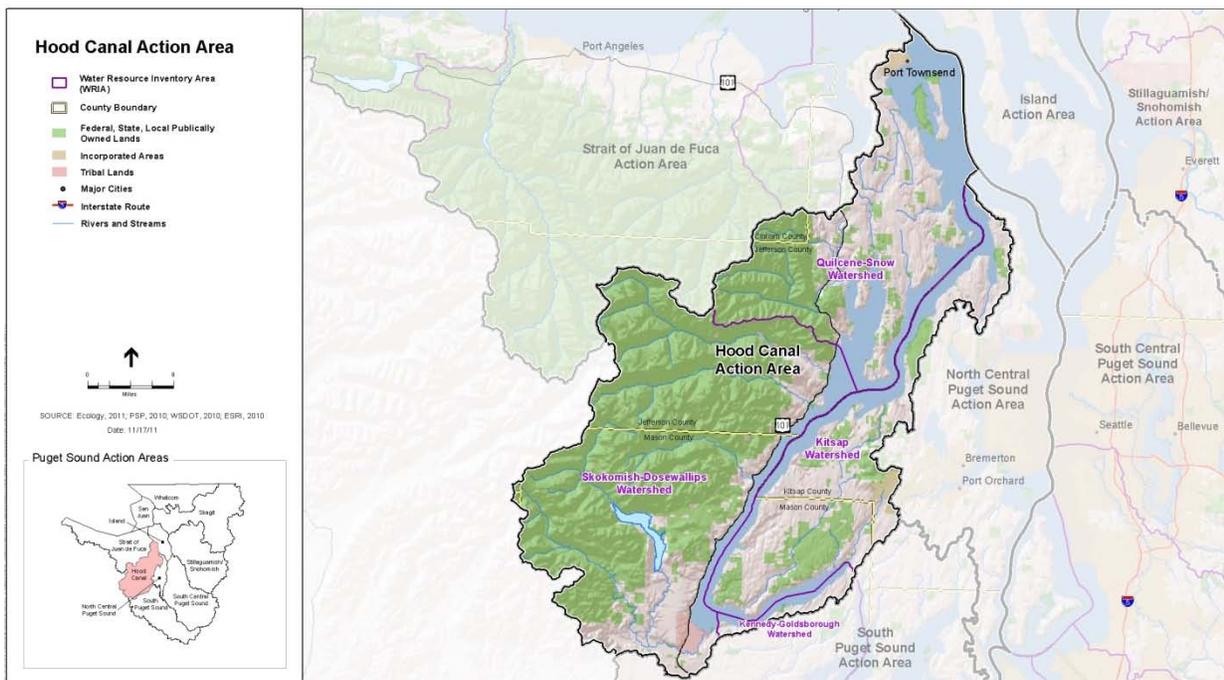


# The Action Agenda in Hood Canal

## Profile<sup>22</sup>

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 one and a half to two miles wide. The Hood Canal Action Area includes the Canal itself, the uplands and streams that enter into it 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 90 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 ocean 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.



<sup>22</sup> Puget Sound Partnership will double check facts and figures listed in profiles during the public review period.

The Skokomish, Port Gamble S’Klallam, Jamestown S’Klallam, Lower Elwha Klallam, and Suquamish Tribes retain treaty rights in the Hood Canal region for hunting, fishing, and gathering. The Port Gamble S’Klallam Reservation is located at the north end of Hood Canal, while 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 towards the Skokomish estuary and Potlach.

## Notable Accomplishments

Skokomish and Quilcene River Estuary Restoration

Regional Hood Canal Pollution, Identification and Correction (PIC) Program

Regional Riparian Planting and Invasive Species Control Programs

Regional conservation planning including the Kitsap Forest and Bay Project of up to 7000 acres

Much of the west side of Hood Canal borders Olympic National Forest and Park, and the narrow fringe of land along the west shore of the Canal hosts US Highway 101 and population centers of Quilcene, Brinnon, Hoodspport, and the Skokomish Valley. 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 Olympics 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 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 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 while at the same time vulnerable to pollutants and toxic contaminants.

