Hood Canal Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies
Unique species • Unique summer chum salmon stock spawns only in Hood Canal and eastern Strait of Juan de Fuca Unique habitat type and ecosystem processes • Skokomish River is largest salmon producing river in West Sound • Marine/estuary: Migration corridor for fish, bird and marine mammal species along nearshore • Marine/estuary: Exchange and mixing of fresh and marine waters, including Admiralty Inlet • Upland: Intact forests in and around Olympic National Park, Forest, and Wilderness Areas Freshwater resources • Water and/or hydropower supply for city of Bremerton, city of Port Townsend, city of Tacoma, eastern communities of Kitsap County • Groundwater wells for upland communities Food and timber (harvest) • Timber, pulp and secondary forest product production • Internationally renowned oysters • Agricultural production with an extended growing season, specialty farming • Commercial, recreational and tribal fishing and shellfishing including salmon and trout, geoduck, oysters, clams, Dungeness crab and Spot Prawn • Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild (Summer chum salmon; reintroduction of spring Chinook and other species to North Fork Skokomish) Recreation and tourism • Boating, sailing, water skiing, diving, hunting, birding, kayaking, sportfishing, Olympic National Park, state and local parks • Seasonal residences Community and economy • Hood Canal Bridge provides transportation linkage between Kitsap and Olympic peninsulas • Rural communities • Marine trades and marine vessel passage • Homeland security: U.S. Navy Submarine Base at Bangor and Naval Munitions Center at Indian Island • Ferry service links to eastern parts of Puget Sound • Port Gamble S'Klallam Tribe (nəxʷqəʔyət nəxʷsx̌aẏəɯ) meaning "Land of the rising sun (strong people)" • Skokomish Tribe (sqWuqwubɜsh) meaning "People of the river"	Habitat alteration • Marine/estuary: Loss of estuary habitat and pocket estuaries; loss of recreational, tribal, and commercial shellfish beds through habitat modifications; derelict fish gear in some locations • Marine nearshore: Disruption of marine shoreline processes from roads, homes, and shoreline armoring that have altered sediment supply, vegetation, water quality and freshwater inputs • Freshwater: Blocked habitat including North Fork of Skokomish blocked by Cushman dam, South Fork seasonally blocked by habitat degradation and multiple culverts; loss of floodplain processes and functions due to decreased flood storage capacity; sediment aggradation; loss of wetlands, altered floodplain connectivity, hydrology, channel network, and riparian area, loss of channel function by simplification and wood removal; increased sedimentation and altered hydrology from poorly maintained or abandoned logging roads • Upland: Loss of working farms and forests through conversion Pollution • Toxics: Industrial pollution from mill site in Port Gamble Bay • Bacterial pollution and pathogens: loadings from human and animal waste lead to shellfish and recreational swimming beach closures • Nutrient loading: significant low dissolved oxygen conditions • Surface water runoff impacts: Impervious surfaces and pollutants from stormwater and some agricultural and forestry practices Freshwater resources • Major alterations in flows: Union, Skokomish, Big and Little Quilcene rivers • Limited water availability for people, farms and fish: year round low flows, seasonal low flows, and extreme high flows in all Hood Canal WRIAs; many instream flows not established Invasive species • Negative ecological impacts on native populations, marine and riparian ecosystem processes: Invasive tunicates, Japanese knotweed, reed canary grass, giant hogweed, yellow flag iris, purple loosestrife and European bittersweet Artificial propagation • Fish hatcheries: Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations, replacement of indigenous populations by introduced strains from out of the basin may compromise ability to develop viable, locally adapted populations; Shellfish production: not identified as a local issue Harvest • Fishing and bycatch, logging and