

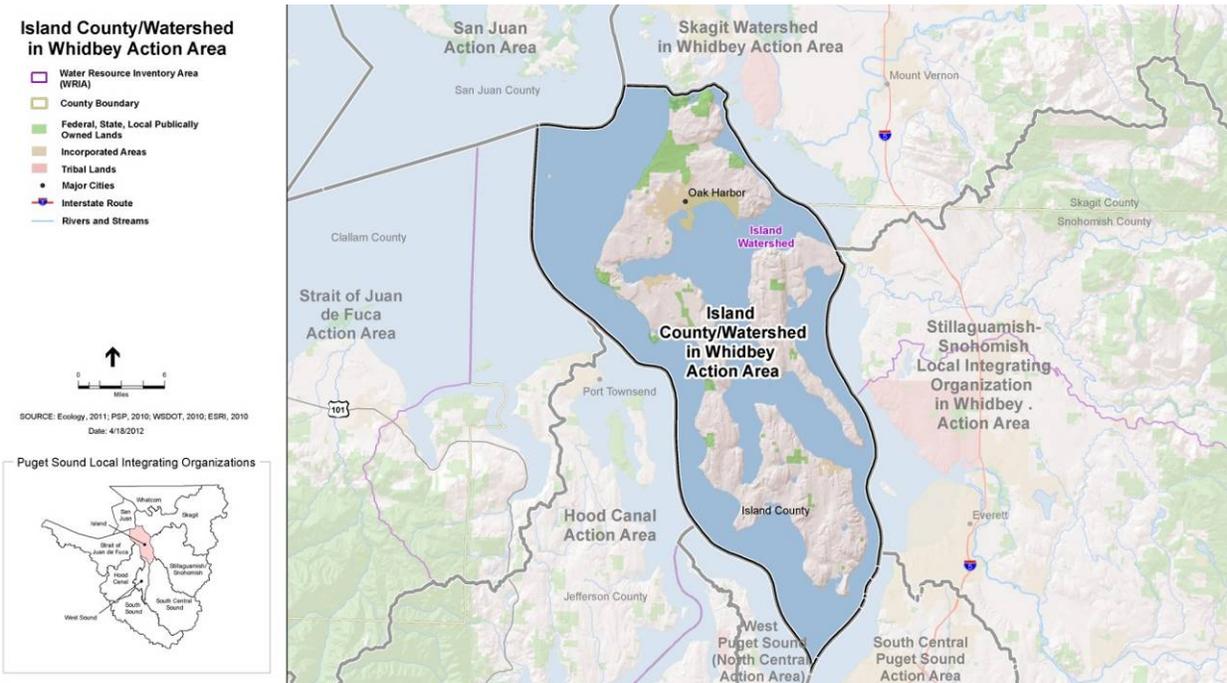
Island County/Watershed (WRIA 6)

Description of the Area

Island County/Watershed (WRIA 6) is part of the Whidbey Action Area and encompasses the boundaries of Island County and Island Watershed. It is located in the neck of Puget Sound, off the western shores of Skagit and Snohomish Counties and the eastern shore of Kitsap County. It is home to Whidbey and Camano Islands as well as 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: a 182-foot-high bridge spanning 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; Whidbey Island is connected to the mainland at the south end by the Clinton-Mukilteo ferry, which has the highest vehicle ridership of the Washington State Ferries system. Camano Island connects by bridge to the mainland at Stanwood in Snohomish County.

The environment and resources in this area and the surrounding marine waters continue to support salmon populations, which are critical to the long-term cultural and economic viability of local tribes. The Whidbey Basin and Admiralty Inlet are the migratory outlet to the Pacific Ocean from all of the natal streams in the Puget Sound. All migrating salmon pass past Whidbey. The juveniles use the nearshore, streams, embayments and pocket estuaries as protection and refuge during outmigration. Adults pass along the nearshore on their return to natal streams to spawn. Supporting these life stages is critical to the success of recruitment and population sustainability of all salmon, a treaty-trust resource. Local tribes have fished the areas surrounding Island County since time immemorial. They continue to rely on successful returns and recruitment to support cultural and economic programs and processes.

