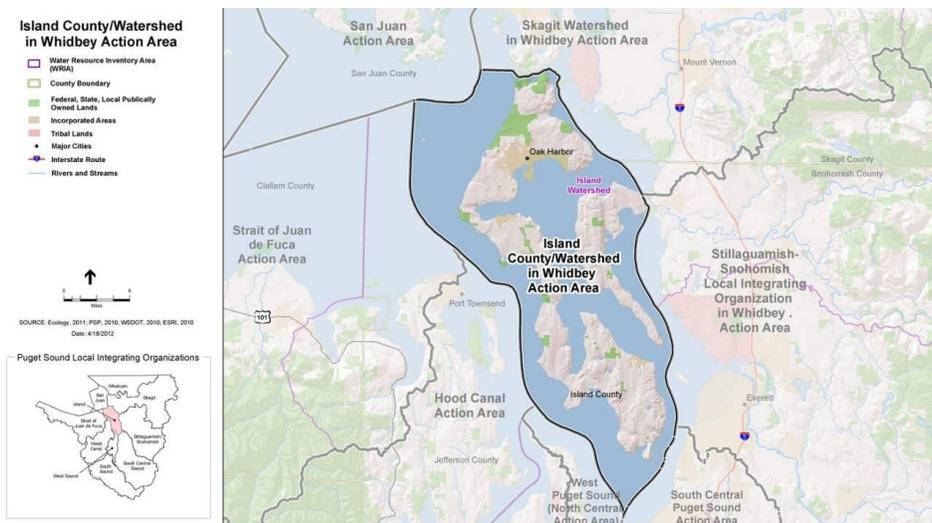


The Action Agenda in the Island County/Watershed

Profile

Located in the neck of Puget Sound, Island County is off the western shores of Skagit and Snohomish counties, and the eastern shore of Kitsap County. Island County is home to Whidbey and Camano Islands and also includes Kalamut, Minor, Deception, Baby, Ben Ure, Strawberry and Smith Islands. Sightseers from around the world flock to Deception Pass Bridge to witness one of the Northwest's marine wonders. The 182-foot high bridge spans the drama of Deception Pass where powerful tides push strong currents through a narrow channel connecting the Strait of Juan de Fuca to Saratoga Passage. The bridge connects Whidbey Island to the mainland via Fidalgo Island to the north; and the south end and connects via the mainland at the south end by the Clinton-Mukilteo ferry, which has the highest ridership of the WA state ferry system. Camano Island connects by bridge to the mainland at Stanwood in Snohomish County. The environment and resources in Island watershed and the surrounding marine waters continue to support the long term cultural and economic viability of local tribes.



There are a number of State Parks in Island County, including those on Whidbey Island and Cama Beach on Camano Island. Whidbey Island also contains the Ebey's Landing National Historical Reserve of the National Park Service; and the Smith & Minor Islands Aquatic Reserve lies off the West side of North

Whidbey. At the request of the Island County Marine Resources Committee, the County Board of Commissioners in 2003 designated the waters of Admiralty Inlet, Saratoga Passage and Port Susan as educational “marine stewardship areas”. Already a popular place for outdoor enthusiasts, the County is continuing to develop a system of trails on Whidbey Island for hiking, biking and horseback riders. A water trail for kayaks and other small vessels without motors has been and continues to be developed by state and community partners. Some hardy souls go for sail boarding, and wet-suited surfers and divers have their favorite spots.

Camano Island is an unincorporated area, part of the Stanwood School District. Whidbey Island includes the incorporated cities/towns of Oak Harbor, Coupeville and Langley, and has 3 school districts, 3 Port Districts, 2 Park & Recreation Districts. There are also several Diking & Drainage Districts. Island County employment is primarily associated with the Naval Air Station Whidbey Island, near Oak Harbor, which employs around 10,000 workers and constitutes approximately 88 percent of all economic activity. Other significant employers within the remaining 12 percent of economic activity include Nichols Brother Boat Builders, Whidbey Telecom, Whidbey Island Bank, and Island County government in the County seat of Coupeville. While the population is increasingly retired people, many workers commute to Boeing’s Paine Field plant, and others use high-speed Internet connections to reach their markets. Tourism is also important to the local economy. The population in Island County is projected to increase 32 percent by 2020.