hunting practices: Local pressures need to be identified Localized climate change impacts • Sea level rise: loss of estuarine beaches, increased shoreline flooding • Reduction in glaciers and snowfields and associated hydrologic impacts Other • Harmful algal blooms, biotoxin and pathogen outbreaks • Conflicting use values of marine shorelines • Increase in population by 2025: 35% (more than 100,000 people) in Kitsap, Mason and Jefferson counties	A: Protect intact ecosystem processes, structures and functions • Growth and development: Implement local portions of Puget Sound Regional Council Vision 2040 Plan • Protect high value habitat: Acquire high priority marine and freshwater habitat identified in salmon recovery and other local plans; develop local acquisition strategy • Update and implement regulatory programs: Shoreline Master Program (Mason, Jefferson and Kitsap counties); Critical Area Ordinance (Mason County) • Protect and conserve stream flows: Establish or update and implement instream flow rules for WRIA 14b, 15, 16, 17; complete and or implement Watershed Plans for WRIA 14b, 16, 17 • Protect and support long-term stewardship of working farms, forests, and shellfish farms, notably on the Tahuya Peninsula and east Jefferson County B: Restore ecosystem processes, structures and functions • Implement priority ecosystem restoration projects: o Implement species recovery plans including: Hood Canal Summer Chum, Skokomish Chinook, mid-Hood Canal Chinook and Bull Trout; implement in coordination with the Shoreline Master Program restoration plans and the three-year work plans o Complete Skokomish River Ecosystem Restoration and Flood Damage Reduction Study; complete Skokomish River and Quilcene delta restoration projects o Implement Forest Practices Habitat Conservation Plans; implement Road Maintenance and Abandonment Plans; decommission or maintain USFS roads; implement Conservation District work plans; implement county Marine Resource Plans o Strategically remove derelict fishing gear C: Reduce sources of water pollution • Prevent pollution: o Establish and implement a Pollution Identification and Correction Program in Jefferson and Mason counties, Port Gamble S'Klallam and Skokomish tribes; continue program in Kitsap county o Develop and implement Watershed Management Plans and 303d category 4b plans o Implement shellfish protection district plans: (East Jefferson, Annas Bay, Lower Hood Canal) o Investigate, and if appropriate, implement Hood Canal as a No Discharge Zone for boats o Investigate opportunities for water reuse at existing and future sewage treatment facilities • Manage stormwater runoff: Update and implement Stormwater Management Plans and Codes (Mason, Jefferson, Kitsap counties, Port Townsend, Port Gamble S'Klallam and Skokomish tribes); expand use of LID techniques; implement strategic retrofits • Upgrade and manage wastewater treatment plants: Complete planned sewer projects for Belfair, Skokomish/Potlach/Hoodsport, Port Hadlock, Paradise Bay, Dosewallips State Park, and Brinnon public facilities • Manage on-site sewage systems: Update and implement on-site sewage system management plans and regulations; address poorly functioning systems through the action area • Prioritize inwater and upland toxic cleanup sites: Clean up industrial pollution in Port Gamble bay D: Work effectively and efficiently together on priority actions • Coordinated long-term strategy: o Hood Canal Coordinating Council and Hood Canal Dissolved Oxygen Program to work collaboratively to develop and implement actions to respond to research findings from the Hood Canal Dissolved Oxygen Program o Improve coordination and collaboration of watershed and marine groups to improve implementation efficiency and effectiveness; synthesize existing recommendations o Integrate and prioritize project needs for ecosystem processes, structure, and function E: Implement the Action Agenda • Science program: Continue Hood Canal dissolved oxygen research; establish ambient water quality and quantity monitoring programs for surface and ground water • Education and outreach: Develop a coordinated local education and outreach strategy