The human population of the Hood Canal region is low, as a majority of the uplands are managed as private and public forest lands. Though impacted by the 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 occur for salmon, spot prawn, Dungeness crab, clams and oysters, and geoduck. Fishing is closed for rockfish and flatfish, due in part to the 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 return in the summer spawn only in the rivers and creeks of Hood Canal and the eastern Strait of Juan de Fuca. Other populations of Chum, Coho, Pink,

and Chinook salmon spawn, rear, and migrate in Hood Canal, along with steelhead, 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 frequent Hood Canal to feed on prey species indigenous to Hood Canal. The close proximity of old growth forest areas to the marine shoreline provides unique habitats for many bird species and mammals. Herds of elk in the eastern Olympics migrate seasonally along the river corridors.

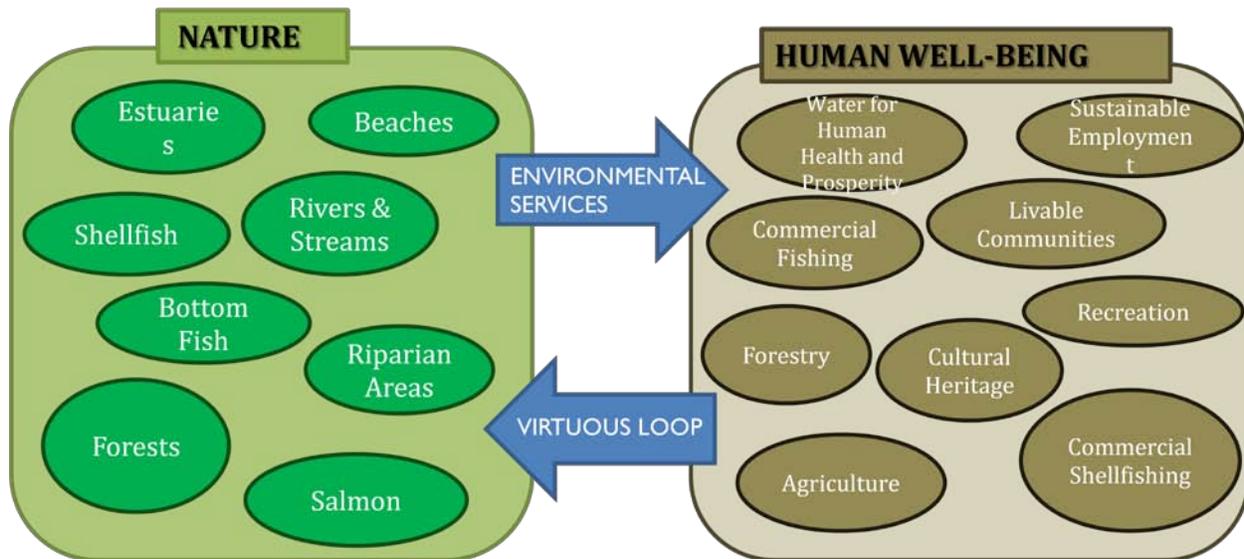
The natural beauty and relatively warm summer water conditions of the Canal draw many visitors for boating, sailing, water-skiing, swimming, and diving. Year-round and seasonal residents and visitors work hard to understand the physical and biological conditions that affect Hood Canal, and promote activities to restore Hood Canal's water quality, species, and other ecosystem features.

## Local Action Agenda Process

The Hood Canal Coordinating Council (HCCC) is the Local Integrating Organization (LIO) for the Hood Canal Action Area, and leads the prioritization and implementation of Action Agenda strategies and actions in the Hood Canal Action Area. Through a series of public outreach efforts, partner workshops, and Board consultations, the community has found common ground on their vision for Hood Canal's future. 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, and an initial list of key strategies and actions important to protecting and restoring the environmental and economic health of Hood Canal. Further prioritization is needed, and will continue in 2012.

## Key Threats/Pressures

The HCCC's vision is that "Humans benefit from and coexist sustainably with a healthy Hood Canal." The community has defined 17 ecological and socioeconomic focal components, illustrated in the diagram below, that together cover the scope of the LIO's vision statement and must be conserved.