Unique Ecosystem Characteristics and Assets

The proximity of Island County to numerous rivers and their delta environments provides critically valuable nearshore habitat for migrating juvenile salmonids as well as for their prey, forage fish. Much of the shoreline offers periodic enclosed refuges in moderate and high energy locations. Much of the shoreline includes beach areas and eelgrass meadows ideal for forage fish. The biological communities and physical habitat provide important support to nearby salmonid refugia and nursery grounds, which are also important habitat for Endangered Species Act (ESA) listed Chinook salmon, Orca whale and bull trout. The complex network of shoreline features include shoreline processes that demonstrate that feeder bluff and nearshore sediment transit areas are critical to the complex web processes supporting habitats and biological diversity.

Other important fish species in Island County include multiple species of salmon, Pacific hake, rockfish, Pacific cod, and herring. It is also an important migratory area for marine mammals. A small group of gray whales spend spring and summer feeding on ghost shrimp and tubeworms on beaches on southern Whidbey and Camano islands and the east side of Port Susan. The giant Pacific octopus is also found in the Whidbey Basin (as well as other portions of Puget Sound); these animals attain an average length of 16 feet and weight of 110 pounds. Active shellfish culture takes place throughout the inside of Whidbey Island and Samish Bay for usual and accustomed, commercial and recreational use of mussels, clams, and oysters. Commercial and recreational fisheries occur for shrimp and Dungeness crab throughout the basin. Important marine bird populations reside on area islands, including a population of over 1000 pigeon guillemots.

Chinook populations that originate in watersheds throughout southern and central parts of Puget Sound depend on shoreline and nearshore areas in Island County for refuge and feeding as juveniles head out to the ocean and as adults returning to spawn. Juvenile salmon feed on forage fish, insects and other food in the nearshore to grow big and strong enough to weather the ocean conditions they will face as

adults. Forage fish are an important link in the marine food web because they transfer energy between primary and secondary producers, such as plankton, to top predators such as seabirds and larger fish. Suitable beaches in Island County are historic spawning habitats for two types of forage fish—sand lance and smelt—while a third, herring spawn directly onto the lush vegetation in the many intertidal eelgrass beds.

Island County has over 200 miles of freshwater and saltwater shorelines that are both privately and publicly owned. Nearly 80 percent of the parcels that make up the county's shore miles are developed or slated for residential development. Approximately 25 percent of the shoreline has been modified (WA DNR Shore Zone data), and more than 60% of the county's coastal lagoons have been isolated from natural tidal processes. Of the remaining identified high-value shoreline areas, many, including Arrowhead Marsh, Harrington and Race Lagoons are held under private ownership. Working with and creating incentives for private landowners will be vital for future shoreline habitat protection and restoration.

Several collaborative efforts have been made to protect some of the critical nearshore habitat. The northern portion of Port Susan is owned by The Nature Conservancy and is one of the largest privately owned marine nature preserves in the world. Island County has designated the entire western portion of Port Susan as a marine stewardship area. Several other land trusts and conservancy organizations are working to protect habitat and farmland in the action area. Island County also has 57 publicly owned beaches and 22 privately owned beaches that allow some public use. In recent years, Naval Air Station Whidbey Island has undertaken tidal lagoon restoration activities in Crescent Harbor.

Further discussion on the overall critical nature of Island County's ecosystem can be found in local governing documents and plans such as the Salmon Recovery Plan, Shoreline Master Plan and others. It is not the intent or the place for this profile to repeat all of the vital facts contained on those documents. The goal of the profile is to link all items in this profile's 'Opportunities, Priorities and Near-Term Actions' section to their underlying facts and documented support as shown through dozens of locally adopted plans and other documents.