North Central Action Area

Ecosystem benefits provided by action area

Unique habitat type and ecosystem processes
- Freshwater: Lowland stream habitats in West Sound watersheds support chum, coho, cutthroat and steelhead
- Marine nearshore: Supports chum, pink, coho, and Chinook salmon and steelhead from throughout Puget Sound

Food and Timber (harvest)
- Shellfish production and harvest
- Recreational and tribal fishing

Recreation and tourism
- Boating, state parks, shoreline access

Community and economy
- Water-oriented communities
- Commerce, military, and marine transportation hub
- Homeland security: Keyport Naval Undersea Warfare Center, Puget Sound Naval Shipyard; Manchester Fuel Depot
- Model program for water quality improvements via "pollution identification and correction"
- Port Gamble S'Klallam Tribe (nəxʷqəʔyət nəxʷsx̌aẏəm) meaning "Land of the rising sun (strong people)"
- Suquamish Tribe (xʷsəq̓ʷəb) meaning "Clear water people"

Local threats to ecosystem benefits

Habitat alteration
- Marine nearshore: 49% of shoreline modified, especially in south part of action area and Bainbridge Island; 291 piers and docks, 108 boat ramps on Bainbridge Island; loss of marine riparian habitat
- Freshwater: Loss of fish passage, riparian habitat, large woody debris, substrate
- Upland: Loss of working farms and forests through conversion for urban and suburban uses; 12% impervious surface overall with considerable variation by watershed

Pollution
- Toxics: Hundreds of acres of contaminated sediments, especially at Sinclair and Dyes inlets, Liberty Bay, and Eagle Harbor from a history of naval and industrial activities; groundwater contamination from Eagle Harbor superfund site
- Bacterial contamination: threatened and closed shellfish growing areas and 7 local streams closed for human contact
- Nutrient loading: low dissolved oxygen in bays, especially in areas of poor flushing
- Surface water runoff impacts: CSO and SSO events

Freshwater resources
- Limited water availability for people, farms and fish: streamflows dependent on precipitation and groundwater; 80% of drinking water comes from groundwater; streams in urbanized watersheds are subject to low summer flows and peak storm flows.

Invasive species
- Potential negative ecological impacts on native populations: Knotweed and other non-native invasive species in some locations; invasive tunicates in Eagle Harbor

Artificial propagation
- Fish hatcheries: Salmon production has potential negative ecological and genetic impacts on natural salmon and other hatchery populations; Salmon net pens: commercial production of Atlantic salmon in Rich Passage; Shellfish production: not identified as a local issue;

Harvest
- Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified

Localized climate change impact
- Sea level rise: Loss of beach land by 2050, converted to tidal flats; loss of marsh and pocket estuaries

Other
- Population increase by 2025: 29% in Kitsap County (more than 67,000 people) and 43% in Pierce County (nearly 300,000 people)

Priority action area strategies

A: Protect intact ecosystem processes, structures and functions
- Growth and development: Implement local portions of Puget Sound Regional Council Vision 2040 Plan; coordinate with local transportation planning
- Protect high value habitat: Acquire "1000 Acre Woods" critical habitat north of Gig Harbor; protect remaining intact nearshore habitat
- Update and implement regulatory programs: Shoreline Master Program (Gig Harbor, Bremerton, Kitsap County, Bainbridge, Poulsbo, Port Orchard; Pierce County); Critical Area Ordinance (Port Orchard)
- Protect and conserve water flows:
  - Manage lands and runoff to ensure plentiful and clean groundwater recharge
  - Implement water conservation and reclaimed water development and use

B: Restore ecosystem processes, structures and functions
- Implement priority ecosystem restoration projects:
  - Implement Salmon Recovery three-year workplans
  - Complete Chico Creek, Carpenter Creek and other salmon restoration priority projects
  - Implement recommendations of Gig Harbor Basin Plan, and Crescent Valley Biodiversity Stewardship Plan in a coordinated way
  - Adopt and implement Bainbridge Island Open Space Plan
- Implement stewardship incentives to increase private landowner restoration projects: Remove hard shoreline armoring; restore native riparian vegetation; restore marsh habitat

C: Reduce sources of water pollution
- Prevent pollution:
  - Reduce bacterial contamination in shellfish growing areas, other marine nearshore areas and streams
  - Control sources of pollution that re-contaminate sediment cleanup sites; support Navy ENVVEST project and other opportunities to cooperate to reduce pollution
  - Implement KGI Watershed Action Plan
- Manage stormwater runoff:
  - Use and increase site-appropriate LID techniques; encourage use of technologies and approaches that replicate natural ground water systems to manage for future planned growth
  - Implement NPDES permits
- Upgrade wastewater treatment plants: Enforce already required modifications to sewer systems to avoid further pollution
- Manage on-site sewage systems: Implement Pierce and Kitsap counties onsite management plans; continue to implement Kitsap County's Pollution Identification and Correction program