There are thirteen regional pressures that endanger the ability of the focal components to function and persist into the future, and are the focus of the region’s pressure reduction objectives. These include:

- Residential / Commercial Development (very high)
- Transportation / Service Corridors (very high)
- Climate Change / Severe Weather (very high)
- Shoreline Infrastructure (Marine and Freshwater) (high)
- Shoreline Levees (Marine and Freshwater) (high)
- Water Withdrawal / Diversions (high)
- Invasive Species (high)
- Wastewater (high)
- Stormwater (high)
- Timber Production (high)
- Oil / Hazardous Spills (high)

## Opportunities, Priorities and Near Term Actions

The HCCC has identified a comprehensive set of strategies and near term actions that would be needed to reduce pressures and meet the vision, though further refinement is needed to prioritize them and create a work plan to optimize the coordinated efforts to implement actions that have explicit outcomes.

### General

- Review need to update county comprehensive plans to meet goals of the IWMP
  - Empower HCCC IWMP Steering Committee to evaluate Land Use and advise full Board
- Update Kitsap, Mason County and the City of Bremerton (SKIA) SMPs to meet goals of the IWMP
- Implement and enforce existing regulatory programs of the counties (SMP, CAO, County Comp.) and states (RCW’s and WAC’s)
  - (e.g., permit enforcement on new development.)

- Improve planning for and services of/between rural communities; e.g. HUD grant and “Year of the Rural” and improved/affordable sewer systems
- Improve financial and technical assistance programs aimed at fostering voluntary stewardship and improving re/development standards
  - Low Impact Development
  - See multiple other actions below for wastewater, runoff, etc.
  - Softshore protection standards
  - Sustainable working farms and forests
- Permanently protect larger tracts of forests for their forest (ecological and community) values
  - Port Gamble/North Kitsap, Dabob Bay, Stavis
- Protect, foster and incentivize; sustainable, working forests and farms (e.g., extinguishing development rights and other programs)
  - Dosewallips, East Jefferson and Tahuya forest protection efforts
- Implement and monitor effectiveness of
  - Forest Practices HCPs and similar agreements,
  - USFS Northwest Forest Plan and Access and Travel Management Plans,
  - Selected Salmon Habitat Projects
- Form a Hood Canal forests and forestry focal group to develop and implement balanced approaches to conserving forests and forestry; 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
- Implement 3-year habitat/harvest/hatchery work plans for salmon recovery; track and publish progress
- Complete and begin to implement county SMP restoration plans and MRC plans
- Consult with landowners and public about potential high priority PSNERP projects; advocate for funding for high priority projects with landowner support
- Implement comprehensive floodplain management plans where they exist
- Complete Integrated Watershed Management Plan
- Complete In Lieu Fee Mitigation Program and utilize to implement high priority actions
- Hold Hood Canal climate change symposium to develop, refine and prioritize strategies
- Restore beaches by removing or retrofitting infrastructure, setting back structures where feasible, and revegetating shorelines
  - Update and implement priority shoreline projects in various plans
- Restore floodplains and channel migration zones by removing infrastructure and setting back revetments where feasible and protect functioning floodplains and channel migration zones
  - Update and implement priority freshwater shoreline projects in various plans
- Restore estuaries by removing infrastructure and setting back levees/revetments where feasible
  - Update and implement priority estuarine shoreline projects in various plans
- Invasive species
  - Focus on invasive species that pose the biggest threats to Focal Components
  - Increase funding available for Noxious Weed Control Boards to help implement local Priorities
  - Implement Regional Knotweed Control Strategy – HCCC and multiple partners
  - Implement WDFW’s Washington State and Skokomish Tribe’s Aquatic Nuisance Species Management Plan for organisms like ballast water, Zebra mussels, etc.
  - Outreach with basic messages to key constituents

- Landowners, landscapers, nurseries, etc.
- Work with WRIA planning units to implement priority actions:
  - Surface/groundwater monitoring plan
  - Stream aggradation/degradation mitigation
  - Phases II and III of water demand, supply, and availability study
  - Outreach/education about water quantity/quality
- Improve 2-way consultation/coordination with Ecology's Geographic Response Plans and Northwest Wildlife Plan

