SECTION 4

LOCAL RECOVERY ACTIONS

<<Cover photo: Cedar River Tour, courtesy of Brian Walsh

Puget Sound is a vast and beautiful region that is extremely diverse. The unique attributes of Puget Sound have created highly variable conditions in climate, habitat types, and species from alpine forests to the depths of the marine waters, and have contributed to the diverse communities of people that call it home. This section focuses on outlining the differences across the Puget Sound region and providing detailed descriptions of the process and outcome of identifying and prioritizing strategies and actions that are tailored to local conditions and goals.

Background on the Local Integration Concept

The Action Agenda integrates existing basin-wide and watershed-scale plans into the recovery of Puget Sound. Groups sponsoring or administering local watershed and nearshore programs—including but not limited to local governments, tribes, private sector entities, watershed planning units, watershed councils, shellfish protection districts, conservation districts, regional fishery enhancement groups, marine resource committees (including those working with the Northwest Straits Commission), and watershed lead entities—are working to implement the Action Agenda. However, closer cooperation and further integration is needed to inform local implementation priorities and approaches. Local integrating organizations, also referred to as LIOs, provide a mechanism for the Partnership to work directly, in a coordinated way, with local communities to help prioritize actions and implement the Action Agenda. LIOs are part of the Puget Sound Management Conference and relate directly to the Leadership Council.

Action Areas and Local Integrating Organizations

The Partnership's authorizing statute (RCW 90.71.260) created the following seven action areas to help organize regional recovery work.

- Hood Canal Action Area
- North Central Puget Sound Action Area (locally called West Central Puget Sound)
- San Juan/Whatcom Action Area (now covered as two separate areas)
- South Central Puget Sound Action Area
- South Puget Sound Action Area
- Strait of Juan de Fuca Action Area
- Whidbey Action Area (now covered as three separate areas)

While the action area concept is useful for sharing information and working to implement the Action Agenda and priority local actions, in some cases, the defined action area has proven to be too geographically large, or too diverse—and a smaller-scale, watershed-based approach has evolved.

As of May 2014, LIOs have been formed (and are recognized by the Leadership Council) for the following areas.

- Strait of Juan de Fuca Action Area: Strait Ecosystem Recovery Network
- Hood Canal Action Area: Hood Canal Coordinating Council

- South Puget Sound Action Area: Alliance for a Healthy South Sound
- South Central Puget Sound Action Area: South Central Puget Sound Caucus Group
- Island County Watershed (in the Whidbey Action Area) LIO
- Snohomish-Stillaguamish watersheds (in the Whidbey Action Area): Snohomish-Stillaguamish LIO
- Whatcom County/Nooksack Watershed (in the San Juan/Whatcom Action Area): Consolidated WRIA 1 Policy Boards
- San Juan County Watershed (in the San Juan/Whatcom Action Area): San Juan Agenda Oversight Group (or San Juan LIO)
- West Central (North Central Puget Sound Action Area): West Central LIO

Each LIO has different membership. Example members include salmon recovery watershed groups, marine resource committees, tribes, local governments, local utilities, farming interests, environmental interests and others. The implementation structures of the LIOs are included in the profiles that follow.

One area is still in formation.

- Skagit-Samish watersheds (in the Whidbey Action Area)

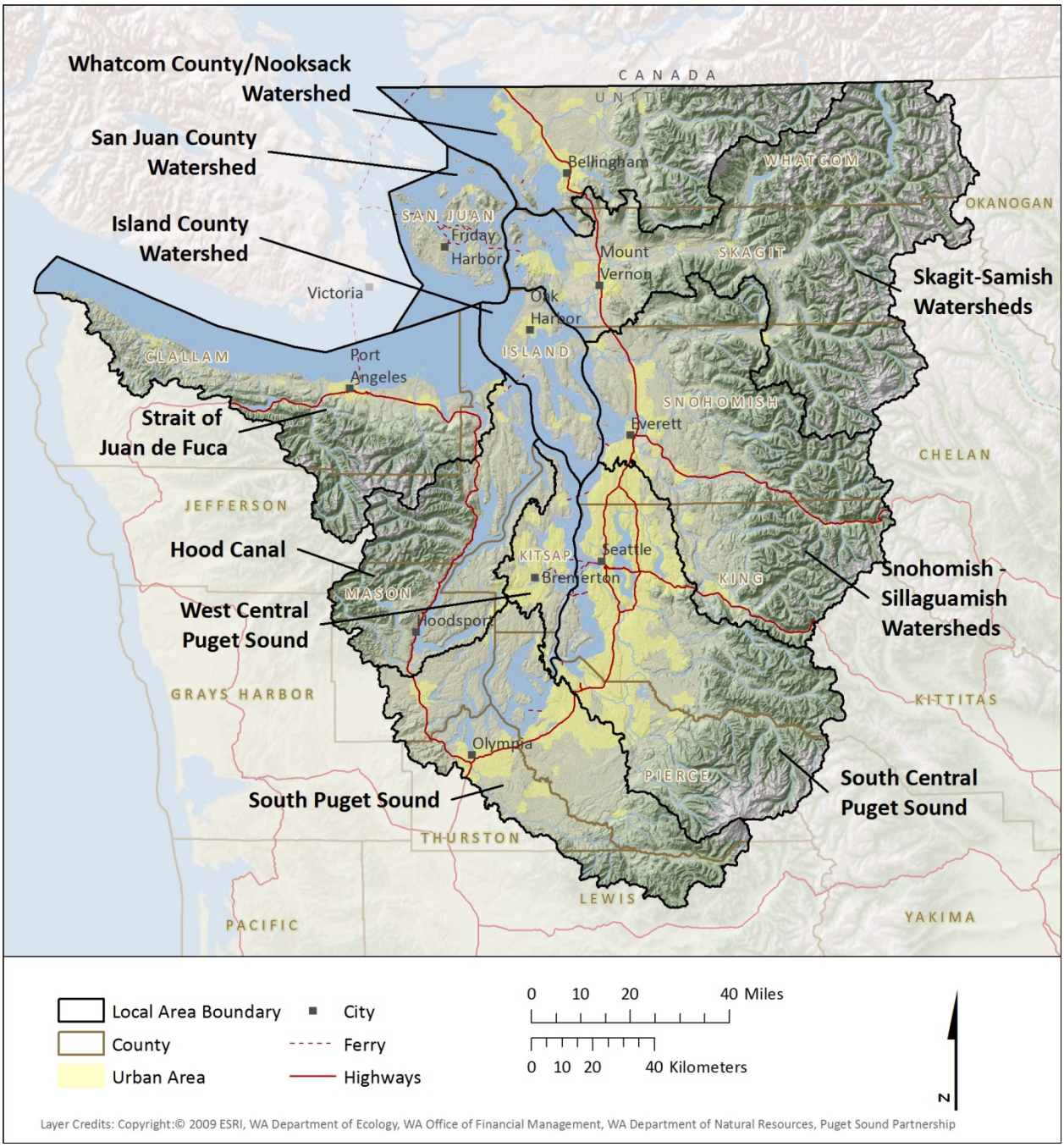
Each area has many distinctive local features and communities. These differences are due to physical and biological conditions such as geology, rainfall, habitat for plants and animals, and the history of the people who have lived there. Each corner of Puget Sound also has its own set of issues and constraints. For example, the South Puget Sound and Hood Canal action areas are world-renowned shellfish growing areas. The areas are also subject to poor water circulation and high nutrient inputs that result in low dissolved oxygen conditions and can lead to massive fish kills. The Strait of Juan de Fuca Action Area, Whatcom County, and other rural areas struggle to retain working forests and productive agricultural lands in the face of increased development pressure. Water supply is a critical issue in the eastern Strait of Juan de Fuca and the San Juan Islands. The Whidbey Action Area contains three of the top five salmon-producing rivers in Puget Sound—the Skagit, Snohomish, and Stillaguamish; here the drastic modification to the river deltas and estuaries is particularly problematic for salmon recovery. The South Central Puget Sound Action Area contains the ports of Seattle and Tacoma, is home to approximately 3 million residents, and is the heart of the Puget Sound economy. In the South Central and the West Sound, many ecosystem challenges result from shoreline armoring, transportation infrastructure, stormwater runoff, and other urban issues—yet these areas have important nearshore habitat for migrating salmon and other species.

How Local Integrating Organizations Are Formed

LIOs are recognized by the Leadership Council when they have achieved the following.

- Have strong support from the local community and are broadly inclusive.
- Have a strong capacity to execute roles, responsibilities, and the necessary scope of work.

ACTION AGENDA LOCAL AREAS



Local governments and tribes were invited to consult with each other and with groups sponsoring or administering watershed and nearshore programs to evaluate options for organizing an LIO. In some cases, an existing organization was supported to undertake this role. In other cases, a new organization was formed.

After consulting locally, tribes and local governments from respective areas made a joint recommendation regarding local coordination and integration approaches. The recommendations

identified a proposed LIO, fiscal agent, and geographic scope. Based on the local recommendation and Partnership staff analysis, the Leadership Council decided whether to recognize the proposed LIO and its proposed approach and geography.

Vision for Local Integrating Organizations

LIOs have been formed to help bolster consensus and momentum around locally relevant Puget Sound recovery actions. They are a coordinating body, helping to integrate and advance efforts from various entities in each action area. They are formed to help identify leverage points and create increased opportunity for Puget Sound recovery locally. LIOs also serve an advisory function for the Partnership by identifying recommendations on local priorities for funding decision and consideration. LIOs advance the specific actions necessary for achieving the high-level Puget Sound strategies of habitat protection, restoration, and pollutant reduction in the following ways.

- LIOs enable communities to develop and own a dynamic decision making process, to guide implementation of Action Agenda priorities including restoration, protection and pollutant reduction, and to prioritize local actions for investment.
- Local strategies and systems are linked to Soundwide sub-strategies and regional performance management and monitoring systems through the LIO. LIO operations contribute toward the development and implementation of local priorities in the Action Agenda.

LIOs, by design, represent the perspectives of many different actors within their local areas that hold implementation responsibilities in different ecosystem scale and watershed scale plans. These actors include, but are not limited to, local governments, tribes, private sector entities, watershed planning units, watershed councils, shellfish protection districts, conservation districts, regional fishery enhancement groups, marine resource committees (including those working with the Northwest Straits Commission) nearshore groups, and watershed lead entities, all working to implement the Action Agenda.

Funding the Local Integrating Organizations

The Partnership will fund LIOs for organizational capacity to complete the following activities.

- Maintain, organize, facilitate, and administer a LIO.
- Update local strategies and local near-term actions.
- Identify and coordinate implementation of local priorities.
- Performance management.

Local Profiles

Crafting solutions to the pressures facing Puget Sound must occur with the input and cooperation of the local people who have detailed knowledge of the problems, must implement the solutions, and will carefully monitor the success. The LIOs have helped to update the Action Agenda by developing prioritized local actions that are integrated into the Action Agenda strategies, sub-strategies, and strategic initiatives.

Each of the local area profiles that follow includes a description of the geography and unique ecosystem characteristics and assets of the area, and map of the area, an overview and status update of the local planning process and implementation structure, locally significant pressures, and a table of local near-term actions with associated performance measure and owners. All areas agree that implementation of the funding strategy is needed to support local recovery efforts, and this need will be discussed by the Ecosystem Coordination Board funding committee. In addition, common outreach messages are a key to understanding in all communities. Over the next 2 years, each local area will continue to move forward implementing actions, and contributing to a cleaner, more vibrant, and community oriented Puget Sound.

Linking to Recovery Targets

In developing local near-term actions for inclusion in the Action Agenda, each of the LIOs made a conscious effort to link and integrate local actions with the strategies, sub-strategies and Strategic Initiatives. Local pressures on the ecosystem were considered, in addition to restoration opportunities that would provide ecosystem benefits and help achieve recovery targets.

Hood Canal Action Area

Description of the Action Area

Hood Canal is a long, narrow, natural L-shaped fjord that separates the Olympic and Kitsap Peninsulas. This marine water body extends southward from Foulweather Bluff, at the northern tip of the Kitsap Peninsula, and Tala Point to its southern terminus at Lynch Cove. Hood Canal is approximately 68 miles long and 1.5 to 2 miles wide. The Hood Canal Action Area[1] includes the canal and the uplands and streams that enter into the canal from both sides and extends north to Point Wilson in the city of Port Townsend. On the west side of the canal, major rivers including the Skokomish, Dosewallips, and Big Quilcene drop rapidly from the Olympic Mountains, while smaller streams such as the Dewatto and Tahuya drain the west side of the Kitsap Peninsula. Precipitation along the canal varies from 75 inches annually at Skokomish to only 19 inches in Port Townsend.

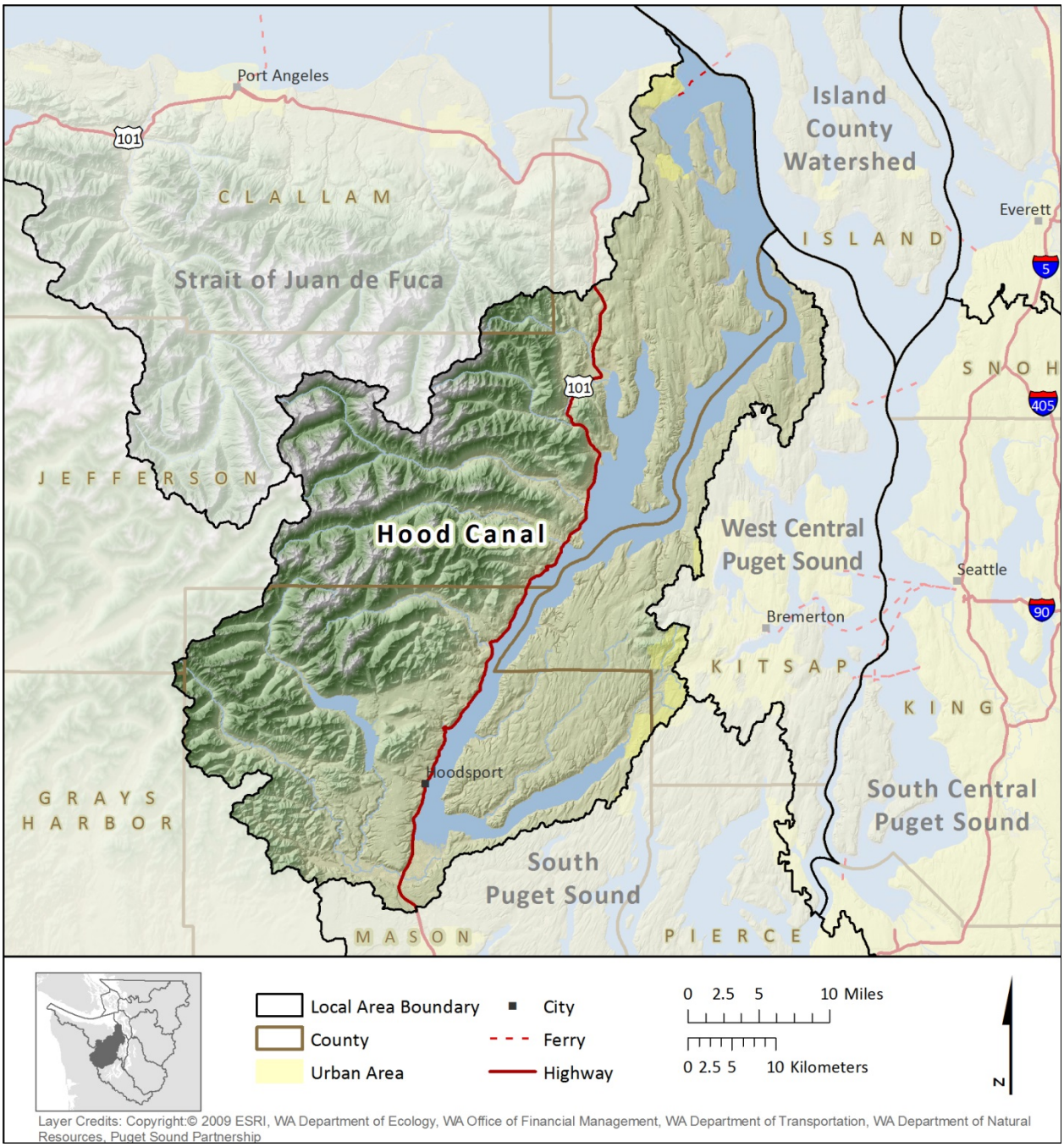
Although the average depth of Hood Canal is 177 feet, the underwater topography can be as deep as 600 feet. Marine water circulation in Hood Canal is naturally poor, particularly in the southern 20 miles. A relatively shallow, underwater sill south of the Hood Canal Bridge limits water exchange with incoming marine water from the Strait of Juan de Fuca. Hood Canal also has poor vertical mixing as fresh water entering from rivers and streams can form a distinct layer at the surface. Dense algal blooms die off, sink, and decay, reducing the dissolved oxygen in deeper layers and degrading water quality for many marine species. In general, these oceanographic conditions present special challenges in managing nutrient and other inputs deriving from human activities, in pursuit of water quality that supports both a healthy ecosystem and a healthy economy in the communities surrounding Hood Canal.

NOTABLE ACCOMPLISHMENTS

- Skokomish and Quilcene River estuary restoration projects
- Regional Hood Canal Pollution, Identification, and Correction Program
- Development of the In Lieu Fee Mitigation Program
- Stormwater Retrofit Prioritization Project
- Regional Riparian Planting and Invasive Species Control Programs
- Regional conservation planning including the Kitsap Forest and Bay Project of up to 7,000 acres of forest and 1.8 miles of shoreline

[1] Three water resource inventory areas (WRIAs) are within the action area: WRIAs 15, 16, and 17.

HOOD CANAL ACTION AREA



The Skokomish, Port Gamble S'Klallam, Jamestown S'Klallam, Lower Elwha Klallam, and Suquamish Tribes retain treaty fishing rights in the Hood Canal region. The Port Gamble S'Klallam Reservation is located at the north end of Hood Canal, and the Skokomish Reservation is located at the south end. The eastern shore of Hood Canal is home to the U.S. Navy Submarine Base at Bangor, the largest industry and development on the canal. Populated centers in west Kitsap County include Port Gamble and Seabeck. Southern Hood Canal begins in Belfair and the Tahuya Peninsula and runs along relatively developed lower Hood Canal toward the Skokomish estuary and Potlach.

Much of the west side of Hood Canal borders Olympic National Forest and Park. U.S. Highway 101 and the population centers of Quilcene, Brinnon, Hoodsport, and the Skokomish Valley lie along the narrow fringe of land on the west shore of the canal. The Hood Canal Bridge is a critical transportation link between the Kitsap and Olympic Peninsulas. The proximity to Olympic National Park and Forest, cultural attractions in Port Townsend and Union, and hunting, fishing, and camping opportunities have generated a significant tourism industry and the proliferation of recreational homes.

Unique Ecosystem Characteristics and Assets

Hood Canal is famous for its shellfish as it is characterized by prime growing conditions for oysters and other shellfish species. Rivers flowing from the Olympic Mountains mix with brackish waters at ideal temperature and water conditions that support some of the largest shellfish hatcheries and productive growing areas in the world. The native Olympia oysters (*Ostreola conchaphila*) of Hood Canal were largely overharvested by 1870, although several small populations in the area are being nurtured back to life. Oyster growers introduced the larger, faster-growing Pacific oysters (*Crassostrea gigas*) to compensate, and shellfish farms were staked out throughout Hood Canal. Today the oysters of Hood Canal are internationally famous, and connoisseurs identify them by place names including Quilcene, Dabob, and Hama Hama, much like fine wines from specific regions and vineyards. Oysters and other bivalve species are filter feeders, processing hundreds of gallons of water daily, and are thus highly valuable for their ability to clean the water. However, this also makes them vulnerable to pollutants and toxic contaminants.

The human population of the Hood Canal region is generally low, as a majority of the uplands are managed as private and public forestlands. Relatively larger population concentrations are found along lower Hood Canal and around Lynch Cove. Though affected by dissolved oxygen problems and other modifications to rivers and shorelines, fisheries and aquaculture remain economically significant to the Hood Canal region. Commercial and recreational fisheries exist for salmon, spot prawn, Dungeness crab, clams and oysters, and geoduck. Fishing is closed for rockfish and flatfish, due in part to recent low dissolved oxygen problems.

Hood Canal is home to several other important and unique marine and upland species. An evolutionarily significant unit of chum salmon that returns in the summer spawns only in the rivers and creeks of Hood Canal and the eastern Strait of Juan de Fuca. Skokomish and Mid Hood Canal Chinook salmon spawn, rear, and migrate in Hood Canal, along with steelhead; other populations of chum, coho, and pink salmon; and bull, and cutthroat trout. Many of these salmonid species spend a large part of their early lives in the estuary, and water quality conditions in the canal are essential to their continued survival. Hood Canal is also used by marine mammals, and has unusual timing periods for birthing and pupping of some seal species. Orca whales occasionally enter Hood Canal for short periods of time to feed on prey species indigenous to Hood Canal. In places, patches of old growth and other intact forest provide unique habitats for bird species and mammals in close proximity to the marine shoreline. Herds of elk in the eastern Olympics migrate seasonally along the river corridors.

The natural beauty and relatively warm summer water conditions of the canal draw many visitors for boating, sailing, water-skiing, swimming, and diving. A unique blend of year-round and seasonal

residents and visitors comprise the watershed's population and often promote activities to restore Hood Canal's water quality, species, and other ecosystem features.

Local Implementation Structure and Planning Process

The Hood Canal Coordinating Council (HCCC) is the local integrating organization (LIO) for the Hood Canal Action Area. The Puget Sound Partnership's Leadership Council formally recognized the HCCC as the action area's LIO in September 2010.

The HCCC is a watershed-based council of governments with a mission to advocate for and implement regional and local actions intended to protect and enhance the environmental and economic health of Hood Canal. The HCCC includes representatives from the following entities.

- Jefferson County
- Kitsap County
- Mason County
- Port Gamble S'Klallam Tribe
- Skokomish Tribe
- State and federal agencies (ex officio, nonvoting members)

The HCCC has a board of directors and two steering committees.

The HCCC Board of Directors includes the county commissioners of each member county and the tribal chairperson or a duly authorized representative of each member tribe.

The HCCC Board Integrated Watershed Plan (IWP) Steering Committee is charged with the development of an integrated strategic plan for Hood Canal. The HCCC Board IWP Steering Committee includes governmental members and non-governmental organizations, including representatives from the following entities.

- Skokomish Tribe
- Jefferson County
- Mason County
- Puget Sound Partnership
- Washington Sea Grant
- Long Live the Kings, and other community partners
- HCCC staff

An HCCC Board Steering Committee was formed in February 2013 to engage Hood Canal communities in work supporting and improving environmental and economic well-being of the action area. Objectives of the committee are to establish clear community engagement priorities, provide HCCC Board support and involvement in community engagement implementation, with implementation assistance from HCCC staff. The HCCC Board Steering Committee includes governmental members and non-governmental organizations, including representatives from the following entities.

- Skokomish Tribe
- Port Gamble S'Klallam Tribe
- Mason County
- HCCC staff

The HCCC serves a variety of functions and operates in a number of capacities. First, as an interlocal agency under Chapter 39.34 of the Revised Code of Washington (RCW), the HCCC coordinates the activities of its members and other public entities and Indian tribes in their efforts to protect and restore the Hood Canal watershed. The HCCC was formed as a nonprofit, public-benefit corporation under RCW 24.03, Washington's Nonprofit Corporations Act, to serve as the interlocal agency's fiscal agent. The Internal Revenue Service has recognized the HCCC's nonprofit corporation as a public charity under Section 501(c)(3) of the Internal Revenue Code. Finally, the HCCC serves a variety of functions pursuant to RCW 90.88, the Aquatic Rehabilitation Act, which designates the HCCC as the local management board for Hood Canal rehabilitation under RCW 90.88.010(3). The HCCC is the inter-WRIA coordinator for watershed planning under RCW 90.88.030(1)(b) as well as the lead entity and regional recovery organization for summer chum salmon recovery under RCW 90.88.030(1)(a). As the lead entity, HCCC develops both short- and longer-term project lists, solicits sponsors to implement the programs, and evaluates and ranks project proposals.

Originally established in 1985, the HCCC was created to address community concerns about water quality problems and related natural resource issues in the watershed. As such, the HCCC provides an effective, well-established forum in which many of the issues anticipated to be under the purview of LIOs can be addressed. The HCCC has worked through a series of public outreach efforts, partner workshops, and consultations with its board to help the community find common ground on a vision for Hood Canal's future. Through collaboration with partners and the community, the HCCC has also identified the most critical ecological and socioeconomic focal components that should be fostered into the future, the most imminent pressures diminishing those priorities, an initial list of key strategies and actions important to protecting and restoring the environmental and economic health of Hood Canal, and an initial set of human well-being indicators. This information is contained in the IWP.

The IWP is an organizational concept of integrating existing plans and programs, as well as identified gaps, through a strategic planning framework to meet the stated goals. The IWP is an interactive tool that provides a framework to guide strategies and actions towards reaching the HCCC vision; accounting of existing work underway to improve the health of Hood Canal and Hood Canal communities and identification of gaps where work is needed; and tools and common strategies for advancing regional planning. The development of the IWP is led by the HCCC Board, building on extensive collaboration and communication with the Hood Canal community.

For this 2014/2015 Action Agenda update, The HCCC focused on updating and refining the near-term actions presented in the 2012/2013 Action Agenda.

The IWP identifies the highest priority strategies and actions for Hood Canal recovery and will provide the basis for development and tracking of future near-term actions. However, given continued development of the IWP (scheduled for draft completion in mid-2014), the HCCC Steering Committee chose to not solicit widely for new near-term actions for this update. The list of near-term actions (see

Local Near-Term Actions and Opportunities below) primarily represents updates to the 2012/2013 list, with some new near-term actions determined to be of high priority for the HCCC Board.

Development of the near-term actions and other opportunities[2] focused on the pressures identified below.

Pressures

The community has defined 17 ecological and socioeconomic focal components that together cover the scope of the LIO's vision statement and must be conserved.

- **Ecological focal points:** estuaries, beaches, shellfish, rivers and streams, bottom fish, riparian areas, forest, and salmon.
- **Socioeconomic focal points:** water for human health, sustainable employment, commercial fishing, livable communities, forestry, cultural heritage, recreation, agriculture, and commercial shellfishing.

Eleven regional pressures were identified through community workshops in which participants ranked pressures that were of local significance as endangering the ability of the focal components to function and persist into the future.

The following were classified as *very high* pressures the local ecosystem.

- Residential and commercial development
- Transportation and service corridors
- Climate change and severe weather

The following were classified as *high* pressures on the local ecosystem.

- Shoreline infrastructure (marine and freshwater)
- Shoreline levees (marine and freshwater)
- Water withdrawal and diversions
- Invasive species
- Wastewater
- Stormwater
- Timber production
- Oil and hazardous spills

Local Near-Term Actions and Opportunities

The table below presents the local near-term actions for the Hood Canal Action Area. 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,

[2] The prioritization of strategies and actions that most effectively alleviate these pressures still needs to be completed for the Integrated Watershed Plan.

dated components of implementing each action. The owner is the entity or entities responsible for implementation of the near-term action, with the primary owner being responsible for tracking and reporting the progress of the action. The final columns provide regional context for the local actions, identifying the pressure(s) that each action is intended to reduce and the primary sub-strategy to which it is most closely linked. Local near-term actions are also listed in Section 3, *Strategies and Actions*, in the context of their primary sub-strategies.

Local Near-Term Actions in the Hood Canal Action Area

	Near-Term Action	Performance Measures	Owner(s)	Pressure(s)	Regional Sub-Strategy
HC1	**HCCC Integrated Watershed Plan.** In coordination with local and tribal governments, state and federal government agencies, nonprofit organizations, and other community partners, HCCC will continue to develop and implement the IWP through June 30, 2014. The IWP is the roadmap and organizing concept for ecosystem recovery, protection, and restoration in Hood Canal and will include identification of the highest priority focal components, goals, actions and strategies, and indicators for measuring progress. Based on critical, high priority strategies and actions identified in the IWP, HCCC will develop and revise local near-term actions for incorporation into the 2016 Action Agenda.	• By spring 2014, HCCC will complete development of Phase I of the IWP website and will publicly launch the site. • By fall 2015, HCCC will publish the first State of Hood Canal report based on measuring progress towards goals as outlined in the IWP and utilizing the indicators adopted in the IWP. This analysis is anticipated to be conducted by HCCC staff with the assistance of consultants. • By fall 2015, HCCC will develop a set of new or revised near-term actions and performance measures based on the final IWP for incorporation into the 2016 Action Agenda using the Open Standards for Conservation method adopted by Puget Sound Partnership.	HCCC	• Marine shoreline infrastructure • Runoff from built environment	D2.1
HC2	**HCCC in lieu fee mitigation**. The HCCC established an In Lieu Fee Mitigation Program and will continue to manage it to provide mitigation for unavoidable adverse impacts from development projects within the program's service area. Specific mitigation projects and progress of the program will be reported as part of the 2016 Action Agenda.	• Ongoing through spring 2016, HCCC (LIO) will continue to work with local jurisdictions for the implementation of the In Lieu Fee Mitigation Program as a mitigation alternative for project applicants. HCCC staff will meet with county staff at least once per year to review the implementation of the program within each local jurisdiction. • Ongoing through spring 2016, HCCC will strive to implement mitigation projects within the 3-year post-credit sale timeframe. Project implementation could include one marine project and one freshwater wetland project.	HCCC (reporter)	• Freshwater shoreline infrastructure • Marine shoreline infrastructure	A2.2

	Near-Term Action	Performance Measures	Owner(s)	Pressure(s)	Regional Sub-Strategy
		• Ongoing through spring 2016, HCCC will continue to work with watershed partners to identify potential receiving areas and place acceptable sites on a roster of potential mitigation receiving areas. HCCC will target two receiving areas per service area for a total of eight.			
HC3	**Hood Canal Pollution Identification and Correction Program**. By April 2014, HCCC will complete Phase I of a regional Hood Canal Pollution Identification and Correction Program to determine the needs for a comprehensive regional program and advance funding proposal(s) for implementation. If funding is secured, Phase II of the program will be advanced. Phase II may include (depending on funds), program work in priority areas, monitoring, and education and outreach. The program will provide information about the sources of pollution, including failing septic systems.	Phase I • By April 2014, HCCC will complete Phase I of a regional Hood Canal Pollution Identification and Correction Program to determine the needs for a comprehensive regional program and advance funding proposal(s) for implementation. Phase II • By summer 2014, HCCC will collaborate with jurisdictions to identify and secure funding. • By fall 2014, or as funding is available, HCCC will collaborate with jurisdictions to develop strategy for regional coordination and documentation. • By fall 2014, or as funding is available, HCCC will collaborate with jurisdictions to identify priority areas for projects. • By December 2016, or as funding is available, HCCC will collaborate with jurisdictions to identify priority areas and implement six shoreline surveys.	HCCC	• Runoff from the built environment • Onsite sewage systems	C9.4
HC4	**HCCC stormwater retrofit plan**. Stormwater retrofit and Low Impact Development practices improve water quality, help protect shellfish beds, decrease flooding risks, and increase aquifer recharge. HCCC is developing a Hood Canal Regional Stormwater Retrofit Plan to coordinate stormwater and Low Impact Development retrofit efforts on a regional	• By fall 2014, HCCC will complete and distribute the Hood Canal Regional Stormwater Retrofit Plan with priority retrofit projects to jurisdictions, regional partners, and relevant state agencies. • Through spring 2016, HCCC will provide support to Hood Canal jurisdictions to plan and seek funds for implementing two priority retrofit projects.	HCCC (Coordination/ Facilitation)	• Runoff from the built environment • Industrial, domestic and municipal wastewater	C2.3

	Near-Term Action	Performance Measures	Owner(s)	Pressure(s)	Regional Sub-Strategy
	scale. The plan will include conceptual designs for 10 to 12 retrofit projects in the Hood Canal Action Area, which will be implemented by the county governments or other partners as funding is available.	• Through spring 2016, HCCC will track jurisdiction implementation and barriers to implementation (such as funding constraints) of priority retrofit projects.			
HC5	**HCCC climate change adaptation**. HCCC will convene a climate change forum with our members to identify unique vulnerabilities and potential adaptation strategies for the Hood Canal Action Area. As part of the Integrated Watershed Plan process and working with our members and partners, HCCC will determine climate adaptation approaches that can be incorporated into the Integrated Watershed Plan and various plans in progress.	• By December 2014, distribute Hood Canal climate change report, summarizing the results of the conference to Hood Canal community. • By fall 2015, incorporate climate change mitigation and adaptation strategies and actions into relevant focal components of the Integrated Watershed Plan. • By fall 2015, incorporate climate change related indicators into relevant focal components of the Integrated Watershed Plan.	HCCC	• Climate change/ severe weather	D2.1
HC6	**Hood Canal salmon recovery funding**. HCCC is both the Lead Entity for Chinook salmon and the regional recovery organization for Hood Canal and eastern Strait of Juan de Fuca summer chum. HCCC will develop a process for prioritizing acquisition, protection, and restoration actions and continue to target funding to the highest priority salmon recovery actions.	• By spring 2014, under direction of the Board, HCCC will complete salmon recovery prioritization to identify the list of actions in priority order for recovering summer chum, Skokomish Chinook, and Mid Hood Canal Chinook. • By 2015, HCCC will work with partners to develop a funding strategy for the 10 highest priority habitat/harvest/hatchery actions for salmon recovery and track and publish progress on funding of these projects through 2016. • By spring 2016, HCCC will work with partners to secure funding and/or develop feasibility studies for the top 10 priority projects.	HCCC Lead Entity	• Dams • Culverts • Freshwater shoreline infrastructure • Marine shoreline infrastructure • Invasive species	A6.1

	Near-Term Action	Performance Measures	Owner(s)	Pressure(s)	Regional Sub-Strategy
		• By fall 2015, initial construction will be completed for the Skokomish Estuary floodplain project, selected for state funding under the floodplains by design, the Skokomish Tribe, Mason Conservation District, and Ecology. • By fall 2014, North Olympic Salmon Coalition will complete final design and begin initial construction of the Kilisut Harbor restoration project as funded by Puget Sound Acquisition and Restoration large capital request and Estuary and Salmon Restoration Program.			
HC7	**Hood Canal salmon recovery monitoring and adaptive management**. HCCC working with many partners, state and federal agencies, and the tribes will complete a Monitoring and Adaptive Management Framework for both Skokomish Chinook and Mid Hood Canal Chinook. Monitoring protocols and plans for both Chinook salmon recovery chapters will be completed.	• By summer 2014, the Lead Entity committees and HCCC Board will approve a Skokomish Chinook Monitoring and Adaptive Management Framework. • By summer 2014, the Lead Entity and HCCC Board will approve a Mid Hood Canal Chinook Monitoring and Adaptive Management Framework. • By spring 2015, the Lead Entity will develop a process for developing monitoring protocols for priority indicators for both Skokomish Chinook and Mid Hood Canal Chinook. • By spring 2016, monitoring protocols and plans for both Chinook salmon recovery chapters will be completed.	HCCC (Lead)	• Dams • Culverts • Freshwater shoreline infrastructure • Marine shoreline infrastructure • Invasive species	A6.1
HC8	**Seepage pits and cesspools**. Reduce the use of seepage pits and eliminate cesspools as discovered in all Hood Canal shoreline (marine and freshwater) properties.	• By July 2014, convene meeting of local health jurisdictions to assess and determine if Onsite Management Plan strategies relevant to cesspools and seepage pits on shoreline properties adequately address human health and safety.	Local health jurisdictions (Mason, Kitsap[1], and Jefferson)	• Onsite sewage systems	C9.4

	Near-Term Action	Performance Measures	Owner(s)	Pressure(s)	Regional Sub-Strategy
		• By July 2014, identify sites with no records available. • By July 2015, local health jurisdictions locate and verify all shoreline seepage pits and cesspools. Conduct field investigations for all shoreline properties that have no records for seepage pits available. • Local health jurisdictions create a management plan for seepage pits that includes inspection frequency and education on funding or replacement options for decommission. • By December 2015, management plan for seepage pits in Hood Canal adopted by county Boards of Health, if not in existing plans.			

