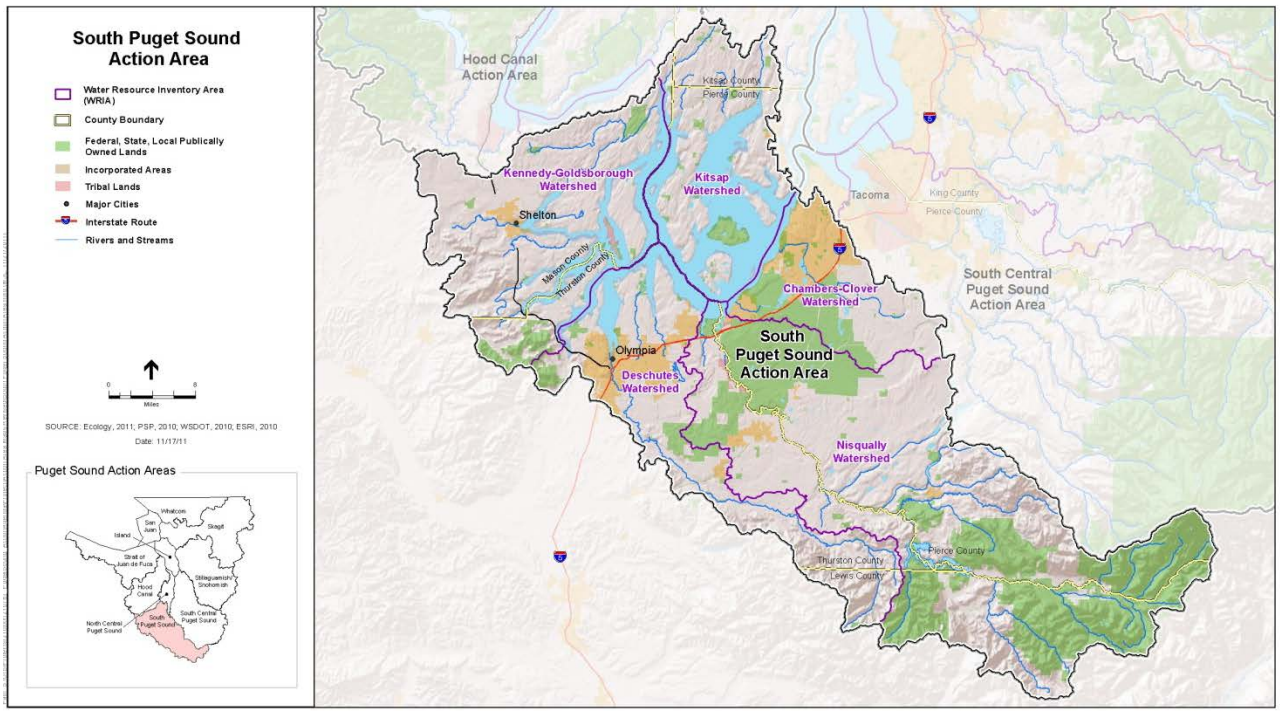
# South Puget Sound Action Area

## Description of the Action Area

The South Puget Sound Action Area 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.

[This figure is being updated.]



# 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.

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

### 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.

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 (Section 1) 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 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<br>• Number of inquiries<br>• Number of completed loans<br>• 100% of septic system receiving loans repaired<br>• Net acres of shellfish beds re-opened | LIO<br><br>*Mason County* | • Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality.<br>• 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<br>• Number of inquiries<br>• Number of completed loans<br>• 100% of septic system receiving loans repaired<br>• Net acres of shellfish beds re-opened | LIO<br><br>*Thurston County* | • Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality.<br>• 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- | • Funded by 2016 | LIO | • Use of onsite septic systems at contemporary urban densities | C5.3 |