### 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 to evaluate the risk of contribution of nitrogen from OSS to Hood Canal. (Hood Canal PIC program is part of this and other actions)
- 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.
- Research and register low cost, low maintenance, non-proprietary retrofit 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 26-124 mg/L TN) as well as remove pathogens.
- Repair or upgrade of OSS that are determined to be highest risk through the process implemented under Action A and potentially regulated under Action B.
- Address critical uncertainties in nitrogen loads from OSS to Hood Canal developed under Action A. While research on OSS nitrogen removal, on shoreline groundwater seeps, and watershed modeling has been conducted in Hood Canal, there are no comprehensive analyses of nitrogen loading from OSS to Hood Canal. Use probabilistic modeling to evaluate nutrient loading to Hood Canal under current and buildout scenarios, using all available studies and data.
- Jurisdictions develop and implement a regional continuous ambient monitoring program for the streams and shorelines of Hood Canal.
- Continued involvement of county/state managers/planners in the Aquatic Rehabilitation TAC to develop recommended actions to address water quality in Hood Canal. Implement the Aquatic Rehabilitation Communication Plan (currently in an initial draft form) to provide information to the public and involve the public in the implementation of actions. H) Reduce nitrogen loading and water quality degradation from wastewater from boats in Hood Canal through the availability of more pumpout facilities and floating restrooms. Consider other mechanisms for reducing wastewater inputs from boats.

### Stormwater

- Jurisdictions throughout the Hood Canal watershed revise development code to incorporate current stormwater management practices, specifically by adopting and incorporating the most current Ecology stormwater manual.
- Implementation of Pollution Identification and Control (PIC) programs that address issues of pollutant source control and illicit discharge detection and elimination.
- Adoption of low impact development (LID) practices to be used as a first choice to the maximum extent practicable in new development, redevelopment, and retrofitting of existing development.

- Prioritizing stormwater retrofits within Hood Canal based on an analysis of current land use and the existing built environment.
- Retention of natural land cover as the most effective way to prevent stormwater runoff.
- Department of Ecology consider statewide stormwater BMP training program (similar to the Certified Erosion and Sediment Control Leads program) for site inspectors to learn about compliance with stormwater BMPs.
- Tracking the recommendations of Ecology’s Stormwater Workgroup. Following the release of these recommendations, the HCCC TAC Stormwater Workgroup may evaluate if additional, Hood Canal specific, stormwater monitoring plans are needed.

#### Outreach and Education

- Develop O & E materials to convey to the public the importance/benefits of work done to multiple focal components.

## Link to Recovery Targets

The Hood Canal Integrated Watershed Management Planning process has identified several focal ecosystem components and ecosystem pressures relevant to supporting the achievement of Soundwide recovery targets – such as reopening shellfish beds, addressing stream flows and toxic in sediments, rebuilding salmon runs, and establishing a Puget Sound quality of life index – and are developing strategies and actions to alleviate pressures. As an example, the action to protect Port Gamble Bay and associated forested uplands supports achieving targets associated with land use, armored shorelines, salmon, and eelgrass to name a few. Local recovery actions and their role in achieving Soundwide recovery targets is an ongoing process and will be honed in the Integrated Watershed Management Plan.

## Local Implementation Structure

The Hood Canal Coordinating Council (HCCC) is a watershed-based council of governments, comprised of Jefferson, Mason and Kitsap County Commissioners, and Skokomish and Port Gamble S’Klallam Tribal Leaders, and is the Local Integrating Organization for the Hood Canal Action Area. The HCCC and a broad array of effective partnerships are working with the community to stitch together efforts to create a strategic action plan that will set priorities to ensure a future in which the Hood Canal remains a special place for children to enjoy. This process will develop an Integrated Watershed Management Plan and is synonymous with the Action Agenda update, which will be used as the vehicle to provide information to the Puget Sound Partnership.

