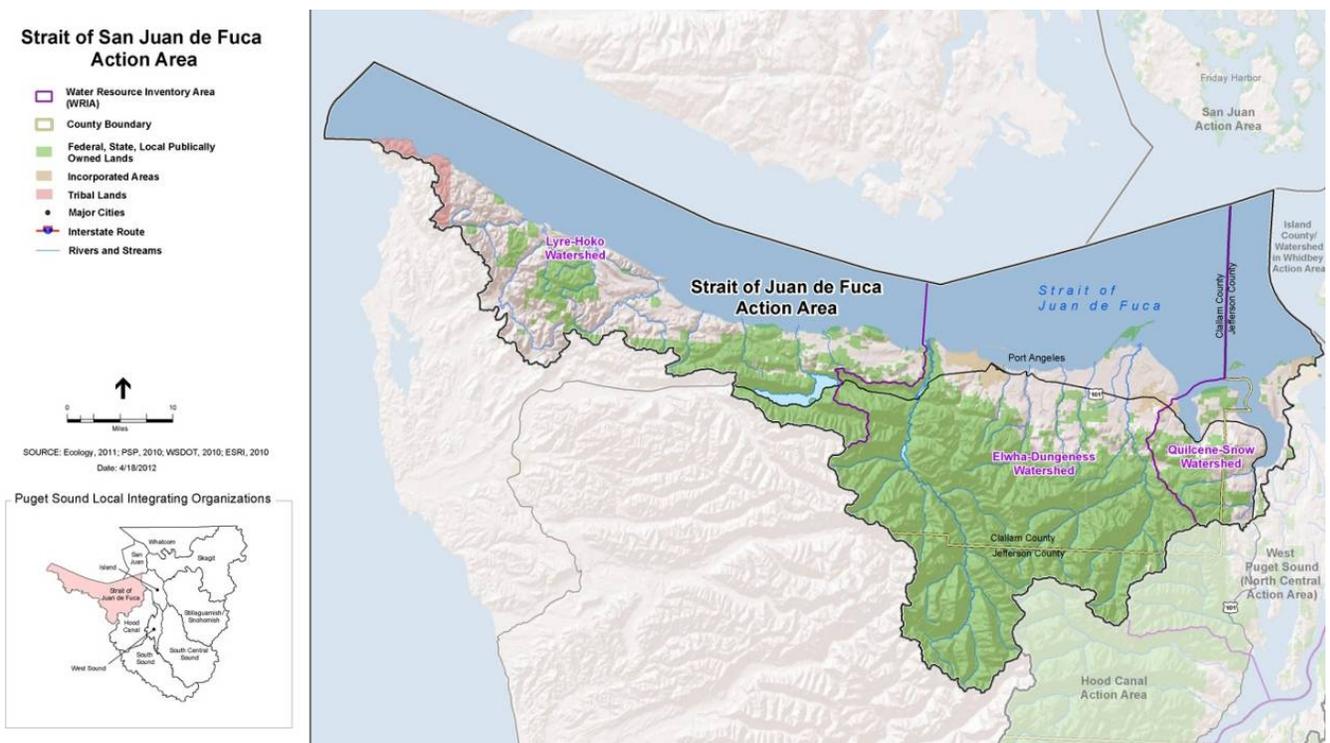


Strait of Juan de Fuca Action Area

Description of Action Area

The Strait of Juan de Fuca Action Area (Strait Action Area) 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.



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.

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

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.

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 2020 recovery targets (Section 1). 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 WRIs 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), 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 strategies¹. 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.
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.

¹ 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.