[1] Kitsap Health District has completed these tasks and does not have any cesspools or seepage pits. Kitsap does not permit new seepage pits and cesspools.

HCCC = Hood Canal Coordinating Council; IWP = Integrated Watershed Plan; LIO = local integrating organization.

The following opportunities have been identified by the community as important for Hood Canal recovery and will be further described through the IWP process.

Planning

- Assess the need to update county comprehensive plans to meet goals of the IWP. Empower the HCCC IWP Steering Committee to evaluate land use and advise the HCCC Board on progress.
- Participate in updating shoreline master plan for Kitsap and Mason Counties and the City of Bremerton (South Kitsap Industrial Area) to ensure consistency with goals of the IWP. Support implementation of the plans once completed.
- Recommend opportunities to implement and enforce existing regulatory programs of the counties (e.g., shoreline master plans, critical area ordinances, county comprehensive plans) and state (e.g., Revised Code of Washington and Washington Administrative Code) such as around permit enforcement on new development.
- Identify opportunities to improve planning for, and services of and between, urban and rural communities such as identifying grant opportunities and funding for improving sewer systems.
- Improve financial and technical assistance programs aimed at fostering voluntary stewardship and improving re/development standards such as participating in Low Impact Development trainings and implementations, identifying standards for soft shore protection, and engaging in sustainable working farms and forests.

Agriculture and Forestry

- Participate in and support efforts to permanently protect larger tracts of forests for their ecological and community values.
- Protect, foster, and incentivize sustainable, working forests and farms (e.g., extinguishing development rights and other programs) by engaging in the Dosewallips, East Jefferson, and Tahuya forest protection efforts.
- Implement and monitor effectiveness of programs such as Forest Practices Habitat Conservation Plans and similar agreements, the U.S. Forest Service's Northwest Forest Plan and Access and Travel Management Plans, and select salmon habitat projects.
- Form a Hood Canal forests and forestry focal group to develop and implement balanced approaches to conserving forests and forestry and support sub-regional groups to meet regional goals.
- Form a Hood Canal agriculture focal group (or three affiliated sub-regional groups) to develop and implement balanced approaches to conserving agricultural lands.

Nearshore and Estuaries

- Consult with landowners and public about potential high priority Puget Sound Nearshore Estuary Restoration Program (PSNERP) projects and advocate for funding for high priority projects with landowner support.
- Restore beaches by removing or retrofitting infrastructure, setting back structures where feasible, and revegetating shorelines. Ensure updating and implementation of priority shoreline projects across various plans.

- Restore estuaries by removing infrastructure and setting back levees/revetments where feasible. Ensure updating and implementation of priority estuary projects across various plans.

Invasive Species

- Identify and create strategies to focus on invasive species that pose the biggest threats to implementation of the IWP and salmon recovery plans.
- Educate decision makers on the need to increase funding available for Noxious Weed Control Boards to help implement local priorities.
- Work with partners to implement a regional knotweed control strategy that includes messaging and outreach to key constituents such as landowners, landscapers, and nurseries.
- Implement WDFW's and Skokomish Tribe's Aquatic Nuisance Species Management Plan for organisms such as ballast water and zebra mussels. Develop messaging and outreach to key constituents.

Water Quality and Wastewater

- Identify where in the Hood Canal watershed the highest risk onsite septic systems (OSS) are located now or could be located in the future. Develop a mechanism, such as through the regional Pollution Identification and Correction program, to evaluate the risk of contribution of nitrogen from OSS to Hood Canal and to address critical uncertainties in nitrogen loads.
- Research and register low cost, low maintenance, non-proprietary retrofits of existing OSS and new OSS that will reduce nitrogen by at least 80% from the initial septic effluent concentration (average domestic septic tank effluent is 57.7 mg/L TN, concentrations range from 26 to 124 mg/L TN) as well as remove pathogens.
- Explore the current regulations related to wastewater and water quality (nutrients and dissolved oxygen) and assess potential additional or modified local or state regulations to address nitrogen and/or dissolved oxygen in Hood Canal from septic systems, boats, and other sources.
- Continue involvement of county and state managers and planners in the Aquatic Rehabilitation Technical Advisory Committee to develop recommended actions to address water quality in Hood Canal. Finalize and implement the Aquatic Rehabilitation Communication Plan to educate and engage the public in the realization of actions.
- In coordination with state agencies (e.g., Fish and Wildlife, Parks and Recreation, Department of Natural Resources) and building from the WRIA 16 Planning Unit's prioritized list of needs, address the need for additional sanitary services at popular recreation sites around Hood Canal.
- Work with jurisdictions and the WRIA planning units to develop and implement a regional continuous monitoring program that includes groundwater; streams, shorelines, and marine waters; and stream aggradation/degradation mitigation, including a field-based assessment of uplands and individual streams on sources and amounts and how it can be mitigated. This research will also include Phases II and III of a water demand, supply, and availability study as well as community outreach and education around water quantity and quality.
- Develop and implement an appropriate monitoring and evaluation program building on available marine water monitoring.

- Improve coordination and support implementation of the Washington State Department of Ecology (Ecology) Model Toxics Control Act cleanup plan for industrial pollution in Port Gamble Bay, geographic response plans, and the Northwest Wildlife Plan.
- Work with partners to continue the clean up of marine debris throughout Hood Canal, but with a particular focus on the north end.

Stormwater

- Advise jurisdictions throughout the Hood Canal watershed on opportunities to revise development codes to incorporate current stormwater management practices, specifically by adopting and incorporating the most current Ecology stormwater manual. Work with these jurisdictions to prioritize stormwater retrofits within Hood Canal based on an analysis of current land use and the existing built environment and to promote retention of natural land cover as the most effective way to prevent stormwater runoff.
- Support the counties and tribes to implement the Pollution Identification and Correction programs that address issues of pollutant source control and illicit discharge detection and elimination.
- Provide guidance on the adoption of Low Impact Development practices to be used as a first choice to the maximum extent practicable in new development, redevelopment, and retrofitting of existing development.
- Request that Ecology provide a statewide stormwater best management practices (BMPs) training program (similar to the Certified Erosion and Sediment Control Leads program) for site inspectors to learn about compliance with stormwater BMPs.
- Track the recommendations of Ecology's Stormwater Workgroup and work with the HCCC Technical Advisory Committee Stormwater Workgroup to evaluate if additional stormwater monitoring plans specific to Hood Canal are needed.

Floodplains

- Implement comprehensive floodplain management plans where they exist.
- Restore floodplains and channel migration zones by removing infrastructure and setting back revetments where feasible and protect functioning floodplains and channel migration zones.

Outreach and Education

- Ensure incorporation of outreach and education with the public and key stakeholders in actions and initiatives identified above.
- Develop materials to convey to the public the importance/benefits of work done to multiple focal components.

Island County Watershed

Description of the Area

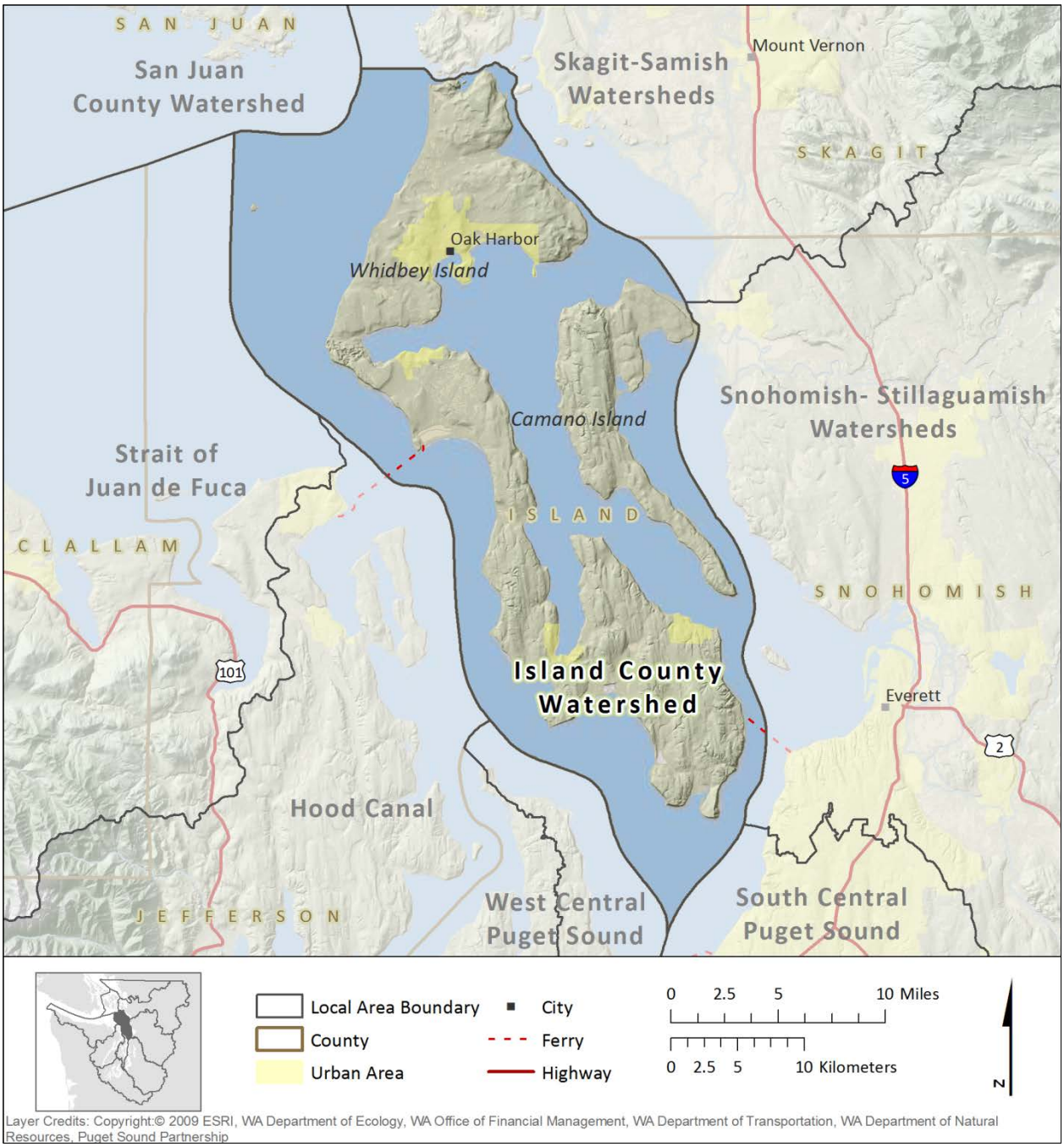
Island County Watershed[3] is part of the Whidbey Action Area and encompasses the boundaries of Island County and Island Watershed. It is located in the neck of Puget Sound, off the western shores of Skagit and Snohomish Counties and the eastern shore of Kitsap County. It is home to Whidbey and Camano 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 by 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.

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.

[3] Water Resource Inventory Area (WRIA) 6

ISLAND COUNTY WATERSHED



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 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 1,000 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. 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 process, supported by the Puget Sound Partnership (Section 1, *Regulatory Context*).

The technical committee used guidance from Puget Sound Partnership staff to evaluate and prioritize pressures relevant to Island County Watershed (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. 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, *Strategies and Actions*, 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 for Island County Watershed

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy[2]
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.	• 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	• Marine Shoreline Infrastructure	B1.2
ISL2	**Develop technical guidance document and trainings for residents on new Shoreline Master Program guidelines**.	• 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	• Marine Shoreline Infrastructure	B1.3 (D5.3)
ISL3	**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**. Island County will develop standard operating procedures for updating data and consistency in its data storage network to ensure usage	• 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.	Island County Department of Natural Resources	• Runoff from Built Environment	B1.1

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy[2]
	consistency and relevant data.	• 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.			
ISL4	**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.	• 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	• Marine Shoreline Infrastructure	B2.3

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy[2]
ISL5	**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.	• 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	• Marine Shoreline Infrastructure	B2.3
ISL6	**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.	• 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	• Marine Shoreline Infrastructure	A6.1

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy[2]
ISL7	**The City of Oak Harbor will implement Freund 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.	• 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	• Runoff from Built Environment	C2.1 (C2.3)
ISL8	**Implement a small farm water quality improvement project in Ebey's Prairie.** 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.	• 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	• Runoff from Built Environment • Agriculture	C3.1
ISL9	**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).	• 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	• Runoff from Built Environment	C1.4
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	• 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.	Island County Department of Natural Resources	• Runoff from Built Environment • Agriculture	D4.2

	Near-Term Action	Performance Measures	Owner	Pressure(s)	Regional Sub-Strategy[2]
	identification and key areas of concern. Based on the monitoring data, technical assistance will be provided to landowners.	• Net increase in recreational shellfish harvest area.			
ISL11	**Implement a noxious and invasive weed eradication program**.	• 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	• 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.	• 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	• 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.

San Juan County Watershed

Description of the Area

San Juan County Watershed[4] is in the San Juan/Whatcom Action Area and encompasses the entirety of San Juan County. Located at the nexus of the Strait of Juan de Fuca, the Georgia Strait, and Puget Sound, the 428 separate islands (at high tide) that make up this area 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 contiguous United States.

Geologically, the San Juan Islands 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 crossroads of the Salish Sea gives the San Juan Islands a wide diversity of flora and fauna. High-energy tidal flows and turbulent mixing throughout the islands' channels are dominated by the surface outflows from the Strait of Georgia and the deep-water inflow from offshore Pacific waters. The islands' straits and channels link the Strait of Georgia to the Strait of Juan de Fuca, and to a lesser extent to Puget Sound. These water sources mix and contribute to the distribution of nutrients, plankton, sediment, and pollutants throughout the islands, creating a marine environment unique to the San Juan Islands. This environment includes not only turbulent straits and channels but also some quiet and protected bays.

NOTABLE ACCOMPLISHMENTS

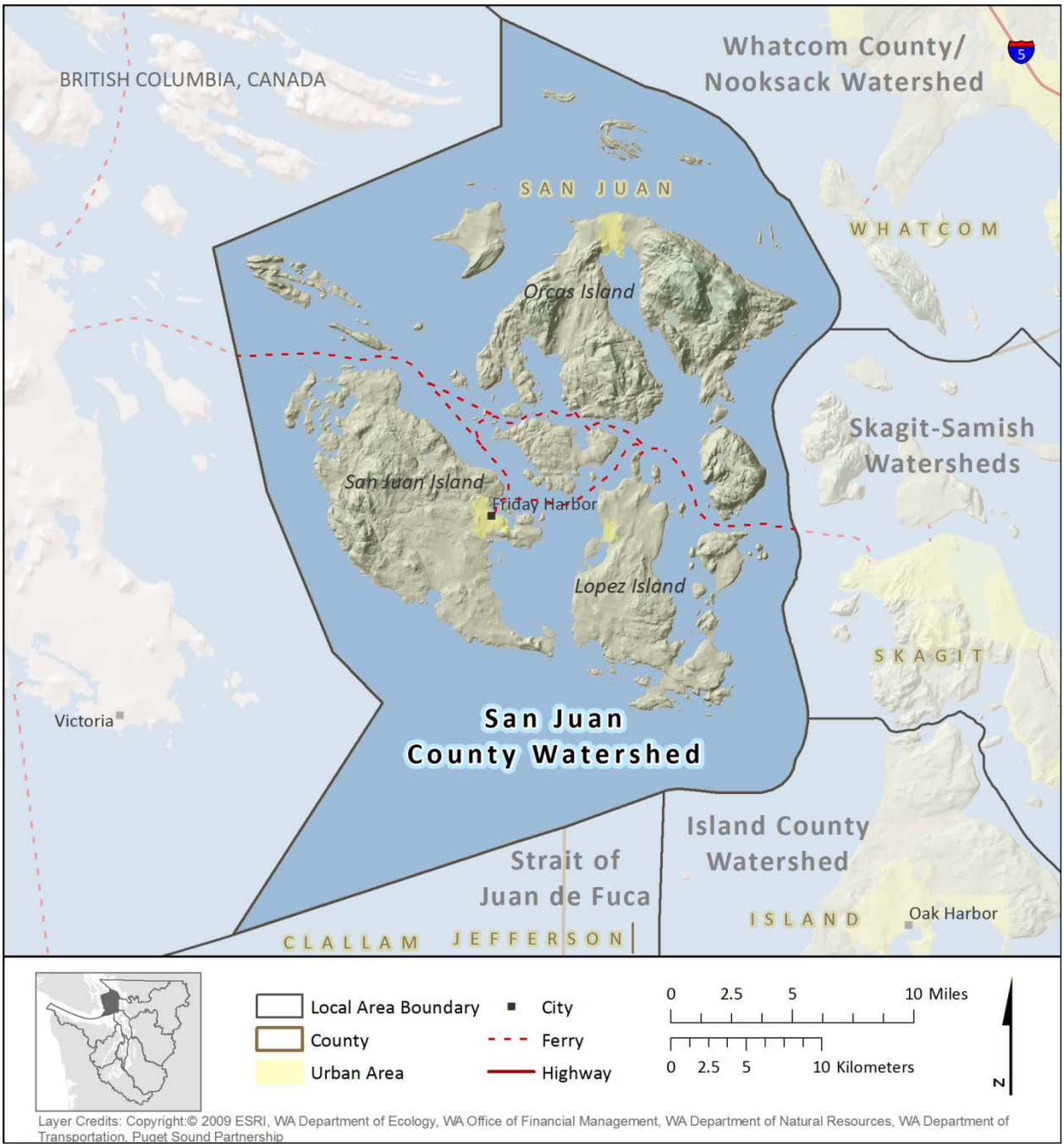
- Seven acres of coastal salt marsh and 2 acres of a tidal lagoon have been restored in San Juan County.
- Eleven miles of surf smelt and sandlance habitat in the San Juan Islands has been documented.
- All feeder bluffs, eelgrass, kelp, forage fish, and shoreline modifications in San Juan County have been documented.
- Tidal inundation to Cascade Creek was restored with a new Buck Bay Bridge.
- The Spring Street Rain Garden demonstration project was installed.

San Juan County Watershed is affected by the "rainshadow" of the Olympic Mountains, and receives 20 to 30 inches of annual rainfall, with significant variation of rainfall patterns among the islands' microclimates. There are no major rivers on the islands, but several small creeks flow on a year-round basis. Additionally, the Fraser River in British Columbia influences the temperature and sedimentation in area waters. Only 1% of the land is paved, and 61% is forested. Lakes and freshwater wetlands cover over 7% of the landscape.

The San Juan Islands have served as rich fishing grounds for the Coast Salish People for thousands of years. The Salish Peoples' fishing activities were sustainable for generations, and traditional knowledge includes areas where salmon skirted the Orcas Island shoreline as vast runs returned to the Fraser and Skagit Rivers. The Coast Salish also knew where to find the best clam, mussel, and oyster beds near shore for ready harvest in season.

[4] Water Resource Inventory Area (WRIA) 2

SAN JUAN COUNTY WATERSHED



Historically, the economy of the San Juan Islands has shifted along with the culture, technology, and natural resources in the region. Agriculture, logging, fishing, and lime kiln operations later became the main economic drivers for the islands. In the late nineteenth century, the economy boomed with fruit, canned salmon and peas, and lime exports to the mainland. These industries began to collapse as mainland infrastructure improved and it became cheaper to deliver goods overland from the eastern part of the state than across waters. It also became much easier to can or freeze and ship salmon from

the mainland, contributing to the decline of the fishing industry and associated canning operations by the mid-1900s. The cannery in Friday Harbor was canning peas when it closed in 1966.

Today, the San Juan Islands are an extremely popular summer destination, and the number of residents swells from 15,769 who live there year-round to approximately double that in the summer. In addition, over 750,000 visitors camp, moor, or stay in area lodging. Most of the area is rural, with 75% of the population living outside the "urban" areas of Friday Harbor, Eastsound, and Lopez Village. From 2000-2010, human population in the islands grew by 12%. There are 5,700 shoreline parcels in the area, of which approximately 50% have already been developed. Some islands have no public access and few accommodate automobiles. Public access to the shoreline and waters is extremely limited on many islands.

The current economy is driven by residential and commercial construction, tourism, and government (including schools). Tourism is highly dependent on the clean marine and fresh waters, spectacular views, and opportunities for boating, bird watching, whale watching, and cycling. These characteristics are also highly valued by the residents and second home–owners that make the San Juan Islands their home. There is significant marine-oriented commerce including marinas, fishing, and boat building and repair. Representative marine education and research organizations include the University of Washington Friday Harbor Labs, SeaDoc Society, and Seattle Pacific University marine labs. High quality shellfish farming occurs in the area as well as a growing sustainable agricultural movement. The islands are important to the cultural heritage of the coastal Salish tribes that retain treaty-reserved rights to hunt, fish, and gather, and are attached to many cultural heritage sites.

Unique Ecosystem Characteristics and Assets

Residents of San Juan County Watershed value the opportunities for involvement in stewardship of the islands' ecosystem made available through numerous, long-standing efforts and organizations. Many government and non-governmental efforts are devoted to protecting this important natural resource. 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 3 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 plan is intended to sustain the many services that the ecosystem provides for county citizens, fish and wildlife, and the economies of the county.

Example assets include sustainable tourism; commercial and recreational fisheries for clams, crab, and spot prawns; and clean beaches and waters. Currently, no beaches in the San Juan Islands are closed to swimming; however, public beaches are periodically closed to shellfish harvest due to a naturally occurring marine biotoxin that can cause paralytic shellfish poisoning. Protected upland areas are located at Moran State Park, San Juan Historical National Park, Turtleback Mountain, Lopez Hill, University of Washington Preserves at Friday Harbor Labs and on Shaw Island, and the National Wildlife Refuge with sites throughout the islands. Yellow Island, protected by the Nature Conservancy, contains an intact prairie, a unique ecological feature on a small island. Marine resource protection areas include

the Marine Preserve, National Wildlife Refuge, Bottomfish Recovery Zone, Whalewatch Exclusion Zone, and Sensitive Eelgrass Area.

The location of the San Juan Islands 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, and rainbow and coastal cutthroat trout have been documented in the area. The San Juan Islands support outmigrating juvenile salmon including Chinook, coho, chum and pink, and stocks from the Fraser River, Puget Sound, east and west coast Vancouver Island, and the Strait of Georgia. Although most of the streams in the area 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 cutthroat trout and introduced runs of chum salmon.

San Juan County Watershed provides excellent habitat for juvenile and adult salmon with over 5,000 acres of tidal wetlands, inter- and subtidal flats, eelgrass meadows along the shorelines and in the bays, and kelp beds. Tidal wetlands are highly valued due to their relative scarcity. At least 80 miles of potential forage fish spawning beaches are present. Eelgrass is found on 20% of all shorelines, and the islands contain one-third of all of the kelp in Puget Sound. Pacific surf smelt and sandlance have been documented on 11 miles of the islands' shorelines. 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—consisting of boulder fields, rocky ledges, and outcroppings—is found in the San Juan Archipelago.

Local Implementation Structure and Planning Process

The San Juan Action Agenda Oversight Group is the local integrating organization (LIO) for the San Juan County Watershed. It was officially recognized by the Puget Sound Partnership's Leadership Council in June 2010. The San Juan LIO operates with two committees: accountability oversight and implementation.

The accountability oversight committee serves as the executive body for the LIO. The committee includes representatives from the following entities.

- Lummi Nation
- Swinomish Tribe
- Tulalip Tribes
- Puget Sound Partnership Leadership Council (ex-officio)

The implementation committee provides recommendations to the accountability oversight committee. The implementation committee consists of staff and volunteers from the following entities.

- San Juan Marine Resources Committee
- WRIA 6 Salmon Recovery Lead Entity
- San Juan County Director of Community Development and Planning
- San Juan County Director of Public Works
- San Juan County Environmental Health Manager

- San Juan County Water Resources Committee (community representative)
- San Juan Conservation District
- University of Washington Friday Harbor Labs
- San Juan Stewardship Network/ECO Net
- Town of Friday Harbor

In 2011, the San Juan LIO developed a prioritization framework to guide the update to the local actions in the Action Agenda. The framework formed the basis of work on the 2012/2013 and 2014/2015 updates. The group identified key gaps in its original profile, and held workshops to identify and link pressures on the ecosystem to local ecosystem benefits. Local ecosystem benefits included most, but not all, of the recovery targets. Linkages were used to rate pressures—based on guidance from Puget Sound Partnership staff—and identify a list of pressures with a "high" significance on the local ecosystem.

For the 2014/2015 Action Agenda update, the implementation committee worked to identify near-term actions that are feasible, provide local ecosystem benefits, and are expected show significant results within the next 2-year horizon.

On September 24, 2013, the County Council endorsed and forwarded the list of near-term actions recommended by the implementation committee to the accountability oversight committee for review and approval. On September 25, 2013, the accountability oversight committee approved the document in principle, but asked that near-term actions be combined or tiered by priority so that a maximum of four near-term actions are applied to each key pressure. On October 2, 2013, the implementation committee presented a revised list of near-term actions, based on these recommendations. Final comments from members of both committees were integrated and the final list was submitted for Partnership review in October 2013.

Pressures

The San Juan LIO identified the following three pressures as having a high level of significance on the local ecosystem.

- Major oil spills
- Runoff from built environment (including septic systems)
- Shoreline development (including armoring)

Local Near-Term Actions

The table below presents the local near-term actions for San Juan County Watershed. 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(s) column presents the entity or entities responsible for implementation of the near-term action (or as specified below), with the primary owner being responsible for tracking and reporting 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, *Strategies and Actions*, in the context of their primary sub-strategies.

Three of the near-term actions related to oil spill prevention are outcomes of a marine manager's workshop held at the University of Washington Friday Harbor Labs in November 2012 that convened local, state, federal, and Canadian agencies and non-government organizations responsible for oil spill prevention and readiness. Three other near-term actions reflect the legislative priorities of the San Juan County Council, adopted November 27, 2012.

Local Near-Term Actions for San Juan County Watershed

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
SJI1	**Coordinate actions and prepare to respond to major oil spills (Near-Term Major Oil Spills Action I)**.	• By December 2015, update the Trans-boundary Inter-local Agreement between San Juan County and Islands Trust to include a jointly developed Washington and British Columbia report on Recommendations for Wildlife and Natural Resource Damage Assessment and Restoration. • By December 2015, implement a Marine Specimen Bank to establish baseline data that would be useful for future marine resource damage assessments. Coordinate with WDFW and Ecology. Include participation in the Mussel Watch Program. • Through 2016, maintain Islands Oil Spill Association local oil spill readiness and response programs with the ability to initiate first response to a major oil spill. This program will be tracked with training, workshops, equipment, and annual # of responses to any oil spills. Includes the Vessel of Opportunity Program with 13 vessels currently trained (2013). For each year, Islands Oil Spill Association plans to train 70 people, by holding at least 12 trainings or drills/year. Also, by December 2014, plan to train three additional volunteer vessels in Vessel Assist (Vessel of Opportunity) Program, and by December 2015, plan to train three more.	San Juan LIO (reporter) *San Juan County Council, Islands Oil Spill Association, San Juan County Marine Resources Committee*	• Major oil spills	C8.2 (C8.3, C8.1)
SJI2	**Integrate and define parameters for responses to increased vessel traffic and potential vessel spills (Near-Term Major Oil Spills Action II)**.	• Monitor the results of Coast Guard Authorization Act of 2010 and the Coast Guard and Maritime Transportation Act of 2012. • By December 2015, work with Ecology, tribes, state representatives, and the Governor to identify San Juan County as a staging area to ensure that equipment for the 4- and 6-hour planning standards are resident in San Juan County. • By December 2014, complete feasibility assessment for Particularly Sensitive Sea Area study. Implement the study to communicate what important ecological and cultural values are present in the Salish Sea and how they would be negatively affected by vessel traffic if not well managed.	San Juan LIO (reporter) *San Juan County Council (Trans-boundary agreement), Friends of the San Juans*	• Major oil spills	C8.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
		• Identify risks to environmental and cultural resources and the probability of risks from large-scale shipping traffic with potentially hazardous cargo and/or propulsion fuel. • Provide citizens, local groups, eco-tourism operators, and decision makers with information about experiences of similar communities. • Demonstrate a successful alternative to reduce both probability and consequences of an oil spill in the Salish Sea.			
SJI3	**Implement the Marine Stewardship Area Monitoring Plan to track key species (Near-Term Major Oil Spills Action III)**.	• By December 2015, identify and prioritize indicator species to track in relation to oil spills.	San Juan County Marine Resources Committee *UW Friday Harbor Labs, Salmon Recovery San Juan Lead Entity, intertidal monitoring by citizens and students*	• Major oil spills	D4.2
SJI4	**Expand and maintain Derelict Vessel Compliance Program (Near-Term Major Oil Spills Action IV)**.	• By 2015, obtain funding to expand program to six jurisdictions. Additional jurisdictions suggested by DNR include Jefferson, Island, Kitsap, Snohomish, Whatcom, and Mason.	San Juan County *PSP*	• Major oil spills	C8.1
SJI5	**Control and mitigate stormwater runoff (Near Term Run Off Action I)**.	• Improve county stormwater permit review process and existing codes. ○ Between 2014 and 2016, actions in process and codes should include pre-disturbance site review and follow-up site visits for at least 50% of properties permitted. • The Town of Friday Harbor will continue existing permitting and pre-review for 100% of site disturbance development to ensure compliance with sediment control and water runoff issues. Friday Harbor will also conduct follow-up site visits of largest disturbed	San Juan LIO (reporter) *San Juan County CDPD, Town of Friday Harbor*	• Runoff from the built environment (including sewage)	C2.2 (C2.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
		sites to review applicants' compliance with the town's Storm Water Technical Manual for at least 10% of all sites. ○ By December 2014, the Town of Friday Harbor is investigating feasibility and engineering for waterfront stormwater vault containing Ecology-approved cartridge filters. • By December 2015, the Town of Friday Harbor will construct a waterfront stormwater vault containing Ecology-approved cartridge filters.			
SJI6	**Fully implement the Onsite Sewage System Operation and Maintenance Program Plan (Near-Term Run Off Action II)**.	• 100% of systems in sensitive areas to remain in compliance with current inspections. • Between 2012 and 2016, 75% of alternative systems countywide to have inspections. • Between 2012 and 2016, 60% of gravity systems countywide to have inspections.	San Juan County Health Department	• Runoff from the built environment (including sewage)	C5.1
SJI7	**Provide technical and financial assistance, outreach, incentives, education and natural resource planning on a voluntary basis to interested residents to improve stormwater management and reduce polluted runoff and nutrient loading into the marine environment (Near-Term Run Off Action III)**.	• Complete 30 voluntary farm management plans, provide cost-share funding to implement 50 BMPs. • Provide education and outreach to at least 200 residents. • Publicize BMPs at the San Juan County Department of Health and Community Services, San Juan County CDPD, and Town of Friday Harbor permit center.	San Juan LIO (reporter) *San Juan Islands Conservation District, Green Shores for Homes, Friends of the San Juans, San Juan County CDPD, San Juan County Public Works Stormwater Utility, Town of Friday Harbor, Department of Health and Community Services, WSU Extension*	• Runoff from the built environment (including sewage)	C2.5 (C2.2 C2.3, C2.4, C3.1, C7.1, D5.1, D5.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
SJI8	**Devise monitoring and management plans for priority and/or focus basins (Near-Term Run Off Action IV)**.	• By January 2014, implement an annual strategic monitoring plan to measure levels of fecal coliform, heavy metals, persistent organic pollutants, and polycyclic aromatic hydrocarbons s in priority basins. In the first year post-implementation, monitor 100% of priority basins, with monitoring actions ongoing after 2014. • In 2012 and 2013, evaluate data collected and revise sampling plans based on results. Revisions may include changes in priority basins, sampling procedures, constituents, and frequency. • By June 2014, prepare management plans for focus basins to manage existing runoff from public streets and lots. Develop mitigation strategies for ferry parking lots.	San Juan County Public Works Stormwater Utility *San Juan County Stormwater Committee, San Juan County Water Resources Committee, San Juan Marine Resources Committee, Town of Friday Harbor, San Juan Islands Conservation District*	• Runoff from the built environment (including sewage)	D4.2 (B2.1, C2.3, C2.4)
SJI9	**Increase use of BMPs, reduce shoreline armoring, and increase vegetative cover by making information and assistance available to landowners, contractors and consultants (Near Term Shoreline Action I)**.	• By 2016, make ongoing technical assistance (BMPs or no net loss) available through pre-application site visits to 100% of shoreline permit applicants, with a goal of applicants avoiding hard armoring or implementing soft armoring techniques. This will leverage efforts underway via EPA grant funding for Green Shores and Washington Sea Grant (June 2014) and shoreline workshops coordinated by Friends of the San Juans and San Juan Islands Conservation District. • By 2016, research and identify candidate sites for restoration of native vegetation, trees, and ground cover to target salmon recovery regions. • By 2016, engage with 50 voluntary shoreline property owners in priority areas. Complete feasibility analysis with seven property owners with two to three projects moving forward for full project development.	San Juan LIO (reporter) *Green Shores for Homes, Friends of the San Juans, San Juan County CDPD, Town of Friday Harbor*	• Shoreline development (including shoreline armoring)	B1.3 (B1.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
SJI10	**Salmon recovery, habitat protection and restoration (Near Term Shoreline Action II).**	• Between 2014 and 2016, target funding to highest priority salmon recovery projects, as listed in the San Juan Salmon Recovery 3-year work plan for WRIA 2. Projects include acquisition and conservation easements, and protection and restoration actions. • Identify landowners who are willing and restore shorelines and habitats affected by armoring. • Between 2014 and 2016, engage six shoreline landowners. • By 2016, commence shoreline restoration on four properties.	San Juan County Lead Entity for Salmon Recovery *Green Shores for Homes, Friends of the San Juans*	• Shoreline development (including shoreline armoring)	A6.1
SJI11	**Continue to develop a voluntary program providing alternatives and incentives for best management practices to avoid hard armoring and to maintain native vegetation (Near Term Shoreline Action III).**	• Ecosystem outcome goal: No new hard armoring in 2015 and 2016. • In 2015, engage 24 shoreline landowners, 16 contractors, and 30 realtors. • Conduct separate annual workshops for contractors and realtors/shoreline landowners. • Between 2014 and 2016, conduct 12 advisory visits to shoreline landowners. • Develop maps, checklists, or other usable information materials specifically tailored to conditions in the San Juan Islands. • Continue updating website; reach 50 views per month. • Develop website-based catalogue of examples. • Annual tour of "best alternatives" sites.	Green Shores for Homes San Juan County *CDPD, Friends of the San Juans*	• Shoreline development (including shoreline armoring)	B2.3 (B2.1)
SJI12	**Continue development of Salmon Recovery Adaptive Management and Monitoring Plan (Near Term Shoreline Action IV).**	• By June 2014, draft Adaptive Management and Monitoring Framework for Chinook including narrative (document) and Miradi files. Finalize results chains, develop monitoring priorities, draft monitoring framework. Results will also inform the Marine Stewardship Area Monitoring Plan. • In 2015, start monitoring implementation.	San Juan LIO *San Juan County Lead Entity, San Juan County Marine Resources Committee*	• Shoreline development (including shoreline armoring)	D4.2 (A6.3)

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

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

BMP = best management practice; CDPD = Community Development and Planning Department; DNR = Washington State Department of Natural Resources; EPA = U.S. Environmental Protection Agency; LIO = Local integrating organization; PSP = Puget Sound Partnership; WDFW = Washington Department of Fish and Wildlife; WRIA = Water Resources Inventory Area; WSU = Washington State University; UW = University of Washington.

Skagit-Samish Watersheds

Description of the Area

The Skagit-Samish watersheds[5] are in the Whidbey Action Area. The largest watershed in Puget Sound, the Skagit River system begins in Canada and flows through the rugged Cascades down into low-lying valleys, draining into Skagit Bay. The rich soils of the river's broad delta support the region's most productive farmlands appreciated not only for their crops of berries, potatoes, and organic vegetables, but especially renowned for their bright fields of daffodils and tulips. The Upper Skagit River Valley is a favored wintering area for bald eagles. This impressive gathering of bald eagles, one of the four largest in the contiguous 48 states, coincides with the spawning runs of chum salmon on the Skagit River.