Local Action Agenda Process

A tailored three-step process was developed for the Island Local Integrating Organization (LIO) to help facilitate updating the local strategies to the Action Agenda. This was developed to be a quick and flexible process given the fact that the LIO was newly established and has yet to develop detailed operating procedures, working priorities, or staffing. The steps were as follows:

- 1) Watershed groups (e.g. Water Resource Advisory Committee, Marine Resources Committee, etc.) and other organizations/representatives (e.g. cities, tribes, ports, etc.) worked to revise strategies based on 2008 Action Agenda information.
- 2) The Policy Development Committee (PDC) group of the LIO reviewed the information submitted over two meetings, came to a common understanding, and provided recommended strategies to the Executive Committee.
- 3) The Executive Committee approved the strategies and submitted them to PSP for inclusion in the draft Action Agenda.

The Island LIO currently has over 60 draft strategies under consideration for the next Action Agenda update. Identifying and prioritizing strategies and actions will be the focus of the LIO over the next year.

Key Threats/Pressures in Island County/Watershed

In 2008 the Whidbey Action Area identified the following threats/pressures to the ecosystem. Further work has not been completed in Island watershed to identify whether there have been changes in threats (more or fewer) since 2008. It is a near-term goal of the Island LIO to update this area of knowledge.

Threats identified include:

Habitat alteration

- **Marine/estuary:** Loss of estuary tidal marsh and habitat connectivity, with more than 80% of the Snohomish, approximately 75 percent of the Skagit, and 85 percent of the Stillaguamish estuaries diked, cutting off tidal marshes and
- **Shorelines:** Development along lake shorelines, reduced habitat availability and heterogeneity, increased nitrification, increased invasive species and toxic algal blooms
- **Marine nearshore:** 38 percent of marine shoreline is armored; there are over 5,000 overwater structures; and 5.6 miles of railroad grade; disconnected feeder bluffs and pocket estuaries, development in sensitive areas
- **Freshwater:** Increased development near lakes and creeks results in altered basin hydrology and degraded habitat
- **Uplands:** Loss of working farms and forests through conversion to residential or other development has resulted in altered basin hydrology and degraded habitat;

Pollution

- **Toxics:** Groundwater has been contaminated leaching from past industrial development
- **Bacterial pollution:** 48 percent of impaired surface waters are the result of bacterial pollution; there have been shellfish harvest closures in Holmes Harbor, Penn Cove, Oak Harbor, Crescent Harbor, and Port Susan Bay (current closures can be verified on DOH website)
- **Nutrient loading:** Contributes to eutrophication and naturally occurring low dissolved oxygen concentrations in Penn Cove, Saratoga Passage, Possession Sound; dissolved oxygen and temperature concerns found in streams
- **Surface water runoff impacts:** Pollutant and sediment loading from urban stormwater and agricultural runoff; emerging pre-spawn fish mortality concern

Freshwater resources

- Limited water availability for people, farms, and fish: Low summer flows in Water Resource Inventory Area (WRIA) 6;
- Altered magnitude, frequency and duration of peak flow events in WRIA 6
- Alteration of surface hydrology: alterations for flows
- Increased freshwater demand from more people, resulting in decreased aquifer levels, saltwater intrusion, and decreased groundwater discharge

Invasive species

- Potential negative ecological impacts on native populations: for example Japanese knotweed and Spartina

Artificial propagation

- Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations; Shellfish production: not identified as a local issue

Harvest

- Fishing and bycatch, logging, and hunting practices: Fishing and poaching; other local pressures need to be identified

Localized climate change impacts

- **Sea level rise:** potential for significant change and loss of pocket estuarine habitat; significant loss of beaches; risk of salt water intrusion; potential loss of floodplain capacity from diking
- **Changes in hydrology** due to reduced forest cover

Other

- Increase in the area's population
- Toxic algal blooms in lake systems

Opportunities, Priorities, and Near-Term Actions

The Island PDC identified over 60 draft strategies, while the Island LIO has been working to establish operating procedures and guidelines. As such, these strategies reflect the best thinking of the LIO to date but will be further refined and vetted as the organization continues to hold discussions and conversation relating to sequencing and prioritizing strategies. The Island LIO has not yet identified Near-Term Actions (NTAs) associated with these strategies. Those actions will flow from the sequencing/prioritization conversations planned for later in 2012.