[This figure is being updated.]



There are a number of state parks in this area, including those on Whidbey Island and Cama Beach on Camano Island. Whidbey Island also contains the Ebey's Landing National Historical Reserve, managed by the National Park Service; and the Smith & Minor Islands Aquatic Reserve lies just west 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, Island County is continuing to develop a system of trails on Whidbey Island for hiking, biking, and horseback riding. A water trail for kayaks and other small vessels without motors has been and continues to be developed by state and community partners.

Camano Island is an unincorporated area and is included as part of the Stanwood School District. Whidbey Island includes the incorporated cities/towns of Oak Harbor, Coupeville, and Langley, and has three school districts, three port districts, two parks and recreation districts. There are also several diking and drainage districts. Employment in this area is primarily associated with the Naval Air Station Whidbey Island, near Oak Harbor, which employs around 10,000 workers and constitutes approximately 88% of all economic activity. Other significant employers within the remaining 12% 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% by 2020.

Unique Ecosystem Characteristics and Assets

The proximity of Island County/Watershed (WRIA 6) 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 species protected under the Endangered Species Act: Chinook salmon, Orca whale, and bull trout. As such, the shoreline processes, such as feeder bluffs and nearshore sediment transit, are critical to supporting the habitats and biological diversity of the area.

Other important fish species in this area 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 offshore of southern Whidbey and Camano Islands and the eastern 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 this area 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 this area are historical 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% of the parcels that make up the county's shore miles are developed or slated for residential development. According to Washington State Department of Natural Resources' shore zone data, approximately 25% of the shoreline has been modified and more than 60% of the area'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. This area 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 this area's ecosystem can be found in local governing documents and plans such as the salmon recovery plan and shoreline master plan.

Local Implementation Structure and Planning Process

The Island local integrating organization (LIO) represents Island County/Watershed (WRIA 6). It was officially recognized by the Puget Sound Partnership's Leadership Council in 2011. The Island LIO builds on existing committees and watershed groups and has two committees: executive and technical.

The executive committee makes all LIO decisions, sets strategic policy direction, and establishes priorities and funding concepts. The executive committee includes representatives from the following entities.

- Island County Council of Governments
 - 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 technical committee provides recommendations on strategic direction, priority setting, funding concepts, and other issues of interest to the executive committee. This process furthers the performance management systems of Island County and other LIO members. The technical committee members include representatives from the following entities.

- 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
- Island County Water Resource Advisory Committee
- WRIA 6 Salmon Recovery Lead Entity
- Business/ports
- Whidbey ECO-Net (education/outreach)
- Conservation districts

The Island LIO is 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, and coordinate with other LIOs.

The technical committee hosted a series of local workshops and surveys to evaluate pressures on the area ecosystem, using the Open Standards for Conservation process, supported by the Puget Sound Partnership (Section 1).

The technical committee used guidance from Puget Sound Partnership staff to evaluate and prioritize pressures relevant to the Island County/Watershed (WRIA 6) (see *Pressures* section below) then held workshops to develop actions to address these high-priority pressures. These workshops provided a framework for meaningful conversations that challenged assumptions and forced members to think critically about each proposed action. The committee developed five selection criteria by which to evaluate potential actions: political feasibility, ability to implement, ecosystem outcomes, boldness/innovativeness, and the number of pressures the action addresses and how well it addresses them. The committee submitted 13 draft near-term actions to an external review panel, which consisted of a local reviewer (Island County Public Health Director), a Puget Sound Partnership reviewer, and a federal reviewer (U.S. Environmental Protection Agency), to review the near-term actions and performance measures against the selection criteria. Two actions were removed and one was divided into two separate actions. The resulting list was then submitted to the executive committee for review and approval. The Partnership's Leadership Council approved the list of local near-term actions on October 9, 2013.