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### IMPLEMENTATION COORDINATION IN HOOD CANAL

The Hood Canal Coordinating Council (HCCC) is the Local Integrating Organization (LIO) for the Hood Canal Action Area. The HCCC works with partners, community groups, and citizens, to advocate for and implement regionally and locally appropriate actions to protect and enhance Hood Canal’s environmental and economic health.

## References and Additional Resources

Hood Canal Coordinating Council ([www.hccc.wa.gov](http://www.hccc.wa.gov)) Partners and Resources:

10,000 Years Institute: <http://10000yearsinstitute.org/>

Americorps: <http://www.americorps.gov/>

Chimacum Grange: [http://chimacumgrange.org/Home\\_Page.php](http://chimacumgrange.org/Home_Page.php)

Chumsortium: <http://hccc.wa.gov/Groups/Chumsortium/default.aspx>

City of Bremerton: <http://www.ci.bremerton.wa.us/>

City of Port Townsend: <http://www.cityofpt.us/>

Clallam County: <http://www.clallam.net/>

Clallam County Noxious Weed Control Board: <http://www.clallam.net/weedcontrol/>

Forterra (previously Cascade Land Conservancy): <http://www.cascadeland.org/>

Great Peninsula Conservancy: <http://greatpeninsula.org/>

Green Diamond Resource Company: <http://greendiamond.com/>

Hood Canal Environmental Council: <http://hoodcanalenvironmentalcouncil.org/>

Hood Canal Salmon Enhancement Group: <http://hcseg.org/>

Hood Canal Watershed Education Network: <http://hccc.wa.gov/Groups/HCWEN/default.aspx>

Jamestown S'Klallam Tribe: <http://www.jamestowntribe.org/>

Jefferson Conservation District: <http://jeffersoncd.org/welcome.html>

Jefferson County: <http://www.co.jefferson.wa.us/>

Jefferson County Community Development:  
<http://www.co.jefferson.wa.us/commdevelopment/default.htm>

Jefferson County Environmental Health:  
<http://www.jeffersoncountypublichealth.org/index.php?environmental>

Jefferson County Marine Resources Committee: <http://www.jcmrc.org/>

Jefferson County Noxious Weed Control Board: <http://www.co.jefferson.wa.us/WeedBoard/Default.asp>

Jefferson County Parks and Recreation: <http://www.countyrec.com/info/default.aspx>

Jefferson County Public Works: <http://www.co.jefferson.wa.us/publicworks/>

Jefferson Land Trust: <http://www.saveland.org/>

Kitsap Conservation District: <http://kitsapcd.org/>

Kitsap County: <http://www.kitsapgov.com/>

Kitsap County Community Development: <http://www.kitsapgov.com/dcd/>

Kitsap County Noxious Weed Control Board:  
<http://county.wsu.edu/kitsap/nrs/noxious/Pages/default.aspx>

Kitsap County Parks and Recreation: <http://www.kitsapgov.com/parks/>

Kitsap County Public Works: <http://www.kitsapgov.com/pw/>

Kitsap County Surface and Storm Water Management: <http://www.kitsapgov.com/sswm/>

Kitsap County Health District: <http://www.kitsapcountyhealth.com/>

Kitsap County Stream Team: [http://www.kitsapgov.com/dcd/nr/stream\\_team/](http://www.kitsapgov.com/dcd/nr/stream_team/)

Kitsap Peninsula Visitor and Convention Bureau: <http://www.visitkitsap.com/>

Laird Norton Family Foundation: <http://www.lairdnorton.org/>

Long Live the Kings: <http://lltk.org/>

Lower Elwha Klallam Tribe: <http://elwha.org/>

Manke Lumber: <http://www.mankelumber.com/>

Mason Conservation District: <http://www.masoncd.org/>

Mason County: <http://www.co.mason.wa.us/>

Mason County Community Development: [http://www.co.mason.wa.us/community\\_dev/index.php](http://www.co.mason.wa.us/community_dev/index.php)

Mason County Environmental Health: <http://www.co.mason.wa.us/health/environmental/index.php>

Mason County Public Works: [http://www.co.mason.wa.us/public\\_works/index.php](http://www.co.mason.wa.us/public_works/index.php)