The Skagit-Samish watersheds are a fertile center of productivity for high-profile members of the ecosystem's food web including salmon, whales, herring, eagles, and people. Foremost among Puget Sound rivers in volume and length, the Skagit River system has 2,989 identified streams totaling approximately 4,540 linear miles. Fed by glaciers on Mount Baker and Glacier Peak, the Skagit has a different seasonal flow pattern from the other major river systems in the area. The Samish River, a smaller drainage consisting of mostly lower elevation terrain, enters Samish Bay and is part of the greater Skagit River watershed (Water Resource Inventory Areas [WRIAs] 3 and 4).

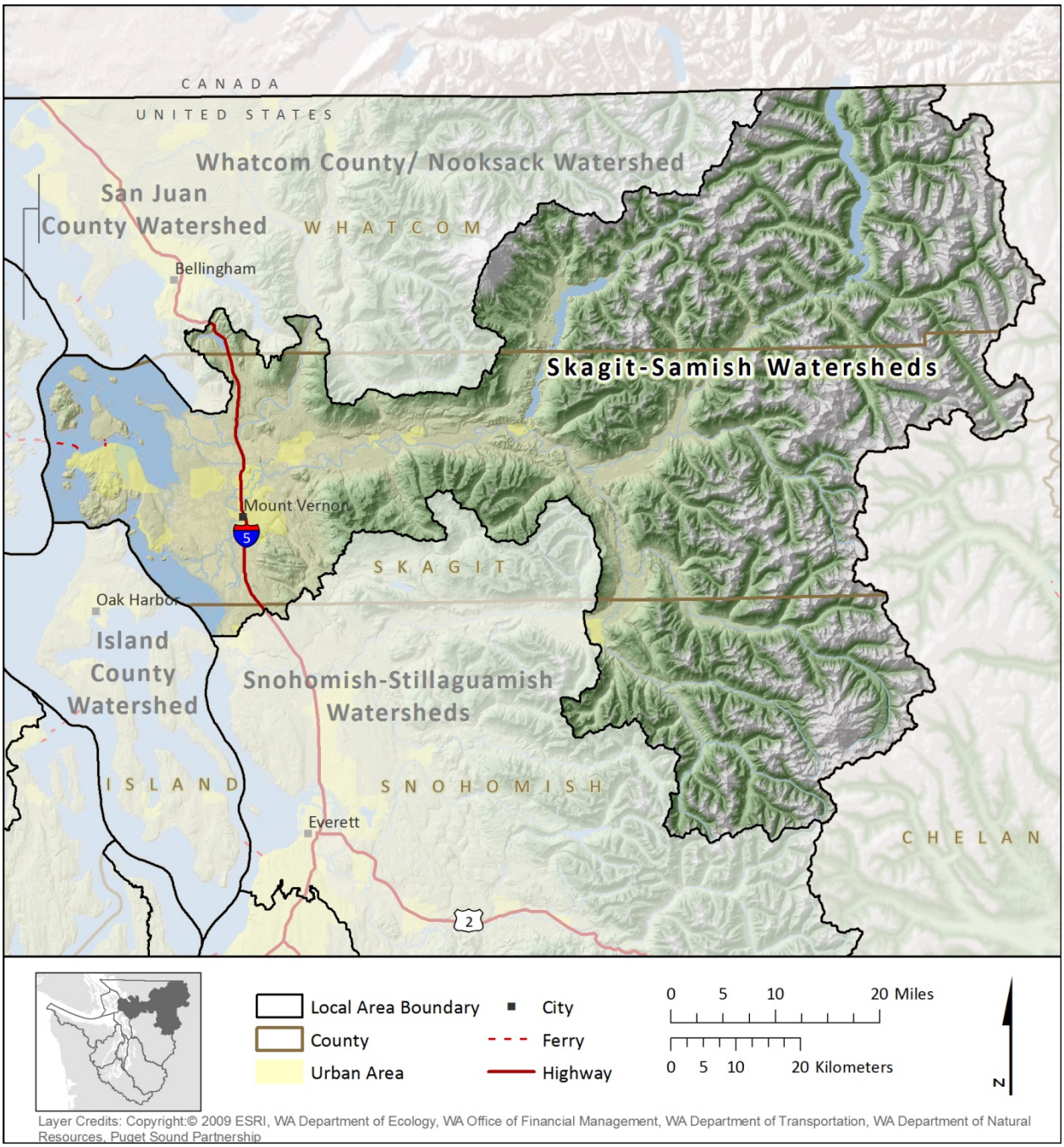
The upper river is home to the region's only major complex of dams. Seattle City Light's dams are located above natural salmon barriers. Puget Sound Energy's two Baker dams obstructed anadromous fish from historical habitat and inundated Baker Lake, a natural lake critical to Baker River sockeye. Today, fish passage facilities built and operated by Puget Sound Energy allow migration of sockeye and coho salmon and bull trout into the Shannon and Baker Reservoirs.

Also in the Skagit system, the Cascade, Sauk, and Suiattle Rivers are designated as Wild and Scenic, placing them among the largest undammed river systems remaining in the Pacific Northwest. The designation includes 158.5 miles within the Skagit River watershed. The Skagit Wild and Scenic River designation begins just east of the town of Sedro-Woolley, extending to Bacon Creek near the boundary of the Ross Lake National Recreation Area in the North Cascades National Park Service Complex.

The Skagit River delta contains large concentrations of wintering waterfowl, shorebirds, and raptors. A significant portion of an entire trumpeter swan population winters at the site, as well as the entire population of gray-bellied Brant, a subpopulation of Brant geese. Birdwatchers flock to the area in early spring to catch the inspiring sight of hundreds of snow geese rising off the fields in graceful waves. The estuarine and intertidal ecosystems are critical habitat for salmon, other marine fish, and wintering raptors and waterfowl.

[5] Water Resource Inventory Areas (WRIAs) 3 and 4

SKAGIT-SAMISH WATERSHEDS



Major cities and towns in the watershed include Mount Vernon, Anacortes, La Conner, Edison, Bow, Conway, Burlington, Sedro-Woolley, Lyman, Hamilton, Concrete, Rockport, Marblemount, and Newhalem. Once dependent on traditional northwest economic sectors such as agriculture, fishing, and wood products, the Skagit Valley has diversified—tourism, international trade, and specialized manufacturing now comprise the bulk of its economy. Skagit County also has ports and refineries, making it an important location for the petroleum industry.

Although the economy has continued to diversify, fishing for salmon, crab, and shellfish remain an important commercial and recreational activity. Fishing is also a very important cultural resource and provides a primary food source for the Swinomish, Sauk-Suiattle, Upper Skagit, and Samish Tribes. The Swinomish, Sauk-Suiattle, and Upper Skagit tribes all have reservation lands in the watershed.

Agriculture is still the major land use category in the river delta areas of the watershed. Today the Skagit River delta is often referred to as "The Agricultural Heartland of Western Washington" and encompasses approximately 70,000 acres. The agricultural industry generates approximately $500 million annually in revenue and provides a unique landscape. The delta farming community also has developed a high level of cooperation to allow rotation for major cultivated crops.

Recreation and tourism are also important economic sectors, with opportunities for float trips, eagle watching, kayaking, camping, hunting, and backpacking. Several designated wilderness areas are located in the watershed. The North Cascades National Park and the Ross Lake National Recreation Area protect the headwaters of the Whidbey Basin, while extensive areas of public and private forest, as well as several popular state parks, provide habitat protection and allow for low-impact outdoor recreation. Forest land dominates the upper mountainous portions of the watershed, with more than half in the Mount Baker–Snoqualmie National Forest or in state-owned forests managed by the Washington State Department of Natural Resources.

Local Implementation Structure and Planning Process

Although a great deal of work has occurred through existing processes such as the Skagit Chinook Recovery Plan, municipal planning documents, and the work of local watershed groups to identify priorities, at this time, the Skagit-Samish watersheds does not have a convening forum such as a local integrating organization (LIO) in which to develop its locally relevant priorities and actions for the Action Agenda.

Pressures

At this time, the pressures identified by the Partnership in regional pressure assessments are considered relevant to the Skagit-Samish watersheds, since discussion is required to determine the relative level of significance of each of these pressures.

- Agriculture and aquaculture
- Energy production and mining
- Natural system modifications
- Biological resource use
- Human intrusions and disturbance
- Transportation and service corridors
- Residential and commercial development
- Pollution
- Invasive and other problematic species
- Climate change

Local Near-Term Actions

Further work is needed to identify near-term actions for the Skagit-Samish watersheds.

Snohomish-Stillaguamish Watersheds

Description of the Area

The Snohomish-Stillaguamish watersheds[6] are located within the Whidbey Action Area. Each of these watersheds is described below.

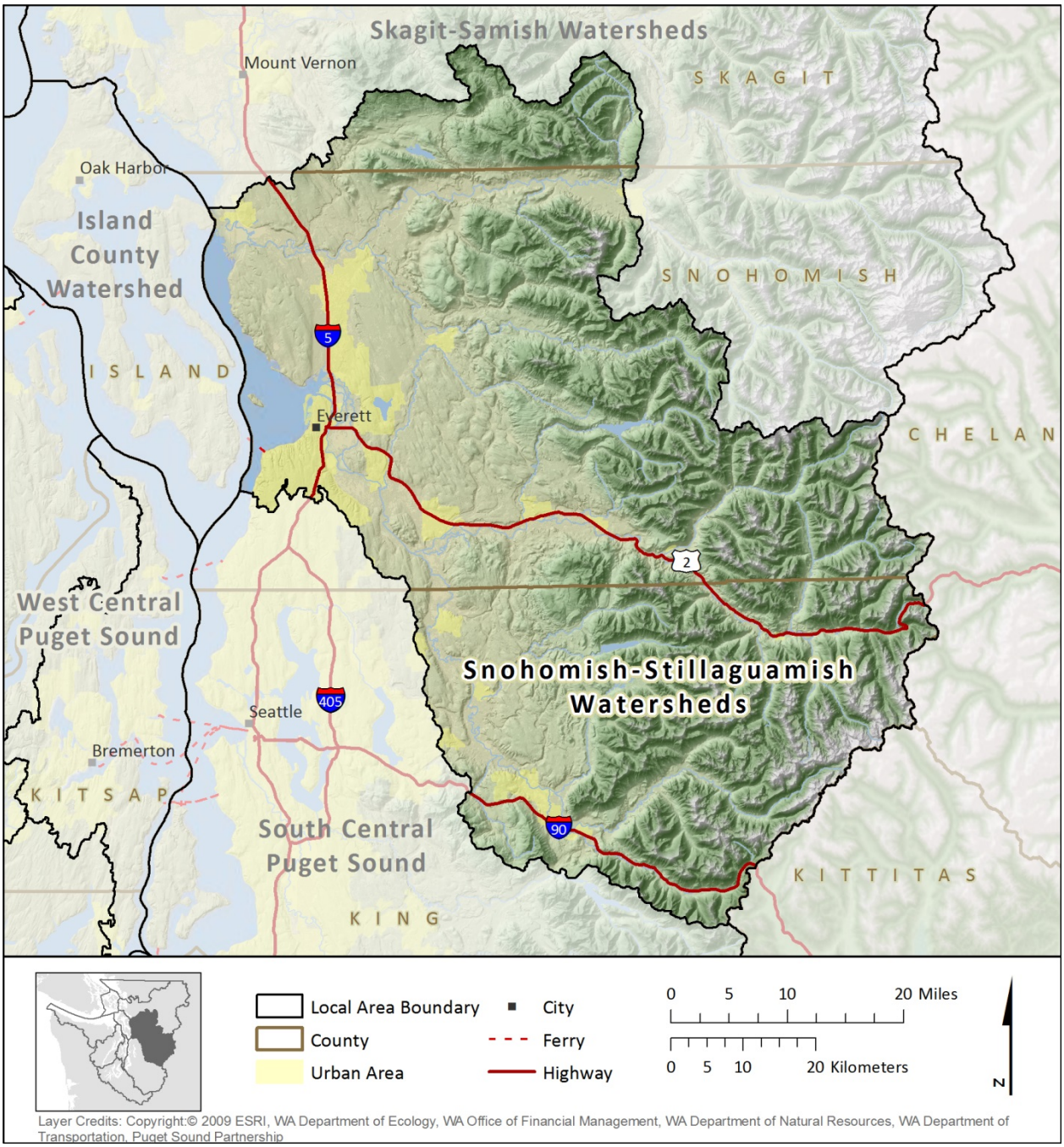
Snohomish River Watershed

The Snohomish River watershed is the largest watershed in Snohomish County and the second largest in the Puget Sound region. The watershed's varied topography ranges from low, rolling terrain next to the shoreline to steep foothills and mountains along the eastern border. The watershed lies in two counties—Snohomish and King—and covers an area of 1,856 square miles with 2,718 river miles. The two major tributaries, the Skykomish and Snoqualmie Rivers, originate in steep valleys of the Cascade Mountains and descend into broad floodplains where they converge near the City of Monroe. Over 90% of the original floodplain wetlands in the lower Snohomish have been drained, filled, or channeled to accommodate development and farming.

The Snohomish River empties into Puget Sound north of Everett, the region's fourth largest city and a major industrial and commercial center that includes Naval Station Everett and the Port of Everett. Some of the richest agricultural soils remaining in western Washington are found near the Snohomish, Skykomish, and Snoqualmie Rivers. Forestlands and wilderness cover approximately 70% of the watershed, and agricultural uses covers about 5% of the watershed. Urbanization is concentrated primarily in communities along the rivers and in the western portion of the watershed. Incorporated areas within the watershed include the cities of Everett, Mukilteo, Marysville, portions of Arlington and Granite Falls, Snohomish, Lake Stevens, Monroe, Sultan, Gold Bar, Index, Duvall, Skykomish, Carnation, Sammamish, Snoqualmie, and North Bend. The Snohomish River watershed is one of the fastest growing areas in Puget Sound with projected population growth of 59% from 2000 to 2030. By 2040, population and employment in the watershed are forecasted to grow by approximately 350,000 residents and 150,000 jobs, respectively. Most of this growth will be located in the western portion of the watershed. In the central and eastern portions of the watershed, there are an estimated 361,187 acres of privately owned forestland. The majority of the forest area is in a protected status; however, as many as 151,709 acres are at risk for development.

[6] Water Resource Inventory Areas (WRIAs) 5 and 7

SNOHOMISH-STILLAGUAMISH WATERSHEDS



The estuary, where the nutrient rich fresh water of the Snohomish River mixes with the saltwater of Possession Sound, is home to many kinds of birds including blue heron, terns, eagles, and osprey and numerous varieties of fish and animals including Dungeness crab, salmon, seals, sea lions, and otter. The estuary functions as a natural filter that cleans water before it passes into the Puget Sound, provides rearing habitat for juvenile salmon, and slows down floodwaters entering Puget Sound. In addition, a myriad of streams and creeks in the upper reaches of the watershed flow through abundant forestlands and wilderness including the Alpine Lakes and Wild Sky Wilderness Areas.

The watershed has a long history of broad collaboration on issues ranging from flood protection to integrating mitigation and restoration needs in the Snohomish River estuary. In recent years, this collaboration has focused on a floodplain management approach to reconcile salmon habitat recovery, agricultural land use, and tribal treaty rights and culture.

Stillaguamish River Watershed

The Stillaguamish River is approximately 3,100 miles in stream length with a watershed of nearly 720 square miles in Snohomish and Skagit Counties. The mainstem of the Stillaguamish River is formed by the North and South Forks, which descend from the foothills of the Cascades to a confluence at the city of Arlington and flow westerly into Puget Sound via two channels: Hat Slough and the North Channel. The four main tributaries to the lower Stillaguamish River are Church Creek, Portage Creek, Pilchuck Creek, and Armstrong/Harvey Creek. The Stillaguamish River is the fifth largest freshwater system in Puget Sound, dropping from an elevation of 6,854 feet on Three Fingers Mountain to sea level at Port Susan and Skagit Bay. Forestry and farming are major land uses in the watershed with rural residential and urban development in the city of Stanwood and portions of the cities of Arlington and Granite Falls. Two municipal wastewater treatment plants discharge into the Stillaguamish River.

Watershed health is addressed through several collaborative efforts including the Stillaguamish River Clean Water District and the Stillaguamish Watershed Council. Many local stakeholders, including Snohomish County, the Stillaguamish Tribe, farmers, forestland owners, citizens, and local agency representatives plan and take actions to improve local water quality. Major public landholdings are managed by the U.S. Forest Service, Washington State Department of Natural Resources, and Snohomish County. The Stillaguamish River provides spawning and rearing habitat for eight salmonid species. Two of the 22 populations of Chinook salmon in the Puget Sound listed as threatened under the Endangered Species Act reside in the Stillaguamish River during portions of their life cycle. Land use in the portion of the watershed inhabited by salmon is 61% forestry, 22% rural residential, 15% agricultural, and 2% urban. In the mid-1990s, with leadership from the Stillaguamish Tribe and Snohomish County, the Stillaguamish Watershed Council began addressing salmon habitat restoration issues in the watershed.

The major commercial and recreational shellfish resource in Port Susan is the eastern softshell clam. The Port Susan area is a complex system of marshes, mudflats, and channels that support a wide variety of wildlife. It is among the most important of a series of estuaries in Puget Sound that collectively supports large numbers of shorebirds during winter periods and spring and fall migration.

Unique Ecosystem Characteristics and Assets

The Snohomish-Stillaguamish watersheds are dominated by forestlands, particularly in the upper mountainous portions of the area. More than 50% of the watersheds are in the Mount Baker–Snoqualmie National Forest or in state-owned forests managed by the Washington State Department of Natural Resources. Recreation and tourism are important economic sectors in both watersheds, with opportunities for float trips, fishing, kayaking, camping, hunting, hiking, and backpacking. Although much of the forestland is in public ownership and protected from development, there is still a significant risk of conversion to residential development on the privately held lands.

In the rural Snoqualmie River portion of the Snohomish River watershed, over 500 forested parcels, totaling more than 20,000 acres, are at risk of being converted from forestry use to residential development.

The Snohomish and Stillaguamish Rivers, combined with the Skagit River, have the largest freshwater influence from within the Puget Sound (excluding the Fraser River). The Snohomish River watershed has the most returning coho spawners between the Columbia River and the Canadian border, and produces 25 to 50% of all coho salmon in Puget Sound. In addition, the Skykomish River Chinook population has the highest abundance target in the Puget Sound evolutionarily significant unit. Juvenile salmon from many rivers in Puget Sound use the pocket estuaries and nearshore areas to forage and rear as they adapt to saltwater conditions.

The Stillaguamish and Skagit River deltas were designated as areas of regional importance in the Western Hemisphere Shorebird Reserve Network in May 2012. Aerial surveys of wintering shorebirds conducted in the mid-1990s showed that this area is one of only four sites in Washington with seasonal concentrations of shorebirds exceeding 20,000 birds on a regular basis. Port Susan is the southernmost critical biodiversity area in Puget Sound, and The Nature Conservancy identified the shoreline and nearshore as a priority conservation area of high biodiversity importance. The area is also a major producer of forage fish such as herring, sand lance, and surf smelt. Eelgrass beds in the Snohomish River delta are among the largest in Puget Sound, providing important spawning and foraging habitat for forage fish, salmon, and other species. Upper reaches of the Stillaguamish and Snohomish River watersheds support numerous resident and overwintering populations of eagles and other raptors.

Local Implementation Structure and Planning Process

The Snohomish-Stillaguamish Local Integrating Organization (LIO) was recognized in March 2012 by the Puget Sound Partnership's Leadership Council as the ninth LIO established in the Puget Sound region. In July 2012, the Snohomish County Public Work's Surface Water Management Division was designated as the LIO's fiscal agent and administrator and responsible for providing ongoing support for LIO work efforts. The Snohomish-Stillaguamish LIO collaboration extends across two large Water Resource Inventory Area (WRIA)—WRIA 5 (Stillaguamish River watershed) and WRIA 7 (Snohomish River watershed, including the Snoqualmie River watershed and the Skykomish River watershed).

The LIO is made up of a nine-member executive committee and a 21-member implementation committee, which operate under a set of approved bylaws established in July 2013.

The executive committee is the primary decision-making body that provides accountability, oversight, and a forum for interjurisdictional collaboration on local efforts to advance the Action Agenda. The executive committee includes representatives from the following entities.

- City Everett
- City of North Bend
- City of Snohomish
- City of Arlington
- City of Stanwood

- King County
- Port of Everett
- Snohomish County
- Stillaguamish Tribe
- Tulalip Tribes

The executive committee is supported by the implementation committee, which provides a local working knowledge of Action Agenda implementation in WRIAs 5 and 7. The implementation committee includes representatives from the following entities.

- City of Lake Stevens Planning Department
- City of Snohomish
- ECO Net Snohomish Camano
- Futurewise
- King County
- King Conservation District
- Port of Everett
- Snohomish Conservation District
- Snohomish County
- Snohomish County Agricultural Advisory Board
- Snohomish Marine Resources Advisory Committee
- Snohomish Basin Salmon Recovery Forum
- Snohomish County Health Department
- Snoqualmie Watershed Forum
- Snoqualmie Tribe
- Sound Salmon Solutions
- Stillaguamish Clean Water District
- Stillaguamish Tribe Natural Resources Department
- Stillaguamish Watershed Council
- Tulalip Tribes Natural Resources Department
- Tulalip Tribes Planning Department

For the 2014/2015 Action Agenda update, The Snohomish-Stillaguamish LIO focused its work on identifying and reaching consensus on recommended near-term actions. This effort began in June 2013 with a day-long workshop of the implementation committee to review and revise a list of over 100 potential near-term actions that were submitted by the members. By the end of the workshop, the list had increased to 114 potential actions. The implementation committee then agreed to 11 criteria for prioritizing near-term actions, which it forwarded on to the executive committee.

The implementation committee grouped the potential near-term actions under the Strategic Initiatives (Section 2, *The Strategic Initiatives*) to ensure that all three initiatives would be addressed. The committee then identified several overarching actions that resulted in the creation of a fourth strategic initiative called Strategic Planning and Coordination. The implementation committee divided into four subcommittees, each based on a strategic initiative. Each subcommittee was tasked with identifying the 10 highest priority actions for addressing the strategic initiative. To facilitate this effort, several separate, but related actions were combined under a single near-term action.

The resulting list of approximately 40 recommended near-term actions was reviewed by the executive committee, which further prioritized and grouped the actions. The resulting list of about 25 near-term actions was voted on to identify the 12 highest priority actions. On October 18, 2013, the executive committee discussed the results of this vote and reached consensus on a list of 16 recommended near-term actions.

Pressures

The Snohomish-Stillaguamish LIO discussed the following pressures on the local ecosystem.

Habitat Alteration

- **Marine/estuary:** Loss of estuary tidal marsh and habitat connectivity, with more than 80% of the Snohomish, and 85% of the Stillaguamish estuaries diked, cutting off tidal marshes and blind tidal channels; only 18% of historical wetlands remain; potential future impacts from tidal power generation.
- **Shorelines:** Development along lake shorelines, resulting in reduced habitat availability, increased heterogeneity, nitrification, and increases in invasive species and toxic algal blooms.
- **Marine nearshore:** 38% of marine shoreline armored; over 5,000 overwater structures; 5.6 miles of railroad grade; disconnected feeder bluffs and pocket estuaries, development in sensitive areas.
- **Freshwater:** Loss of large river habitat complexity and floodplain connectivity from diking, riparian clearing, and floodplain development, reducing wood debris jams, side channels, forested islands, and pools.
- **Uplands:** Loss of working farms and forests through conversion resulting in altered watershed hydrology and degraded habitat; 16% increase in impervious surface in the Snohomish River watershed from 1991 to 2001; potential future development pressure in nearshore, river valley, and upland areas.

Pollution

- **Toxics:** Groundwater contamination leaching from past industrial development.
- **Bacterial pollution:** 48% of impaired waters listings due to bacterial pollution.
- **Nutrient loading:** Contributes to eutrophication and low dissolved oxygen concentrations in Possession Sound; dissolved oxygen and temperate concerns found in streams.
- **Surface-water runoff impacts:** Pollutant 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 WRIAs 5 and 7.
- **Altered magnitude, frequency, and duration of peak flow events**.
- **Alteration of surface hydrology:** Major alteration for flow in Sultan River below dam.
- **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: Japanese knotweed, Spartina, purple loosestrife.

Artificial Propagation

- **Unknown impacts of hatchery production** on existing steelhead and other salmonid species threaten viability.
- **Unknown Impacts from straying hatchery** stocks in the Snoqualmie River watershed.

Harvest

- **Fishing and bycatch:** Fishing and poaching.

Localized Climate Change Impacts

- **Sea level rise:** Significant change and loss of estuarine habitat in Snohomish and Stillaguamish estuaries; risk of saltwater intrusion; potential loss of floodplain capacity from diking.
- **Changes in hydrology** due to reduced snow pack and forest cover.

Local Near-Term Actions

The table below presents the local near-term actions for Snohomish-Stillaguamish watersheds. 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 or entities responsible for implementation of the near-term action, with the primary owner being responsible for tracking and reporting progress toward completing the action. The final columns provide regional context for the local actions, identifying the pressure(s) that each action is intended to reduce and the primary sub-strategy to which it is most closely linked. Local near-term actions are also listed in Section 3, *Strategies and Actions*, in the context of their primary sub-strategies.

Local Near-Term Actions in the Snohomish-Stillaguamish Watersheds

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
SNST1	**Improve regulatory effectiveness**. Compile and evaluate results from existing studies and those currently being completed on the effectiveness of existing federal, state, and local regulations to protect habitat. Facilitate discussions and building trust among elected officials. Develop strategies to address common issues that are identified.	• By September 2014, compile studies including Tribal Treaty Rights at Risk White Paper, Tulalip Regulatory Analysis, Stillaguamish Regulatory Analysis, King County Critical Areas Ordinance Effectiveness Study, Snohomish County Critical Areas Regulations Review. • By October 2014, synthesize results based on common issues identified and highlighted as most important. • By November 2014, establish LIO subcommittee consisting of stakeholders to develop a series of recommendations. • By November 2015, implement recommended actions, including enforcement.	Snohomish-Stillaguamish LIO (reporter) *Tulalip Tribes, Snoqualmie Tribe, King County, Snohomish County*	• Land development	A1.3
SNST2	**Identify existing data and prioritize needs**. • Water quality: Compile water quality data from the previous 10 years for streams in the Snohomish and Stillaguamish River watersheds, and evaluate available data to establish priority areas for water quality improvements. • Culverts: Collect and assess existing data on public and private stream culverts in the Snohomish and Stillaguamish basins to identify high priority culverts for replacement based on multiple factors, such as fish passage. • Map systems: Inventory and map stormwater facilities and conveyance systems in the Snohomish and	• By December 2014, compile available stream water quality data and identify gaps in data. • By December 2015, analyze water quality data to identify priority areas for water quality improvements. • In 2014 and 2015, explore and facilitate partnerships. • By December 2014, compile available culvert data, including past analyses of fish passage and flooding conditions, as well as upstream habitat. • By February 2015, identify data gaps. • By December 2015, identify specific public and private priority culverts for replacement. • By December 2014, compile available inventory data for public and private stormwater facilities and conveyance systems and identify data gaps.	Snohomish-Stillaguamish LIO (reporter) *King County and cities, Snohomish County and cities, Snohomish CD*	• Pollution from runoff from built environment	C2.1

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
	Stillaguamish basins, and begin to prioritize the need for public and private stormwater retrofits.	• By December 2015, evaluate existing public and private stormwater facilities in selected areas for their potential to be retrofitted to improve water quality or downstream flows.			
SNST3	**Agricultural runoff**. Engage with the WSCC Agriculture Stormwater Committee to develop implementation and monitoring priorities related to agricultural runoff in the Snohomish and Stillaguamish basins. Both the King CD and the Snohomish CD will work with agricultural producers and livestock owners to implement BMPs that will address water quality and habitat resource concerns.	• During 2014–2015, attend and participate in drafting of priorities. • During 2014–2016, share information with Snohomish-Stillaguamish LIO to include in Action Agenda. • During 2014–2016, assist landowners to voluntarily implement BMPs, including but not limited to, livestock fencing, off-stream and solar pumps for stock watering, nutrient management, manure bins, installation of hedgerows and riparian forest buffers, pasture management, and filter strips on their land to improve habitat and protect water quality. • During 2014–2016, assist landowners with compliance of existing water pollution and Critical Areas Regulations requirements.	Snohomish CD *King CD*	• Pollution from agricultural runoff	C3.2
SNST4	**Local habitat protection and restoration**. Implement effective habitat protection strategies that have been identified in local plans, recommended by stakeholders, and approved by plan sponsors. Examples include the following. • Acquisition by the City of Snohomish of 20 acres at the confluence of the Snohomish and Pilchuck River. • Protection strategies identified in the Snohomish Basin Protection Plan and the Port Susan Marine Stewardship Area Conservation Action Plan.	• During 2014–2015, identify priority protection actions that can be implemented. By December 2015, establish conservation easements of unarmored shoreline parcels in Port Susan. By December 2015, City of Snohomish will acquire 20 acres at confluence of Snohomish and Pilchuck Rivers. During 2014–2016, acquire parcels in the Stillaguamish Basin to advance habitat protection 10- and 50-year salmon recovery targets. • By December 2015, increase participation in Conservation Reserve Enhancement Program and explore other financial incentive programs.	Snohomish-Stillaguamish LIO *City of Snohomish, Snohomish County, Snohomish CD, Forterra, The Nature Conservancy, King County*	• Land development	A2.1

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
	• Promote the Conservation Reserve Enhancement Program and the Snohomish CD's "Free Trees Program".	• By December 2015, implement a pilot free trees program to increase tree cover within both the Snohomish and Stillaguamish watersheds.			
SNST5	**Onsite septic systems maintenance and retrofit**. Seek stable funding and expand Snohomish Health District program to provide technical assistance to property owners with septic systems. Investigate role of failing onsite septic systems in elevating stream bacteria and nutrient loads in Kimball and Coal Creek subbasins. Explore upgrading or decommissioning septic systems and connecting to municipal sewer systems.	• By September 2015, identify sustainable funding source(s) including no-cost loans for repairs. • During 2014–2016, educate homeowners about septic system maintenance. • During 2014–2016, investigate extent of failing septic systems. • During 2014–2016, repair/replace defective septic systems. • During 2014–2016, track homeowner compliance in King County with DOH septic system maintenance requirements. • During 2014–2016, perform surface/groundwater monitoring and modeling as needed in Kimball and Coal Creeks following review of existing data. • By November 2015, estimate corrective action costs and provide cost-share options (e.g., low-interest loans to pay for retrofits, sewer line extensions, hookup fees). • By December 2015, share findings/approaches with Snoqualmie Valley cities and King County.	LIO (reporter) *Snohomish Health District, Snohomish County, King County, Seattle/King County Public Health, Snoqualmie Tribe*	• Wastewater-failing septic systems • Land development: new and redevelopment	C5.3
SNST6	**Water quality monitoring for ocean acidification.** Collect water quality data for temperature, salinity, dissolved oxygen, pH, CO_2 (pCO_2) to identify local trends.	• During 2014–2016, install, maintain, and present data collected from Sunburst Sensor SAMI2-CO_2 sensor system. • During 2014–2016, install and maintain YSI 6600 data logger.	Tulalip Tribes *Stillaguamish Tribe, King County*	• Data gap[2]	C7.5

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
SNST7	**Floodplain management for farm-fish-flood**. Snohomish County, together with project partners, will complete the development of reach-scale plans for the Sustainable Lands Strategy project and begin the implementation of those plans. • Continue development of Farm-Fish-Flood Coordination efforts led by King County. • Utilize synergies between local and state agencies to coordinate and leverage efforts that deal with farm-fish-flood issues, such as Floodplains by Design.	• By July 2014, complete Sustainable Lands Strategy reach-scale plans for four individual reaches (lower Snohomish River, Snohomish River estuary, Stillaguamish River estuary and mainstem, and Lower Skykomish River). • By December 2014, complete a countywide plan and strategy for implementing reach-scale plans. • By December 2015, complete the design and construction of two high priority projects listed in the plans. • By December 2015, secure funding to help support a cost-share program for farm pads or elevated farm structures.	Snohomish County *Snohomish CD, King County, King CD, The Nature Conservancy*	• Floodplain function, levees, agriculture, runoff	A5.2
SNST8	**Pollution identification and correction project**. Snohomish County, together with project partners, will conduct a pollution identification and correction project to identify specific sources of fecal coliform bacteria contamination in the Lower Stillaguamish sub-basin and expand to the Snohomish Basin.	• By December 2015, complete investigation and identification of specific sources of fecal coliform bacteria contamination in the Lower Stillaguamish sub-basin. • By December 2015, begin process of correcting some of the high priority sites that are sources of fecal coliform bacteria contamination. • By January 2016, expand project to the Snohomish Basin.	Snohomish County *Snohomish Health District, Snohomish CD*	• Wastewater-failing septic systems • Pollution from runoff	C5.3
SNST9	**Fisheries/watershed ecology education for officials and decision-makers**. Sound Salmon Solutions and partners will develop a branded education curriculum and program on ecology issues necessary for salmon recovery, targeted at elected officials. This is not a lobbying campaign but a science-based, politically neutral curriculum, allowing officials to make informed decisions about land use and development, with Puget	• By June 2014, determine what information stakeholders, such as the Stillaguamish Watershed Council members, feel is important for elected officials. • By June 2014, determine what information elected officials require to make decisions that will improve the health of Puget Sound and allow salmon recovery. • By September 2014, develop curriculum, making use of prior efforts where applicable.	Sound Salmon Solutions	• Development, runoff and wastewater	D6.5

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
	Sound and salmon recovery in mind. The training will also initiate a relationship between decision-makers and organizations with the expertise to provide information and decision support. By completing the training, officials earn a Salmon Savvy Certification, a brand they can use to demonstrate their efforts to constituents. The program would result in ongoing classes in Snohomish County and could serve as a model for other areas.	• By December 2014, review and refine curriculum with the members of the Stillaguamish Watershed Council Stewardship Committee. • By June 2015, publicize and promote the Salmon Savvy–branded curriculum with elected officials. • In 2015, hold classes with 10 to 15 officials to test curriculum and get feedback. • By December 2015, finalize curriculum. • In 2016 and beyond, land use decisions are made by a measurable number of officials (target of 15) commanding a basic level of understanding and a decision support network.			
SNST10	**Inspections and maintenance**. Provide regular inspections of public and private stormwater facilities in the Snohomish and Stillaguamish basins and identify prescriptive maintenance needs and retrofit opportunities.	• By December 2014, secure funding for local cities that are challenged to provide regular inspections of existing stormwater facilities. • By December 2015, conduct stormwater facility inspections to identify prescriptive maintenance needs and retrofit opportunities.	Snohomish-Stillaguamish LIO (reporter) *King County and cities, Snohomish County and cities, Snohomish CD*	• Pollution from runoff from built environment	C2.3
SNST11	**Coordinated education and outreach leading to behavior change**. Snohomish County, together with local and regional partners, will develop a prioritized list of BMPs to promote through education and outreach programs. Implement strategies that target specific audiences and use targeted messages to achieve awareness and meet behavior change goals. The following programs will be considered.	• During 2015–2016, secure funding to offer WSU Extension classes and services in WRIA 7. • During 2014–2016, Sound Salmon Solutions and Snohomish CD will host and attend events, and provide technical consultation and site visits for streamside landowners to help improve salmon habitat. • During 2014–2016, Snohomish CD will host 25 educational workshops for agricultural landowners.	LIO *Snohomish County, King County, Sound Salmon Solutions, Snohomish CD, King CD, WSU Extensions in King and Snohomish Counties, STORM, ECO Net,*	• Public not using best management practices	D5.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
	• Forest stewardship and sustainable agriculture. • Riparian solutions program. • Community and youth education/ outreach program. Stormwater management training. • Nearshore and bluff behavior change outreach (WSU Extension) Connection of upland farmers with shellfish farmers to discuss clean water for safe shellfish harvest and consumption. • Development and implementation of multiparty integrated water quality themed education and behavior change programs to address shellfish protection.	• In 2015, conduct nearshore and bluff landowner workshops and distribute an updated Guide for Shoreline Living. • In 2015, Snohomish Marine Resources Committee will host a meeting/field trip for upland farmers and shellfish farmers. • During 2014–2015, conduct outreach on aquaculture at gatherings of farmers at events such as the Snohomish County Focus on Farming, Country Living Expo, and Washington State Tilth Producers Convention. • During 2014–2016, Sound Salmon Solutions, WSU Extension, Snohomish County, and others will design and focus education and outreach efforts to target suspected sources that contribute and threaten commercial shellfish farm water certification as well as commercial fishery operations. • In 2015, identify the needs of participating homeowners through the pollution identification and correction program as a follow-up to corrective actions.	*Tulalip Tribes, Everett Community College, and Marine Resources Committee*		
SNST12	**Riparian corridor knotweed control**. Program leads will be divided among basins: Stillaguamish—Stillaguamish Tribe and Snohomish County; Skykomish/Snohomish—Tulalip Tribes and Snohomish County; Snoqualmie—Snoqualmie Tribe and King County. Leads will work to vet methods and strategies, and develop control and elimination plans, and monitoring programs.	• By December 2014, develop methods and strategies that work best in their areas of concern including evaluation of effectiveness of biological control. • By March 2015, finalize control and elimination plans. • By June 2015, hire additional staff, if necessary, to implement the control and elimination plans. • From June 2015–June 2018, implement control and elimination plans, using principles of adaptive management.	Snoqualmie Tribe *King County, Snohomish County, Tulalip Tribes*	• Invasive species	B5.3

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
		• From June 2015–June 2019, implement monitoring programs concurrently with control and elimination actions.			
SNST13	**Salmon/multi-species recovery plans**. Support priority projects as specified in the salmon recovery plan, salmon recovery 3-year work plans, and basin's 10- and 50-year salmon recovery goals. • Identify and implement one to three top priority habitat restoration projects in each basin. • Establish the baseline condition of key habitats such as forest cover, wetlands, riparian areas, floodplains, nearshore, and assess trends and rate of change. Use analysis to predict future anticipated gains/losses based on population and build out trajectories as well as evaluating current restoration and protection benchmarks.	• By December 2014, identify top habitat restoration projects that are ready to go in the next 2 years. • In 2015, obtain funding for projects. • During 2014–2016, obtain permitting for projects. • During 2014–2016, projects are installed/ implemented successfully. • During 2014–2016, evaluate progress toward meeting Basin's 10 and 50-year salmon plan recovery goals. • In 2014, use existing land cover change analyses such as WDFW's High Resolution Change Detection Project for baseline assessment. (King County) • In 2015, project rate of conversion and habitat loss.	Stillaguamish Lead Entity and Snohomish Lead Entity *Snohomish County, Stillaguamish Watershed Council, Snohomish Basin Salmon Recovery Forum, King County, Snoqualmie Valley cities*	• Loss of habitat	A6.1
SNST14	**Port Susan Marine Stewardship Area conservation**. Establish Port Susan as a Marine Stewardship Area and implement the conservation action plan.	• In 2014, achieve formal adoption by the Snohomish County Council. • By 2016, work to prevent 100% of future shoreline armoring in Port Susan. • During 2014–2016, work to implement the high priority action steps in the Port Susan Conservation Action Plan.	Snohomish County Marine Resources Committee	• Loss of shoreline ecological functions	B1.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy
SNST15	**Low Impact Development**. Provide funding for the construction of up to five Low Impact Development projects in the Snohomish and Stillaguamish basins, including the City of Everett's Green Stormwater Infrastructure Implementation Program.	• By December 2015, construct five low impact development projects.	Snohomish-Stillaguamish LIO (reporter) *King County and cities, Snohomish County and cities, Snohomish CD*	• Pollution from runoff from built environment	C2.2
SNST16	**Groundwater study. Identify the costs and potential funding sources for conducting an impairment analysis for groundwater resources in the Stillaguamish and/or Snohomish River basins.**	• By December 2015, identify the costs and potential funding sources for conducting an impairment analysis including saltwater intrusion and impacts of sea level rise for groundwater resources in the Stillaguamish and/or Snohomish basins.	Snohomish County	• Water withdrawal, saltwater intrusion	A7.3

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

[2] Local concern.