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, measurable, 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 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	<p>Assess vulnerabilities of local communities, tribes, and natural resources to the effects of climate change and concurrent human population increases.</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	<p>North Olympic Peninsula Resource Conservation and Development Council</p> <p><i>Local 2020 Climate Action Group</i></p> <p><i>Olympic Climate Action Group</i></p>	<ul style="list-style-type: none"> 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 	<p>A1.2 (A5.2, B1.2)</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
<p>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.</p>			<ul style="list-style-type: none"> • Timber harvest • Water withdrawals and diversions 	
<p>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 implementation strategies, onsite sewage system management plans, monitoring, and other activities required in Marine Recovery Areas under RCW 70.118A.</p>	<ul style="list-style-type: none"> • 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 Plan; by December 2016, develop a Prioritized Work Plan. 	<p>Clallam and Jefferson Counties</p> <p><i>Sequim-Dungeness Clean Water Work Group, Jamestown S’Klallam Tribe, Clallam Conservation District, Jefferson Conservation District</i></p>	<ul style="list-style-type: none"> • Livestock grazing • Onsite sewage systems 	<p>C9.4 (C3.1, C5.1, C7.1)</p>
<p>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</p>	<ul style="list-style-type: none"> • 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: 	<p>Olympic National Park</p> <p><i>LEKT, NOAA, USFWS, USGS, WDFW, BOR, North Olympic Lead Entity for</i></p>	<ul style="list-style-type: none"> • Aquaculture, climate change, dams, levees, floodgates, and culverts, harvesting, recreational activities, residential, commercial and port development, 	<p>A6.3 (A6.1)</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
by the USFWS (currently in peer review).	<p>Juvenile outmigration from mid-February to June.</p> <ul style="list-style-type: none"> • 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 	<i>Salmon</i>	shoreline armoring, water withdrawals and diversions	
<p>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</p>	<ul style="list-style-type: none"> • By 2016, three projects will be funded. 	<p>Lower Elwha Klallam Tribe</p> <p><i>ONP, North Olympic Lead Entity for Salmon</i></p>	<ul style="list-style-type: none"> • 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)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
<p>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.</p>				
<p>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.</p>	<ul style="list-style-type: none"> • 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. 	<p>North Olympic Lead Entity for Salmon (reporter)</p>	<ul style="list-style-type: none"> • Agriculture • Climate change • Dams, levees, floodgates, and culverts • Roads, transportation and utility infrastructure • Residential, commercial and port development • Roads, transportation and utility infrastructure • Shoreline armoring • Timber harvest • Water withdrawals and diversions 	<p>A6.1 (A5.4, A6.3, B2.2)</p>
<p>STRT6 Implement the restoration and revegetation plan for Lake Mills and Lake Aldwell on the Elwha River.</p>	<ul style="list-style-type: none"> • 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. 	<p>Olympic National Park <i>Lower Elwha Klallam Tribe</i></p>	<ul style="list-style-type: none"> • Climate change • Dams, levees, floodgates, and culverts • Invasive species - terrestrial 	<p>A6.1</p>
<p>STRT7 Implement Dungeness river floodplain restoration projects.</p>	<ul style="list-style-type: none"> • 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 	<p>Clallam County Department of Community</p>	<ul style="list-style-type: none"> • Agriculture • Climate change • Dams, levees, 	<p>A6.1 (A5.4)</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
	reconnection].	Development <i>Corps, Jamestown S'Klallam Tribe, WDFW, WSDOT, North Olympic Lead Entity for Salmon</i>	floodgates, and culverts • Livestock grazing • Resident, commercial and port development • Roads, transportation and utility infrastructure • Shoreline armoring	
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
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 <i>Merrill and Ring, Forterra</i>	• 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	• 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,	A6.1 (A5.4, A6.3, B2.2)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
each project, and the current reevaluation of priorities.			transportation and utility infrastructure <ul style="list-style-type: none"> • Shoreline armoring • Timber harvest • Water withdrawals and diversions 	
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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Climate change • Roads, transportation and utility infrastructure • Shoreline armoring 	A6.1 (B2.2)
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.	<ul style="list-style-type: none"> • 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 <i>Appropriate members of LIO</i> <i>U.S. Coast Guard</i> <i>Ecology</i> <i>Department of Fish and Oceans</i> <i>Transport</i> <i>Canada</i>	<ul style="list-style-type: none"> • Moderate to large hazardous spills 	C8.2

	Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy 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 current estimates of Canadian vessel traffic projections need to be incorporated into updates of vessel traffic risk assessments.	<ul style="list-style-type: none"> 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 <i>Appropriate members of LIO</i> <i>U.S. Coast Guard</i> <i>Ecology</i> <i>DFO</i> <i>Transport</i> <i>Canada</i>	<ul style="list-style-type: none"> Moderate to large hazardous spills 	C8.2
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.	<ul style="list-style-type: none"> 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 <i>Ecology</i> <i>Industry Groups</i> <i>U.S. Coast Guard</i>	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 <i>Jefferson County</i> <i>Washington State University</i> <i>Extension</i>	<ul style="list-style-type: none"> Climate change Residential, commercial, and port development Roads, transportation, and utility infrastructure Shoreline armoring Surface water loading and runoff 	B1.2 (B2.3, C2.3, D7.4)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
<p>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.</p>		<p><i>City of Port Townsend</i></p>	<p>from built environment</p>	
<p>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.</p>	<ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ○ Ediz Hook by 2014. ○ West End Park by 2015. ○ Hollywood Beach (to be fully designed by 2015 with implementation to follow). 	<p>City of Port Angeles Department of Community and Economic Development</p>	<ul style="list-style-type: none"> ● 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 	<p>B1.2 (A1.2, B1.2, B2.2, B2.3)</p>
<p>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.</p>	<ul style="list-style-type: none"> ● By 2016, adopt Storm and Surface Water Management Plan and drafts of ordinances 	<p>City of Sequim Department of Community Development</p>	<ul style="list-style-type: none"> ● Residential, commercial, and port development ● Roads, transportation, and utility infrastructure ● Surface water loading and runoff from built environment 	<p>C2.2 (A7.2, C2.1, C2.2, C2.3)</p>
<p>STRT18 Provide shoreline education, training, and technical assistance in Jefferson County and City of Port Townsend through</p>	<ul style="list-style-type: none"> ● By 2016, hold four workshops with the number of attendees at workshops and before and after surveys showing improved 	<p>Jefferson County Department of</p>	<ul style="list-style-type: none"> ● Climate change ● Residential, commercial, and port 	<p>B1.3 (A1.2, B1.2,</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
<p>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. 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.</p> <p>(Note: This action has a double benefit in that it is also a part of C2.5 STRT31.)</p>	<p>knowledge.</p> <ul style="list-style-type: none"> By December 2016, complete a final report on decisions to expand the SquareONE concept to other Strait Action Area local jurisdictions. 	<p>Community Development</p>	<p>development</p> <ul style="list-style-type: none"> Roads, transportation, and utility infrastructure Shoreline armoring (see STRT31 for surface-water loading and runoff from built environment) 	<p>B2.3, D7.4)</p>
<p>STRT19 Organize and implement annual Jefferson County restoration planning summits. Organize and implement the first annual Jefferson County Restoration Planning Summit.</p>	<ul style="list-style-type: none"> In early 2014, complete first annual Restoration Planning Summit. 	<p>Jefferson County Marine Resources Committee</p>	<ul style="list-style-type: none"> Climate change Residential, commercial, and port development Roads, transportation, and utility infrastructure Shoreline armoring 	<p>B1.2 (A1.2, B2.2, B2.3)</p>
<p>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.</p>	<ul style="list-style-type: none"> 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 	<p>Jefferson County Department of Community Development</p>	<ul style="list-style-type: none"> Climate change Residential, commercial, and port development Roads, transportation, and 	<p>B1.2 (A1.2, B2.2, B2.3)</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
	removal projects on a high priority shoreline (see page 7-1 of Shoreline Master Program Shoreline Restoration Plan).		utility infrastructure • Shoreline armoring	
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.	<ul style="list-style-type: none"> • By December 2014: <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Climate change • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Shoreline armoring 	B1.2 (A1.2, B2.2, B2.3)
STRT22 Develop and adopt the update of the Clallam County Shoreline Master Program.	<ul style="list-style-type: none"> • In 2014, adopt Shoreline Master Program. 	Clallam County Department of Community Development	<ul style="list-style-type: none"> • Climate change • Recreational marinas • Residential, commercial, and port development • Roads, transportation, and utility infrastructure 	B1.2 (A1.2)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy 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.	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Shoreline armoring 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.	<ul style="list-style-type: none"> By 2016, complete Ecosystem Services Valuation within Clallam and Jefferson Counties. 	Clallam and Jefferson County Departments of Community Development <i>Cities of Port Angeles, Sequim, and Port Townsend</i>	<ul style="list-style-type: none"> Climate change Dams, levees, floodgates, and culverts Recreational marinas Residential, commercial, and port development Roads, transportation, and utility infrastructure Shoreline armoring 	B1.2 (B2.3, D7.4)
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	<ul style="list-style-type: none"> By 2015, list priority actions. 	Clallam County Department of Community Development	<ul style="list-style-type: none"> Climate change Recreational marinas Residential, commercial, and port development Roads, transportation, and utility infrastructure 	B1.2 (A1.2, D7.4)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
effective shoreline landowner outreach program, etc.			<ul style="list-style-type: none"> Shoreline armoring 	
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.	<ul style="list-style-type: none"> By 2015, complete monitoring and adaptive management strategy. 	Clallam County Department of Community Development	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> By 2016, adopt Stormwater Management Plan 	City of Port Townsend Public Works Department	<ul style="list-style-type: none"> 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 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.	<ul style="list-style-type: none"> By 2016, adopt Storm and Surface Water Management Plan and drafts of ordinances 	City of Sequim Public Works Department	<ul style="list-style-type: none"> Industrial, domestic, and municipal wastewater Residential, commercial, and port development Roads, transportation, and utility infrastructure Surface water loading and runoff 	C2.2 (C2.1, C2.3, A7.2)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
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.	<ul style="list-style-type: none"> • 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	from built environment <ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 	C2.2 (C2.1, C2.3, C2.5)