National Fish and Wildlife Foundation: <http://www.nfwf.org/AM/Template.cfm?Section=Home>

National Marine Fisheries Service: <http://www.nmfs.noaa.gov/>

National Oceanic and Atmospheric Administration: <http://www.noaa.gov/>

National Park Service: <http://www.nps.gov/index.htm>

North Kitsap Trails Association: <http://www.northkitsaptrails.org/>

North Olympic Land Trust: <http://northolympiclandtrust.org/>

North Olympic Salmon Coalition: <http://nosc.org/>

Northwest Watershed Institute: <http://nwwatershed.org/>

Olympic Educational Service District: <http://www.oesd.wednet.edu/oesd/site/default.asp>

Olympic National Park: <http://www.nps.gov/olym/index.htm>

Pacific Northwest Salmon Center: <http://www.pnwsalmoncenter.org/>

People for Puget Sound: <http://pugetsound.org/>

Point No Point Treaty Council: <http://pnptc.org/>

Pope Resources: <http://www.orm.com/>

Port Gamble S'Klallam Tribe: <http://www.pgst.nsn.us/>

Port Townsend Marine Science Center: <http://www.ptmsc.org/>

Project Citizen: <http://new.civiced.org/programs/project-citizen>

Puget Sound Keeper Alliance: <http://pugetsoundkeeper.org/>

Puget Sound Partnership: <http://www.psp.wa.gov/>

Skokomish Tribe: <http://www.skokomish.org/>

Skokomish Watershed Action Team: <http://hccc.wa.gov/Groups/SWAT/default.aspx>

Stillwaters Environmental Learning Center: <http://www.stillwatersenvironmentalcenter.org/>

Sugamish Tribe: <http://www.suquamish.nsn.us/>

The Nature Conservancy: <http://www.nature.org/>

The Sierra Club: <http://www.sierraclub.org/>

The Wildlife Society: <http://joomla.wildlife.org/>

United States Army Corps of Engineers: <http://www.usace.army.mil/Pages/default.aspx>

United States Department of Commerce: <http://www.commerce.gov/>

United States Environmental Protection Agency, Region 10: <http://www.epa.gov/>

United States Fish and Wildlife Service: <http://www.fws.gov/>

United States Forest Service: <http://www.fs.fed.us/>

United States Geological Survey: <http://www.usgs.gov/>

United States Navy: <http://www.navy.mil/swf/index.asp>

University of Washington: <http://www.washington.edu/>

Washington Conservation Corps: <http://www.ecy.wa.gov/wcc/index.html>

Washington Onsite Sewage Association: <http://www.wossa.org/>

Washington Sea Grant: <http://www.wsg.washington.edu/>

Washington State Department of Agriculture: <http://agr.wa.gov/>

Washington State Department of Ecology: <http://www.ecy.wa.gov/>

Washington State Department of Fish and Wildlife: <http://wdfw.wa.gov/>

Washington State Department of Health: <http://www.doh.wa.gov/>

Washington State Department of Natural Resources: <http://www.dnr.wa.gov/Pages/default.aspx>

Washington State Department of Transportation: <http://www.wsdot.wa.gov/>

Washington State Parks and Recreation: <http://www.parks.wa.gov/>

Washington State Recreation and Conservation Office: <http://www.rco.wa.gov/>

Washington State University Jefferson County Extension: <http://jefferson.wsu.edu/>

Washington State University Kitsap County Extension: <http://county.wsu.edu/kitsap/Pages/default.aspx>

Washington State University Mason County Extension:  
<http://county.wsu.edu/mason/Pages/default.aspx>

Water Resource Inventory Area 16/14b Planning Units:  
<http://www.ecy.wa.gov/apps/watersheds/wriapages/16.html>

Water Resource Inventory Area 17 Planning Unit/East Jefferson Watershed Council:  
<http://www.ecy.wa.gov/apps/watersheds/wriapages/17.html>

West Sound Watersheds Council: <http://westsoundwatersheds.org/>

Wild Fish Conservancy: <http://wildfishconservancy.org/>