BMP = best management practice; CD -= Conservation District; ECO Net = Education, Communication and Outreach Network; LIO = local integrating organization; STORM = Stormwater Outreach for Regional Municipalities; WRIA = Water Resources Inventory Area; WSCC = Washington State Conservation Commission; WSU = Washington State University.

South Central Puget Sound Action Area

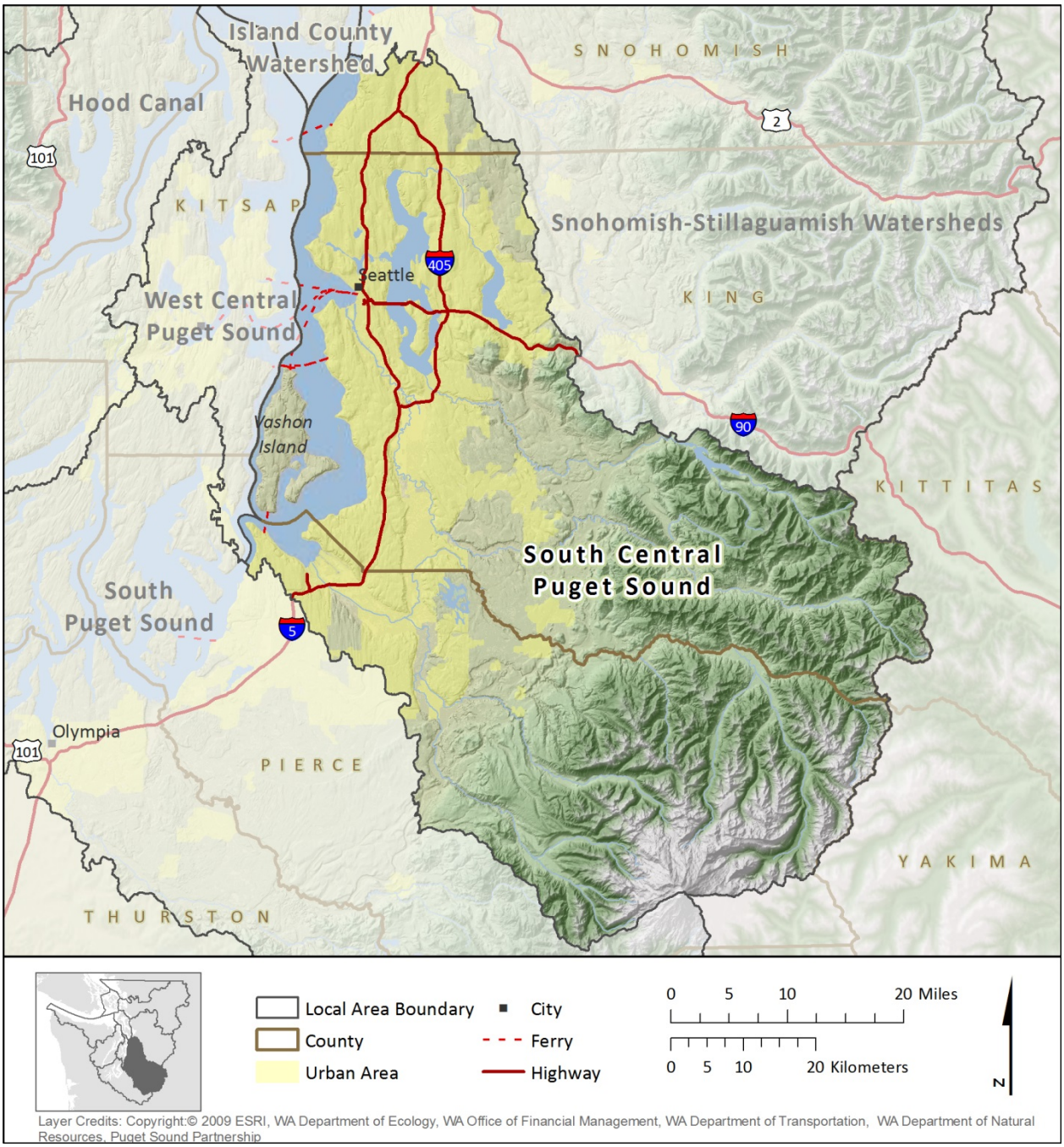
Description of the Action Area

The South Central Puget Sound Action Area[7] is home to 2.5 million residents living in three of Washington's largest cities—Seattle, Bellevue, and Tacoma—and in suburban and rural communities across unincorporated King and Pierce Counties. The action area is the most urbanized portion of Puget Sound and includes a variety of industrial, commercial, and residential infrastructure; large areas of pavement; a heavily modified shoreline; and a large network of streets, roads, and highways. Although portions of this area have been intensively developed, approximately 77% of the area is not considered urban, with vast tracts of agricultural lands in rural King and Pierce Counties and forestland in Mount Rainier National Park and the Mount Baker–Snoqualmie National Forest, and the surrounding private and tribal forestlands. Three major river systems originate in the Cascades near Snoqualmie Pass, Cascade Pass, and Mount Rainier, travel through forests and farms, and empty into Lake Washington and Puget Sound. Glacial melt from Mount Rainier feeds the Puyallup/White River system, while the Green/Duwamish and Cedar/Sammamish river systems are supplied by snow melt and rainfall. These river and watershed systems are home to five populations of Chinook salmon, listed as threatened under the Endangered Species Act, with federally approved watershed-scale recovery plans guiding recovery actions. Lowland areas average 40 inches of rainfall per year. In highly urbanized portions of the region, many streams or stream segments have been placed in drainage pipes and storm sewers that carry runoff from storms and flood events, creating significant stormwater management challenges. In some parts of these watersheds the risk of flooding is high, potentially causing the loss of life and severe impacts on infrastructure. Local jurisdictions are actively managing floodplains to provide multiple benefits and functions, including reducing flood risk, and restoring habitat.

The two largest bays in this action area are Seattle's Elliott Bay and Tacoma's Commencement Bay. Vashon-Maury is the largest island south of the Admiralty Inlet. The major currents within the saltwater basin of central Puget Sound generally flow northward along the west side of Vashon Island, and southward through the East Passage. The marine waters of Puget Sound form warm layers at the surface during the summer months due to river input and solar heating. These layers are mixed during winter months by seasonal winds and cool weather. An underwater sill by the Tacoma Narrows also alters the pattern of marine water circulation.

[7] Water Resource Inventory Areas (WRIAs) 8, 9 and 10

SOUTH CENTRAL PUGET SOUND ACTION AREA



South Central Puget Sound is the economic driver of the region, and largely of the State of Washington. The region generates over $200 billion in annual economic activity, comprising approximately 62% of the gross state product. Major commercial and industrial enterprises are concentrated here, including technology, aerospace, finance, insurance, health care, business and professional services, commercial fishing, recreation, and tourism. These industries are served by international port facilities in Seattle and Tacoma, along with SeaTac International Airport, Boeing Field, and passenger and freight railroad services. The region has 14,900 acres of designated manufacturing industrial centers in six locations:

Ballard Interbay, Duwamish, North Tukwila, Auburn/Kent, Overlake, and the Port of Tacoma. Water supply for most of the population of the area is provided by the Cities of Seattle and Tacoma through their operations on the Cedar and Green Rivers, respectively.

Following the adoption of the Growth Management Act in the 1990s, land use strategies have been somewhat effective in containing sprawl, since 2000, 97% of the population growth in King County has been concentrated inside the designated urban growth boundary. Pierce County's share of growth since 2000 in the urban growth boundary has been at 85%. The projected population change from 2000 to 2030 for King County is 25.58% and for Pierce County is 40.15%. Just over half (53%) of Pierce County's population lives in incorporated areas, while the balance of the population lives in unincorporated areas. Significant tracts of commercial forest and agriculture remain in the eastern and southeastern portions of the area. There are many challenges in trying to retain habitat features and natural amenities while trying to accommodate several hundred thousand new residents to this area in the next 20 to 25 years.

In general, the residents of the action area are remarkably informed and engaged citizens. There is a high level of volunteerism and civic engagement with many agencies and local nongovernmental organizations benefiting from the resources and knowledge base of the public for assistance with on-the-ground projects and public process for furthering recovery.

The varied ports and waterways of this action area have made it an international shipping center for regional and national industries, natural resource extraction (logging, fisheries, mining), and agricultural products. The combined ports of Seattle and Tacoma are the second largest on the west coast. Urban estuaries support many small marine, ship building/repair, and industrial enterprises. Public transportation to Kitsap County and Vashon Island is provided by the Washington State Ferries system, and other vessel traffic consists of passenger ferries, fishing boats, research vessels, small recreational craft, and cruise ships. Recreation spots include Lakes Washington, Sammamish, and Tapps; Puget Sound beaches such as Alki Beach in West Seattle, Seahurst in Burien, and Pt. Defiance in Tacoma; and along the Mountain to Sound Greenway along Interstate 90, the middle Green River, and the White River above Enumclaw. The headwaters of the major rivers in this area are protected through their status as parklands managed by the National Park Service, wilderness areas managed by the U.S. Forest Service, and the headwater source areas of the water supplies of Seattle and Tacoma.

Unique Ecosystem Characteristics and Assets

The federal listing of Puget Sound Chinook represents the first time a salmon species had been listed in such an urban environment. Despite the extensive urbanization of the action area, Chinook salmon and other salmon species spawn in the major rivers and lakes. Unique salmon populations include the spring run of White River Chinook, Issaquah Creek and Cedar River summer and fall Chinook, Lake Sammamish Kokanee, and Lake Washington Sockeye. The Green River is one of the top 10 steelhead rivers in Washington and supports substantial natural and hatchery populations of salmon. Bull, rainbow, and coastal cutthroat trout, and coho, chum, and pink salmon are also present in some of the river systems. Strong community efforts and watershed partnerships, some through formal inter-local agreements, are focused on strategic, science-based salmon recovery efforts throughout the area, and habitat restoration programs depend on a combination of local, regional, state, and federal funding. While other

fish, wildlife, and bird communities are abundant in undeveloped portions of the action area, those species that coexist well with humans are generally present in the urban sectors.

The action area has a long track record of collaboration at the watershed level to recover salmon, and a shared commitment to protect and recover Puget Sound. Many parties are making investments across Puget Sound, with much of the on-the-ground work being undertaken at the local level. Local governments, community organizations, businesses, and citizens are working to align limited resources with the Strategic Initiatives and 2020 recovery targets. The cost of actions in the Action Agenda far exceeds the available funding. Assessing the full cost of implementing top priorities, and identifying and developing appropriate funding mechanisms, is paramount to achieving restoration of the health of the Puget Sound. As a local integrating organization, the South Central Caucus Group has made this effort a priority.

Local Implementation Structure and Planning Process

The South Central Action Area Caucus Group (South Central Caucus Group) is the local integrating organization (LIO) for the South Central Puget Sound Action Area. It was officially recognized by the Puget Sound Partnership's Leadership Council in June 2010.

The South Central Caucus Group includes representatives from the following entities.

- King and Pierce Counties
- Cities of Seattle, Tacoma, and Bellevue
- Sound Cities Association
- Pierce County Cities and Towns Association
- Muckleshoot Indian Tribe
- Puyallup Tribe of Indians
- Puget Sound Regional Council of Government
- Puget Sound Partnership
- Seattle–King County Public Health
- Tacoma–Pierce County Public Health Department
- Ports of Seattle and Tacoma
- Lake Washington/Cedar/Sammamish Watershed (WRIA 8)
- Green/Duwamish and Central Puget Sound Watershed (WRIA 9)
- Puyallup/White and Chambers/Clover Watershed (WRIA 10/12) Pierce County Salmon Recovery Lead Entity (WRIA 10)
- King Conservation District
- Pierce Conservation District
- Washington State University, King County Extension
- ECO Net

- Forterra
- Citizens for a Healthy Bay
- Tacoma Chamber of Commerce
- Boeing

The South Central Caucus Group has one committee, the working group committee, which was tasked with identifying the highest priority actions and setting clear priorities to recommend to the Caucus Group. The committee consists of participants and local government staff from across the action area including the following entities.

- City of Seattle
- King County
- Pierce County
- King Conservation District
- Pierce Conservation District
- Lake Washington/Cedar/Sammamish Watershed (WRIA 8)
- Green/Duwamish Watershed (WRIA 9)
- Pierce County Salmon Recovery Lead Entity (WRIA 10)
- ECO Net

For the 2014/2015 Action Agenda update, the South Central Caucus Group focused on refining actions and priorities it had identified in 2010 through an extensive prioritization process that involved an assessment of vulnerability (pressures) in the action area. In preparation for the update, the existing actions were mapped to regional sub-strategies and grouped by the Strategic Initiatives. The Working Group held a series of work sessions to refine the criteria that would be used to identify and evaluate actions.

Throughout the near-term action development process, the working group committee remained committed to the South Central Caucus Group's mission to collaborate, to identify multi-beneficial efforts, and to look across the action area for actions. The considerations helped to inform development of the actions and performance measures.

The working group committee identified 13 near-term actions that were presented to the full membership of the South Central Caucus Group for discussion and approval. The South Central Caucus Group affirmed support for the process and the list of near-term actions. The actions were submitted to the Puget Sound Partnership for review and comment and inclusion into the Action Agenda.

While these local actions are high priorities for the South Central Caucus Group to pursue, the Caucus Group also seeks implementation of Soundwide strategies that are essential for the success of local actions. For example, the success of local efforts to protect and restore salmon habitat is highly dependent on state guidance and review of local Shoreline Master Programs and Flood Hazard Management Plans and alignment with the broader Action Agenda. Similarly, development of a comprehensive, integrated funding strategy will require Leadership from the Partnership.

Pressures

The South Central Caucus Group identified the following four pressures to have the highest significance on the local ecosystem.

- Land development
- Shoreline alteration
- Stormwater
- Dams, levees and loss of floodplain function

The South Central Caucus Group also identified the following additional pressures of specific importance to the South Central Puget Sound Action Area.

- Habitat conversion
- Climate change
- Dams, levees, and tidegates
- Legacy toxic contaminants
- Current use and release of excess toxics and nutrients

Local Near-Term Actions

The table below presents the local near-term actions for the South Central Puget Sound Action Area. 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/or for tracking and reporting progress toward completing the action (or as specified in the table below). The final columns provide regional context for the local actions, identifying the pressure(s) 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, *Strategies and Actions*, in the context of their primary sub-strategies.

Local Near-Term Actions in the South Central Puget Sound Action Area

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SC1	**Support state and local partnerships to advance the Action Agenda**. Use South Central Caucus Group (LIO) as a forum to advance local actions by sharing information and supporting local governments in the following. • Sharing approaches to developing and implementing policies, regulations, and incentives. • Developing model ordinances. • Identifying and developing incentive programs. • Promoting funding and technical assistance for updating, adopting and implementing policies and regulations. • Promoting education and outreach through ECO Net.	• By May 2015, hold two meetings to review and share incentives and model regulations. After full South Central Caucus Group (LIO) review, bring findings to the ECB. • In 2015, recommend ways to incorporate findings into state and local policies and regulations.	South Central Caucus Group	• Residential and commercial development • Runoff from built environment	D2.1
SC2	**Identify and protect high-value salmon recovery habitat and lands at immediate risk of conversion**. Secure funding to acquire high-priority, high-threat land as identified in salmon recovery plans and seek funding to secure property.	• By December 2015, secure funding for acquiring land and protecting the following high-priority, high-threat areas in each WRIA. WRIA 8: $7,950,000: ○ Middle Cedar River: 70 acres of floodplain. ○ Issaquah Creek: 125 acres of floodplain and riparian area. ○ Bear Creek: 150 acres of riparian areas, wetlands, and forested uplands. WRIA 9: $18,600,000: ○ Lower Green River: 273 acres of floodplain and riparian area. ○ Middle Green River tributary streams: 230+ acres of floodplain and riparian area. ○ Marine Nearshore (Vashon-Maury Island): 10 acres of nearshore habitat and riparian area. ○ Duwamish River: 10 acres of floodplain, wetland and riparian area.	South Central Caucus Group (reporter)	• Residential and commercial development	A2.1 (A2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
		○ Hamm Creek City Light North DUW-11 WRIA 10: $6,600,000: ○ Puyallup River main stem: 130 acres of upland, floodplain, and riparian area. ○ Carbon River canyon area: 500 acres of forested upland and riparian area. ○ Carbon River main stem: 25+ acres of floodplain and riparian area. ○ South Prairie Creek: 60 acres of riparian area and floodplain. • Beginning in March 2014, and semi-annually thereafter, WRIAs will report to LIO on the list of high-priority, high-threat land acquisitions as identified in salmon recovery plans.			
SC3	**Implement high-priority projects listed in local salmon recovery plans**. Secure funding for high-priority projects listed in the salmon recovery 3-year work plans for WRIAs 8, 9, and 10.	• By December 2015, secure funding for implementation of high-priority restoration actions in each watershed. WRIA 8: $16,690,000 for habitat restoration and $50,000,000 for infrastructure improvements, including fish passage facilities at Hiram H. Chittenden (a.k.a. Ballard) Locks. ○ Lower Cedar River: 77 acres of riparian and floodplain restoration. ○ South Lake Washington: 750 linear feet of lakeshore restoration and 1,500 linear feet of tributary stream restoration. ○ Hiram H. Chittenden Locks: Corp's list of prioritized infrastructure improvements, including critical fish passage facilities as secured funding from headquarters. ○ Issaquah Creek: 1,800 linear feet of stream channel restoration and 155 acres riparian area restoration.	South Central Caucus Group (reporter)	• Residential and commercial development • Freshwater levees and floodgates	A6.1 (A2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
		○ Bear Creek: 370 linear feet of stream channel restoration and 2.3 acres riparian restoration. ○ Sammamish River: 5,500 feet of stream channel restoration and 85 acres of floodplain and riparian restoration. ○ Marine Nearshore: 1,750 linear feet of coastal tributary stream channel restoration and 28 acres of salt marsh restoration. WRIA 9: $16,035,000. ○ Lower Green River: 31+ acres floodplain restoration. ○ Duwamish River: 5-10 acres of shallow water habitat and 2 acres of riparian restoration. ○ Marine Nearshore: remove 4,400 linear feet of shoreline armoring, revegetate 3.2 acres of shoreline with native plants, and restore 550 feet of linear stream channel. ○ Middle Green River: 14+ acres floodplain and riparian area. ○ Downstream fish passage at Howard Hanson Dam; work with NOAA and USA Corp of Engineers to obtain approvals and funding ○ Nearshore outreach (grant) – for consultants, homeowners and other influencers WRIA 10: $80,000,000. ○ Upper White River forest road decommissioning and flood plain restoration: about 100 miles of forest road. ○ South Prairie Creek floodplain reconnection and habitat restoration: 300 acres. ○ Replace dam and build new fish collection facilities at Buckley Fish Trap.			

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
		○ Alward Road Levee Setback: Acquisition Phase: 142 acres. ○ Puyallup Estuary Acquisition at Union Pacific: 30 acres. • By June 2014, WRIAs will report to LIO on status of implementation of high-priority habitat protection and restoration in salmon recovery plans.			
SC4	**Improve shorelines in the South Central Puget Sound Action Area by limiting new residential shoreline armoring and overwater coverage, and promoting "green" shoreline replacements**. • Encourage programs and help implement projects that implement and promote incentives and best practices identified in local Shoreline Master Program studies updates. Support actions to retrofit/restore public and private shoreline properties. • Assist local governments by providing information on best practices and models. (e.g., hold informational sessions at standing planner forums including Puget Sound Regional Council, King County, and Seattle). • Work to promote existing and new incentive programs. • Use South Central Caucus Group (LIO) as a forum for sharing best practices for shoreline restoration and model shoreline regulations. • Compile incentive information and provide to local governments. • Coordinate outreach and incentive programs with existing industry best practices such as Leadership in Energy and Environmental Development, Green Shores for Homes project, and Built Green Certification program.	• Report quarterly to South Central Caucus Group (LIO) on education and other actions funded by Puget Sound Acquisition and Restoration, Estuary Salmon Restoration Project, and other sources. • By third quarter 2015, implementers will report to South Central Caucus Group on progress made on working with private property owners and reaching priority audiences to promote green shorelines practices. • By second quarter 2015, King Conservation District assists 20 landowners in implementing shoreline protection, restoration, and enhancement practices. • In 2015, explore options for using existing funding mechanisms to assist landowners who are willing to implement aquatic area enhancement protection and enhancement practices.	South Central Caucus Group	• Marine shoreline infrastructure and freshwater Shoreline infrastructure • Residential and commercial development	B1.2 (B1.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	• Seek funding to engage streamside/riparian, lakeshore, and nearshore area property owners and to increase assistance to shoreline landowners who are willing to implement aquatic area protection and enhancement practices. • Support WRIA 8 Green Shorelines Steering Committee's outreach and education to key marine and freshwater shoreline audiences (e.g., property owners, real estate agents, construction and landscaping communities, and local government planning departments) to share green shorelines materials and messages and to encourage improved shoreline restoration stewardship. • Support ECO Net endorsed education and outreach efforts for this action. • Retrofit/restore public and private lands				
SC5	**Improve floodplains management by creating partnerships of interested parties (especially local governments and business community)**. • Work with federal and state agencies to address and resolve conflicts between regulations that are a barrier to completing multi-benefit projects. • Over the next 2 years, support King County's effort to lead the advisory committees of the Green River System-Wide Improvement Framework (SWIF) in developing integrated priorities for levee improvements that meet flood protection, safety, economic development, and habitat, vegetation management, agriculture, and recreation objectives and that bridge conflicts in federal regulations.	• By February 2015, the Green River System-Wide Improvement Framework will make substantial progress in developing priorities for levee improvements in support of multiple benefit rivers and floodplains. • By December 2015, brief the PSP Leadership Council and ECB and the state legislature on the status of multiple benefit floodplain management initiatives, including status of Level of Protection from Flooding goals established for the Green River System – a new human dimension ecosystem recovery goal. • By June 2015, compile the percentage of local jurisdictions with significant floodplain area that comply with the FEMA Biological Opinion.	South Central Caucus Group (reporter) *PSP, Ecology, WDFW,* Muckleshoot Indian Tribe*, Corps, NOAA, and FEMA*	• Marine levees and tidegates • Freshwater levees and tidegates • Residential and commercial development • Freshwater levees and floodgates	A5.2 (A5.3, A5.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	• Over the next 2 years, support the Russell Foundation's work with WRIA 10 to complete a Watershed Open Space Strategy (WOSS). The process will focus on development of a regional strategy by aligning with current ecological management efforts in the watershed to promote inter-organizational collaboration and action. • Share information among local governments on successful approaches to meeting requirements of the FEMA Biological Opinion. • Participate in forums to address conflicts between agriculture, flood hazard reduction projects, and habitat restoration projects in the floodplain. • Advocate for state to improve alignment and coordination between minimum requirements for local Flood Hazard Reduction Plans, Comprehensive Plans under the Growth Management Act (GMA), and minimum requirements for regulation of Frequently Flooded Areas. • Implement major floodplain protection and restoration projects in King and Pierce Counties funded under state 2013 Capital Improvement Plan appropriation for Coordinated Investment in Puget Sound Floodplains Strategy, including Carlin Project and Lower Cedar River Integrated Floodplain Restoration Project in King County and the Green and White rivers in Pierce County. • Continue to identify, implement, and publicize floodplain restoration projects, including the Needham Road Setback Levee Project and Calistoga Reach Setback Levee and Side Channel Construction Project that provide multiple benefits, including public safety, salmon habitat enhancement, open space, and recreation.	• By September 2014, King County will develop concept, strategy, and candidate projects for 2014 legislative session and report to LIO. • By December 2015, King and Pierce County will report on progress in implementing major floodplain protection and restoration projects in King and Pierce Counties. • By August 2014 WRIA 9 will report out to LIO on progress of the Howard Hanson Dam Biological Opinion.			

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	• Demonstrate quantifiable benefits of major floodplain restoration projects to salmon recovery, flood resilience, water quality, and agriculture and help make the case for ongoing investments of state funding in multi-objective flood hazard reduction projects. Work with King County, Corps, and other partners to identify alternatives to the existing policies on levee vegetation.				
SC6	**Identify, guide, and fund stormwater retrofits**. • Complete WRIA 9 retrofit study and promote it as a model. • Advocate locally and sound-wide through the LIO for increased funding for priority stormwater retrofit projects. • Develop a list of high-priority stormwater retrofit projects to support local investments and state funding request in 2014 and 2015, using upcoming guidance from Ecology and findings from the WRIA 9 study on stormwater retrofit priorities. • Participate in the Commerce's technical assistance and study of examples of urban-specific implementation or stormwater retrofit projects. • Support ECO Net endorsed education and outreach efforts for this near-term action.	• By September 2014, comment on Ecology's retrofit prioritization and allocation criteria. • By January 2015, identify and analyze funding mechanisms that incorporate existing and new funding. • By June 2015, complete WRIA 9 retrofit study. • By December 2015, identify next steps to support carrying out stormwater retrofit planning and projects throughout the South Central Puget Sound Action Area. • By June 2014, report on monitoring and modeling tools for future stormwater retrofit evaluations. • By December 2015, implement 15 stormwater retrofit projects. • By December 2015, complete Swan Creek Watershed Characterization and Action Plan, and implement at least one retrofit project. • By third quarter 2014 and 2015, provide information to the Washington State Legislature on the high priority stormwater retrofit projects for 2014/2015 legislative session.	South Central Caucus Group	• Runoff from built environment • Residential and commercial development	C2.3 (C2.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SC7	**Promote operation and maintenance and improvements to existing stormwater systems**. Promote, support and guide technical assistance for local government adoption of improved operation and maintenance techniques for existing stormwater infrastructure, such as: • System flushing • Vactoring • High-efficiency street cleaning	• By December 2015, create a list of the number of local jurisdictions implementing, and types of local operation and maintenance techniques.	South Central Caucus Group	• Runoff from built environment • Residential and commercial development	C2.3
SC8	**Increase education of and stewardship by homeowners and businesses to reduce stormwater pollution**. • Increase education of and stewardship by homeowners, businesses, and institutions to reduce pollutant loadings to stormwater (e.g., fertilizers, pesticides, oils, cleaners). • Support ECO Net endorsed education and outreach efforts for this action.	• By December 2015, identify number of persons and businesses reached.	ECO Net *Ecology*	• Runoff from built environment	C2.5
SC9	**Share information on low impact development/green stormwater infrastructure and facilitate the transition from conventional stormwater management**. • Use LIO as a forum for sharing approaches to implementing Low Impact Development policies. • Encourage local government participation in Washington State University Low Impact Development technical workshops. • Support ECO Net endorsed education and outreach efforts for this near-term action. • Support development of regulations that implement Action Agenda priorities.	• By December 2015, hold two forums that highlight successful integration of low impact development/green stormwater infrastructure into local regulations.	South Central Caucus Group	• Runoff from built environment	C2.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SC10	**Support restoration of the voter approved local Model Toxics Control Account**. • Advocate for fund protection. Support the use of the Model Toxics Control Account for grants and programs that expedite multiparty cleanup efforts. • Support and promote programs that leverage other grants to expedite cleanups. • Educate and promote the protection of the Local Toxics Control Account and identify. Opportunities for acquisition and redevelopment of vacant, orphaned, or abandoned property.	• By December 2015, increase awareness of state and local government about the value of protecting the Local Toxics Control Account in 2016. • By December 2015, hold a forum on opportunities for acquisition and redevelopment of vacant, orphaned, or abandoned property.	South Central Caucus Group *Ecology*	• Toxics and legacy contaminants	E1.3
SC11	**Keep toxics and excess nutrients out of the waste stream**. • Identify and implement strategies to keep toxics and excess nutrients out of the waste stream through product stewardship and source control. • Support state and local programs for safe reduction, recycling, or disposal of hazardous wastes from households, small businesses, and agriculture. • Support programs and projects that implement, teach, or otherwise encourage BMPs that remove toxic pollutants from the environment (source control; alternative products; hazardous waste technical assistance). • Inventory toxics reduction efforts and programs and additional chemicals of concern that need to be reduced. • Through the NW Product Stewardship Council, coordinate efforts for product-focused strategies to reduce the use of toxic chemicals. • Coordinate with and support new product stewardship initiatives.	• By September 2014, ECO Net will report on education and outreach efforts for this near-term action. • By September 2014, Ecology and/or NW Product Stewardship Council will report to South Central Caucus Group (LIO) on status of their efforts. • By December 2015, obtain new funding for key toxic reduction activities. • By March 2015, develop inventory of toxics reduction efforts and programs and additional chemicals of concern that need to be reduced. • By December 2015, increase funding for the Washington Toxics Reduction Strategy Workgroup Recommendations of January 16, 2013.	South Central Caucus Group *Ecology, local governments in this Action Area*	• Toxics and legacy contaminants	C1.2 (C1.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	• Support and promote the implementation of the Washington Toxics Reduction Strategy Workgroup Recommendations of January 16, 2013. • Support efforts to increase funding. Implement and strengthen authorities and programs to prevent toxic chemicals from entering the Puget Sound environment.				
SC12	**Secure additional funding necessary to implement priority fish and wildlife habitat and high-value aquatic habitat area enhancement projects**. Provide input to the PSP's work to develop a gap analysis and funding strategy for implementation of the Action Agenda, including the following. • Articulate need for better funding coordination of habitat, water quality, and flood investments at a watershed level. • Describe specific financial needs and challenges of urbanized watersheds in protecting and restoring habitat and in prioritizing and carrying out stormwater retrofits. • Involve research and analysis conducted by WRIAs 8 and 9 on watershed funding options and models. • Provide examples of successful watershed-based decision-making models and successful multi-benefit projects that help "tell the story." • Provide the WRIA 9 issue paper on watershed investment concepts for consideration. • Provide input on state legislative proposals for potential new watershed-based governance structures and funding authorities. • Develop specific project proposals in support of federal and state appropriation requests to support salmon habitat restoration, habitat acquisition, major	• By December 2014, identify large-scale habitat restoration projects for the next round of Puget Sound Acquisition and Restoration. • By third quarter 2014 and 2015, promote the current round of "coordinated investment" floodplain restoration projects and development of the next set of candidate projects for 2014/2015 legislative session.	South Central Caucus Group	• Runoff from built environment • Residential and commercial development	E1.4 (E1.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	floodplain restoration, and stormwater retrofits. • Support WRIAs 8, 9, and 10 in maintaining and refining the 3-year list of habitat protection and restoration implementation priorities. • Support the King Conservation District in securing additional funding to address regional and local aquatic area enhancement and water quality protection priorities, with special emphasis on private property, subject to the outcome of joint task force recommendations. • Support the work of WRIA 9 in preparing issue papers on key watershed-based investment concepts, including governance, geography, multiple benefit projects, and funding, and in preparing legislation for the session.				
SC13	**Complete Regional Alliances Project and share results to increase infill development in urban centers while meeting stormwater requirements and Growth Management Act mandates**. Through the Regional Alliance Project, • Develop recommendations for incentives and cost-effective tools to meet stormwater management and Growth Management Act requirements for development in urban areas in order to encourage infill development in urban centers instead of greenfield locations and to improve water quality. • Develop recommendations related to comprehensive plan policy and development regulations to inform 2015 updates. • Other actions may be identified. Key partner in these efforts: Commerce	• By February 2015, develop a formal report on agreed next steps to Puget Sound Regional Council Growth Management Policy Board. • By March 2015, present a final report to the PSP ECB.	South Central Caucus Group (reporter) *Commerce, Puget Sound Regional Council, Growth Management and local governments participating in this work*	• Residential and commercial development • Runoff from built environment • Agriculture	A4.2 (A2.3, A4.1)
SC14	**Retain forest canopy cover and soils to attenuate stormwater runoff**.	• By December 2015, WSU will hold workshops on coached forest management planning.	South Central Caucus Group	• Residential and	A2.1, (C4.1,

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	• Promote programs that support retention and increase in forest canopy cover on private and public lands, especially those in priority and sensitive areas. • Identify and implement watershed revegetation in the Swan Creek Watershed through the Pierce County Raise the Grade initiative.	• By January 2015, King Conservation District will implement at least two Forest Health Management Plans with technical and cost-share assistance. • By December 2015, King Conservation District will seek to secure funding for urban canopy assessment and management plan development for at least one local jurisdiction. • By December 2015, WRIA 8 will: ○ Implement Trees for Streams Program to protect and restore riparian area canopy cover and streamside vegetation in high-priority sub-basins (Cedar River, Bear Creek, and Issaquah Creek). ○ Conduct three workshops for property owners to promote riparian area stewardship. ○ Provide technical assistance to at least 30 property owners to develop planting plans and support plantings. ○ By December 2015, Pierce County Conservation District will implement at least two community planting events in the Swan Creek Watershed. ○ By third quarter 2014 and 2015, owners will conduct two workshops for property owners with livestock to protect and enhance riparian functions.	(reporter)	commercial development • Runoff from built environment • Timber harvesting	C1.1, C2.1, C2.2, E 1.6)

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

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

Corps = U.S. Army Corps of Engineers; ECB = Ecosystem Coordination Board; ECO Net = Education, Communication and Outreach Network; Ecology = Washington State Department of Ecology; FEMA = Federal Emergency Management Agency; LIO = local integrating organization; NOAA = National Oceanic and Atmospheric Administration; PSP = Puget Sound Partnership; WDFW = Washington Department of Fish and Wildlife; WRIA = Water Resources Inventory Area.