| | Near-Term Action | Performance Measures | Owner(s)[1] | Pressure(s) | Regional Sub-Strategy[2] |
|---|---|---|---|---|---|
| | 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. | | *Pierce County* | degrades fresh and marine water quality.<br>• Increase in biotoxins, pathogens, and viruses result in loss of private, recreational, commercial and tribal shellfish harvest. | |
| **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.<br>• 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. | LIO[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.<br>• Program measures for the development and enhancement of these programs should include the following.<br>○ By June 2015, outline pilot programs and enhancements, as well as identify success measures. | WSU Extension<br><br>*Mason Conservation District, Nisqually Tribe, Squaxin Island Tribe, Mason County, Thurston* | • 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] |
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| | | ○ Integrate with other ongoing programs where feasible.<br>○ By December 2015, implement programs.<br>○ By January 2016, evaluate and report.<br>• By June 2016, adapt all programs to use successful measures. | *County, Thurston Conservation District, Pierce Conservation District, Town of Eatonville, 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.<br>• By June 2015, begin discussions with Ecology to identify recommendations for nutrient reduction.<br>• 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. | LIO<br><br>*ECO Net* | • High sensitivity for pollution due to low flushing rates and long residency times in South Puget Sound marine waters<br>• 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.<br>• By June 2016, adapt that program to the other inlets. | WSU Extension<br><br>*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<br>• 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. | C1.4 |

| | Near-Term Action | Performance Measures | Owner(s)[1] | Pressure(s) | Regional Sub-Strategy[2] |
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| | | | | • 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. | |
| **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.<br>• 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. | B2.1 |
| **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.<br>• Support Puget Sound Nearshore Estuarine Restoration Program efforts to obtain federal support.<br>• Build community support for estuary restoration by holding quarterly public meetings.<br>• By June 2015, outline state legislative strategy.<br>• 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.<br>• Disruption of natural hydrologic regimes and loss of natural floodplain and wetland functions, due to land conversion to | B2.2 (B2.1) |

| | Near-Term Action | Performance Measures | Owner(s)[1] | Pressure(s) | Regional Sub-Strategy[2] |
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| | | | | impervious surfaces' asphalted and realigned stream channels' and native vegetation removal. | |
| **SS10** | **Sequalitchew Creek restoration**. Restore Sequalitchew Creek, a Puget Sound Nearshore Estuarine Restoration Program project. | • By June 2015, develop funding strategy.<br>• Meet quarterly with landowners to further develop the recommended restoration action plans.<br>• Continue discussions to update appropriate City of DuPont critical areas ordinances to allow for restoration actions to occur within the city.<br>• 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.<br>• 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.<br>• By June 2016, meet with stakeholders to coordinate fish passage and management responsibilities.<br>• 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.<br>• 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] |
|---|---|---|---|---|---|
| **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 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. | • 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 Entity. Projects may include acquisition, protection, and/or restoration actions. | 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 systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer.<br>• 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) |
| **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.<br>• 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 | • 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 | WRIA 14 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] |
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| | 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. | acquisition, protection, and/or restoration actions. | | systems; loss of storage in wetlands; reduction in habitat resilience; and degradation and loss of topsoil/duff layer.<br>• 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.<br>• Begin floodplain restoration of McKenna Ranch property.<br>• Complete analysis, including modeling, and restoration designs for lower Nisqually/upper Nisqually estuary restoration.<br>• 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.<br>• 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. | 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. | |
| **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.<br>• Every 2 years, conduct self-reporting survey to identify the number of shore stewards reporting behavior changes as a result of the program.<br>• By June 2016, report number of new shoreline property owners reached.<br>• By June 2016, report number of additional contacts for assistance resulting from the welcome packets.<br>• Net acres of shellfish beds re-opened. | WSU Extension<br><br>*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.<br>• Use of onsite septic systems at contemporary urban densities degrades fresh and marine water quality.<br>• Increase in biotoxins, pathogens, and viruses result in loss of private, recreational, commercial and tribal shellfish harvest.<br>• 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. | • By June 2015, determine current status of McNeil Island ownership and management. | Pierce County<br><br>*Nisqually* | • Reduced development pressures to priority nearshore<br>• Marine shoreline infrastructure | B2.1 (B2.2, B3.1, B4.2, |

| Near-Term Action | Performance Measures | Owner(s)[1] | Pressure(s) | Regional Sub-Strategy[2] |
|---|---|---|---|---|
| Support protection and restoration of habitat and natural resources of the island for low-impact public access. | • Semi-annual updates to Alliance for a Healthy South Sound (LIO) Council and Executive Committee from staff and/or invited guests. | *Tribe* | | D2.1) |

[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

[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 Permitees (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.