The final list (see *Local Near-Term Actions and Opportunities*, below) reflects Island LIO's work to vet and prioritize 78 general strategy actions for ecosystem recovery, to develop a clearer connection to the 2020 recovery targets, and to develop a strategic plan for addressing high priority pressures over the next 2 years.

Pressures

The Island LIO identified the following pressures as having very high significance for the local ecosystem. These pressures are considered the primary drivers of current and potential future ecosystem degradation.

- Runoff from the built environment
- Marine shoreline infrastructure

The Island LIO identified the following pressures as high significance for the local ecosystem. These pressures represent a mix of primary drivers and intermediate effects/secondary drivers on ecosystem degradation.

- Culverts, freshwater levees, and tidegates
- Marine water levees and tidegates
- Livestock grazing
- Agriculture
- Invasive species and genes
- Oil and hazardous spills

Local Near-Term Actions and Opportunities

The table below presents the local near-term actions for Island County/Watershed (WRIA 6). Each local near-term action is listed with an identification code—which includes the area abbreviation and a number—followed by a description of the action. The performance measures represent important, measureable, dated components of implementing each action. The owner is the entity responsible for implementation of the near-term action and for tracking and reporting the progress toward completing the action. The final columns provide regional context for the local actions, identifying the pressure that each action is intended to reduce and the primary sub-strategy to which it is most closely linked as well as other sub-strategies that the LIO associates with the action. Local near-term actions are also listed in Section 3 in the context of their primary sub-strategies.

This list of near-term actions reflects the best thinking to date, but Island LIO expects to continue discussions and reevaluate priorities based on new regional and local data and on the near-term action and priority project implementation.

Many projects and programs that were identified as important to area ecosystem recovery during prioritization workshops, did not meet the selection criteria. These include effective ongoing projects/programs, projects/programs not ready for funding in the next 2 years, and/or projects that did not have clearly defined ecosystem outcomes. The Island LIO will continue to develop priority projects/programs that did not make the near-term action list and apply applicable funding to move them forward in the upcoming years. These projects included the following.

- Projects in the salmon recovery 3-year work plan.
- Nutrient treatment and management projects.
- Stormwater treatment and management projects.
- Oil-spill response readiness.

Local Near-Term Actions in the Island County/Watershed (WRIA 6)

Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy ²
<p>ISL1 Develop an implementation strategy for Shoreline Master Program compliance. Island County will develop an implementation strategy for Shoreline Master Program compliance that includes the following elements: a) develop an accurate evaluation of shoreline health that meets the state requirement for “no net loss” and Shoreline Master Program effectiveness based on guidance from Ecology; b) retain a consultant to set a baseline percentage of shoreline armoring and percent vegetative cover that will be used to quantitatively and qualitatively evaluate shoreline health status, trends, and compliance monitoring; c) conduct annual county-wide shoreline evaluations for trend analysis.</p>	<ul style="list-style-type: none"> • By January 2014, obtain funding for Shoreline Master Program implementation program. • By April 2014, develop baseline shoreline health report with trend analysis (no net loss measure) (e.g., percent change shoreline armoring, change in vegetation in Island County). • By July 2014, develop a Shoreline Master Program implementation strategy. • By March 2015, develop and implement a Shoreline Master Program training program (target: 100 residents to attend per quarter). 	Island County Planning and Community Development	<ul style="list-style-type: none"> • Marine Shoreline Infrastructure 	B1.2
<p>ISL2 Develop technical guidance document and trainings for residents on new Shoreline Master Program guidelines.</p>	<ul style="list-style-type: none"> • By December 2014, develop a residential Shoreline Master Program technical guidance manual. • By March 2015, develop and implement a Shoreline Master Program training program (target: 100 residents to attend per quarter). 	Island County Planning and Community Development	<ul style="list-style-type: none"> • Marine Shoreline Infrastructure 	B1.3 (D5.3)