Further, the Island LIO acknowledges that there are likely many more science needs for the local area, however, given the time constraints the LIO did not identify a full suite of needs. This will be further refined over the coming year. Finally, the Island LIO recognizes the importance of education, behavior change and general community engagement in taking 'actions' that begin to remediate the scope of the current Island LIO 'agenda' of work to be done. In this way, outreach activities (as an example) may be standalone tasks or may be included specifically in another action that includes outreach as part of a larger project. Types of work that may be found in larger projects or found alone include, but are not limited to, issue awareness and understanding, as well as changing practices and behaviors.

* NOTE: Previously, pre-2012 Island Watershed strategies were developed within the context of the regional strategies and sub-strategies, as they existed at that time. Since the time that the Island strategies were submitted, however, the content of the regional strategies has changed. Because these were part of the list originally developed those initial regional strategies remain in this profile, as they are still being considered by Island LIO. Since that time action areas have been reorganized and this document now refers to and represents Island County, a different area and scope than used before this document.

Draft 2011 Island Action Area Strategy/Actions

Protect and Restore Terrestrial and Freshwater Ecosystems

Focus land development away from ecologically important and sensitive areas*

- Pass ordinances that develop incentives and increase the use of site-appropriate LID techniques to manage for future planned growth
- Modify planning/development plans to maintain/increase forest cover, create riparian corridor continuity, and reduce impervious surfaces.
- Support work and fund local partners to preserve ecologically important land.
- Support the implementation and enforcement of local plans, policies and regulations.

Protect and steward ecologically sensitive rural lands*

- Identify, protect and restore important spawning and nesting areas and critical habitat for birds and other wildlife.
- Encourage retention of native vegetation as part of clearing and grading ordinances throughout Whidbey Basin and protect ecosystem functions.
- Provide technical assistance to landowners to support working forests and farms in accordance with local regulations.
- Provide support for technical assistance and cost-share programs for small farms and commercial agriculture to improve and integrate agricultural nutrient management.
- Integrate small farms into community programs.
- Continue to work cooperatively with farming community to develop a coordinated restoration strategy that balances the needs of agriculture and fish.
- Support Transfer of Development Rights, Purchase of Development Rights, Public Benefit Rating System, and other incentive programs.
- Work with existing businesses to promote economic vitality and environmental stewardship.

Encourage compact regional growth patterns and create dense and attractive communities.*

- Develop/support private land protection opportunities (programs such as Shore Stewards/Public Benefit Rating System/Conservation Easements)

Protect and restore floodplain function*

- *For Island Watershed most floodplains occur along the marine shorelines. See B section for shoreline strategies*

Implement and maintain freshwater and upland restoration projects*

- Invest in and implement the Salmon Recovery Adaptive Management Plan in Island Watershed.
- Increase restoration efforts in Island County by providing incentives and removing obstacles for stewardship.
- Implement the Island County Groundwater Management Plan.
- Address fish passage, and increase available rearing and spawning habitat within Island Watershed.
- Broaden local volunteer organizations like Whidbey Watershed Stewards, the Marine Resource Committee or Beach Watchers to work in upland habitat areas.

Instream flow protection and enhancement*

- Assess and monitor infiltration and runoff for streams in Island Watershed.

- Ensure appropriate buffers are being applied to all streams within Island Watershed.
- Provide incentives for protecting forest lands and wetlands that feed into streams.

Groundwater protection and management*

- Ensure ground water protection as 72 percent of Island County residents rely on ground water as their drinking water source.
- Identify and protect forest lands in aquifer recharge areas.
- Protect sole source aquifers for drinking water based on the Groundwater Resources Management Plan.

Protect and Recover Salmon*

- Implement the Island Watershed/ WRIA 6 Salmon Recovery three-year work plan.
- Support engagement of salmon recovery watershed groups.
- Engage farming interests in salmon recovery within Island Watershed.
- Identify and put in known and presumed salmon spawning and rearing habitat into the Critical Area Ordinances.
- Educate and inform residents about Island Watershed/County's function in Salmon Recovery and harvest activities.

Implementation of other plans in a coordinated way and maintenance and enhancement of biodiversity*

- Complete physical and biological stream surveys within Island Watershed.
- Fund and develop a combined biodiversity planning effort to assist with the comprehensive plan amendment and long range planning for Island County.
- Assess where natural habitats could be converted and identify protection opportunities.

