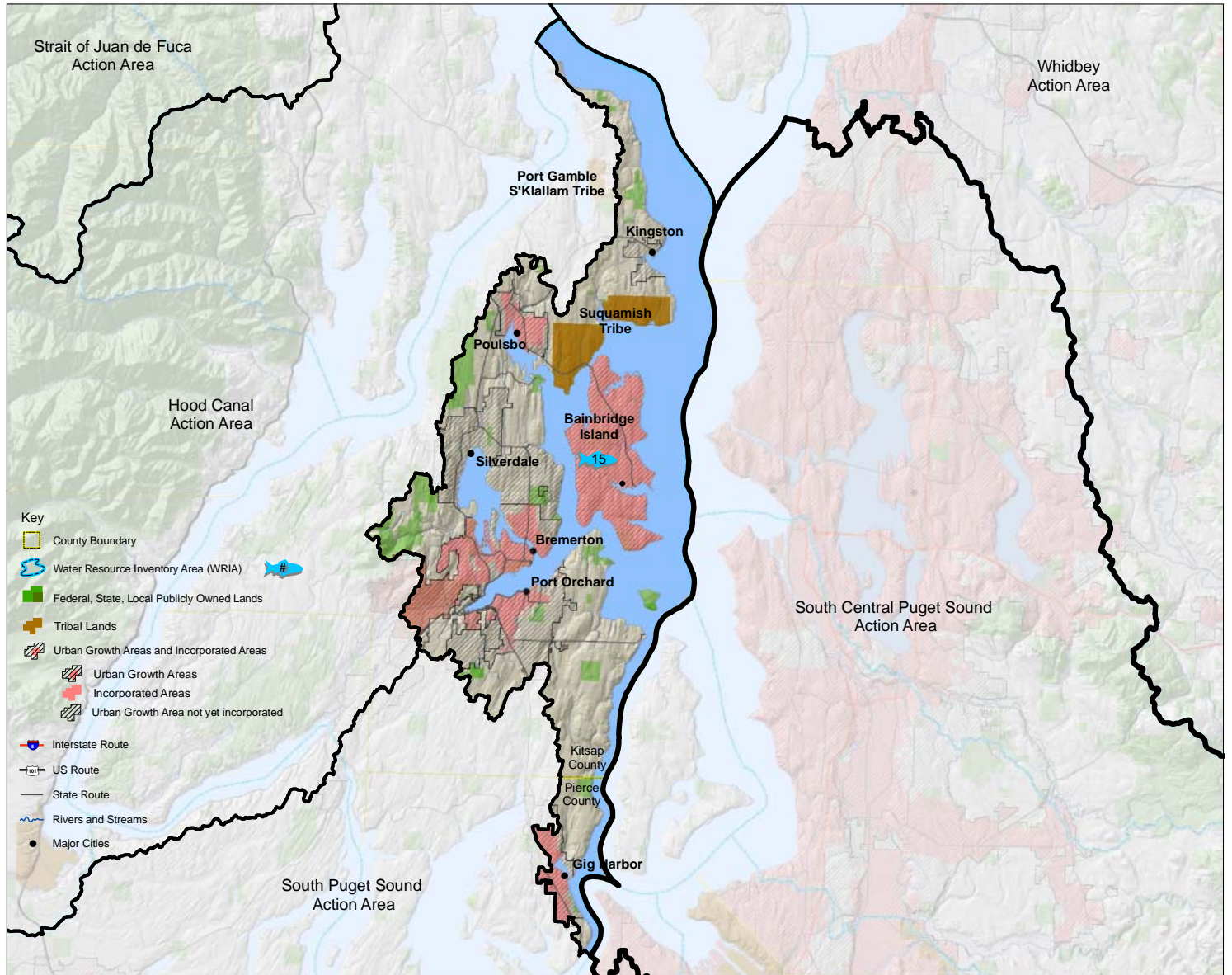
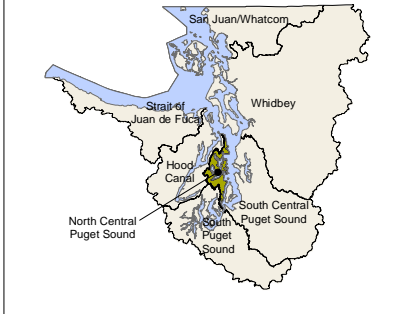
Tribal Lands

Port Gamble S'Klallam Tribe
 Suquamish Tribe

Places of Interest

Bangor Naval Submarine Base
 Blake Island State Park
 Camp Calvinwood
 Camp Wesley Harris Naval Reservation
 Fay Bainbridge State Park
 Fort Ward Naval Reservation
 Fort Ward State Park
 Illahee State Park
 Manchester State Park
 Puget Sound Naval Shipyard
 Square Lake State Park

Puget Sound Action Areas



- Key**
- County Boundary
 - Water Resource Inventory Area (WRIA)
 - Federal, State, Local Publicly Owned Lands
 - Tribal Lands
 - Urban Growth Areas and Incorporated Areas
 - Urban Growth Areas
 - Incorporated Areas
 - Urban Growth Area not yet incorporated
 - Interstate Route
 - US Route
 - State Route
 - Rivers and Streams
 - Major Cities