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy ²
ISL3	<p>Improve Island County GIS capability to support land use analysis, planning, permitting decisions, and enforcement with respect to adaptive management and Shoreline Master Program requirements.</p> <p>Island County will develop standard operating procedures for updating data and consistency in its data storage network to ensure usage consistency and relevant data.</p>	<ul style="list-style-type: none"> • By September 2014, develop GIS standard operating procedures for Island County departments that support GIS data management procedures, which would enable geographically tracking professional reports and permitting activity in shoreline areas. • By September 2014, increase number of GIS licenses available to Island County staff. • By December 2014, increase number of Island County staff trained in GIS technology, and increase use in daily activities that result in geospatial data collection. • By June 2015, develop a comprehensive GIS map of Island County detailing permits, buffers, and forest cover based on updated layers. • By December 2015, develop a formal report recommending monitoring, restoration, and habitat protection priorities. 	Island County Department of Natural Resources	<ul style="list-style-type: none"> • Runoff from Built Environment 	B1.1

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy ²
ISL4	<p>Decrease the use of shoreline armor, or in those instances where armor is absolutely necessary, increase the utilization of soft shore protection to address shoreline protection concerns. This effort will address two target audiences, Island County permitting staff and shoreline property owners. Education, outreach, and behavior change strategies will be used. Island County will engage its permitting staff and shoreline property owners in an extensive education and outreach campaign to meet its target of decreasing the use of shore armor and soft shore protection. The campaign will utilize appropriate behavior change strategies and technical/scientific data to support changes within the community. Island County will seek funding to provide technical assistance to landowners and to monitor program effectiveness.</p>	<ul style="list-style-type: none"> • By December 2013, secure funding for armor avoidance and alternatives to hard shore armoring program. • By February 2014, establish an updated baseline map of shore armor in Island County using historical data. • By February 2014, train Island County Planning and Community Development staff on hard shore armoring alternatives. Including a checklist (evaluation of soft shore protection potential) for permit review and planning documents. • By March 2014, develop shore protection landowner training program. • By March 2014, develop soft shore protection guidance document for residents (all who come to the Planning and Community Development counter regarding shoreline armoring permit). This would include an interactive website for residents to learn the reasons for choosing alternatives to hard shore armoring. 	Island County Planning and Community Development	<ul style="list-style-type: none"> • Marine Shoreline Infrastructure 	B2.3

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy ²
ISL5	<p>Remove hard shore armor and, where feasible, replace with soft shore protection where erosion control is needed to protect houses. Develop a program for education and behavior change on shoreline armoring in Island County. Social marketing will be applied to program development. Financial incentives (e.g., free site visits from experts, and grants for cost share, design, permitting) will be offered to implement armor removal and possibly install soft shore protection. This program will include monitoring beach ecosystem health on removal and conversion projects (from hard shore to soft shore) to provide justification.</p>	<ul style="list-style-type: none"> • By December 2013, secure funding for soft shore protection technical assistance and removal program (vouchers for removing bulkheads) (target: five properties to receive technical assistance per quarter). • By December 2013, secure funding for forage fish spawning surveys to establish baseline data and effectiveness monitoring to validate decision for removing armoring. Monitoring to begin spring 2014. • By January 2016, total amount of armor removed is greater than new armor installed (not including armor replacement). 	Island County Department of Natural Resources	<ul style="list-style-type: none"> • Marine Shoreline Infrastructure 	B2.3
ISL6	<p>Restore tidal inundation. Island County will restore tidal inundation to one or more isolated pocket estuaries or tidal wetlands. The project selected will address either poor design or malfunctioning tidegates to improve habitat for juvenile salmon.</p>	<ul style="list-style-type: none"> • By December 2014, reconnect one tidal wetland or pocket estuary to tidal influence. • By December 2014, secure funding to monitor habitat changes and/or juvenile salmon for restoration project to monitor improvements. • By July 2014, develop a prioritization of blockages, failing culverts, flood risks, etc. Prioritization report to include ecosystem benefits for each project. 	WRIA 6 Lead Entity	<ul style="list-style-type: none"> • Marine Shoreline Infrastructure 	A6.1