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
<p>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. (Note: This action has a double benefit in that it is also linked to B1.3 STRT18.)</p>	<ul style="list-style-type: none"> • 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. 	<p>Jefferson County Department of Community Development</p>	<p>environment</p> <ul style="list-style-type: none"> • Toxic and legacy contaminants • Residential, commercial, and port development • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment (also see STRT18 regarding shoreline armoring) 	<p>C2.5 (C2.1, C2.2, C2.3)</p>
<p>STRT32 Update, adopt, and implement the Clallam County Stormwater Management Plan. Update and implement the Clallam County Stormwater Management Plan, including</p>	<ul style="list-style-type: none"> • Adopt Stormwater Management Plan and ordinances (no target adoption date available at this time) 	<p>Clallam County Department of Community Development</p>	<ul style="list-style-type: none"> • Onsite sewage systems • Residential, commercial, and port 	<p>C2.2 (C2.1, C2.3, C2.4)</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
adoption of Low Impact Development incentives and ordinances to support stormwater management.			development <ul style="list-style-type: none"> • Roads, transportation, and utility infrastructure • Surface water loading and runoff from built environment 	
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 concept used in Jefferson County and City of Port Townsend to accomplish this action.	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)
STRT34 Continue Clallam County Streamkeepers ambient monitoring program to understand stormwater baseline conditions and expand	<ul style="list-style-type: none"> • By 2016, obtain funding to revise and expand ambient monitoring program, as per Washington State Stormwater Work Group 	Clallam County Streamkeepers	<ul style="list-style-type: none"> • Onsite sewage systems • Residential, 	C2.4 (C2.1, C2.2,

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
<p>monitoring according to the Washington State Stormwater Work Group recommendations. Consider partnerships with the cities of Port Angeles and Sequim to accomplish this action.</p>	<p>Recommendations, in anticipation of future adoption of a Clallam County Stormwater Management Plan and Ordinance.</p>		<p>commercial, and port development</p> <ul style="list-style-type: none"> Roads, transportation, and utility infrastructure Surface water loading and runoff from built environment 	<p>C2.3)</p>
<p>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.</p>	<ul style="list-style-type: none"> By 2016, 100% complete and habitat information submitted to WSDOT, depending on staffing constraints. 	<p>To be determined</p> <p><i>WDFW</i></p>	<ul style="list-style-type: none"> Roads, transportation, and utility infrastructure Surface water loading and runoff from built environment 	<p>C2.3 (C2.1, C2.2)</p>
<p>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.</p>	<ul style="list-style-type: none"> Through February 2016, 100% of mitigation certificates issued relative to applications received by Clallam County (and beyond) within the Dungeness watershed. 	<p>Ecology</p> <p><i>Clallam County DCD</i></p> <p><i>Jamestown S'Klallam Tribe</i></p> <p><i>Lower Elwha Klallam Tribe</i></p> <p><i>Washington Water Trust</i></p> <p><i>Dungeness River Management Team</i></p> <p><i>Elwha-Morse Management Team</i></p>	<ul style="list-style-type: none"> Agriculture Climate change Onsite sewage systems Residential and commercial development Water withdrawals and diversions 	<p>A7.1 (A7.2, A7.3)</p>

	Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
STRT37	<p>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.</p>	<ul style="list-style-type: none"> • 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. 	<p>Clallam Conservation District and Washington Water Trust</p> <p><i>Ecology</i> <i>Water Users Associations</i></p>	<ul style="list-style-type: none"> • 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 	<p>A6.1 (A7.2, A7.3, C7.1)</p>
STRT38	<p>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.</p>	<ul style="list-style-type: none"> • Development, adoption, and implementation of a rule (start date for process is uncertain). 	<p>Ecology</p> <p><i>Jamestown S’Klallam Tribe</i> <i>Clallam County DCD</i> <i>Dungeness River Management Team</i></p>	<ul style="list-style-type: none"> • Agriculture • Climate change • Residential and commercial development • Water withdrawals and diversions 	<p>A7.1</p>
STRT39	<p>Develop, adopt, and implement a water resources management program rule for WRIA 19 the Lyre Hoko watershed.</p>	<ul style="list-style-type: none"> • Development, adoption, and implementation of a rule (start date for process is uncertain). 	<p>Ecology</p> <p><i>Lower Elwha Klallam Tribe</i> <i>Makah Tribe</i></p>	<ul style="list-style-type: none"> • Climate change • Residential and commercial development • Water withdrawals 	<p>A7.1</p>

Near-Term Action	Performance Measures	Owner(s) ¹	Pressure(s)	Regional Sub-Strategy ²
		<i>Clallam County</i> <i>DCD</i>	and diversions	

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