South Puget Sound Action Area

Description of the Action Area

The South Puget Sound Action Area[8] is one of the fastest growing areas in Washington State, exceeding the state's growth rate consistently since the 1960s. According to 2010 U.S. Census data, the action area population was just over 700,000 people. Population growth projections from the Washington State Office of Financial Management predict an average of 36% growth, which is across all four counties by 2040. The growth rate is high because of the stable economy, high quality of life, and lower cost of living compared to the Central Puget Sound region. Approximately 75% of the population growth is from people moving to the area—only 25% of the growth is from births.

Much of the population is centered near the towns and cities of Shelton, Olympia (the state capitol), Lacey, Tumwater, Steilacoom, University Place, Lakewood, Tacoma, and DuPont, the community of Allyn, and along shorelines. Land use varies from urban populations to rural and mixed use. Commercial forestry and tribal and non-tribal commercial shellfisheries dominate the natural resources industries.

NOTABLE ACCOMPLISHMENTS

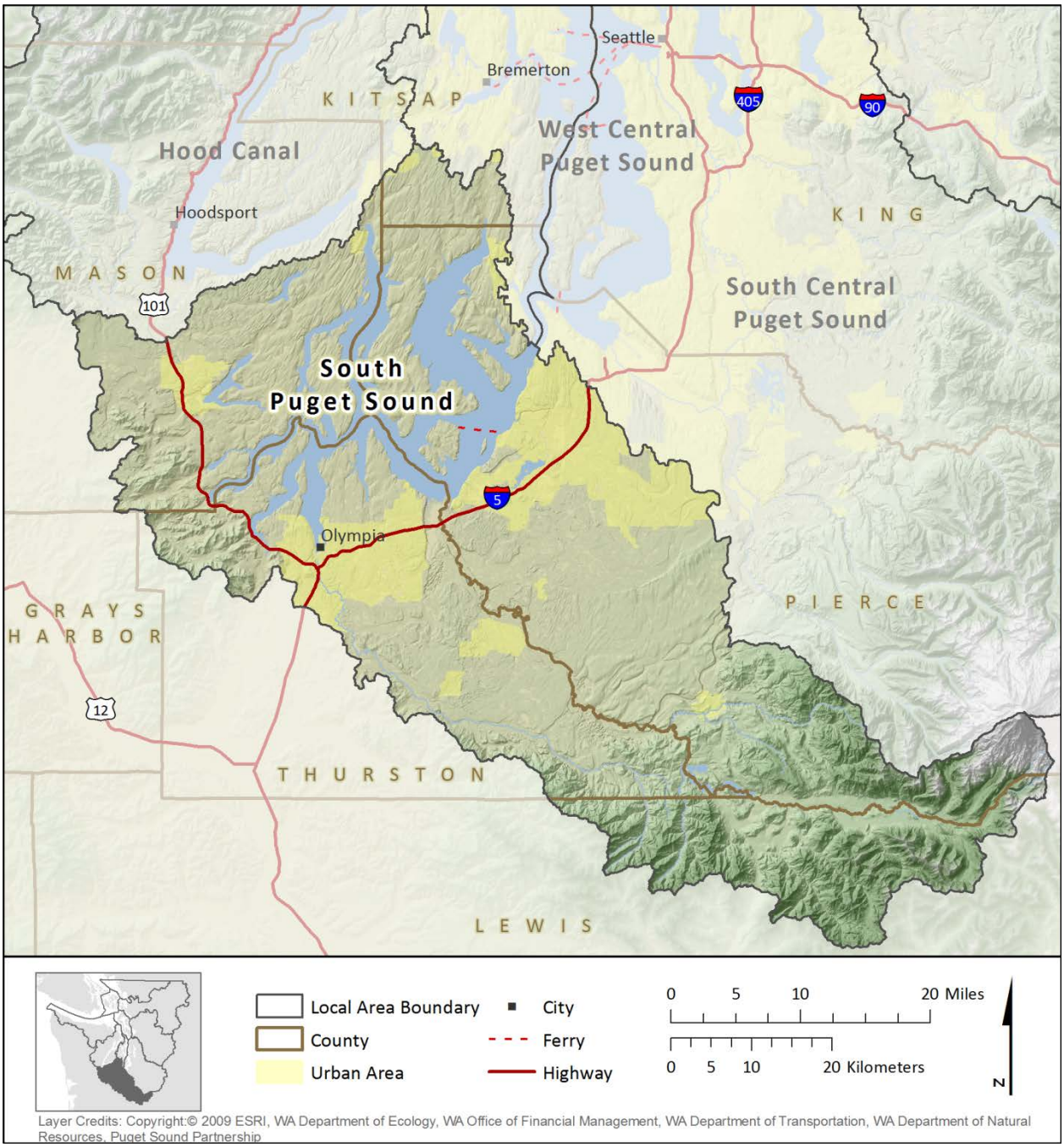
- The lead entities for salmon recovery in South Puget Sound and counties, non-governmental organization, and private partners worked together to secure the acquisition of the Devil's Head parcel on the Key Peninsula, resulting in permanent protection of 94 acres of shoreline, forested upland, and other important habitat.
- The Washington State Department of Natural Resources, Squaxin Island Tribe, Port of Olympia, South Puget Sound Salmon Enhancement Group, and private landowners partnered to remove toxic, derelict pilings and structures from the southern end of Budd Inlet in Olympia in 2013. A total of 394 pilings weighing 400 tons and 7,600 square feet of overwater structures were removed—an important first step in restoring ecological function in the tidelands. During the removal process, 12 tons of steel and 32 tons of concrete were recycled.
- The Pierce County Shellfish Partners worked to achieve recent upgrades of more than 210 acres of historic shellfish beds in Vaughn Bay, Purdy Spit, Mayo Cove, and Geldern Cove. Thurston County and partners upgraded 50 acres of historic shellfish beds and converted 131 septic systems to sewer in Henderson Inlet.
- Tidal hydrology has been restored to 902 acres of the Nisqually River delta, through a combination of 4 miles of dike removal and significant restoration efforts by the Nisqually National Wildlife Refuge and Nisqually Indian Tribe. The restored area, currently in a state of natural transition, may result in up to 50% of the salt marsh in South Puget Sound.

Unique Ecosystem Characteristics and Assets

The South Puget Sound Action Area is unique. It has seven finger inlets—each with its own headwater estuary—four large islands and over 450 miles of shoreline. Its terrain is characterized by rolling hills and ridges. Steep bluffs bordering Puget Sound are intersected by small, steep ravines that drain the upland areas. The terrain and soils of the area have been heavily influenced by past glacial activity.

[8] Water Resource Inventory Areas (WRIAs) 11, 12, 13, 14 and 15

SOUTH PUGET SOUND ACTION AREA



Hydrology in the action area is characterized by a number of short streams with headwaters in upland lake or wetland areas that drain into Puget Sound. The downstream reaches of these streams are usually confined within steeply sloping ravines with sidewall seeps. A number of estuarine bays and lagoons are located along the shorelines where these streams intersect with Puget Sound. Larger river systems include Nisqually and the Deschutes. Tidal ranges in the action area are extensive, with maximum ranges of upwards of 20 feet. Yet, much of the action area has slow circulation and sensitivity to nutrients, causing a trend to low dissolved oxygen.

The waters of the action area provide some of the finest shellfish habitat in the world and present an array of recreational, commercial, and tribal harvest opportunities. Washington leads the country in production of farmed clams, oysters, and mussels with an annual economic impact of over $185 million. Washington shellfish growers directly and indirectly employ over 2,700 people. The state's shellfish aquaculture industry generates 26.72 jobs for every $1 million in spending, which represents the highest employment multiplier of any natural resource industry in Washington.

It also has the highest rate of economic return to ports of landing within action area. The commercial shellfish industry is thriving, demand is expanding in markets worldwide, and clean water is the essential catalyst for continued success. Recreational use of the shorelines for clam digging, swimming, boating, fishing, and beach combing on state, county, city, and private beaches is popular. Efforts to restore populations of native shellfish—such as Olympia oysters—have increased in recent years, but non-native shellfish still dominate the assemblage of species that make up much of the economic backbone of action area.

Use of marine waters and nearshore areas by juvenile salmon and trout is high in the action area, not only for salmonids coming from freshwater systems in the area, but also during summer when salmon from elsewhere in Puget Sound, and even British Columbia, are known to feed in the rich South Sound.

Local Implementation Structure and Planning Process

The Alliance for a Healthy South Sound (Alliance) is the local integrating organization (LIO) for the South Puget Sound Action Area and has been meeting regularly since 2010. The Puget Sound Partnership's Leadership Council formally recognized the Alliance as the LIO in September 2011. The Alliance has an executive committee, a technical work group, and a council of stakeholders.

The executive committee, which provides policy direction for the Alliance, is composed of elected officials from the following entities.

- Thurston, Mason, Pierce, and Kitsap Counties
- Nisqually, Squaxin Island, and Puyallup Tribes

The council of stakeholders consists of approximately 35 members representing broad community interests and includes a number of sub-committees that provide technical guidance to the executive committee. Members and alternates are appointed to the council by the executive committee.

Working groups, including some existing South Sound groups, are assigned as needed to complete and/or report on specific tasks for work plan implementation. Membership on these working groups will not be limited to Alliance members.

To date, members of the council of stakeholders and working groups have included the following.

- Tribes: Nisqually, Squaxin Island, Puyallup
- Counties: Kitsap, Mason, Pierce, Thurston
- Cities: Olympia, Tumwater
- Ports: Port of Olympia

- Government entities/agencies: Mason Conservation District, Puget Sound Partnership, Thurston Conservation District, Washington State Department of Ecology, Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, Clean Water/Shellfish Districts, JBLM
- Watershed management and salmon recovery organizations: Chambers/Clover Watershed Council, South Puget Sound Salmon Enhancement Group, lead entities for WRIA 10, 11, 12, 13, 14, and 15
- Non-governmental organizations: LOTT Clean Water Alliance, Deschutes Estuary Restoration Team, People for Puget Sound, Capitol Lake Improvement and Protection Association
- Educational institutions: Washington State University Cooperative Extension for Thurston County, Washington Sea Grant
- Industry: Taylor Shellfish Company, Wilcox Farms
- Citizen representation

Prior to the formal creation of the LIO, local entities developed and led a process to identify key science needs, threats to ecosystem health, and both existing and desired actions/programs needed to advance ecosystem recovery in the South Puget Sound Action Area. The result of this work was an extensive report and inlet-by-inlet list of actions, programs, and strategies that contribute to the recovery of Puget Sound. Along with the process detailed below, the Alliance has drawn heavily on this list when articulating opportunities and priorities for ecosystem recovery. An all-inclusive list of strategies and actions was created, matching actions to the 2008 Action Agenda strategies, sub-strategies, and near-term actions.

In addition to the report, other ecosystem recovery actions have been identified through other processes, such as salmon recovery and local water quality project planning. In 2011, an extensive list of over 200 strategies and actions was compiled, and those actions were linked to the 2008 Action Agenda strategies, sub-strategies, and near-term actions. That list was reviewed refined by a technical work group, which produced a spreadsheet with 153 specific recovery actions.

The technical work group created a scoring process to assist in project prioritization. Each project was scored based on the geographic scale at which the action would occur and the degree to which it would reduce targeted ecosystem threats or stressors. Scores from the two parameters were evaluated and each project was given an effectiveness score from 1 to 4, with 1 being the most effective and highest priority. Of the 153 actions, seven actions had an effectiveness of 1, and 33 had an effectiveness of 2.

A policy work group reviewed these 40 actions, several of which were similar in type, but in different inlets or areas in the action area, and consolidated them into 25 interim priorities. These 25 priorities contribute directly to the Strategic Initiatives, in addition to salmon recovery goals articulated in the South Sound chapter of the Puget Sound Chinook Recovery Plan.

The Alliance evaluated the 25 interim priorities based on the following criteria: having full geographic representation (tribes and counties), feasibility of occurring in the next 2 years, measureable, and trackable. The technical work group and council of stakeholders distributed a draft list of 18 near-term actions for South Sound stakeholder and caucus review. These near-term actions were further edited, refined, and matched to sub-strategies and pressures by the technical work group, council of

stakeholders, and executive committee over several months in 2013–2014. In January 2014, the executive committee adopted the 18 near-term actions.

Additionally, the Alliance is developing an ecosystem recovery strategy to objectively assess and articulate which pressures and recovery targets are most applicable to the South Puget Sound Action Area. Through this process, the Alliance will refine its list of pressures and articulate its contribution to achieving the recovery targets.

Pressures

The list below represents previous work by Alliance members and others to capture some of the threats of potential consequence in the action area, but may be significantly refined based on the Alliance's ongoing assessment described above.

- Habitat conversion from historical conditions including loss of forest cover, reduced large woody debris and carbon inputs to stream systems, loss of storage in wetlands, reduction in habitat resilience, and degradation and loss of topsoil/duff layer.
- Land use practices and regulations in conflict with environmental goals, including lack of enforcement of regulations.
- Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces; asphalted and realigned stream channels; and native vegetation removal.
- Technical and financial difficulty with retrofitting many South Puget Sound cities for stormwater water quality treatment.
- High sensitivity for pollution due to low flushing rates and long residency times in South Puget Sound marine waters.
- A combination of natural and anthropogenic characteristics affecting dissolved oxygen conditions that may lead to stress and mortality of fish and other aquatic organisms in South Puget Sound marine waters.
- Use of onsite septic systems at contemporary urban densities, which degrades fresh and marine water quality.
- Increase in biotoxins, pathogens, and viruses, which result in loss of private, recreational, commercial, and tribal shellfish harvest.
- Above average growth rates shown over the last several decades expected in South Sound counties, which will present fundamental challenges in controlling nutrient inputs to South Puget Sound.
- Aquatic and terrestrial habitat alterations significantly reducing salmon population abundance, productivity, and resilience.
- Difficulty maintaining and increasing public access to shorelines due to future population growth and development pressure.
- Amplification of many current stressors to ecosystems, infrastructure, and human communities in action area from the impacts of climate change.

Local Near-Term Actions

The table below presents the local near-term actions for the South Puget Sound Action Area. Each local near-term action is listed with an identification code—which includes the action 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 or entities responsible for implementation of the near-term action, with the primary owner being responsible for tracking and reporting progress toward completing the action. The final columns provide regional context for the local actions, identifying the pressure(s) 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, *Strategies and Actions*, in the context of their primary sub-strategies.

Local Near-Term Actions in the South Puget Sound Action Area

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SS1	**Mason County enhanced septic repair grant and loan program.** Achieve a self-sustaining septic repair loan program through a partnership with Craft3, expressly targeting shellfish reopening and/or preserved open status in Oakland Bay, North Bay, Hammersley, Totten, and Little Skookum Inlet watersheds.	• Funded by 2016 • Number of inquiries • Number of completed loans • 100% of septic system receiving loans repaired • Net acres of shellfish beds re-opened	Alliance *Mason County*	• Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality. • Increase in biotoxins, pathogens, and viruses result in loss of private, recreational, commercial and tribal shellfish harvest.	C5.3
SS2	**Thurston County enhanced septic repair grant and loan program.** Achieve a self-sustaining septic repair grant and loan program, expressly targeting shellfish reopening and/or preserved open status in Henderson and Eld Inlet watersheds.	• Funded by 2016 • Number of inquiries • Number of completed loans • 100% of septic system receiving loans repaired • Net acres of shellfish beds re-opened	Alliance *Thurston County*	• Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality. • Increase in biotoxins, pathogens, and viruses result in loss of private, recreational, commercial and tribal shellfish harvest.	C5.3
SS3	**Pierce County enhanced septic repair grant and loan program.** Achieve a self-sustaining septic repair grant and loan programs, expressly targeting shellfish reopening and/or preserved open status in Nisqually, Case, Pickering, Carr and Island Inlet watersheds.	• Funded by 2016	Alliance *Pierce County*	• Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality. • Increase in biotoxins, pathogens, and viruses result in loss of private, recreational, commercial and tribal shellfish harvest.	C5.3

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SS4	**NPDES municipal stormwater permit implementation funding strategy development**. Municipal stormwater jurisdictions will develop a funding strategy to achieve a balance of local, state and federal funding for their stormwater programs, as needed.	• By June 2015, municipal stormwater jurisdictions will convene a meeting of stormwater permittees/stakeholders to determine the framework, process, and key issues to be included in a funding strategy that includes an agreed upon balance of local, state, and federal funding. • By June 2016, municipal stormwater jurisdictions will develop a funding strategy draft, vetted by a task force from the first set of meetings, for presentation to, and as a start to negotiations with, federal and state partners.	Alliance[3]	• Technical and financial difficulty with retrofitting many South Puget Sound cities for stormwater water quality treatment.	E1.4 (B.1.3, C.2.1)
SS5	**Small community stormwater reduction program**. Develop and enhance program with education, advocacy, and restoration elements addressing non-NPDES mandated stormwater programs in small communities.	• Develop or enhance programs with education, advocacy, and restoration elements in each of the following communities: Oakland Bay, Hammersley Inlet, Case Inlet, Pickering Passage, and Nisqually Watershed. • Program measures for the development and enhancement of these programs should include the following. ○ By June 2015, outline pilot programs and enhancements, as well as identify success measures. ○ Integrate with other ongoing programs where feasible. ○ By December 2015, implement programs. ○ By January 2016, evaluate and report. • By June 2016, adapt all programs to use successful measures.	WSU Extension *Mason Conservation District, Nisqually Tribe, Squaxin Island Tribe, Mason County, Thurston County, Thurston Conservation District, Pierce Conservation District, Town of Eatonville,*	• Above average growth rates shown over the last several decades and expected to continue, in South Sound counties, which will present fundamental challenges in controlling nutrient inputs to South Puget Sound.	C2.5 (C2.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
			City of Yelm, and other non-NPDES communities		
SS6	**South Puget Sound nutrient reduction strategy**. Implement nutrient reduction strategies as recommended in the Ecology dissolved oxygen study or as indicated from modeling results based on that report.	• Continue to track dissolved oxygen study. • By June 2015, begin discussions with Ecology to identify recommendations for nutrient reduction. • By June 2016, Alliance for a Healthy South Sound (LIO) technical team will work with the Ecology to develop specific recommendations for sub-basin nutrient reduction plans (based on dissolved oxygen report) in South Sound.	Alliance *ECO Net*	• High sensitivity for pollution due to low flushing rates and long residency times in South Puget Sound marine waters • A combination of natural and anthropogenic characteristics affecting dissolved oxygen conditions that may lead to stress and mortality of fish and other aquatic organisms in South Puget Sound marine waters.	C2.1
SS7	**Prevention of pollution and/or recovery of shellfish beds through education, outreach, and advocacy**. Customize outreach efforts aimed at each watershed-inlet for citizen involvement and improved effectiveness to achieve behavioral change through ECO Net.	• By June 2015, develop and launch a pilot program in two inlets that a) is specific to that inlet but that has categories that can be adapted to the needs of other inlets; b) addresses pollution prevention and/or shellfish recovery and c) identifies clear measures of success. • By June 2016, adapt that program to the other inlets.	WSU Extension *ECO Net, Thurston Conservation District, Mason Conservation District*	• High sensitivity for pollution due to low flushing rates and long residency times in South Puget Sound marine waters • A combination of natural and anthropogenic characteristics affecting dissolved oxygen conditions that may lead to stress and mortality of fish and other aquatic organisms in South Puget Sound marine waters. • Above average growth rates shown over the last several decades and expected to continue, in South Sound counties, which will present fundamental challenges in controlling nutrient inputs to South Puget Sound.	C1.4

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SS8	**Johns Creek (Bayshore) Estuary restoration.** Restore John's Creek (Bayshore) Estuary, a Puget Sound Nearshore Estuarine Restoration Program project.	• By June 2016, acquire, protect and fully restore 74 acres of biologically sensitive and culturally significant estuary, nearshore, riparian, and Puget Sound oak prairie habitat.	Squaxin Island Tribe	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	B2.2
SS9	**Deschutes River estuary restoration.** Remove the 5th Avenue dam and restore 346 acres of estuarine and intertidal habitat. The project was recommended by the Capitol Lake Adaptive Management Plan steering committee and is a WRIA 13 Lead Entity and Puget Sound Nearshore Estuarine Restoration Program priority project.	• By June 2015, develop funding strategy. • Support Puget Sound Nearshore Estuarine Restoration Program efforts to obtain federal support. • Build community support for estuary restoration by holding quarterly public meetings. • By June 2015, outline state legislative strategy. • By June 2016, complete strategy.	Squaxin Island Tribe	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	B2.2 (B2.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
SS10	**Sequalitchew Creek restoration**. Restore Sequalitchew Creek, a Puget Sound Nearshore Estuarine Restoration Program project.	• By June 2015, develop funding strategy. • Meet quarterly with landowners to further develop the recommended restoration action plans. • Continue discussions to update appropriate City of DuPont critical areas ordinances to allow for restoration actions to occur within the city. • Plan and implement appropriate watershed monitoring activities and involve local citizens.	South Puget Sound Salmon Enhancement Group	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	B2.2 (B2.1)
SS11	**Chambers Bay estuarine and riparian enhancement project**. Enhance estuarine habitat structure, increase salt marsh, and restore marine riparian habitat within and around Chambers Bay, a Puget Sound Nearshore Estuarine Restoration Program project. These actions will improve shallow-water refuge, increase foraging opportunity, and improve rearing capacity of the shoreline for salmon, particularly early life stages of Chinook, chum and pink salmon.	• By June 2015, complete the feasibility study and resolve the dam ownership and maintenance responsibility. • By June 2016, meet with stakeholders to coordinate fish passage and management responsibilities. • By June 2016, develop list of funding opportunities to scope and design the next project phase.	WRIA 10/12 Lead Entity	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	B2.2 (B2.1)
SS12	**Salmon recovery 3-year work plan implementation—WRIA 10/12**. Each lead entity will implement at least one top tier project each year from their	• By June 2016, target funding to the highest priority salmon recovery projects between 2014 and 2016, as listed in 3-year work plan for WRIA 10/12 Lead	WRIA 10/12 Lead Entity[4]	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream	A6.1 (B2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	South Sound Salmon Recovery 3-Year Work Plan. They will determine year one project and set up performance measures at the start of each fiscal year.	Entity. Projects may include acquisition, protection, and/or restoration actions.		systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	
SS13	**Salmon recovery 3-year work plan implementation—WRIA 13**. Each lead entity will implement at least one top tier project each year from their South Sound Salmon Recovery 3-Year Work Plan. They will determine year one project and set up performance measures at the start of each fiscal year.	• Between 2014 and 2016, target funding to the highest priority salmon recovery projects, as listed in 3-year work plan for WRIA 13. Projects may include acquisition, protection, and/or restoration actions.	WRIA 13 Lead Entity[4]	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	A6.1 (B2.2)
SS14	**Salmon recovery 3-year work plan implementation—WRIA 14**. Each lead entity will implement at least one top tier project each year from their South Sound Salmon Recovery 3-Year Work Plan. They will determine year one project and set up performance measures at the start of each fiscal year.	• Between 2014 and 2016, target funding to the highest priority salmon recovery projects as listed in 3-year work plan for WRIA 14. Projects may include acquisition, protection, and/or restoration actions.	WRIA 14 Lead Entity[4]	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer.	A6.1 (B2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
				• Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	
SS15	**Salmon recovery 3-year work plan implementation—WRIA 11**. Each lead entity will implement at least one top tier project each year from their South Sound Salmon Recovery 3-Year Work Plan. They will determine year one project and set up performance measures at the start of each fiscal year.	• Complete acquisition of 250-acre McKenna Ranch property. • Begin floodplain restoration of McKenna Ranch property. • Complete analysis, including modeling, and restoration designs for lower Nisqually/upper Nisqually estuary restoration. • Begin acquisition and restoration planning for Wilcox Reach.	WRIA 11 Lead Entity[5]	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	A6.1 (B2.2)
SS16	**Salmon recovery 3-year work plan implementation—WRIA 15**. Each lead entity will implement at least one high priority project each year from their South Sound Salmon Recovery 3-Year Work Plan. They will determine year one project and set up performance measures at the start of each fiscal year.	• Between 2014 and 2016, target funding to the highest priority salmon recovery projects as listed in 3-year work plan in the West Sound Watersheds Lead Entity. Projects may include acquisition, protection, and/or restoration actions.	West Sound Watersheds Lead Entity	• Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer. • Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to	A6.1 (B2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
				impervious surfaces' asphalted and realigned stream channels' and native vegetation removal.	
SS17	**Habitat and shellfish recovery through education and outreach**. Implement the Shore Stewards Program throughout the South Puget Sound Action Area. The voluntary program engages shoreline homeowners to implement BMPs and behavior practices to reduce pollutant inputs and to improve habitat. Develop a local welcome packet to engage, connect, and educate new shoreline homeowners about local issues and resources available to them.	• By June 2016, report number of new shore stewards signed up. • Every 2 years, conduct self-reporting survey to identify the number of shore stewards reporting behavior changes as a result of the program. • By June 2016, report number of new shoreline property owners reached. • By June 2016, report number of additional contacts for assistance resulting from the welcome packets. • Net acres of shellfish beds re-opened.	WSU Extension *Thurston Conservation District, Thurston County Planning Department, Pierce Conservation District, Mason Conservation District*	• Above average growth rates shown over the last several decades and expected to continue, in South Sound counties, which will present fundamental challenges in controlling nutrient inputs to South Puget Sound. • Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality. • Increase in biotoxins, pathogens, and viruses result in loss of private, recreational, commercial and tribal shellfish harvest. • Habitat conversion from historic conditions, including loss of forest cover; reduced large woody debris and carbon inputs to stream systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer.	C1.4 (D5.3)
SS18	**McNeil Island long-term conservation and low-impact public access**. Track state efforts to determine the long-term management strategy of McNeil Island. Support protection and restoration of habitat and natural resources of the island for low-impact public access.	• By June 2015, determine current status of McNeil Island ownership and management. • Semi-annual updates to Alliance for a Healthy South Sound (LIO) Council and Executive Committee from staff and/or invited guests.	Pierce County *Nisqually Tribe*	• Reduced development pressures to priority nearshore • Marine shoreline infrastructure	B2.1 (B2.2, B3.1, B4.2, D2.1)

Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

[2] Where secondary regional sub-strategies were identified, they are shown in parentheses after the primary sub-strategy

[3] Compiling reports from Stormwater Jurisdictions, including Phase 1 (Pierce, Tacoma), Phase 2 (Thurston, DuPont, Lacey, Lakewood, Olympia, Steilacoom, Tumwater, University Place), WSDOT, JBLM, and Secondary Permittees (Ports of Olympia and Tacoma, and others).

[4] Project will be determined through the regular lead entity process.

[5] Complete acquisition (where appropriate) and restoration of impaired mainstem Nisqually River floodplain habitat in the lower Nisqually, McKenna, and Wilcox Reaches.

BMP = best management practice; ECO Net = Education, Communication and Outreach Network; Ecology = Washington State Department of Ecology; LIO = local integrating organization; NPDES = National Pollutant Discharge Elimination System; WRIA = Water Resources Inventory Area; WSU = Washington State University.

Strait of Juan de Fuca Action Area

Description of Action Area

The Strait of Juan de Fuca Action Area (Strait Action Area)[9] includes the marine waters and associated watersheds from the northwestern tip of the Olympic Peninsula (Cape Flattery) to the eastern end of the Strait of Juan de Fuca (Point Wilson at Port Townsend). It is home to the Makah, Lower Elwha Klallam, and Jamestown S'Klallam Tribes; Clallam and Jefferson Counties; the Cities of Port Townsend, Port Angeles, and Sequim; the Dungeness National Wildlife Refuge; and much of Olympic National Park and Olympic National Forest.

The Strait of Juan de Fuca links the inner Puget Sound to the Pacific Ocean. It provides an essential pathway for exchange of incoming cold, dense saltwater and freshwater runoff from Puget Sound and Georgia Basin rivers. This exchange is assisted by strong ocean currents in the western end of the strait and intense tidal action in the eastern end.

NOTABLE ACCOMPLISHMENTS

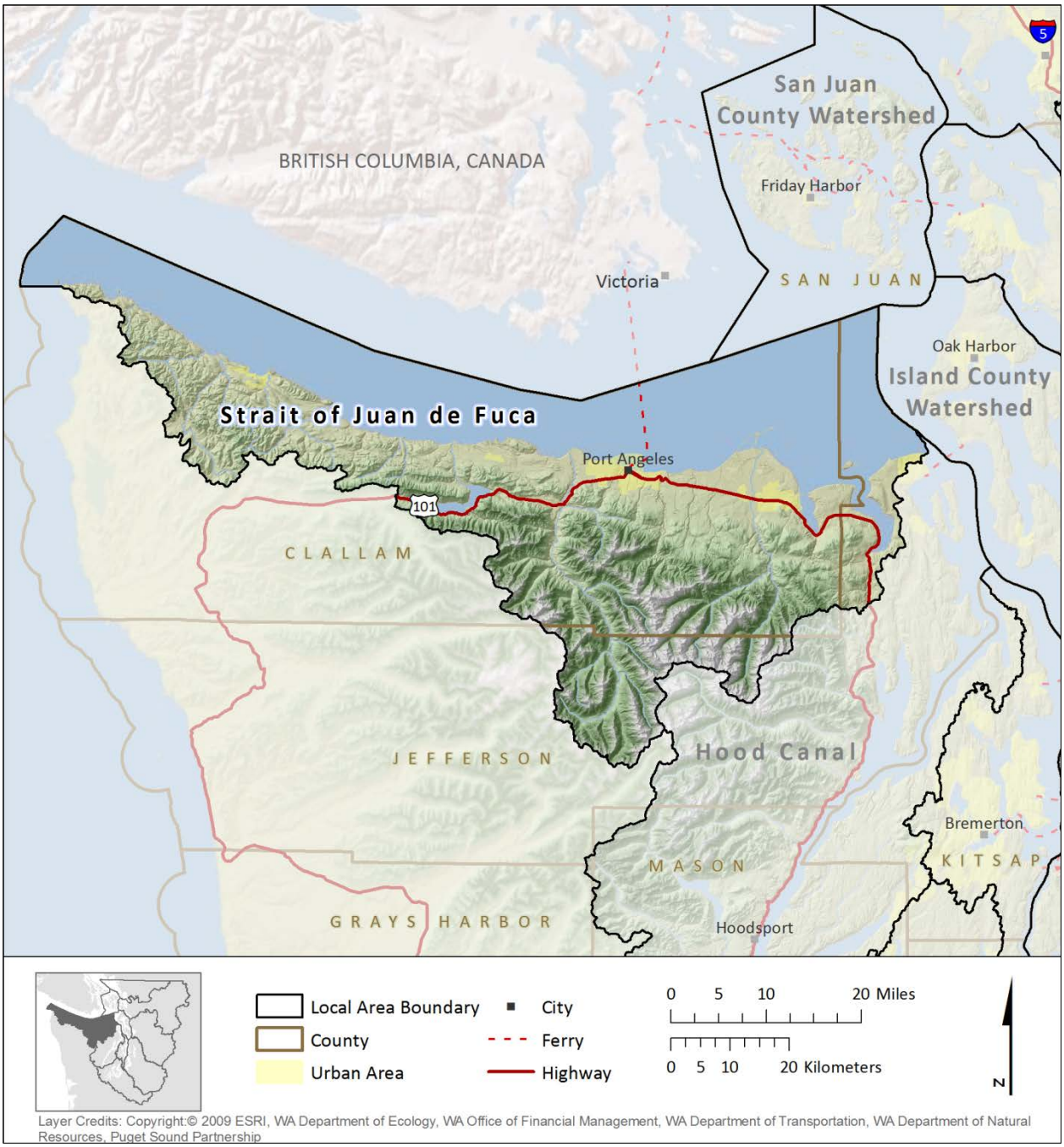
- Removed the entire lower Elwha Dam and most of the upper Glines Canyon Dam on the Elwha River.
- Improved connection to the northern end of Washington Harbor estuary to restore ecosystem function and access by salmon.
- Permanently protected 126.5 acres of salmon habitat within the Pysht River watershed.
- Adopted the updated Jefferson County and City of Sequim Shoreline Master Programs.
- Completed the Ecosystem Services Valuation and Watershed Stewardship Resource Center pilot projects.

The Strait Action Area has a rugged and diverse shoreline of 217 linear miles. The uplands are primarily forested, with most of the upper watersheds lying in federal, state, or private parks, forest or timberland. Many of the upper watersheds are in Olympic National Park. In other places, commercial timber harvest remains an important economic sector, supporting an active paper mill in Port Angeles.

More than three-quarters of the private land west of the Elwha watershed is zoned for commercial forest, and some areas in the western portion of the action area are in their third rotation for timber harvest. Agriculture also is part of the rural landscape along the strait, with approximately 5,000 acres of irrigated farmland in the dry Sequim-Dungeness Valley. Smaller-scale agriculture occurs in other scattered areas, particularly the Salt Creek area west of Port Angeles and in the Discovery Bay watershed.

[9] Water Resource Inventory Areas (WRIAs) 17, 18, and 19

STRAIT OF JUAN DE FUCA ACTION AREA



Many other economic activities in the area also depend directly on the Puget Sound ecosystem, and include ship building/repair, marinas, shellfish culture and harvest, commercial and recreational fishing, and tourism. A large retirement population, drawn by the relatively dry climate, scenic environment, and other community features, has shifted the economy in the eastern portion of the action area toward more service-based activities. Marine transportation is hugely reliant on the Strait of Juan de Fuca, as almost all the vessels entering or leaving the seaports of Puget Sound and the Georgia Basin pass through it.

Unique Ecosystem Characteristics and Assets

The Strait of Juan de Fuca is the migration and transportation corridor between Puget Sound and the Pacific Ocean for many species of fish, marine mammals, bird populations, and humans. The marine shoreline and nearshore contain the majority of Washington's coastal kelp resources. The strait has 95 linear miles of floating kelp, 161 linear miles of non-floating kelp, and 75 linear miles of eelgrass. The kelp forests and eelgrass meadows provide food and cover for outbound and returning runs of salmon from all over Puget Sound, as well as birds, marine mammals, and the species they depend on. The connectivity of kelp and eelgrass habitat in the strait is essential to the function of the Puget Sound ecosystem. Sheltered bays, beaches, and over 22 small "pocket" estuaries at the mouths of the many creeks entering the strait also provide critically important habitat for salmon, bull trout, forage fish, and shellfish.