D: Work effectively and efficiently together on priority actions
- Coordinated long term strategy:
  - Continue to improve WRIA 15 salmon recovery coordination for implementation
  - Continue coordination among West Sound Watersheds, KGI Watershed Council, and Shellfish Partners
  - Integrate nearshore and marine efforts (e.g., Shoreline Master Program updates) with watershed recovery efforts (e.g., Critical Areas Ordinance updates, Salmon Recovery Plan)
  - Continue coordination with the Navy and other key stakeholders

E: Implement the Action Agenda
  - Outreach and education: Focus education and outreach activities to reduce pollution from live-aboards, boating and water-based activities; conduct outreach and assist property owners with replacement of hard bulkheads with soft beach protection

San Juan County

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies
Unique species • Pinto abalone at risk of extinction Unique habitat type and ecosystem processes • Marine nearshore: Habitat for 22 populations of migrating Chinook salmon, supporting orca populations and marine birds • Marine nearshore: Extensive forage fish spawning habitat • Marine nearshore: 70% of rocky reef habitat in Puget Sound • Marine nearshore: One-third of kelp in Puget Sound • Marine: Rich diversity of habitats and marine life Food and timber (harvest) • Boutique agriculture industry • Shellfish industry and crab fishery • Recreational, commercial, and tribal fishing and crabbing Recreation and tourism • Moran State Park, American & English Camp, Lime Kiln Park, Turtleback Mountain, Lopez Hill • Local & international tourist destination (whale watching, kayaking, biking, boating) Community and economy • Vacation residences • Lummi Tribe (Nexw xlemi')	Habitat alteration • Marine: Habitat degradation from derelict gear • Marine/estuary: Loss of eelgrass habitat; 11 of 27 historical pocket estuaries at risk of degradation; loss of eelgrass habitat • Marine nearshore: Limited soft shoreline sensitive to modification; loss of high value beach habitat including potential forage fish habitat • Upland: Loss of working farms through conversion Pollution • Toxics: Potential for localized oil spills; potential for significant pollution from a major oil spill in the Strait • Bacterial pollution: Inadequate waste management to handle summer influx of visitors; boater pollution in bays and marinas; potential problems from poorly treated wastewater from Victoria B.C. outfall that reaches islands • Surface water runoff impacts: Localized pollutant loading from stormwater runoff (e.g., Friday Harbor, ferry landings) Freshwater resources • Limited water availability for people, farms and fish: Groundwater dependent system is vulnerable to groundwater pollution from septic systems and alterations to surface flow; increased future water demand • Saltwater intrusion into drinking water supply (San Juan Island, Lopez) Invasive species • Potential negative ecological impacts on native populations: Tunicates, Japanese seaweed, purple varnish clams Artificial propagation • Salmon production has potential negative ecological impacts on natural populations and other hatchery populations; Shellfish production: specific local issues not yet identified Harvest • Fishing and bycatch: commercial and recreational harvest rates of salmon and groundfish (e.g., rockfish and forage fish) may reduce recovery potential Localized climate change impact • Sea level rise and ocean acidification: immediate and longer-term impacts are not well understood Other • Population doubles in summer months resulting in stresses to local infrastructure • Increase in year-round population by 2025: 60%, more than 8,000 people • Local orca population threatened by pollution, loss of food sources, and disturbance	A: Protect intact ecosystem processes, structures, and functions • Protect high value habitat: o Acquire priority habitats identified in the Salmon Recovery Plan o Implement San Juan Marine Stewardship Area Plan o Implement the San Juan Marine Stewardship Area Monitoring Plan o Implement San Juan Initiative recommendations o Protect rock fish habitat o Limit alterations to shorelines sensitive to modification • Update and implement regulatory programs: Critical Area Ordinance and Shoreline Master Program (San Juan County) • Protect and conserve water flows: Protect existing surface and ground water B: Restore ecosystem processes, structures, and functions • Implement priority ecosystem restoration projects: o Implement Salmon Recovery three-year work plan for WRIA 2 o Strategically remove derelict fishing gear C: Reduce sources of water pollution • Prevent pollution: Maintain local oil spill response programs; work with Partnership on oil spill protection programs within Puget Sound and with Canada • Manage stormwater runoff: Update and implement Stormwater Management Plans and Codes (San Juan County); implement low impact development for new development and retrofits • Manage rural stormwater runoff D: Work effectively and efficiently together on priority actions • Coordinated long-term strategy: o Integrate the objectives of San Juan Marine Stewardship Plan, the Shoreline Master Program and Critical Areas Ordinances so they are consistent o Work with the Canadian organizations to identify shared priority actions o Implement local aspects of Orca Recovery Plan o Implement the results of the San Juan Initiative to improve effectiveness of protection efforts; coordinate implementation with regulatory updates E: Implement the Action Agenda • Science program: Investigate causes of marine bird declines • Communication, outreach, and education: Implement stewardship and outreach programs and provide technical assistance focused on protection and prevention with residents and tourists