Invasive species prevention and response*

- Continue local efforts to identify and eradicate invasive species impairing habitat within Island Watershed.
- Educate home owners about identifying and managing invasive species.
- Identify invasive species and the vectors for introduction and coordinate with responsible agencies to eradicate invasive species impairing habitat.
- Coordinate and provide funding for identification and eradication of invasive species.

Strategies and actions to flow from the Biennial Science Work Plan effort

- *At this point no science gaps have been discussed or identified. However, over the course of the next year, Island LIO is expecting to facilitate broader process to identify and sequence (prioritize) additional strategies, near-term actions, and science gaps.*

Protect and Restore Marine and Marine Nearshore Ecosystems

Protection of marine and nearshore ecosystems that still function well*

- Update Fish and Wildlife Habitat Conservation Areas of the Critical Area Ordinance in Island County as an element of the Shoreline Management Program (SMP) update.
- Work with neighboring watersheds to develop a Whidbey Basin Nearshore restoration and protection coordination effort.
- Protect unique and important rare plant communities or critical saltwater habitats.
- Protect important spawning areas, forage fish beaches, and bird habitat.

- Evaluate the need to protect ecosystem processes and quality of life when considering tidal energy projects and ecosystem services provided.
- Complete Shoreline Master Program updates within Island Watershed on schedule.
- Support and fund economic research aimed at creating property owner incentives.
- Provide targeted funding for restoration projects identified in Shoreline Master Programs.
- Implement protection of prioritized nearshore/marine habitats.
- Assess where natural habitats could be converted and identify protection opportunities.
- Through regulatory process, ensure new shoreline armoring occurs only to protect existing critical infrastructure.
- Create incentive program for landowners to remove existing bulkheads or replace them with soft shore armoring.
- Seek funding to increase code compliance monitoring.
- Develop program to provide assistance to shoreline land owners for ecologically sound land development.

Support economic viability of working waterfronts to help maintain ecosystem function and sustain quality of life*

- Provide economic development grants for job-creating green development along shorelines which is consistent with adopted SMPs.

Promote public access and use of waterfronts and marine systems*

- Provide funding for public access projects identified in SMPs.
- Identify priority locations for public access projects.

Improve shellfish health and harvest*

- Develop a strategy related to improving shellfish health and harvest. Most improvements in this will be related to water quality. (See section C)
- Implement shellfish protection plans within Island Watershed/County.

Implement and maintain priority ecosystem restoration projects marine and marine nearshore ecosystems.*

- Prioritize and strategically remove derelict fishing gear.
- Educate residents on how to prevent fishing gear loss.

Protect and recover marine and nearshore species

- Develop recovery plans for targeted marine species including but not limited to forage fish and rockfish.

Invasive species prevention and response*

- Continue local efforts to identify and eradicate invasive species impairing habitat.
- Identify invasive species and the vectors for introduction and coordinate with responsible agencies to eradicate invasive species impairing habitat.
- Educate public about identifying and managing invasive species.
- Coordinate and provide funding for identification and eradication of invasive species.

Strategies and actions to flow from the BSWP effort

- Establish baseline data for marine and nearshore needs.
- Understand cumulative impacts of marine and nearshore development.

Reduce and Control the Sources of Pollution to Puget Sound

Implement toxic chemical and pollution policy and programs to reduce release of chemicals*

- Continue local efforts to identify and eradicate toxins that are impairing water quality conditions.
- Implement local plans addressing temperature, dissolved oxygen, mercury, and bacteria impairments that improve impaired waterways including those listed on the 303d list.
- Implement projects to eradicate water quality exceedences to federal or state standards.
- Implement a Pharmaceuticals and Personal Care Products Take-Back Program that uses local pharmacies and local police as identified in the Water Resources Advisory Committee non-point plan and recommendations.