Unique populations of raptors, marine birds, Roosevelt elk, black-tailed deer, marmots, and other mammals, as well as anadromous and resident fish, are found throughout the strait. Notable bird species include the federally protected northern spotted owl and marbled murrelet. Olympic National Park recently reintroduced the fisher, a larger relative of the weasel, which has been locally extinct for decades. The population of sea otters that migrates between the outer coast and the strait has increased from the initial 59 animals reintroduced in 1969–1970 to 800 animals, but is still small enough to be highly vulnerable to a catastrophic event such as an oil spill. Protection Island, part of the Dungeness National Wildlife Refuge, is a critically important marine bird rookery for Puget Sound. This island and other portions of the strait are important haul-out areas for seals and sea lions.

In 2011, the 3-year process of removing the Elwha and Glines Canyon Dams was started in order to restore a free-flowing Elwha River. Removal of the lower Elwha Dam is now complete and over 50% of Glines Canyon Dam has been removed. Lake Mills and Lake Aldwell reservoirs have been drained, and the Elwha River now flows freely from its headwaters in the Olympic Mountains to the Strait of Juan de Fuca for the first time in 100 years. Removal of the Glines Canyon Dam is scheduled to be complete by September 2014. As the largest dam removal project in U.S. history, it will reopen more than 70 miles of mostly pristine spawning and rearing habitat in the Elwha River and its tributaries. Salmon populations are predicted to swell from 3,000 to nearly 400,000 as all five species of Pacific salmon return to one of the Pacific Northwest's historically most productive salmon streams. The Elwha is the largest watershed in Olympic National Park, and the return of salmon to this ecosystem will provide marine-derived nutrients to the watershed, restoring a vital food source for the range of life that inhabits it.

Local Implementation Structure and Planning Process

The Strait Ecosystem Recovery Network (ERN) was originally formed in 2009 following adoption of the first Action Agenda by the Puget Sound Partnership's Leadership Council in 2008. In June 2010, the Leadership Council recognized the Strait ERN as the local integrating organization (LIO) for the Strait Action Area.

The Strait ERN LIO is guided by a steering group, which is staffed by a coordinator, and consists of representatives from the following entities.

- 24th District, State Representative (co-chair)

- Jefferson County, Commissioner (co-chair)
- Clallam County
- Jamestown S'Klallam Tribe
- North Olympic Timber Action Committee
- Olympic Environmental Council
- Washington Department of Fish and Wildlife
- Puget Sound Partnership (ex-officio)

The co-chairs of the steering group (and the Strait ERN LIO) are also the Strait Action Area's representative and the designee for the Partnership's Ecosystem Coordination Board.

As needed, the Strait ERN LIO forms task force groups, made up of volunteers from the membership, to focus on implementing local strategies and near-term actions.

Starting in 2009, the Strait ERN LIO worked to identify priority pressures on the local ecosystem and define, prioritize, and link local strategies and near-term actions to the sub-strategies, Strategic Initiatives, and recovery targets. As a supplement to that work, the Strait ERN LIO held numerous speaker forums at quarterly meetings to gain background information on a variety of strategic topics that have included the following.

- Fin fish aquaculture
- Diarrhetic shellfish poisoning
- Port Angeles Harbor sediments investigation
- Wild Olympics campaign
- State roads: stormwater impacts and mitigation opportunities
- North Olympic Peninsula instream flow rules
- City of Port Angeles/Elwha Beach and Bluff Nearshore Management and Restoration
- Changing oil spill risk along the Strait of Juan de Fuca and adjacent waters
- ESA-listed Puget Sound steelhead recovery planning and critical habitat
- Ecosystem Services Valuation Pilot Project
- Watershed Stewardship Resource Center Pilot Project

The following entities participated in or contributed to this process.

- Tribes: Makah, Lower Elwha Klallam, Jamestown S'Klallam, and Port Gamble S'Klallam
- Counties: Clallam and Jefferson
- Cities: Port Angeles, Sequim, and Port Townsend
- Ports: Port Angeles and Neah Bay
- Government entities/agencies: Clallam and Jefferson Conservation Districts, Hood Canal Coordinating Council (HCCC), Point-No-Point Treaty Council, Puget Sound Partnership, Washington

Departments of Fish and Wildlife, Ecology, and Natural Resources, US Coast Guard Sector Seattle, and Olympic Coast National Marine Sanctuary

- Watershed management, salmon recovery, and marine organizations: North Olympic Peninsula and Hood Canal Coordinating Council Lead Entities, management teams or councils for WRIAs 19, 18 (including Elwha-Morse Management Team and Dungeness River Management Team), and 17 (East Jefferson Watershed Council), and Clallam and Jefferson County Marine Resources Committees, a part of the Northwest Straits Commission, Sequim-Dungeness Clean Water District, and Sunland Water District
- Business-based non-governmental organizations: North Olympic Timber Action Committee, Pacific Shellfish Growers Association, North Peninsula Home Builders Association - BuiltGreen™ of Clallam County, Multi-Vision Integration LLC, and Northwest Maritime Center
- Natural resource-based and working land preservation non-governmental organizations (with wide Strait of Juan de Fuca geographic coverage): North Olympic Salmon Coalition, North Olympic Land Trust, Jefferson Land Trust, Olympic Environmental Council, Protect the Peninsula's Future, North Olympic Peninsula Group of the Sierra Club, and Coastal Watershed Institute
- Educational institutions: Washington State University Jefferson County Extension and Washington Sea Grant
- Place-based educational/public involvement organizations: Strait ECO Net, Feiro Marine Science Center, Dungeness River Audubon Center, and Port Townsend Marine Science Center
- Volunteer-based public involvement organizations: Washington State University Clallam and Jefferson County Beach Watchers/Water Watchers and Shore Stewards and Clallam County Streamkeepers

In 2011, the Strait ERN LIO undertook an extensive and aggressive effort to complete a strategic plan and work plan to implement the 2012/2013 Action Agenda. As part of that process and based on guidance from Puget Sound Partnership staff, the LIO developed a list of the most immediate and significant pressures on the local ecosystem. Using this list of pressures as a guide, the LIO identified 25 local strategies that would benefit most from its focused support and advocacy work. The LIO used the prioritization methods from Open Standards for Conservation process, supported by the Puget Sound Partnership (Section 1, *Regulatory Context*), to help rank the six highest priority local strategies.

For this 2014/2015 Action Agenda update, the LIO refined and reformatted these original six highest priority local strategies and associated specific actions and added two new local strategies[10]. These local strategies, the first six of which are in rank order, guided the development of the near-term actions listed in the following section.

1. Support efforts to monitor, adaptively manage, and restore the Elwha River ecosystem.
2. Implement salmon recovery 3-year work plans.
3. Support Improvements in oil spill prevention, preparedness, and response, within the strait action area and adjacent waters.

[10] At the LIO's December 6, 2013, and February 28, 2014, quarterly meetings, the membership voted to include the two additional local strategies. These two strategies were not ranked by the LIO.

4. Develop and adopt shoreline master programs, and work to coordinate implementation of these programs among local governments.
5. Update and implement stormwater management programs and work to coordinate implementation of these programs using a watershed-based approach.
6. Develop, adopt, and implement water resources management program rules.

- Support climate change mitigation, adaption, and implementation of programs and plans.
- Implement water quality clean-up plans.

Local Near-Term Actions and Opportunities

The table below presents the local near-term actions for the Strait Action Area. 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 or entities responsible for implementation of the near-term action, with the primary owner being responsible for tracking and reporting progress toward completing the action. The final columns provide regional context for the local actions, identifying the pressure(s) 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, *Strategies and Actions*, in the context of their primary sub-strategies.

Comprehensive and detailed information on each of the following near-term actions can be found in the quarterly Performance Management Status Reports provided to the Puget Sound Partnership.

Local Near-Term Actions for the Strait Action Area

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT1	**Assess vulnerabilities of local communities, tribes, and natural resources to the effects of climate change and concurrent human population increases**. • Identify adaptive mechanisms for consideration and possible incorporation into the next updates of Growth Management Act comprehensive plans and other local regulatory and planning processes and documents by the five local jurisdictions and other organizations. • Assess the vulnerabilities of the five local jurisdictions and four tribes' usual and accustomed areas to the effects of climate change and concurrent increases in human population on land use, infrastructure, and natural resources. Identify specific adaptive mechanisms (i.e., policies, regulations, programs, and plans) for consideration and possible incorporation into the next updates of Growth Management Act comprehensive plans and other local regulatory and planning processes and documents by five local jurisdictions and other organizations.	• By December 2016, the Climate Adaptation Plan will be presented to six local municipalities, planning commissions, public utility districts, watershed planning organizations and community development departments in Jefferson and Clallam Counties during the comprehensive plan update process.	North Olympic Peninsula Resource Conservation and Development Council *Local 2020 Climate Action Group* *Olympic Climate Action Group*	• Climate change (effects) • Dams, levees, floodgates, and culverts • Residential, commercial, and port development • Roads, transportation and utility infrastructure • Shoreline armoring • Surface water loading and runoff from built environment • Timber harvest • Water withdrawals and diversions	A1.2 (A5.2, B1.2)
STRT2	**Implementation of water quality cleanup plans for Sequim-Dungeness Bay and East Jefferson County Clean Water Districts**. Implement Sequim-Dungeness Bay and East Jefferson County Clean Water District Cleanup Plans and projects according to	• Clallam County: By December 2014, develop and adopt a pollution identification and correction program in 2015–2016, begin implementation of the plan. • Jefferson County: By July 2015, develop a Comprehensive Water Quality Improvement	Clallam and Jefferson Counties *Sequim-Dungeness Clean*	• Livestock grazing • Onsite sewage systems	C9.4 (C3.1, C5.1, C7.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	implementation strategies, onsite sewage system management plans, monitoring, and other activities required in Marine Recovery Areas under RCW 70.118A.	Plan; by December 2016, develop a Prioritized Work Plan.	*Water Work Group, Jamestown S'Klallam Tribe, Clallam Conservation District, Jefferson Conservation District*		
STRT3	**Implement the Elwha River restoration project monitoring and management plans**. Plans include two hatchery genetic management plans, one for each hatchery facility, and the Elwha Project's Chinook and Steelhead Monitoring Plan. Implementation of these plans will also be informed by a comprehensive Elwha monitoring and adaptive management plan to be published by the USFWS (currently in peer review).	• Implement a monitoring strategy for adults, juveniles, and smolts that provide statistically valid information on abundance and distribution required to achieve restoration goals. • Specifically, achieve 15% coefficient of variation on data collected. • Annually achieve monitoring results for: Juvenile outmigration from mid-February to June. • Monitor adult chinook abundance from June through October. • Monitor adult steelhead abundance February through July. • Monitor adult coho and chum spawn abundance November through beginning of January. • Monitor adult pink spawn abundance. • Abundance (natural-origin adult spawning escapement): 1,028 for Chinook and 500 for Steelhead. • Productivity (# juveniles / female): 200 for Chinook and 75 for Steelhead	Olympic National Park *LEKT, NOAA, USFWS, USGS, WDFW, BOR, North Olympic Lead Entity for Salmon*	• Aquaculture, climate change, dams, levees, floodgates, and culverts, harvesting, recreational activities, residential, commercial and port development, shoreline armoring, water withdrawals and diversions	A6.3 (A6.1)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT4	**Implement the highest priority habitat restoration and protection projects in the Elwha River ecosystem as informed by adaptive management**. Refer to the monitoring and adaptive management plans for the Elwha and the North Olympic Lead Entity for Salmon's 3-year work plan, in part, for guidance. Adaptive management over the coming years may show that habitat restoration and protection projects become a higher priority. The 3-year work plan currently includes the following high priority restoration projects: Little River Large Woody Debris, Elwha Dike Removals, Elwha River Estuary Restoration Engineering Feasibility, and Elwha Conservation Planning. Elwha Revegetation and Elwha Engineered Log Jams projects are also a part of the 3-year work plan but are specifically cited as separate Strait Action Area local near-term actions. See the 3-year work plan for descriptions and costs for each project.	• By 2016, three projects will be funded.	Lower Elwha Klallam Tribe North Olympic Park*, North Olympic Lead Entity for Salmon*	• Aquaculture, climate change, dams, levees, floodgates, and culverts, harvesting, recreational activities, residential, commercial and port development, shoreline armoring, toxics and legacy contaminants, water withdrawals and diversions	A6.1 (A6.3, B2.2)
STRT5	**Implement the high priority actions listed within the most current North Olympic Lead Entity for Salmon's 3-year work plan**. This effort includes working with the HCCC-Lead Entity on summer chum recovery. Eventually, steelhead actions will also be incorporated into the 3-year work plan. Note: Number of projects funded each year is dependent on funding available and cost of each project.	• In 2014, seven Salmon Recovery Funding Board and Puget Sound Acquisition and Restoration projects funded. • In 2015, 10 Salmon Recovery Funding Board and Puget Sound Acquisition and Restoration projects funded.	North Olympic Lead Entity for Salmon (reporter)	• Agriculture • Climate change • Dams, levees, floodgates, and culverts • Roads, transportation and utility infrastructure • Residential, commercial and port development	A6.1 (A5.4, A6.3, B2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
				• Roads, transportation and utility infrastructure • Shoreline armoring • Timber harvest • Water withdrawals and diversions	
STRT6	**Implement the restoration and revegetation plan for Lake Mills and Lake Aldwell on the Elwha River**.	• By 2016, plant 360 total acres (i.e., 130 acres in both 2014, 130 acres in 2015, 100 acres in 2016). • Each year, through 2016 (and beyond if needed), treat the 700 acres associated with the drained reservoirs to achieve a 75% reduction in invasive species.	Olympic National Park *Lower Elwha Klallam Tribe*	• Climate change • Dams, levees, floodgates, and culverts • Invasive species - terrestrial	A6.1
STRT7	**Implement Dungeness river floodplain restoration projects**.	• By end of 2016, complete design to reconnect 100 acres floodplain [Note: Floodplain acquisition and stewardship (planting and maintenance) is ongoing in anticipation of the reconnection].	Clallam County Department of Community Development *Corps, Jamestown S'Klallam Tribe, WDFW, WSDOT, North Olympic Lead Entity for Salmon*	• Agriculture • Climate change • Dams, levees, floodgates, and culverts • Livestock grazing • Resident, commercial and port development • Roads, transportation and utility infrastructure • Shoreline armoring	A6.1 (A5.4)
STRT8	**Monitor interaction of existing engineered log jams with sediment load from removed Elwha River dams and consider additional engineered log jams, when and where necessary**.	• By 2016, document pool and spawning gravel formation.	Lower Elwha Klallam Tribe	• Dams, levees, floodgates, and culverts	A6.1

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT9	**Implement the Pysht River salt marsh estuary restoration project**. Project includes removal of suction and clamshell dredge deposits placed on a 21.5 acre area of historic salt marsh within the Pysht River estuary. Also, construct a series of tidal channels (2 miles) to allow for natural recolonization of salt tolerant native plants.	• By 2016, restore 21.5 acres of saltmarsh and 2 miles of tidal channels.	Lower Elwha Klallam Tribe *Merrill and Ring, Forterra*	• Climate change • Dams, levees, floodgates, and culverts • Roads, transportation and utility infrastructure • Shoreline armoring	A6.1 (B2.2)
STRT10	**Implement the high priority actions for the Strait Action Area listed within the most current HCCC-Lead Entity salmon recovery 3-year work plan**. This effort includes working with the North Olympic Lead Entity for Salmon on summer chum recovery. Eventually, steelhead actions will also be incorporated into the 3-year work plan. Note: Number of projects funded each year is dependent on the funding available, cost of each project, and the current reevaluation of priorities.	• By 2016, 13 projects funded in eastern Strait of Juan de Fuca.	HCCC- Lead Entity (reporter)	• Agriculture • Climate change • Dams, levees, floodgates, and culverts • Resident, commercial and port development • Roads, transportation and utility infrastructure • Shoreline armoring • Timber harvest • Water withdrawals and diversions	A6.1 (A5.4, A6.3, B2.2)
STRT11	**Implement the Snow Creek Estuary and Maynard Beach nearshore restoration project**. Project includes railroad grade fill removal, bulkhead removal, estuary restoration, and beach restoration. (Note: Effort will also address the Olympic Discovery Trail)	• Snow Creek Estuary: By year end 2015, removal of 11.1 acres of fill/ delta cone in salt marsh, and 2.5 acres of riparian plantings. • Maynard Nearshore: By year end 2014, removal of 4 acres of nearshore fill, 1,250 linear feet of bulkhead, and 3 acres of riparian plantings.	North Olympic Salmon Coalition	• Climate change • Roads, transportation and utility infrastructure • Shoreline armoring	A6.1 (B2.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT12	**Expand oil spill drills along the Strait of Juan de Fuca and coast**. Regularly conduct worst-case oil spill exercises, including equipment deployment, in this region. The combined spill response assets housed in Neah Bay and Port Angeles afford substantial opportunities to drill. In addition, consider coordinating efforts with the Northwest Maritime Center in Port Townsend to host and expand drills and table-top exercises along the Strait of Juan de Fuca, outer Coast, and Puget Sound waterways utilizing their Pilothouse/Oil Spill Training Center. Drills and exercises should incorporate vessels of opportunity, publicly funded response equipment caches, and maritime industry participants as well. All of these assets are owned by various different organizations, that if drilled together, would afford opportunities to improve efficiencies through coordination.	• By 2016, participate in the worst-case or deployment drill planning process. (Note: Participants will likely include representatives from the Makah Tribe Office of Marine Affairs, Northwest Maritime Center, and possibly, the local offices of the Marine Spill Response Corporation and other appropriate Strait ERN LIO member organizations.)	Makah Tribe and Northwest Maritime Center *Appropriate members of LIO* *U.S. Coast Guard* *Ecology* *Department of Fish and Oceans* *Transport Canada*	• Moderate to large hazardous spills	C8.2
STRT13	**Improve trans-boundary coordination on oil spill preparedness and response**. Support enhancement of the U.S. and Canadian Coast Guards' annual joint spill response exercises, known as U.S. / Canadian Joint Response Team (CANUSPAC), on both sides of the border with additional equipment and personnel. Also, support implementation of the U.S. Coast Guard Reauthorization Act that called for both countries to reevaluate the comparability of spill response, tug escort, and rescue towing assets on either side of the border as cited within the Combined Vessel Traffic Service Treaty. Additionally, the	• By 2016, ensure one (or possibly more) CANUSPAC Exercise (or deployment) is conducted that incorporates trans-boundary movement of personnel and/or equipment. (Note: Participate in exercises when held in Strait Action Area; when possible, observe appropriate exercises held outside of Strait Action Area.)	Makah Tribe *Appropriate members of LIO* *U.S. Coast Guard* *Ecology* *DFO* *Transport Canada*	• Moderate to large hazardous spills	C8.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	current estimates of Canadian vessel traffic projections need to be incorporated into updates of vessel traffic risk assessments.				
STRT14	**Support the establishment of a Neah Bay Vessel of Opportunity Program**. Once established in Neah Bay, support expansion of the program to other locations along the Strait of Juan de Fuca, including the Ports of Port Angeles and Port Townsend.	• By December 2016, enhance existing Neah Bay Vessel of Opportunity Program standards, and assist other efforts, through participation in existing regional rulemaking and permitting processes.	Makah Tribe *Ecology* *Industry Groups* *U.S. Coast Guard*	• Moderate to large hazardous spills	C8.2
STRT15	**Implement the City of Port Townsend's Shoreline Master Program through public education and incentive programs**. Education and incentive programs will be made available and promoted to City residents. Programs include promotion of improved stormwater management, removal of shoreline armoring, and restoring native marine riparian vegetation along the city's shorelines. Shoreline education and technical assistance will be offered through implementation of Phase 2 of Jefferson County's Watershed Stewardship Resource Center, as described in two other Strait Action Area near-term actions.	• By 2016, hold four public educational events. • By 2015, complete one "shovel-ready" plan for a high-priority stormwater management project.	Jefferson County Marine Resources Committee *Jefferson County* *Washington State University Extension* *City of Port Townsend*	• Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring • Surface water loading and runoff from built environment	B1.2 (B2.3, C2.3, D7.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT16	**Finalize and adopt the Shoreline Master Program, and update and implement the highest priority projects listed within the City of Port Angeles shoreline restoration plan, a part of the city's updated Shoreline Master Program**. In addition to finalizing and adopting the Shoreline Master Program update, the focus is on beach restoration projects within Port Angeles Harbor, including inner Ediz Hook, West End Park, and Hollywood Beach.	• By 2014, adopt the Shoreline Master Program. • By 2014 and 2015, restore 8,606 feet (1.62 miles) of marine shoreline in Port Angeles Harbor by completing beach restoration projects, including ○ Ediz Hook by 2014. ○ West End Park by 2015. ○ Hollywood Beach (to be fully designed by 2015 with implementation to follow).	City of Port Angeles Department of Community and Economic Development	• Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring • Surface water loading and runoff from built environment • Toxics and legacy contaminants	B1.2 (A1.2, B1.2, B2.2, B2.3)
STRT17	**Implement the highest priority projects listed within the City of Sequim Restoration Plan, a part of the city's updated Shoreline Master Program**. The current focus for this action is on Restoration Priority 7.1 from the city's Restoration Plan, namely "Improve Water Quality and Reduce Pollutant Delivery." This focus area is also a part of the local near-term action titled Develop a Storm and Surface Water Management Plan for the City of Sequim.	• By 2016, adopt Storm and Surface Water Management Plan and drafts of ordinances	City of Sequim Department of Community Development	• Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	C2.2 (A7.2, C2.1, C2.2, C2.3)
STRT18	**Provide shoreline education, training, and technical assistance in Jefferson County and City of Port Townsend through implementation of Phase 2 of SquareONE (formally called Watershed Stewardship Resource Center)**. Consider expansion of the SquareONE concept to the other three local jurisdictions within the Strait Action Area.	• By 2016, hold four workshops with the number of attendees at workshops and before and after surveys showing improved knowledge. • By December 2016, complete a final report on decisions to expand the SquareONE concept to other Strait Action Area local jurisdictions.	Jefferson County Department of Community Development	• Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring (see STRT31 for	B1.3 (A1.2, B1.2, B2.3, D7.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	Following lessons learned from the SquareONE pilot project in Jefferson County; consider implementing Phase 2 to include the City of Port Townsend. Also, consider possible expansion of the concept to the other three local jurisdictions within the Strait Action Area. This action is one of a number of efforts to coordinate implementation of shoreline master programs among local governments within the Strait Action Area. (Note: This action has a double benefit in that it is also a part of C2.5 STRT31.)			surface-water loading and runoff from built environment)	
STRT19	**Organize and implement annual Jefferson County restoration planning summits**. Organize and implement the first annual Jefferson County Restoration Planning Summits, one for marine and one for freshwater areas. Consider implementing follow up activity, where needed.	• By December 2016, complete first annual Restoration Planning Summit. (Note: Marine related summit completed February 2014)	Jefferson County Marine Resources Committee *Jefferson County Department of Community Development* *(marine summit), Jefferson County Department of Community Development (freshwater summit)*	• Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2, B2.2, B2.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT20	**Implement the highest priority projects listed within the Jefferson County Shoreline Restoration Plan, a part of the County's updated Shoreline Master Program**. Implement the highest priority shoreline restoration projects.	• By December 2016, implement two bulkhead removal or bio-stabilization projects and two riparian enhancement projects along high priority shorelines. • Initiate conversations with at least one public agency regarding intertidal fill or culvert removal projects on a high priority shoreline (see page 7-1 of Shoreline Master Program Shoreline Restoration Plan).	Jefferson County Department of Community Development	• Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2, B2.2, B2.3)
STRT21	**Assess implementation of the Jefferson County Shoreline Restoration Plan, a part of the County's updated Shoreline Master Program**. Regularly assess implementation of the Jefferson County Shoreline Restoration Plan.	• By December 2014: ○ Identify at least two potential bulkhead removal/ bio-stabilization projects on high priority shorelines, apply for funding and initiate steps toward implementation. ○ Identify at least two potential riparian enhancement projects on high priority shorelines, apply for funding and initiate steps toward implementation. ○ Initiate conversations with at least one public agency regarding an intertidal fill removal or culvert removal project on a high priority shoreline. • By December 2018: ○ Complete at least two bulkhead removal/ bio-stabilization projects. ○ Complete at least two riparian enhancement projects. ○ Initiate technical work to support at least one large-scale intertidal fill removal or culvert removal project on a high priority shoreline.	Jefferson County Department of Community Development	• Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2, B2.2, B2.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT22	**Develop and adopt the update of the Clallam County Shoreline Master Program**.	• In 2014, adopt Shoreline Master Program.	Clallam County Department of Community Development	• Climate change • Recreational marinas • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2)
STRT23	**Identify and implement a framework for measuring and tracking no net loss in Clallam and Jefferson Counties.** Complete the Enhanced Shoreline Protection project (EPA Watershed Management Assistance Program Grant) for Clallam and Jefferson Counties and evaluate the results to determine next steps for implementation.	• In 2014, adopt the Framework of Indicators and no net loss Project Specific Checklist for Clallam County. • In 2014, adapt and begin field testing of no net loss Project Specific Checklist in Jefferson County.	Clallam and Jefferson County Departments of Community Development	• Climate change • Recreational marinas • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2)
STRT24	**Expand pilot Ecosystem Services Valuation analysis conducted along the Central Strait nearshore to other shorelines within the Strait Action Area and North Olympic Peninsula**. Following lessons learned from the pilot Ecosystem Services Valuation analysis along the Central Strait nearshore within Clallam County and the City of Port Angeles, consider expanding the effort to other shorelines within the Strait Action Area and North Olympic Peninsula. This action is one of a number of efforts to coordinate implementation of shoreline master programs among local governments within the Strait Action Area.	• By 2016, complete Ecosystem Services Valuation within Clallam and Jefferson Counties.	Clallam and Jefferson County Departments of Community Development *Cities of Port Angeles, Sequim, and Port Townsend*	• Climate change • Dams, levees, floodgates, and culverts • Recreational marinas • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (B2.2, B2.3, D7.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT25	**Identify implementation priorities for the adopted update of the Clallam county Shoreline Master Program.** Following adoption of Clallam County's Shoreline Master Program update, identify implementation priorities, such as improved mapping capabilities to identify and monitor functions of vulnerable shorelines, an effective shoreline landowner outreach program, etc.	• By 2015, list priority actions.	Clallam County Department of Community Development	• Climate change • Recreational marinas • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2, D7.4)
STRT26	**Develop a monitoring and adaptive management strategy for the adopted update of the Clallam County Shoreline Master Program, one that's based on the no net loss indicators**. Following adoption of Clallam County's Shoreline Master Program update, develop a monitoring and adaptive management strategy that's based on the no net loss indicators developed by the Enhanced Shoreline Protection project.	• By 2015, complete monitoring and adaptive management strategy.	Clallam County Department of Community Development	• Climate change • Recreational marinas • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring	B1.2 (A1.2)
STRT27	**Adopt the City of Port Townsend's Stormwater Management Plan**. Review and adopt local Low Impact Development codes and standards related to stormwater management and land development practices, to include an evaluation of stormwater conditions and needs within the 18 sub-basins of Port Townsend.	• By 2016, adopt Stormwater Management Plan	City of Port Townsend Public Works Department	• Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	C2.2 (C2.1, C2.3)
STRT28	**Develop and adopt a Storm and Surface Water Management Plan for the City of Sequim**. Develop a Storm and Surface Water Management Plan, including adoption of Low	• By 2016, adopt Storm and Surface Water Management Plan and drafts of ordinances	City of Sequim Public Works Department	• Industrial, domestic, and municipal wastewater	C2.2 (C2.1, C2.3, A7.2)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	Impact Development incentives and stormwater ordinances to support surface water pollution reduction. Initially, conduct a stormwater management needs assessment and develop a Storm and Surface Water Management Master Plan, including the possibility of a utility.			• Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	
STRT29	**Implement City of Port Angeles combined sewer overflow reduction projects**. Implement suite of combined sewer overflow Phase 1 and Phase 2 projects to reduce combined sewer overflow events into the Port Angeles Harbor to one per outfall per year on average.	• Not more than one combined sewer overflow per outfall per year, as per city's agreed order with Ecology.	City of Port Angeles Public Works Department	• Combined sewer overflows • Industrial, domestic, and municipal wastewater • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment • Toxic and legacy contaminants	C6.2 (C2.1, C2.2, C2.3)
STRT30	**Implement the City of Port Angeles NPDES Phase II permit and Stormwater Management Program**. Implement NPDES Phase II Stormwater Management Program, including Low Impact Development incentives and ordinances to support surface water pollutant reduction.	• By March 2015, meet 100% of permit compliance conditions as documented in the 2015 annual report. • By March 2016, meet 100% of permit compliance conditions as documented in the 2016 annual report.	City of Port Angeles Public Works Department	• Combined sewer overflows • Industrial, domestic, and municipal wastewater • Residential, commercial, and port	C2.2 (C2.1, C2.3, C2.5)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
				development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment • Toxic and legacy contaminants	
STRT31	**Provide stormwater education, training, and technical assistance in Jefferson County and Port Townsend using a watershed-based approach through implementation of Phase 2 of SquareONE**. Consider expansion of the SquareONE concept to the other three local jurisdictions within the Strait Action Area. Following lessons learned from the SquareONE pilot project in Jefferson County, consider implementing Phase 2 to include the City of Port Townsend. Also, consider possible expansion of the concept to the other three local jurisdictions within the Strait Action Area. Phase 2 would (a) Implement the stormwater management public education plans in Jefferson County and Port Townsend by increasing citizen awareness and capacity to self-select preferred actions and methods; (b) Provide training on BMPs and Low Impact Development to the development community to increase capacity for successful site assessment and facility design, installation, and maintenance; and (c) Provide training to county and city staff to increase capacity for successful plan review and site inspections.	• By 2016, hold four workshops. • Number of attendees at workshops and before and after surveys showing improved knowledge. • By December 2016, complete a final report on decisions to expand the SquareONE concept to other Strait Action Area local jurisdictions.	Jefferson County Department of Community Development	• Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment (also see STRT18 regarding shoreline armoring)	C2.5 (C2.1, C2.2, C2.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	(Note: This action has a double benefit in that it is also linked to B1.3 STRT18.)				
STRT32	**Update, adopt, and implement the Clallam County Stormwater Management Plan**. Update and implement the Clallam County Stormwater Management Plan, including adoption of Low Impact Development incentives and ordinances to support stormwater management.	• Adopt Stormwater Management Plan and ordinances (no target adoption date available at this time)	Clallam County Department of Community Development	• Onsite sewage systems • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	C2.2 (C2.1, C2.3, C2.4)
STRT33	**Provide stormwater management education, training, and technical assistance in Clallam County using a watershed-based approach**. Consider partnerships with the cities of Port Angeles and Sequim to accomplish this action. Work to (a) increase citizen awareness and understanding of the importance, need, and techniques for stormwater management and familiarity with the new stormwater management plans requirements; (b) provide technical assistance to homeowners in Clallam County to assist in implementation of Low Impact Development BMPs contained with the Small Project Drainage Manual; and (c) provide training in Low Impact Development and BMPs to Clallam County staff to improve development plan review, site inspections, and assistance at the Permit Center. Consider partnerships with the cities of Port Angeles and Sequim. Also consider the Watershed Stewardship Resource Center	• Number of attendees at workshops and before and after surveys showing improved knowledge. • Usage of the Permit Center (no target dates available at this time).	Clallam County Department of Community Development	• Onsite sewage systems • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	C2.5 (C2.1, C2.2, C2.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	concept used in Jefferson County and City of Port Townsend to accomplish this action.				
STRT34	Continue Clallam County Streamkeepers ambient monitoring program to understand stormwater baseline conditions and expand monitoring according to the Washington State Stormwater Work Group recommendations. Consider partnerships with the cities of Port Angeles and Sequim to accomplish this action.	• By 2016, obtain funding to revise and expand ambient monitoring program, as per Washington State Stormwater Work Group Recommendations, in anticipation of future adoption of a Clallam County Stormwater Management Plan and Ordinance.	Clallam County Streamkeepers	• Onsite sewage systems • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	C2.4 (C2.1, C2.2, C2.3)
STRT35	**Complete the collection of habitat information for use by WSDOT to inform the prioritization of stormwater road retrofit projects within the Strait Action Area.**	• By 2016, 100% complete and habitat information submitted to WSDOT, depending on staffing constraints.	To be determined *WDFW*	• Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment	C2.3 (C2.1, C2.2)
STRT36	**Develop, adopt, and implement the water resources management program rules for Elwha-Dungeness WRIA 18.** This action includes implementing the adopted rule that applies to eastern WRIA 18, the Dungeness watershed, from Bell Creek on Sequim Bay to the Bagley Creek sub-basin (WAC 173-518). Development of the Water Resources Program Rule for the Elwha portion of WRIA 18, that would involve the Elwha-Morse Management Team, is delayed awaiting completion of removal of the Elwha dams and river restoration.	• Through February 2016, 100% of mitigation certificates issued relative to applications received by Clallam County (and beyond) within the Dungeness watershed.	Ecology *Clallam County DCD* *Jamestown S'Klallam Tribe* *Lower Elwha Klallam Tribe* *Washington Water Trust* *Dungeness River Management Team*	• Agriculture • Climate change • Onsite sewage systems • Residential and commercial development • Water withdrawals and diversions	A7.1 (A7.2, A7.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
			Elwha-Morse Management Team		
STRT37	**Implement stream flow improvement projects within the Dungeness portion of the Elwha-Dungeness Water Resources Area (WRIA 18)**. Stream flow improvement projects include Water Acquisitions, Irrigation Efficiency, Water Storage & Aquifer Recharge, and Source Substitution; Also, work to update Ecology's 2003 Final Environmental Impact Statement on water conservation needs.	• Irrigation Efficiency Project Implementation: By 2015, 2.0 cubic feet per second (600 acre-feet) restored to the river. • Water Storage and Aquifer Recharge Project Implementation: By 2015, 1.0 cubic feet per second (300 acre-feet) restored to the river. • Source Substitution Project Implementation: By 2016, 0.5 cubic feet per second restored to river. • Water Acquisition Project Implementation: By 2016, 0.5 cubic feet per second restored to river.	Clallam Conservation District and Washington Water Trust *Ecology* *Water Users Associations*	• Agriculture • Climate change • Livestock grazing • Onsite sewage systems • Residential, commercial and port development • Industrial, domestic, and municipal wastewater • Surface water loading and runoff from built environment • Water withdrawals and diversions	A6.1 (A7.2, A7.3, C7.1)
STRT38	**Develop, adopt, and implement a water resources management program rule for eastern Clallam County's portion of WRIA 17**. Eastern Clallam County's Sequim Bay–Miller Peninsula portion of the Quilcene-Snow WRIA 17 is within the Dungeness River Management Team's purview.	• Development, adoption, and implementation of a rule (start date for process is uncertain).	Ecology *Jamestown S'Klallam Tribe* *Clallam County DCD* *Dungeness River Management Team*	• Agriculture • Climate change • Residential and commercial development • Water withdrawals and diversions	A7.1

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
STRT39	**Develop, adopt, and implement a water resources management program rule for WRIA 19 the Lyre Hoko watershed**.	• Development, adoption, and implementation of a rule (start date for process is uncertain).	Ecology *Lower Elwha Klallam Tribe* *Makah Tribe* *Clallam County DCD*	• Climate change • Residential and commercial development • Water withdrawals and diversions	A7.1

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

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

The following list represents the local strategies from the original list of 25 that remain to be implemented (in alphabetical order).