South Central Action Area

Ecosystem benefits provided by action area

Unique species
- More than 17 unique populations of salmon, trout and steelhead
- Endemic species of beetles
- Remnant Margaritifera mussel populations

Unique habitat types and ecosystem processes
- Freshwater: Core area for Bull Trout recovery (Puyallup/White)
- Upland: intact upland forest in and around Mount Rainer National Park

Freshwater resources
- Water supply for city of Seattle, city of Tacoma, and surrounding metropolitan areas; many water supply watersheds are protected

Food and timber (harvest)
- Recreational harvest: Lake Washington sockeye and Issaquah Creek Chinook
- Significant agriculture areas
- Commercial, recreational, and tribal fishing
- Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild: White River spring Chinook, Puyallup steelhead

Recreation and tourism
- Mount Rainer National Park, Mount Baker-Snoqualmie National Forest, Lake Washington, Lake Tapps, Lake Sammamish, Mountain to Sound Greenway, Alpine-Lakes Wilderness, boating, sport fishing, diving

Community and economy
- Population center for Puget Sound with more than three million residents
- Commercial & industrial hub, generating 63% of the gross state product
- Significant rural areas
- Home of the North Pacific fishing fleet
- International port facilities and cruise ship terminal
- Largest wastewater treatment system in the state with innovative Brightwater Treatment Plant
- Marine trades
- Leadership on low impact development and green infrastructure approaches, including Built Green and Green Tools programs
- Muckelshoot Tribe (bəqəlšuɬ) meaning “A nose (or point between the Green and White rivers) where one sees”
- Puyallup Tribe (puyalәp) meaning “Curve or bend at the bottom of the river:

Local threats to ecosystem benefits

Habitat alteration
- Marine/estuary: Major loss of estuary habitat in Duwamish and Puyallup River estuaries and creation of an artificial estuary created by the Ballard Locks
- Marine nearshore: 75% of shoreline modified, including overwater structures, shoreline armoring, dredging, filling, and marine shoreline vegetation removal
- Freshwater: Over 100 miles of blocked habitat with dams and diversions (Green, White, Puyallup); significant alteration of rivers, floodplains and shorelines; river straightening and channelization (Duwamish, Puyallup, Cedar, Sammamish); floodplain development; extensive alteration of surface hydrology, especially Lake Washington, Ballard Locks, White, Cedar, Puyallup, Duwamish and Black Rivers; significant diversion of water to drinking water supply and wastewater systems to Puget Sound, altering migration routes for salmon, modifying hydrology
- Upland: Loss of working farms and forests through conversion; 34% impervious surface in urban growth area; increasing urban and rural development