Implement clean-up activities to reduce pollution*

Use a comprehensive approach to manage urban stormwater runoff at the site and landscape scales*

- Implement National Pollution Discharge Elimination System (NPDES) permits.
- Begin stormwater retrofits in urbanizing areas within Island Watershed.
- Implement storm water management for dense rural shoreline development areas.
- Research and implement economic incentives for reducing stormwater runoff, such as credits, or reduced stormwater fees.

Control and manage pollution from decentralized wastewater treatment including large and small on-site systems*

- Support local efforts to identify and control sources of pollution from on-site sewage systems.

Control and manage pollution from centralized wastewater management*

Comprehensive approaches for revised wastewater control and management*

- Encourage innovate efforts to treat, reduce, and reuse municipal/community waste water.
- Support updates to local public treatment systems, including grant funding.

Control and manage pollution from discharges of wastewater from boats and vessels*

- Implement Best Management Practices relating to marinas and other boat activity spots within Island Watershed.

Agricultural and Forest Runoff*

Effectively prevent, plan for and respond to oil spills *

Strategies and actions to flow from the BSWP effort

- Support efforts to estimate/calculate the amount of impervious surface within Island Watershed to better inform land use planning and other efforts.

Sustain, Coordinate, and Adapt Puget Sound Recovery Efforts

Building and sustaining cooperative partnerships*

- *See A8 and A5 strategies above.*

Funding strategies*

Social and Institutional Infrastructure*

Issue awareness and understanding*

Changing practices and behaviors*

Fill key science and information gap*

Local Implementation Structure

The Island LIO is comprised of Island County/Watershed (WRIA 6). The LIO builds upon existing committees and watershed groups and has an Executive Committee, the Policy Development Committee that holds representatives from local entities.

The Executive Committee includes representatives from the following entities.

- Island County Council of Governments (COG)
 - Island County Commissioner District 1
 - Island County Commissioner District 2
 - Island County Commissioner District 3
 - City of Langley – Mayor
 - Town of Coupeville – Mayor
 - City of Oak Harbor – Mayor
 - Port District of Coupeville – Port Commissioner – (as appointed by commissioners)
 - Port District of South Whidbey – Port Commissioner – (as appointed by commissioners)
- Participating Local Tribal Governments:
 - Tulalip Tribes – (to be determined)
 - Swinomish Tribe – (to be determined)

The Policy Development Committee members include representatives from:

- Island County Public Health
- Island County Public Works
- Island County Planning and Community Development
- City of Oak Harbor
- City of Langley
- Town of Coupeville
- Tulalip Tribes
- Swinomish Tribe (via Skagit River System Cooperative)
- Island County Marine Resource Committee (MRC)

IMPLEMENTATION COORDINATION IN ISLAND COUNTY/WATERSHED

The Executive Committee makes all decisions of the ILIO and sets strategic policy direction, establishes priorities and funding concepts.

The Policy Development Committee provides recommendations on strategic direction, priority setting, funding concepts and other issues within WRIA 6 of interest to the EC. This process furthers the performance management systems of Island County and other ILIO members.

Island County groups are working to implement plans and identify and sequence priority actions under their purview. This work will continue to inform the priorities of the LIO.

- Island County Water Resource Advisory Committee (WRAC)
- WRIA 6 Salmon Recovery Lead Entity
- Business/Ports
- Whidbey EcoNet (education/outreach)

The Island LIO will be informed by the work of local and regional groups and County and technical advisors and is charged with maintaining the sustainable use of water resources while protecting habitat, environment and human health. The Island LIO may also consult with other groups, such as Water and Sewer Districts, Shellfish Protection Districts and Diking Districts, as well as coordinate with other LIOs.

References and Additional Resources

Shared Strategy for Puget Sound watershed profile (<http://shredsalmstrategy.org>)

http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/upload/Ch5_Island.pdf

<http://www.islandweb.org/recreation.php>

<http://www.shredsalmstrategy.org/watersheds/watershed-island.htm>

http://www.whidbeycamanoislands.com/outdoor_adventure/scuba/

<http://clccharter.org/kurt1/Oceans%20at%20Risk/Giant%20Pacific%20Octopus.html>

<http://www.pigeonguillemot.org/>

http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/upload/Ch2_Chinook.pdf

http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/washington/placesweprotect/portususanbay_08.pdf