- Aquatic resources habitat conservation plans
- Carlsborg Wastewater Treatment and Water Reuse
- Critical areas ordinances
- Forest practices
- Green jobs
- Landfill assessments, closure, and remediation
- Local recovery capacity
- Marine resource plans (Clallam and Jefferson Marine Resource Committees)
- Migration corridor integrity
- Non-indigenous species programs
- Outreach, education, public involvement: a) Strait ECO Net; b) Technical Assistance; c) BuiltGreen™
- Port Angeles Harbor Ecosystem Recovery
- Sewage discharges (treated and untreated)
- Sustainable commercial, tribal, and recreational fishing and shellfishing
- Toxic source reduction programs
- Watershed planning detailed implementation plan development and implementation (WRIAs 19, 18 West, 18 East, and 17)
- Working lands and tidelands protection

West Central Puget Sound (North Central Puget Sound Action Area)

Description of the Action Area

West Central Puget Sound (North Central Puget Sound Action Area)[11] occupies the geographic center of the Puget Sound basin. With over 220 miles of shoreline, and extensive bluffs, pocket estuaries, protected bays, harbors, and lagoons, the action area's most prominent feature is its expanse of nearshore reaches. Bluffs along the coastline provide a supply of sediment that drifts along the shore, building beaches and forming spits, lagoons, deltas, and tideflats. Bainbridge Island, approximately 5 miles wide by 10 miles long, is one of the largest islands in Puget Sound and has 53 miles of shoreline. Agate Passage, Port Washington Narrows, and Rich Passage are characterized by high currents due to the circulation of Puget Sound tides through these narrow openings. Streams originate from lakes, groundwater discharge, or headwater wetlands that often contribute flow to multiple watersheds. These unique lowland freshwater ecosystems provide highly productive habitat for salmon and trout.

NOTABLE ACCOMPLISHMENTS

- Carpenter Creek estuary is currently being restored—a high priority in the 2008 Action Agenda.
- Considerable progress has been made toward restoring Chico Creek, leveraging the partnerships and work of many to restore the watershed in phases.
- The action area is a leader in water quality improvement projects, which have resulted in the upgrade of 2,500 acres of shellfish beds. Additionally, wet weather water quality in Dyes and Sinclair Inlets is improved due to the completion of combined sewer overflow construction projects by the City of Bremerton.

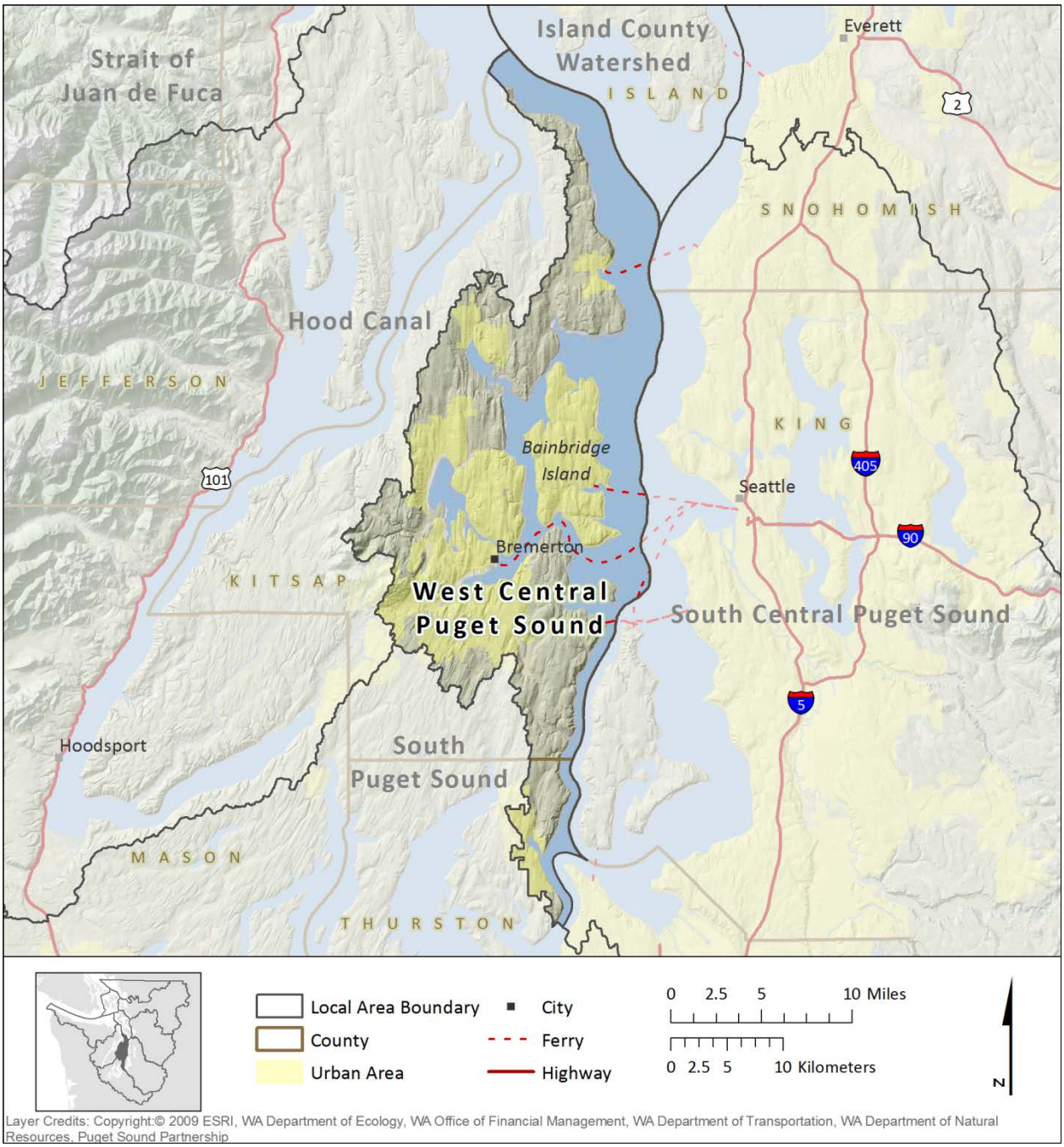
The history of the action area is completely connected to Puget Sound and is the heartland of Suquamish Ancestral Territory.

The Suquamish and their ancestors have occupied the region for the past 14,000 years. Important Suquamish leaders in the early historic period such as Kitsap, Challicum, and Seattle controlled extended Suquamish families who occupied more than 15 winter villages. Old Man House on Agate Passage was the "mother village" of the Suquamish, and was occupied for over 5,000 years with a historic period cedar plank longhouse. The Port Madison Indian Reservation, straddling Miller Bay between the communities of Suquamish and Indianola, is the center of the Suquamish culture named after the beach at Old Man House on Agate Passage and meaning 'place of clear saltwater' in Lushootseed.

Incorporated cities in the action area include Bainbridge Island, Port Orchard, Poulsbo, Bremerton and Gig Harbor. Bremerton is the largest city in the action area, with a population of almost 38,000. Incorporated cities and urban growth areas make up 44% of the land base.

[11] Water Resource Inventory Area (WRIA) 15

WEST CENTRAL PUGET SOUND (NORTH CENTRAL PUGET SOUND ACTION AREA)



These five cities began as dock locations for the historic Puget Sound "Mosquito Fleet," which consisted of small steamers and sternwheelers that carried passengers and cargo up and down the Puget Sound prior to bridges and state-run ferries. Businesses, homes, and eventually roads were all located close to the shorelines of Puget Sound. Gig Harbor and Poulsbo were also home to cod and salmon fishing fleets.

The action area's port districts are important as centers for commerce and military installations and as critical hubs for marine transportation. More than half of the 23 million annual passengers on the

Washington State Ferries system travel between the action area and the greater Seattle metropolitan area. Eagle Harbor on Bainbridge Island hosts the ferry system's maintenance and repair facility. Bridges at Agate Passage and the Tacoma Narrows link the action area by road to the rest of Puget Sound. Recreational vessels are moored throughout the action area, with over 2,000 permanent and transient slips. Other recreational amenities of the region include several state and local parks used for camping, boat launching, beach walking, hiking, bird watching, swimming, picnicking, shellfishing, and kayaking.

The U.S. military presence in the action area began in 1891, and since that time the area has played a pivotal role in military operations in several wars and conflicts. Naval Base Kitsap has facilities at Bremerton, Keyport, and Manchester, and is the action area's largest employer.

Unique Ecosystem Characteristics and Assets

The action area constitutes almost half of the nearshore habitat in the Central Basin of Puget Sound. This habitat includes dozens of embayments including open coastal inlets and functioning pocket estuaries, intact bluffed back beaches, and the only plunging rocky coastline in the basin. The subtidal and intertidal portions of the action area support some of the densest and highest quality wildstock geoduck clam fisheries in the world. The action area has 90 streams used by wild populations of chum, coho, steelhead, and cutthroat trout. The shoreline provides refuge, food, and rearing area for other juvenile salmon, including Chinook and Hood Canal summer chum, as they enter the Puget Sound from larger rivers on the eastern shore and Hood Canal. Much of the nearshore is used for spawning by native marine fishes including Pacific herring, surf smelt and Pacific sand lance. Commercial, recreational, and tribal shellfish activity is prominent along most of area's shorelines. Hatchery programs operated by the Suquamish Tribe at Gorst and Grovers Creek provide some salmon harvest opportunities for tribal fishers and recreational anglers.

The historical uses of military support activities and ship building left toxic legacies at Eagle Harbor, Keyport, Dyes Inlet, Sinclair Inlet, and Manchester. The sites were contaminated by disposal of military testing materials, creosote, and other chemicals, and are in varying degrees of remediation as part of the U.S. Environmental Protection Agency superfund site clean-up process.

Many people move to the action area because of its rural feel, and the majority of residents choose to live outside of the incorporated cities. This can result in conversion from existing rural forestland to an urban/suburban landscape, resulting in fragmented or degraded habitat. The population is expected to grow by 43% in the next 20 years, adding another 100,000 people. The increased population will require additional sewage or septic systems, and drinking water. Since the action area has no snow-fed water supplies, key aquifer recharge areas will need to be protected. An urbanizing landscape will also increase stormwater runoff, which threatens water quality, patterns of streamflow, and the availability of groundwater for human use. Stormwater has also been noted as a vector for pathogens, which have closed shellfish harvesting in some bays in the action area.

Local Implementation Structure and Planning Process

The West Central Local Integrating Organization (LIO) represents the North Central Puget Sound Action Area. The LIO formed in mid-2012, as a result of the work of a preliminary planning group over the

previous year, and was officially recognized by the Puget Sound Partnership's Leadership Council in August 2012. The West Central LIO operates with an executive committee and a working group.

The executive committee, which officially convened in November 2012, includes elected representatives from the following entities:

- Kitsap and Pierce Counties
- Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, and Port Orchard
- Port Gamble S'Klallam and Suquamish Tribes

The working group includes staff from the nine jurisdictions represented on the executive committee as well as from the following entities.

- Great Peninsula Conservancy
- Kitsap Conservation District
- Kitsap County Parks and Recreation
- Kitsap Public Health District
- Kitsap Public Utility District
- Kitsap Regional Coordinating Council
- Kitsap/Pierce Home Builders' Association
- Naval Base Kitsap
- Ports of Poulsbo, Kingston, and Bremerton
- Puget Sound Restoration Fund
- Stillwaters Environmental Center / Kitsap Eco-Net
- Washington State Department of Health
- West Sound Watersheds Council
- Washington State University Extension Kitsap

The executive committee and working group meet at least semi-annually; smaller subgroups meet on an ad-hoc basis to address specific topics.

For this 2014/2015 Action Agenda update, the West Central LIO relied on staff from area jurisdictions to identify pressures, strategies, and a range of possible actions. Those actions were further developed, through technical sub-committees of the working group as described below, into near-term actions, and ultimately approved by the executive committee.

Three sub-groups were formed out of the working group to identify priority actions, based on the Strategic Initiatives. Each sub-group developed criteria for identifying, evaluating, and prioritizing actions. Each sub-group developed criteria for identifying, evaluating, and prioritizing actions.

The **salmon sub-group** used the West Sound Watersheds Council process to identify priority actions related to salmon recovery. The West Sound Watersheds Council's technical advisory group developed a list of proposed actions from the salmon recovery 3-year work plan and assessments. The actions were evaluated based on the following four criteria.

- Protect and restore habitat and ecological functions in priority watersheds.
- Maintain the health of core salmonid populations.
- Protect intact nearshore habitat.
- Restore nearshore habitat functions.

If the technical advisory group agreed that a project would result in significant progress toward recovery targets and met at least one of the criteria, the action was included on the of sub-group's list of priority actions.

The **shellfish sub-group** evaluated projects identified by LIO members based on the following criteria.

- The action will lose funding after current U.S. Environmental Protection Agency grant funding ends in 2014.
- Kitsap County funding match is likely for the action.
- The action will support monitoring/maintenance of existing sewered areas OR the action relates to installing sewers in an area with historically high onsite sewage system failure rates and associated water quality problems.

The sub-group identified projects that would focus on extending the public sewer system as a necessary step for any potential upgrade to shellfish classification in commercial growing areas. If an action met at least one of the above criteria, it was included on the sub-group's list of priority actions.

The **stormwater sub-group** identified a list of potential actions and evaluated those actions based on the following 13 criteria.

- Benefits Puget Sound.
- Has cross-over with salmon and/or shellfish (co-location).
- Has motivation to accomplish milestones within 2 years (i.e., staff and political will).
- Provides community engagement/education.
- Restores natural flow regimes.
- Improves water quality/increases treatment.
- Takes advantage of infiltration opportunities (encourages cost-benefit).
- Improves access to habitat.
- Has aquatic habitat restoration component (habitat besides water quality/quantity).
- Can be maintained.
- Has construction feasibility.
- Has primary contact to water.
- Provides significant amount of water treated or habitat restored.

The proposed actions were ranked based on a scoring system (high, medium, low). The group made adjustments to the final list to balance habitat-specific projects with retrofit/conveyance projects, since both are needed to address priority pressures in the action area.

The full list of priority actions developed by the sub-groups was evaluated by a core team (consisting of representatives from each sub-group). The core team identified the following three criteria to further refine the priority actions into a list of near-term actions.

- Project opportunity relies on funding in the 2014–2015 timeframe.
- Geographic synergy with other actions.
- Achievement of multiple objectives.

The core team prioritized the actions as tier 1 and tier 2. The 15 tier 1 actions were proposed to the executive committee as new near-term actions, along with nine updated near-term actions from the 2012/2013 Action Agenda that are not yet complete. In September 2013, the executive committee approved all 24 near-term actions.

Pressures

The West Central LIO focused on pressures related to water quality and stormwater, shellfish health, and salmon habitat restoration as most significant in the action area.

Local Near-Term Actions

The table below presents the local near-term actions for West Central Puget Sound (North Central Puget Sound Action Area). 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 or entities responsible for implementation of the near-term action, with the primary owner being responsible for tracking and reporting progress toward completing the action. The final columns provide regional context for the local actions, identifying the pressure(s) 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, *Strategies and Actions*, in the context of their primary sub-strategies.

Local Near-Term Actions in the West Central Puget Sound

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
WC1	**West Sound inventory of transportation infrastructure projects.** The West Sound Watersheds Council and West Central LIO will develop a process for the review of transportation infrastructure projects that addresses environmental impacts and key fish passage barriers.	• By January 2015, identify process for the review of transportation infrastructure projects that addresses environmental impacts and key fish passage barriers by January 2013.	West Central LIO (reporter)	• Transportation and service corridors	A1.1
WC2	**West Sound Shoreline Master Program update alternatives to shoreline armoring.** During the Shoreline Master Program update process for all West Central jurisdictions, the West Sound Watersheds Council will ensure that restoration plans for every Shoreline Master Program include alternatives to traditional shoreline armoring, and incentives for the removal of existing armoring.	• Over the next 2 years, no net gain in shoreline armoring within any West Central jurisdiction.	West Sound Watersheds Council	• Marine shoreline infrastructure	B1.2
WC3	**West Sound eelgrass and forage fish surveys.** The West Sound Watersheds Council, in coordination with the Suquamish Tribe, DNR, and others, will develop and implement periodic surveys of eelgrass and forage fish spawning habitat under a scientifically rigorous methodology, and update spawning habitat maps.	• By June 2014, secure funds for eelgrass monitoring. • By June 2015, update eelgrass maps. • By June 2015, start forage fish spawning area surveys. • By June 2016, update forage fish spawning maps.	Suquamish Tribe *West Sound Watersheds Council*	• Marine shoreline infrastructure	B1.1

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
WC4	**West Sound Low Impact Development Training**. Kitsap County Surface and Stormwater Management Program – with direct assistance from and close coordination with other stormwater utilities and agencies in the County – will provide training for 80% of Low Impact Development professionals in Kitsap County, including plan review staff, designers, installers, inspection, and maintenance staff.	• Training for 80% of LID professionals in Kitsap County by December 2014	Kitsap SSWM	• Runoff from built environment	C2.5
WC9	**West Sound SR3 Chico Creek culvert replacement**. The WSDOT will develop a funding strategy and schedule for replacing the SR3 culvert with a bridge on Chico Creek. Chico is the most productive salmon stream in West Sound and a high priority watershed for protection and restoration, and replacing the culvert with a bridge will improve fish passage and restore estuarine functions.	• By December 2015, funding strategy and schedule completed.	West Central LIO (reporter) *WSDOT*	• Runoff from built environment	A6.1
WC10	**West Sound pump out stations.** Kitsap Public Health District will identify pump out stations and develop needs assessment to address marine vessel sewage.	• By January 2015, deliver needs assessment report to Kitsap County Surface and Stormwater Management. • By June 2015, identify pump out station locations (likely candidates are Port Madison Bay, Port Gamble Bay, and Seabeck). • By June 2015, identify long term funding source for work on vessel waste issues.	Kitsap Public Health District	• Culverts	C1.5

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
WC11	**West Sound Steelhead Recovery Chapter**. The West Sound Watersheds Council will develop a local chapter of a Steelhead Recovery Plan. The Council will propose a budget and implementation strategy for its local chapter of the recovery plan.	• By July 2015, local chapter developed. • By December 2015, budget and implementation strategy for local chapter.	West Sound Watersheds Council	• Residential and commercial development • Culverts • Freshwater shoreline infrastructure	A6.4
WC12	**West Sound Priority Watersheds for Protection.** The Suquamish Tribe will develop a detailed protection and restoration plan for the upper Chico Creek watershed. The Tribe will seek funding to undertake similar work for the high priority refugia, Curley and Blackjack Creek watersheds.	• By February 2015, protection and restoration plan for the Upper Chico Creek watershed. • By December 2015, funding in place for plans for Curley and Blackjack Creek watersheds.	Suquamish Tribe	• Residential and commercial development • Culverts • Freshwater shoreline • Infrastructure	A2.2
WC13	West Sound shellfish gardening. Kitsap Public Health will continue to work with the Puget Sound Restoration Fund on the expansion of community shellfish gardens in Kitsap County. This dovetails with the Health District's plans to implement a permanent marine shoreline survey program throughout Kitsap County in 2014.	• By April 2015, shellfish gardening pilot program expanded to one additional site. • By December 2015, expand to two additional sites.	Kitsap Public Health District	• Runoff from built environment • Industrial, domestic and municipal • Onsite sewage systems	C7.2
WC14	**Kitsap Forest & Bay Divide Property acquisition**. The West Central LIO, along with Great Peninsula Conservancy and other partners, will seek and secure funding to complete acquisition of the Kitsap Forest & Bay Divide Property, part of a larger effort to protect over 7,000 acres of forest and wetland habitat in north Kitsap County.	• By June 2016, secure funding for acquisition.	Great Peninsula Conservancy *West Central LIO (reporter)*	• Residential and commercial development	A2.1 (A3.2, A6.1, C4.1, C4.2, C7.1, D6.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
WC15	**Springbrook Creek fish passage enhancement and water quality retrofit**. The City of Bainbridge Island will seek funding to complete study and design for a watershed scale project that would ultimately replace two stream crossing culverts to improve fish passage; eliminate stream bank erosion through habitat enhancement; and reduce pollutants from road runoff by adding water quality retrofits, including addressing fecal coliform sources upstream of an important shellfish growing area and eliminating impound ponds.	• By June 30, 2014, complete project study and design. • By June 30, 2015, secure funds and begin project construction.	City of Bainbridge Island	• Runoff from built environment • Culverts	A2.2 (A6.4, C2.3, C2.4, C7.1)
WC16	**Duwe'iq stormwater treatment wetland and stream restoration**. Kitsap County Surface and Stormwater Management will complete construction of the Duwe'iq Stormwater Treatment Wetland and Stream Restoration project, which will reduce fecal coliform and other stormwater pollutants from 30 acres of commercial runoff into Clear Creek, improve stream habitat, advance public education about stormwater via Clear Creek Trail access, and increase green space in the urban Silverdale corridor.	• By January 2016, complete Phase 2: 60/90/Final Design Plan, Specifications and Estimates. • By June 2016, complete construction. • Public education signage installed. • Provide a higher level of water quality treatment of 30 acres of commercial runoff post-project. • A statistically significant improving trend of fecal coliform during the wet season at the northern Dyes Inlet marine stations. • Increased public green space along the Clear Creek Trail.	Kitsap County Surface and Stormwater Management	• Runoff from built environment	A2.2 (A2.3, A6.4, C2.1, C2.3, C7.1, D6.4)
WC17	**Clear Creek floodplain restoration**. With an ultimate goal of freshwater habitat restoration and enhancement, Kitsap County Surface and Stormwater Management will complete a project to construct floodplain, restore stream habitat, remove road, enhance trails, reduce downstream flooding, and advance public	• By December 31, 2016, completion of project design and permitting. • By December 31, 2017, completion of project construction. • By December 31, 2017, 8.2 acres of floodplain constructed. • By December 31, 2017, 2,120 feet of stream	Kitsap County Surface and Stormwater Management	• Runoff from built environment • Residential and commercial development	A2.2 (A5.4, A6.1, A6.4, C2.1, D6.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	education about floodplains/wetlands/stormwater in Clear Creek. This includes: • Completion of restoration design. • Completion of project permitting. • Completion of project construction.	habitat improved.			
WC18	**Chico/Keta Park culvert replacement and floodplain restoration.** Kitsap County Roads and the Suquamish Tribe will replace a triple box culvert and reconnect/ restore upstream floodplain habitat at Keta Park, on the mainstem of Chico Creek. This includes completion of project design, for which funding has already been secured.	• By December 2014, culvert design completed. • By June 2016, culvert replaced.	Kitsap County Roads *Suquamish Tribe*	• Culverts • Runoff from built environment	A6.1 (A5.4, A6.4, B5.1, D2.2)
WC19	**Point No Point Marsh restoration**. Pending the results of a feasibility study in progress, Kitsap Surface and Stormwater Management, WDFW, and the West Central LIO will design and construct a replacement tidegate at Point No Point State Park by December 31, 2014. The goal is restoration of tidal hydrology and fish passage at a regionally important location for salmon recovery.	• By December 31, 2014, complete design for a replacement tidegate at Point No Point State Park. • By June 30, 2015, begin construction. • By June 30, 2016, complete construction/restoration.	West Central LIO (reporter) *WDFW*	• Marine water levees and tidegates • Residential and commercial development	B2.2 (A6.1)
WC20	**Waterfront Park bulkhead removal and conveyance retrofit**. With a goal of enhancing nearshore habitat through armoring removal and beach nourishment, the City of Bainbridge Island will complete a bulkhead removal, beach nourishment, and stormwater conveyance system retrofit. Funding has been secured for initial design work, community outreach, and armoring	• By June 2014, secure funds for stormwater conveyance system retrofits. • By June 2016, complete bulkhead removal, beach nourishment, and stormwater conveyance system retrofit.	City of Bainbridge Island	• Marine shoreline infrastructure • Runoff from built environment	B2.2 (B3.2, C2.3, C9.3, D6.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	removal and beach nourishment, and funds necessary to complete stormwater conveyance system retrofit work will be sought. All proposed project work must occur simultaneously in order to minimize project costs and maximize ecological outcomes.				
WC21	**Ridgetop Boulevard Green Street**. Kitsap Surface and Stormwater Management will install 10-14 median bioretention (rain gardens) facilities on Ridgetop Boulevard near Silverdale, treating 18 acres of road runoff and reducing fecal coliform and other contaminants flowing into Dyes Inlet.	• By December 2015, install 10–14 median bioretention (rain gardens) facilities on Ridgetop Boulevard. • Statistically significant declining fecal coliform trend at the northern Dyes Inlet marine stations during the wet season. Volume of runoff reduced based upon modeling and amount of annual rainfall can be reported. • Protection of shellfish acres.	Kitsap SSWM	• Runoff from built environment	C2.3 (C2.4, C7.1)
WC22	**Poulsbo Low Impact Development retrofit study for Upper South Fork Dogfish Creek basin and downtown Poulsbo**. City of Poulsbo will seek funding and complete stormwater retrofit plans for the Upper South Fork Dogfish Creek Basin and Downtown Poulsbo basins.	• By June 30, 2014, secure funding for plan development. • By June 30, 2016, complete stormwater retrofit plans.	City of Poulsbo	• Runoff from built environment	C2.3 (C7.1, C9.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
WC23	**Gig Harbor stormwater retrofit study**. City of Gig Harbor and Pierce County will complete a stormwater retrofit study for the City of Gig Harbor. The primary deliverable will be a comprehensive, prioritized list of beneficial stormwater projects within the City. Once completed, Gig Harbor and Pierce County can include identified projects on their Capital Facilities Plans and/or apply for relevant stormwater retrofit grants to fund construction.	• By December 2014, prioritize list of beneficial stormwater projects.	City of Gig Harbor *Pierce County*	• Runoff from built environment	C2.3 (C2.1, C9.3, C9.3)
WC24	**Low Impact Development peer leaders network**. With funding provided through Kitsap County Surface and Stormwater Management, WSU Cooperative Extension will develop and implement a Low Impact Development professionals network program.	• By December 2014, grant funds secured. • By June 30, 2016, Low Impact Development professionals network implemented. • Increased Low Impact Development in Kitsap (if resources exist to measure).	WSU Extension Kitsap *Kitsap SSWM*	• Runoff from built environment	C2.5 (C1.4, D7.2)
WC25	**Continued funding for shoreline monitoring programs in Kitsap and Pierce Counties**. Help fund routine marine shoreline E. coli bacteria monitoring program in Kitsap and Pierce Counties to protect and restore commercial shellfish areas. Provide 100% funding for 2-year shoreline monitoring program on Bainbridge Island. Provide 50% match for shoreline monitoring program along unincorporated Kitsap and Pierce Counties, within all classified areas (including Port Orchard Passage).	• Maintain current level of monitors. • Acres of shellfish monitored. • Fecal coliform content of water reduced (or other contaminants). • Acres of shellfish re-opened or upgraded. • By December 31, 2014, deliver needs assessment report to Kitsap County Surface and Stormwater Management. • Report on number of stations sampled. • Report on number of stations identified as "hot spots." • Investigate and close 90% of identified "hot spots." • Report on number of failing onsite sewage systems identified/corrected.	Kitsap Public Health District and Tacoma-Pierce County Health Department	• Onsite sewage systems	D4.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
		• Report on number of animal waste management violations identified/corrected. • Report on number of public/side sewer leaks identified/corrected. • Report on number of shoreline miles monitored. • Report on acres of classified commercial shellfish growing area protected or down grade prevented. • Report on acres of commercial shellfish growing area re-opened or receiving improved classification. • Report on number and percentage of shoreline discharges with reduced bacterial concentrations.			
WC26	**South Dyes Inlet wastewater infrastructure**. With an ultimate goal of making Oyster Bay viable for commercial shellfish harvest, the City of Bremerton will assess, improve, and expand sewer infrastructure in South Dyes Inlet.	• By August 31, 2014, completion of an Infrastructure Integrity Assessment. • By July 31, 2014, completion of 100% sewer system designs for Phinney Bay, and by November 30, 2014, Ostrich Bay Creek. • By August 31, 2015, construction of sewer system extensions for Phinney Bay and by June 30, 2016, Ostrich Bay Creek. • Fecal coliform content of water reduced (or other contaminants). • Shellfish acres re-opened or upgraded.	City of Bremerton	• Onsite sewage systems • Industrial, domestic, and municipal • Wastewater	C7.1 (C2.3, C5.1, C9.2, C9.3)
WC27	**Marine Drive/Kitsap Way/Oyster Bay Avenue storm system filtration retrofit**. With a goal of improving water quality impacting shellfish harvest in Oyster and Ostrich bays, the City of Bremerton will install a passive stormwater filtration system prior to the outfall into Oyster Bay and Low Impact Development components along	• By March 2015, install passive stormwater filtration system and Low Impact Development components. • Contaminants in road runoff reduced. • Shellfish beds re-opened or upgraded. • Determine baseline flow and water quality characteristics and compare with post-	City of Bremerton	• Runoff from built environment	C2.3 (C2.1, C9.3)

	Near-Term Action	Performance Measures	Owner(s)[1]	Pressure(s)	Regional Sub-Strategy[2]
	approximately 1.5 miles and 65 acres on Marine Drive, approximately 31 acres along the north portion of Kitsap Way, and approximately 1.5 miles and 40 acres on Oyster Bay Avenue.	construction to determine effects of the project.			
WC28	**Ostrich Bay Creek retrofit plan design.** With a goal of improving water quality impacting shellfish harvest in Oyster and Ostrich bays, the City of Bremerton will complete a stormwater retrofit design study for Ostrich Bay Creek. The retrofit design plan will evaluate and determine the best locations and types of Low Impact Development components to use for this drainage basin. The basin is more than 230 acres of pervious and impervious surface used for light commercial facilities, residences and State Highway. The plan will address water quality and quantity issues that impact Ostrich Bay Creek by using various Low Impact Development components and treatment systems. The City will pursue funding through the LIO process, grants, and local partnerships to construct the designed components as funding is made available.	• By December 2014, complete stormwater retrofit design study for Ostrich Bay Creek.	City of Bremerton	• Runoff from built environment	C2.3 (C2.1, C9.3)

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

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

DNR = Washington State Department of Natural Resources; LIO = local integrating organization; WDFW = Washington Department of Fish and Wildlife; WSDOT = Washington State Department of Transportation; WSU = Washington State University.

Whatcom County/Nooksack Watershed

Description of the Area

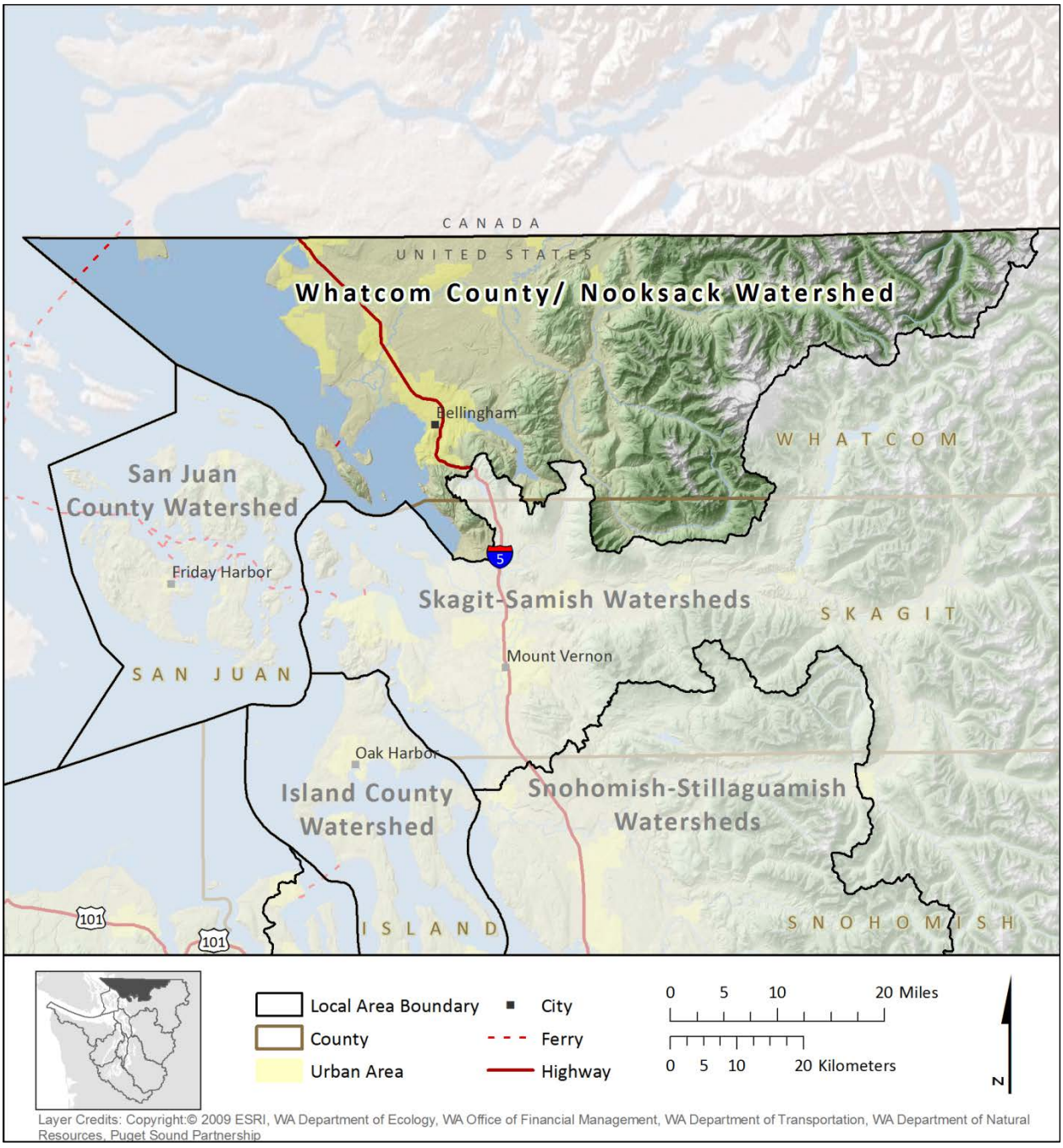
Whatcom County/Nooksack watershed[12] is within the San Juan/Whatcom Action Area. It is located in the northwest corner of Washington State and encompasses the northeast corner of Puget Sound. WRIA 1 covers 1,410 square miles, largely in Whatcom County, but extends 21 square miles into Skagit County and 147 square miles into British Columbia, Canada. The San Juan/Whatcom Action Area is one of two action areas with streams crossing the international boundary with Canada. The Nooksack River, the watershed's namesake, originates from glaciers on Mount Shuksan in North Cascade National Park and Mount Baker, the highest point in the watershed at 10,778 feet, which is located in the Mount Baker–Snoqualmie National Forest. From the headwaters, the Nooksack River flows westerly through forest and farm land and past small cities to reach sea level at Bellingham Bay. Mount Baker is an active volcano and one of the snowiest places on earth. In 1999, the Mount Baker Ski Area set a world record with 95 feet of total snowfall in a single season. Yet despite some banner years for skiers, the many glaciers on Mount Baker have generally been in rapid retreat since the 1980s. Spring and early summer snowmelt feed the three forks that combine to form the mainstem Nooksack River near Deming, while glacial meltwater continues to feed two of the three branches, the North and Middle Forks, from mid-summer to early fall once the snowmelt is complete. Rainfall and groundwater contribute flow to the Nooksack River and are the primary sources of flow for the lowland tributaries and independent coastal streams.

The Nooksack River has three main forks—north, middle, and south. Other major river systems in WRIA 1 include the Lummi River, Dakota Creek, and other independent coastal streams, and tributaries to the Fraser River in Canada including the Sumas River. Fishtrap and Bertrand Creeks are tributaries to the Nooksack River and both originate in British Columbia. There are more than 3,000 total miles of freshwater courses, including streams, rivers, lakes, ponds and wetlands, as well as 155 miles of marine shoreline in the Whatcom County portion of the area.

The Whatcom County portion of WRIA 1 is home to over 200,000 residents, with approximately 81,000 living in the city of Bellingham. The county is located between two major metropolitan areas: Vancouver, British Columbia, which supports over 2 million people 30 miles to the north, and King/Snohomish Counties, which include the cities of Everett and Seattle also support over 2 million people 60 to 100 miles to the south.