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy ²
ISL7	<p>The City of Oak Harbor will implement Freud Marsh restoration and stormwater improvement project. The project will restore natural treatment functions to reduce nutrient loading and improve flow rates by increasing infiltration in Oak Harbor, the only urban watershed in the County. The project will complete the Freud Marsh improvements including a trails network and interpretive center to educate public about stormwater, water quality, and wetland issues.</p>	<ul style="list-style-type: none"> • By December 2015, restore 18.1 acres of wetland. • By December 2015, reduce stormwater flow rates and nutrient and bacterial loading into Puget Sound. • By December 2015, complete trails network around Freud Marsh and install interpretive center. 	City of Oak Harbor	<ul style="list-style-type: none"> • Runoff from Built Environment 	C2.1 (C2.3)
ISL8	<p>Implement a small farm water quality improvement project in Ebey's Praire. The project will include water quality treatment technology (e.g., grassy swales, filter strips, phytoremediation) and landowner farm practices (e.g., manure management, filter strips) to reduce non-point stormwater pollution.</p>	<ul style="list-style-type: none"> • By December 2015, reduce nutrient and bacteria levels in stormwater runoff. • By December 2015, implement five water quality BMPs in watershed. 	Whidbey Island Conservation District	<ul style="list-style-type: none"> • Runoff from Built Environment • Agriculture 	C3.1
ISL9	<p>Stormwater technical assistance and incentive programs implementation. Island County will implement a stormwater retrofit program to target private properties. The program will include designing and conducting workshops for landowners and providing incentives for compliance (incentives may include cost sharing for rain gardens, no-cost engineering).</p>	<ul style="list-style-type: none"> • By June 2014, implement stormwater management and low-impact development program to assist urban and rural landowners (target: Whidbey Island Conservation District will complete 25 low-impact plans as well as technical assistance site visits as needed for stormwater management). 	Whidbey Island Conservation District	<ul style="list-style-type: none"> • Runoff from Built Environment 	C1.4

Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy ²
ISL10 Develop and implement a stormwater monitoring program. Island County will enhance its stormwater monitoring program to address stormwater discharges from the built environment. The monitoring is intended to focus community attention on source identification and key areas of concern. Based on the monitoring data, technical assistance will be provided to landowners.	<ul style="list-style-type: none"> Nutrient loading during storm events at outfalls and in streams (identified in watershed prioritization). Decrease in percentage of 303d-listed impaired waters in Island County. Net increase in recreational shellfish harvest area. 	Island County Department of Natural Resources	<ul style="list-style-type: none"> Runoff from Built Environment Agriculture 	D4.2
ISL11 Implement a noxious and invasive weed eradication program.	<ul style="list-style-type: none"> By December 2014, secure funding to assess invasive species in Island County. By June 2015, create plan for eradication program. By December 2015, increase property owners' awareness about invasive species of concern, control methods for specific plants, and their legal obligations to control regulated species. By December 2015, increase acreage of native vegetation restoration. 	Noxious Weed Control Board	<ul style="list-style-type: none"> Invasive Species & Genes 	B5.3
ISL12 Identify, map, and prioritize blocked and failing culverts and replace one to two priority culverts using fish-friendly passage designs. Fish-blocking culverts negatively affect flood risk, scouring, erosion, landslides, and water quality. Island County will map all existing culverts noting which are blocked and failing, and will create a prioritization schedule for replacing these culverts.	<ul style="list-style-type: none"> By January 2014, hire a full-time equivalent employee to be project manager for culvert replacement with fish-friendly passage. By July 2014, develop a prioritization of blockages, failing culverts, flood risks, etc. Report to include ecosystem benefits for each project. By December 2015, reduce flood risk and remove fish blockage for top two to three prioritized culverts. 	Island County Department of Natural Resources	<ul style="list-style-type: none"> Culverts 	C2.3

¹ Where secondary regional sub-strategies were identified, they are shown in parentheses after the primary sub-strategy.

BMP = best management practice; GIS = Geographic Information System; WRIA = Water Resources Inventory Area.