[12] Water Resource Inventory Area (WRIA) 1

WHATCOM COUNTY/NOOKSACK WATERSHED



Approximately 85,300 acres (11%) of Whatcom County land is designated for agricultural use although agricultural production occurs on more than 140,000 acres. This land base supports robust dairy, berry, and seed potato production. Whatcom County's dairy industry ranks second out of 34 dairy-producing counties in the state and is in the top 5% of dairy production nationwide, with a farm gate value of $190 million dollars per year. Half of the 103,000 milk cows in Puget Sound are in Whatcom County. The county also produces more than 65% of the nation's raspberries, with an estimated value of $65 million in 2011. Other major crops include strawberries, blueberries, greenhouse and nursery items, poultry,

eggs, and seed potatoes. Approximately 9% of Whatcom County's land use is agriculture, while 82% of the land is considered forest and rural. Cities and urban growth areas account for 7% of the land use. Other land uses consist of mining, industrial, and commercial development. Two refineries and an aluminum smelter operate in the Cherry Point area. Deep-water access at Cherry Point is a factor in future industrial activity in this location including the proposed coal transport facility, which would accommodate Panamax (65,000 to 85,000 tons) and Capesize (160,000 to 180,000 tons) deep-draft vessels. Western Washington University, the Port of Bellingham, and traditional commercial forestry and fishing also contribute to the region's economy. The former pulp mill site on Bellingham Bay is being redeveloped from a heavy industrial site to a mixed-use waterfront with parks, businesses, and public moorage that will be linked to downtown Bellingham, while portions of the Whatcom Waterway are reserved for deep-water commercial use.

The reservation lands of the Nooksack Tribe are located primarily along and in the vicinity of the Nooksack River and its tributaries. The Lummi Indian Nation lands include the Lummi and Sandy Point Peninsulas, Portage Island, and associated tidelands. The Nooksack River flows through the Lummi Reservation as it discharges into Bellingham Bay. Both tribes exercise treaty rights to fish, hunt, and gather throughout the Nooksack River watershed and adjoining marine areas. Shellfish harvest is an important activity for local tribes and a major commercial industry for the region. Commercial, ceremonial, and subsistence harvest of in both marine and freshwater habitats is of particular importance to Lummi Nation and Nooksack Indian Tribe members. Recreational shellfish harvest is an active pursuit of area residents and recreational visitors at Semiahmoo Spit, Birch Bay, and Chuckanut Bay.

The relatively shallow depths of Birch Bay result in warm water temperatures and increased recreational activities in the summer. Of all Washington State Parks, Birch Bay State Park was the most visited for recreational shellfish harvesting in 2009. Lake Whatcom, another popular recreational and residential area, is also the drinking water reservoir for Bellingham and parts of Whatcom County. Winter recreation enthusiasts rely on the proximity to the Mount Baker Ski Area for easy access to snow sports. The residents of, and visitors to, Whatcom County, university students, tribal citizens, and pioneer descendants place a high value on the diverse environment and economy of Whatcom County. There is active participation in marine resource committees, watershed councils, and education and restoration programs related to the continued health of the local ecosystem.

Unique Ecosystem Characteristics and Assets

Mount Baker has been a landmark since humans first began to navigate and explore this corner of Puget Sound, and the abundant snowfields provide water and electricity for communities in Puget Sound. In addition to the striking natural beauty of Whatcom County, the region supports habitat types from alpine headwaters to tidal bays, along with farming, fishing, and forestry operations. This area sustains every native Pacific salmonid species, and includes unusual types such as riverine sockeye salmon and even-year pink salmon. The Chinook salmon populations in the North, Middle and South Forks of the Nooksack River have distinct genetic and timing traits that are considered to be crucial in retaining the diversity and viability of threatened Puget Sound Chinook salmon overall. All of the salmon species depend on the nearshore habitats for food and shelter as they adjust between freshwater and saltwater habitats.

The marine shorelines of Whatcom County produce surf smelt, sand lance, and anchovy, along with other fish and shellfish species. Birch Bay, Chuckanut Bay, and Lummi Island have recreational shellfish harvesting. Drayton Harbor, Lummi Bay, and Portage Bay have tribal and commercial shellfish growing areas, while Alden Bank offers shallow offshore habitat for isolated populations of geoduck, sea urchins, and clams. Several of these areas are currently prohibited, conditionally approved, or threatened for shellfish harvest due to poor water quality. The Cherry Point area was historically the most highly productive area for herring in Puget Sound, producing an estimated 32% of all the known herring spawning in the sound, prior to a precipitous decline of 94% from 1973 to 2000.

Natural features and human activities have made Whatcom County an important area for migratory waterfowl, raptors, and other birds. The nearshore areas have abundant food sources for marine birds; and the floodplains, wetlands, and agricultural fields provide forage areas. Birch Bay is designated as a Shoreline of Statewide Significance, the only marine shoreline in Whatcom County with this designation. Greater Bellingham Bay, including Chuckanut and Portage Bays, Drayton Harbor, Semiahmoo Spit, and Birch Bay are portions of the Pacific Flyway and are stopovers for the migratory birds' flight path between the Fraser River estuary and Skagit Bay.

Local Implementation Structure and Planning Process

The WRIA 1 Policy Boards—WRIA 1 Watershed Joint Board and WRIA 1 Salmon Recovery Board—form the local integrating organization (LIO) for Whatcom County Nooksack watershed, or Whatcom LIO. The Whatcom LIO was officially recognized by the Puget Sound Partnership's Leadership Council in November 2010. The Whatcom LIO is a function of the existing integrated governance structure for WRIA 1 program management. The LIO operates with the WRIA 1 Policy Boards and Management Team and staff teams.

The WRIA 1 Policy Boards provide policy direction and guidance. Their membership is shown below.

- WRIA 1 Watershed Joint Board
  - Whatcom County
  - Cities of Bellingham
  - Lummi Nation
  - Nooksack Indian Tribe
  - Public Utility District No. 1
- WRIA 1 Salmon Recovery Board
  - City of Bellingham
  - City of Blaine
  - City of Everson
  - City of Ferndale
  - City of Lynden
  - City of Nooksack
  - City of Sumas

- Whatcom County
- Washington Department of Fish and Wildlife
- Lummi Nation
- Nooksack Indian Tribe

The WRIA 1 Management Team provides program oversight and administers the policies and directions of the WRIA 1 Policy Boards. It consists of representatives from the same entities as the policy boards. The staff teams[13] support the Whatcom LIO through the development and implementation of local actions. The staff teams include staff members from the policy boards' membership and other governments and organizations.

For the 2014/2015 Action Agenda update, the staff teams focused on identifying near-term actions that could be implemented over the next 2 to 3 years and supported the Strategic Initiatives. The staff teams compiled a list of 33 actions representing the local priorities of participating jurisdictions and organizations. The management team used a rubric, typically consisting of the following questions, to narrow that list.

- Will the action have measurable watershed improvements (e.g., riparian function, stream habitat, water quality, water allocation, estuary function, nearshore habitat connectivity)?
- Is the action based on established and legitimate local planning process?
- Does the proponent have sufficient authority to implement and report on the action?
- Can the action be substantially completed by December 2016?
- Does the action address one of the Strategic Initiatives?

If the response to the first four questions was positive, the action was advanced by the management team to the policy boards as a recommended near-term action.

The updated near-term actions should not be construed to represent the priority of any individual contributor; rather, as a group they are consistent with the LIO's overall purpose to coordinate implementation of Action Agenda priorities consistent with or complementary to local priorities.

Pressures

In 2011, the Whatcom LIO used guidance from Partnership staff to evaluate pressures relevant to the local ecosystem. The LIO prioritized 15 pressures as significant to the local ecosystem. In the table below, the pressures are listed alphabetically and organized geographically by aggregated watershed areas. They are organized geographically because of the unique characteristics and land uses within this area. The aggregated watersheds are consistent with the aggregations in the WRIA 1 2010 State of the Watershed Report. The pressures were not revised for this update.

[13] In 2012, an ad hoc work group (the Whatcom Integration Team) was established for the purpose of updating and refining the March 16, 2012, update to the Puget Sound Action Agenda, and identifying options to present to the WRIA 1 Management Team for further integrating and advancing local priorities in the WRIA 1 decision-making structure. The options identified by the Whatcom Integration Team and presented to the WRIA 1 Management Team for the purpose of a 2014/2015 update included a staff team option. In June 2013, the WRIA 1 Policy Boards acted on the WRIA 1 Management Team recommendation of staff teams to support the WRIA 1 Policy Boards' LIO function.

Pressures Identified by Aggregated Watersheds

Pressure(s)	Aggregated Watersheds						
	Nooksack Forks	Lower Nooksack	Coastal North[1]	Coastal West[1]	Coastal South[1]	Lake Whatcom	Sumas River
Agriculture, livestock grazing; agricultural runoff	X	X	X	X			X
Aquatic animal harvesting (includes threat of illegal fishing)	X	X	X	X	X	X	X
Culverts	X	X	X	X	X	X	X
Dams	X						
Freshwater levees/floodgates (includes outlet dam)	X	X				X	
Freshwater shoreline infrastructure (armoring, docks, bulkheads, other overwater structures)	X	X				X	
Industrial, domestic and municipal wastewater	X	X	X	X	X	X	X
Invasive species	X	X	X	X	X	X	X
Marine shoreline infrastructure (armoring, docks, bulkheads, other overwater structures)			X	X	X		
Oil and hazardous material spills (includes pipelines/tanker trucks/trains/ marinas/ports)	X	X	X	X	X	X	X
Recreational activities	X	X	X	X	X	X	X
Residential and commercial development; runoff from built environment (unmanaged runoff)	X	X	X	X	X	X	X
Timber production (includes Lummi Reservation)	X		X	X	X	X	X
Transportation and service corridors (in WRIA 1 includes rail, roadways, ports, marinas, ferry terminal, border crossings, pipelines)	X	X	X	X	X	X	X
Water withdrawals/ diversions	X	X	X	X	X	X	X

[1] Includes adjacent marine waters.

Local Near-Term Actions and Opportunities

The table below presents the local near-term actions for Whatcom County Nooksack watershed. 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 or entities responsible for implementation of the near-term action, with the primary owner being responsible for tracking and reporting progress toward completing the action. The final column provides regional context for each local action, identifying 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, *Strategies and Actions*, in the context of their primary sub-strategies.

Local Near-Term Actions in Whatcom County Nooksack Watershed

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
WH1	**Implement Chinook restoration projects in the WRIA 1 Salmon Recovery 3-Year Work Plan**. The preparation and updating of the 3-year work plan is an element of salmon recovery and is a regional requirement for lead entities, occurring annually. The local recovery plan and restoration strategies are the foundation for the updates, and reflect local restoration strategies and priorities.	• By January 2016, WRIA 1 Sponsors prepare designs for up to six priority chinook projects in the Nooksack River Forks. • By January 2016, WRIA 1 Sponsors complete up to five instream projects in the Nooksack River Forks that create up to 20 primary pools and 4 miles of channel and off-channel habitat. • By January 2016, WRIA 1 Sponsors acquire up to 100 acres of priority habitat for protection and/or restoration in the Nooksack River Forks. • By January 2016, WRIA 1 Sponsors submit up to six applications for project funding.	WRIA 1 Salmon Recovery Board (Lead Entity) *Nooksack Tribe, Lummi Nation, Whatcom County, Whatcom Land Trust, NSEA, Whatcom CD, City of Bellingham, WDFW, USFS, and others are supporting partners*	A6.1 (A5.4)
WH2	**WRIA 1 Forest Road Inventory and Assessment for implementation**. Compile information on federal, state, and private forest roads identified as risks to aquatic resources. In addition, identify additional non-system roads and prioritize road segments based on potential for mass wasting and sediment delivery to streams. Develop treatments for road decommissioning, storage, and seek funding for implementation.	• By December 2014, USFS complete Inventory and Assessment for Priority Drainages on USFS land. • By December 2014, Nooksack and Lummi Natural Resource Staff provide information on private forest roads risk in priority drainages. • By June 2015, USFS and technical staff prioritize road segments for treatment. • By June 2016, USFS finalize contract for treatment on road segments in priority areas.	WRIA 1 Salmon Recovery Board *USFS, NNR, LNR*	C4.2 (B2.2)
WH3	**Lower Nooksack Floodplain Management.** Complete habitat assessments and restoration plans for Reach 4, Reach 3, Reach 2, and Reach 1 of the Mainstem Nooksack. The restoration plans will advance the Flood/Fish Integration action in the WRIA 1 Salmonid Recovery Plan (through incorporation into Systemwide Improvement Framework Plan and/or Comprehensive Flood Hazard Management Plan), and will provide technical information to support the	• By December 2015, Salmon Recovery Staff Team completes restoration plan for mainstem Nooksack River (reaches 1 through 4). • By December 2014, Whatcom Conservation District prepares agricultural riparian corridor plan in collaboration with salmon recovery, water quality, and other interests to establish vegetative prescriptions for agricultural watercourses to achieve water quality and	WRIA 1 Salmon Recovery Board *WCPW, LNR, Whatcom CD, NNR*	A5.1 (A5.4)

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
	Whatcom Conservation District's restoration and riparian efforts in agricultural areas. This action is critical to ultimately restoring Nooksack River floodplain.	fish habitat goals. • By December 2014, agreement with Whatcom Conservation District to develop a community vision for a green infrastructure plan that identifies working lands and essential environmental features including fish and wildlife habitat that will inspire individual landowner participation in protection and restoration actions. • By February 2016, Salmon Recovery Staff Team develops preliminary design for integrated floodplain restoration project and associated grant proposal to procure construction funding.		
WH4	**Padden Creek enhancements—24th to 30th Streets**. This freshwater project greatly improves existing habitat conditions for the section of Padden Creek that is immediately upstream of the newly daylighted tunnel. This site is now accessible to salmonid species. The project will increase the diversity and amount of fish habitat available by reconnecting Padden Creek to its floodplain, adding log jams, boulders and pools in an urban environment. Steps include completing design, obtaining permits, constructing, planting the site, maintaining plantings, and monitoring site evolution.	• By November 2015, complete design. • By January 2016, complete bid specifications and permit applications. • By December 2016, complete construction. • By January 2017, complete planting.	City of Bellingham	A2.2 (B2.2)
WH5	**WRIA 1 culvert inventory maintenance**. Whatcom County completed an inventory of culverts in WRIA 1 in 2005. The document may need to be updated to reflect culverts replaced or repaired and inventories recently completed by WDFW. Completing designs for priority fish passage barriers would enable those barriers to be "shovel-ready" when funding becomes available to implement projects.	• By December 2014, WDFW in collaboration with partners prepare an addendum to 2005 WRIA 1 Culvert Inventory. • By December 2015, Sponsors prepare designs to fix up to three priority fish passage barriers.	To be determined *USFS, Whatcom County Public Works, NSEA, WDFW*	A2.2

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
WH6	**Implement and expand the noxious weed eradication program**. The Noxious Weed Board has implemented a program in Whatcom County to remove knotweed from the Nooksack Forks and spartina species from marine intertidal areas including the Nooksack and Lummi River deltas. Long term surveys and continued annual removal/treatment is necessary to prevent the establishment of spartina and to manage knotweed infestations.	• In 2014, continue follow-up treatments in forks using existing funding. • By the end of 2015, if full funding is made available, extend treatments to all tributaries to the forks with first treatment of all tributaries and touch up treatments in previously treated areas. • Through 2014, continue spartina surveys for early detection with existing funding. ○ Remove new spartina clones detected. ○ Continue seasonal removal of spartina close currently known. ○ Recommend and implement herbicides if determined necessary.	Whatcom County *Whatcom County Noxious Weed Board*	B5.3
WH7	**Waterfront and estuary habitat connectivity projects**. Implement restoration projects, and protect marine shorelines through stewardship projects.	• Locust Beach– Marine Resources Committee in cooperation with City of Bellingham Parks Department to: ○ By December 2016, host four coordinated beach clean ups with local community groups at Locust Beach (e.g., kiteboarding club, dive club, Surfrider), and design and install interpretive and stewardship signs. • Little Squalicum Estuary–City of Bellingham to: ○ By June 2014, complete design. ○ By June 2014, complete bid specifications and permit applications. ○ By December 2015, complete construction. ○ By January 2016, complete planting. • Whatcom Waterway Between Roeder and Holly–City of Bellingham to: ○ Complete feasibility and site characterization. ○ By December 2014, complete design, bid specifications and permit applications. • Cornwall Beach Park Habitat Enhancements–City of Bellingham to:	City of Bellingham	B2.2 (D7.6)

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
		○ By August 2014, complete Master Planning and 30% design. • Willow Spring Culvert Removal–City of Bellingham to: ○ By April 2015, complete design. ○ By April 2015, complete bid specifications and permit applications. ○ By December 2016, complete construction. ○ By December 2016, complete planting.		
WH8	**Marietta Acquisition.** Acquire properties in repetitive flood loss area to prevent future loss and to enhance upstream habitat restoration opportunities. Clean up three former gas stations sites as dictated by site conditions.	• By December 2015, complete Estuary and Salmon Restoration Program acquisitions. • By December 2015, complete additional acquisitions. • By December 2015, assess and remediate former gas station sites.	Whatcom County	A5.4 (B3.2)
WH9	**Implement a pollution identification and control project in northern Chuckanut Bay (Mud Bay) to restore the recreational shellfish area**. Through a partnership of community groups and local agencies, identify bacteria sources and implement water quality improvement projects to reduce bacteria levels in Mud Bay and restore the recreational shellfish area. This program includes: • Monitoring. • Community outreach. • Technical and financial assistance for onsite sewage system operation and maintenance. • Stormwater retrofits.	• By December 2014, develop a strategy with DOH with specific milestones to reopen the Mud Bay recreational shellfish area. • In January 2015, January 2016, and December 2016, host three meetings (one per each date listed) to inform and engage community members in water quality improvement). • Through December 2016, conduct monthly sampling at approximately 10 stations. Conduct bracketing monitoring to identify pollution sources. • By December 2015, evaluate 75% of onsite sewage system in the drainage area and repair 100% of identified failing systems. • By December 2015, develop and implement outreach strategies to address domestic pet and urban wildlife sources of bacteria. • By December 2015, identify opportunities for stormwater retrofits.	Whatcom County Marine Resources Committee *Whatcom County Department of Health*	C9.4

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
WH10	**Implement Whatcom County Pollution Identification and Control Program**. Through a partnership of local, state, and tribal agencies identify priority areas and implement projects to decrease bacteria levels in local marine waters, rivers, and streams. This program includes: • Monitoring and focus area identification. • Community outreach and engagement. • Technical and financial assistance for agricultural operations. • Technical and financial assistance for onsite sewage system operation and maintenance. • Stormwater retrofits. • Regulatory backstop. • Nutrient Management, TMDL Implementation.	• Through December 2016, conduct monthly sampling at approximately 90 stations. Conduct short-term ambient and bracketing monitoring in each focus area to identify pollution sources. Complete annual reviews of water quality results. • Through December 2016, identify a minimum of two focus areas per year. • Provide technical/financial assistance to 50 agricultural operations in focus areas per year. • Evaluate 75% of onsite sewage system in focus areas per year. Repair 100% of identified failures. • By December 2016, complete designs for two priority stormwater retrofits. • Water quality. • Shellfish beds.	Whatcom County *Whatcom Conservation District, DOH, Ecology, WSDA, Lummi Nation, Nooksack Tribe*	C9.4
WH11	**Implement the Birch Bay watershed and aquatic resources management (BBWARM) district stormwater program**. The BBWARM program includes both capital and programmatic elements to improve water quality, reduce flooding, and protect aquatic habitat. BBWARM works with a variety of partners including the Birch Bay Shellfish Protection District, Birch Bay Water Sewer District, Whatcom Conservation District, NSEA, MRC, and other Whatcom County programs. BBWARM program areas include: • Capital Improvement Projects • Maintenance and Operations • Water Quality Monitoring • Education and Outreach	• Design and construct stormwater retrofit projects per the 6-Year Water Resources Improvement Program. • In 2014, complete the Central-North and Central-South Subwatershed Master Plans. • In 2015, complete the draft Terrell Creek Subwatershed Master Plan. • Host a minimum of three outreach events each year (e.g., rain barrel workshops, Discovery Days, Whatcom Water Weeks event). • Write and distribute an annual newsletter. • Maintain 11 pet waste stations near Birch Bay. • Participate in Whatcom County's pollution identification and correction program. • Participate in Whatcom County's NPDES Phase II program.	Whatcom County *BBWARM*	C2.1 (C2.5)

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
WH12	**Lake Whatcom watershed stormwater projects**. Implement stormwater retrofit projects identified in the Lake Whatcom Comprehensive Stormwater Plan. • Coronado-Fremont Stormwater Improvements: Construction of Phase 1 in 2013 included a bio-infiltration swale and stormwater vaults. The project will treat runoff from approx. 10 acres. • Academy Road Stormwater Improvements: Partner with the City of Bellingham on a joint stormwater retrofit project to improve stormwater quality in the Lake Whatcom Watershed. This project will treat runoff from approximately 80 acres. • Cedar Hills/Euclid Stormwater Improvements: Install rain gardens, filter vaults, and treatment swales. This project will treat runoff from approximately 60 acres.	• Coronado-Fremont Stormwater Improvements: ○ By October 2014, Whatcom County to complete restoration of about 600 feet of creek channel and install treatment vaults. • Academy Road Stormwater Improvements—Whatcom County with City of Bellingham to: ○ By September 2014, complete engineering design. ○ By October 2015, construct pretreatment unit, biofiltration swale, filter cartridge vault, high flow bypass, and a vegetated buffer along the lake front. • Cedar Hills/Euclid Stormwater Improvements: ○ By September 2015, Whatcom County to complete design.	Whatcom County	C2.3
WH13	**Birch Bay area stormwater projects**. Implement stormwater retrofit projects identified in the Birch Bay Comprehensive Stormwater Plan: • Birch Bay Stormwater Priority Retrofit Projects Pre-Design: Ecology Watershed protection and Restoration grant-funded project to complete preliminary design and analysis for priority capital projects. • Beachway Drive & Fern/Park Stormwater Improvements: Stormwater retrofit project to improve stormwater quality entering Birch Bay and reduce flooding impacts. • Harborview Road Culvert Replacement: Replace undersized driveway culverts and catch basins to alleviate flooding along Harborview Road. • Cottonwood Drive Drainage Improvements: Stormwater retrofit project to improve conveyance	• Birch Bay Stormwater Priority Retrofit Projects Pre-Design: ○ By December 2014, complete four preliminary solutions reports and four pre-design reports. • Beachway Drive & Fern/Park Stormwater Improvements: ○ By December 2014, replace one to two outfall structures, install an improved stormwater conveyance system, and install water quality treatment swales. • Harborview Road Culvert Replacement: ○ By December 2014, complete engineering design. ○ By December 2015, replace 10 undersized driveway culverts and two undersized catch basins. • Cottonwood Drive Drainage Improvements: ○ By September 2015, complete engineering design.	Whatcom County	C2.3

	Near-Term Action	Performance Measures	Owner(s)[1]	Regional Sub-Strategy[2]
	from uplands areas, reduce nearshore flooding, and provide additional drainage connections along Birch Bay Drive. Water quality treatment options will be incorporated.			
WH14	**Ferndale stormwater projects**. Implement stormwater projects that address runoff to the Nooksack River, and that are identified in the City of Ferndale Stormwater Management Plan. • Gateway Stormwater Facility projects: Upgrade the stormwater conveyance reaches identified in the 2013 Ferndale Gateway Stormwater Study and planned for implementation (project reaches W-R-2 and W-R-3). • Decant Design and Construction: Design and construct a covered facility for the City of Ferndale stormwater decant process, which currently is located in the floodplain. • City of Ferndale Stormwater Studies: Complete stromwater drainage studies for two areas within the City of Ferndale: Main Street and Labounty and Thornton Street Stormwater Pond.	• Gateway Stormwater Facility projects: ○ By December 2016, construct two stormwater facilities. • Decant Design and Construction: ○ By December 2014, complete the decant design, pending a new site location. ○ By December 2016, construct. • City of Ferndale Stormwater Studies: ○ By December 2014, complete Main Street RAB Stormwater Study. ○ By December 2016, complete Thornton Street Stormwater Pond.	City of Ferndale	C2.3

[1] Where secondary owners were identified, they are shown in italics after the primary owner.

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

CD = Conservation District

The near-term actions identified above represent a subset of the local priorities planned for implementation over the next 2 or 3 years. The remaining local priorities, listed below, provide important context for all of the work that is underway in the Whatcom County Nooksack watershed. The fact that not all of the local priorities met the criteria in the rubric that was used to identify the set of near-term actions for this update does not lessen their importance in addressing local needs and, where applicable, obtaining funding to implement them.

Additional Priority Local Actions in Whatcom County/Nooksack Watershed

Local Action (Investment)	Principal Proponent/ Reporting Organization	Performance Measures	Existing Program or Plan
Lower Nooksack Overflow Corridors. Model and construct overflow corridors that reconnect the Nooksack River to its floodplain as a flood risk reduction and mainstem habitat protection mechanism.	Whatcom County Public Works with diking districts	• By December 2014, complete Reach 1 modeling and alternatives analysis. • By December 2015, scope and model Reach 2 and 3 corridors and conduct alternatives analysis.	Whatcom County Public Works, River and Flood Division; salmon recovery
Implement aquatic invasive species management plans for Whatcom County Lakes. Continue boat inspections and educating the boating public about effective methods to prevent the introduction of aquatic invasive plant and animal species to all lakes in Whatcom County.	Whatcom County Public Works with Whatcom County Noxious Weed Board	• Continue mandatory inspection of all watercraft in Lake Whatcom and Lake Samish. • By end of 2015, evaluate all Whatcom County water bodies for potential expansion.	
WRIA 1 Salmon Recovery Monitoring and Adaptive Management Plan. Develop a locally prepared plan that can be rolled up into the regional framework and that will inform local recovery plan addenda. Prepare narrative addenda to the WRIA 1 Salmonid Recovery Plan as appropriate to reflect changes and/or modifications to key actions based on adaptive management.	WRIA 1 Salmon Recovery Board with Nooksack Natural Resources and Lummi Natural Resources	• By March 2014, Salmon Recovery Staff Team prepares report on Status of Key Actions in Appendix B of the WRIA 1 Salmonid Recovery Plan (milestone). • By June 2014, Nooksack Natural Resources and Lummi Natural Resources technical staff working with Salmon Staff Team complete Worksheets for Regional Monitoring Framework (milestone). • By December 2014 Nooksack Natural Resources and Lummi Natural Resources technical staff working with Salmon Staff Team prepare a final WRIA 1 Salmon Recovery Monitoring and Adaptive Management Plan for approval (output).	Salmon recovery

Local Action (Investment)	Principal Proponent/ Reporting Organization	Performance Measures	Existing Program or Plan
Improve and expand the purchase of development rights (PDR) program. Whatcom County has implemented a PDR program, though it has not been heavily used. The Whatcom County Agricultural Advisory Committee has begun exploring a reverse auction strategy as a way to improve the program.	Whatcom County Planning and Development Services	• In November 2013, Whatcom County entered into a contract with consultant, who is assisting in development of a reverse auction strategy that will focus on lots in the core ag zone. The reverse auction will be held winter 2014/2015. • The PDR Oversight Committee is working with the Whatcom County Ag-Watershed grant project to develop agricultural metrics that might be used in a natural resource marketplace.	Whatcom County Ag Strategic Plan
Investigate the development of a transfer of development rights (TDR) program. The Whatcom County Agricultural Advisory Committee wants to explore setting up a TDR program for agricultural lands. The Agricultural Strategic Plan lists developing a TDR program to help achieve the goal of maintaining 100,000 acres of farmland in Whatcom County.	Whatcom County Planning and Development Services	• Whatcom County plans on applying for a grant in 2014 to hire a consultant to do a feasibility study of a TDR program in Whatcom County.	Whatcom County Ag Strategic Plan
WRIA 1 Multipurpose Water Storage Assessment Report update and evaluation. Review the May 2003 WRIA 1 Multipurpose Water Storage Assessment and Annotated Bibliography and evaluate and identify storage options to implement in key areas. Coordinate the review and application to key areas with other water resource related programs such as floodplain management and salmon recovery. Identifying viable options for water storage as part of an overall management strategy for addressing seasonal low stream flows.	WRIA 1 Joint Board	• By September 2014, review and update of storage option report (milestone). • By December 2014, GIS mapping of storage options in focus areas (output). • By March 2015, technical agreement on options to pursue for funding in key areas (milestone). • By December 2015, funding applications for two storage options in key areas (milestone).	WRIA 1 Watershed Management Plan
Implement a marine water aquatic invasive species management plan.	City of Bellingham	• By December 2015, City of Bellingham identifies and implements aquatic invasive species management plan for marine waters.	

Local Action (Investment)	Principal Proponent/ Reporting Organization	Performance Measures	Existing Program or Plan
Implement riparian restoration and enhancement projects in priority areas of coastal drainages. Building upon the riparian condition and function assessment completed for coastal drainages, work with local partners to identify, design, and implement riparian planting and stream channel restoration in priority areas of the coastal drainages.	Whatcom County, Whatcom Conservation District		Shellfish protection districts, Birch Bay Comprehensive Stormwater Plan, WRIA 1 Salmonid Recovery Plan, complements critical areas ordinance, shoreline master program, and Nooksack and Drayton TMDLs
Implement the 2013–2018 National Pollutant Discharge Elimination System Phase II Permit. Enhance and implement the requirements of the permit. The permit sections include: • Public Education and Outreach • Public Involvement and Participation • Illicit Discharge Detection and Elimination • Controlling Runoff from New Development, Redevelopment, and Construction Sites • Municipal Operations and Maintenance • Monitoring and Assessment • Compliance with TMDL requirements	Whatcom County, City of Bellingham, City of Lynden, City of Ferndale	• December 31, 2016, develop and adopt Low Impact Development principles requirement in land use and stormwater codes. • Coordinate outreach events regarding Low Impact Development principles prior to adoption of updated land use and stormwater codes. • Develop and implement maintenance and inspection program for public stormwater facilities • Coordinate one outreach event per year on the following topics: illicit discharges, private stormwater facility maintenance, and sustainable landscaping practices.	2013–2018 Western Washington Phase II Municipal Stormwater Permit
Terrell Creek Landowner Incentive Program. Whatcom Conservation District program in partnership with BBWARM provides cost-share funding to facilitate projects that benefit water quality in Terrell Creek and promote watershed stewardship activities. Current EPA grant funding ends June 2015.	Whatcom Conservation District, Whatcom County/ BBWARM	• In 2015, seek additional funding to continue farm/home visits, stream and riparian restoration projects, small farm plans, and onsite sewer system inspection assistance.	Birch Bay Comprehensive Stormwater Plan

Local Action (Investment)	Principal Proponent/ Reporting Organization	Performance Measures	Existing Program or Plan
Implement public outreach. Implement work plan activities and events in existing work plans from Whatcom Watershed Information Network, Marine Resources Committee, and other organizations.	Whatcom Watershed Information Network with partnering organizations (e.g., Marine Resources Committee, Whatcom Conservation District, Nooksack Salmon Enhancement Association, Sustainable Connections, local governments, tribes)		Whatcom Watershed Information Network work plan; Marine Resources Committee Strategic Plan; other work plans
Implement the Lake Whatcom Management Program. Through a partnership between Whatcom County, the City of Bellingham, and the Lake Whatcom Water and Sewer District, improve water quality of Lake Whatcom and reduce phosphorus loading to achieve goals of the Lake Whatcom TMDL through priority tasks outlined in the Lake Whatcom Management Program's 5-Year Work Plan.	Whatcom County, City of Bellingham, and Lake Whatcom Water and Sewer District		2010–2014 Lake Whatcom Management Program 5-Year Work Plan
Swift Creek landslide Derived Asbestos Project. Implement phase 1 projects and explore feasibility of other projects to reduce the impacts on human health of landslide-supplied sediment containing naturally occurring asbestos.	Whatcom County Public Works with Ecology and EPA		Whatcom County Public Works 6-year Water Resources Improvement Program
International task force to address high nitrates/nitrate contamination of groundwater. The Sumas/Abbotsford Aquifer Task Force will review and perform an assessment of existing Washington and British Columbia plans that pertain to high nitrates and nitrate contamination of groundwater and manure management. The assessment will include existing programs and laws, both regulatory and non-regulatory, provide	Ecology with partners	• By December 2014, identify gaps in existing programs and laws (milestone). • By June 2015, prepare proposals for new action and programs, if needed, for groundwater management area (milestone).	

Local Action (Investment)	Principal Proponent/ Reporting Organization	Performance Measures	Existing Program or Plan
proposals for identified fixes within existing laws and programs, and provide proposals for new action items/programs, if needed for groundwater management area.			
Climate change influences on WRIA 1 programs. Review conclusions of local analysis of if and how climate change and seasonal weather patterns may affect implementation of local plans and actions (e.g., instream flows, salmon restoration, flood hazard management planning). Based on review, consider applicable and appropriate policy guidance for local programs and projects to incorporate into programs as part of adaptive management.	WRIA 1 Joint Board and Salmon Recovery Board	• By March 2015, complete review of conclusions in local analysis related to changing climatic conditions and seasonal weather patterns. • By December 2015, adopt policy guidance, if applicable, for incorporating into WRIA 1 strategies and plans.	
WRIA 1 Water and Natural Resource Management Funding Strategy. In 2005, a WRIA 1 Planning Unit subcommittee identified funding options for the WRIA 1 Watershed Management Plan. The funding option report should be updated to reflect current status and options for a reliable and local funding strategy to address water and natural resource management needs throughout WRIA 1.	WRIA 1 Joint Board and Salmon Recovery Board	• By December 2014, update to the WRIA 1 Water Management Funding Strategy presented to Joint Board (milestone). • Identify funding needs and prepare strategy for local funding to implement priority actions in approved plans (e.g., watershed management, shellfish protection, salmon recovery).	WRIA 1 Watershed Management Plan; complements other plans
Locally Significant Capital Projects[1]			
Pepin Creek Realignment. Realign the small Double Ditch tributary, which flows into Fishtrap Creek from headwaters in Canada. The system supports populations of coho salmon, fall Chinook salmon, cutthroat trout, and winter steelhead.	City of Lynden	• Complete property acquisition and easement for approximately 3,000 feet of new stream channel. • Complete full design for the entire 6,000-foot corridor. • Construct 3,000 feet of new stream channel, providing habitat for salmonids and steelhead. • Construct a new crossing, bridge or culvert, on Main Street over the new channel.	

Local Action (Investment)	Principal Proponent/ Reporting Organization	Performance Measures	Existing Program or Plan
Integrated surface/groundwater model and data collection. Groundwater modeling (focused geographically) is needed to estimate the potential impacts on surface water from groundwater uses with a level of reliability that can satisfy stakeholders' needs. To serve this purpose, groundwater use needs to be quantified along with timing, locations of points of withdrawal and place of use (Chapter 4, Ground Water Data Assessment, 2013). An integrated surface/ groundwater model that builds on existing models, data, and reports previously completed for WRIA 1 can support this need. Chapter 4 of the WRIA 1 Groundwater Data Assessment (June 2013 report) outlines different options for an integrated surface/groundwater model and data gaps relevant to groundwater modeling. Continued support of the U.S. Geological Survey agreement for maintaining stream gages in WRIA 1 is one element of the data collection.	WRIA 1 Joint Board	• By May 2014, Joint Board agreement for proceeding with ground water/surface water model (milestone). • By December 2014, conceptual model (output). • By December 2015, quantification of water use and location of use (output). • By December 2015, numerical model developed (output).	
Middle Fork Passage Project. Address fish passage project on the Middle Fork Nooksack River.	City of Bellingham with Co-Managers	• By March 2015, updated funding package for the 2012 Middle Fork Passage Project (milestone). • By January 2016, seek and obtain funding agreements for the Middle Fork Passage Project (milestone).	

[1] For this purpose, locally significant capital projects are actions or groups of actions that have multiple habitat benefits, have costs that exceed the range of typical grants ($2 million), and are generally agreed to bring far-reaching influence.

DOH = Department of Health; Ecology = Washington State Department of Ecology; EPA = U.S. Environmental Protection Agency; GIS = Geographic Information System; LIO = local integrating organization; NPDES = National Pollutant Discharge Elimination System; TMDL = total maximum daily load; USFS = U.S. Forest Service; WDFW = Washington Department of Fish and Wildlife; WRIA = Water Resources Inventory Area; WSDA = Washington State Department of Agriculture.