Pollution
- Toxics: Duwamish and Commencement Bay Superfund sites; recontamination of previously cleaned up sites; risk of pollution from maritime activities
- Bacterial pollution: Failing septic systems in nearshore areas and throughout watersheds; agricultural runoff
- Air pollution: Poor air quality due to particulate pollution (wood smoke, automobiles, diesel emissions, etc.)
- Nutrient loading: Especially in areas with limited flushing, (Shilshole Bay, Quartermaster Harbor, and Dumas)
- Surface water runoff impacts: Major source of urban stormwater runoff and pollutants into Puget Sound

Freshwater resources
- Limited water availability for people, farms, and fish: Low summer flows and high peak stream flows in WRIAs 8,9,10/12; low mainstem winter flows
- Increased future water demand for higher population
- Localized areas of saltwater intrusion into groundwater

Invasive species
- Potential negative ecological impacts on native populations: Japanese knotweed, reed canary grass, and butterfly bush infestations along riparian corridors; non-native fish species in most lakes; nutria; marine invasive species including tunicates

Artificial propagation
- Fish hatcheries: Salmon production in Lake Washington/Sammamish, Green and White rivers have potentially negative ecological and genetic impacts on natural salmon; Shellfish production: not identified as a local issue

Harvest
- Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified

Localized climate change impact
- Significant source of Puget Sound carbon emissions as 50% of carbon emissions are transportation related
- Sea level rise: Risk of conversion of upland to shoreline; loss of estuarine beaches; limited sea level rise impacts in Tacoma

Other
- Population increase by 2025: 34% in King, Pierce, Snohomish counties (more than one million people)

Priority action area strategies

A: Protect intact ecosystem processes, structures, and functions
- Growth and development: Implement Vision 2040 Plan
- Protect high value habitat:
  - Acquire high priority habitats (e.g., Lower Puyallup transition zone habitat, White River PSE properties, South Prairie Creek, Middle Puyallup forest lands, Middle Green River, Vashon Island, Upper Cedar River)
  - Implement White River Biodiversity Stewardship Plan
  - Implement Habitat Conservation Plans (forest & fish plans, Cedar, Green, Tacoma)
  - Implement Pierce and King counties transfer of development rights programs, cluster development, and increase density in urban areas; utilize conservation easements and Public Benefit Rating System
  - Update and implement regulatory programs: Shoreline Master Program updates (King and Pierce counties, all relevant cities); critical Area Ordinance updates (all relevant cities); restrict additional shoreline armoring
- Protect and conserve water flows: Establish and implement instream flow agreements in Green, White, Lake Washington, Puyallup; promote water conservation and reclaimed water use
- Protect and support long-term stewardship of working farms, forests and shellfish farms

B: Restore ecosystem processes, structures, and functions
- Implement priority ecosystem restoration projects:
  - Implement Salmon Recovery three-year work plans for WRIAs 8, 9, 10/12
  - Implement existing basin protection and restoration plans in King and Pierce counties
  - Implement large-scale floodplain reconnection projects to restore habitat and protect public safety
  - Provide fish passage at Howard Hanson Dam on Green River, Electron Dam on the Puyallup River and Buckley Diversion Dam on the White River
  - Restore upper Green River riparian corridor, increase channel complexity, and decommission old logging roads
  - Set levees back along the Cedar, Sammamish, Green, Puyallup, White and Carbon Rivers
  - Protect and restore Duwamish and Puyallup estuary transition zone habitats

C: Reduce sources of water pollution
- Work with Puyallup Tribe, local public health departments, and homeowners to restore shellfish beds in Quartermaster Harbor and other areas
- Prevent pollution: Coordinated implementation of existing clean water plans and Watershed Management Plans; implement Puyallup River Watershed Action Plans; maintain spill response efforts
- Manage stormwater runoff: Implement significant stormwater retrofits; implement low impact development strategies; implement NPDES permits
- Manage on-site sewage systems: Implement Pierce, King and Snohomish counties onsite management plans; expand Pierce County’s onsite grant and loan program
- Prioritize inwater and upland toxic cleanup sites: Continue to implement Superfund cleanup and/or ongoing source control at Duwamish River, Commencement Bay, Lake Union

D: Work effectively and efficiently together on priority actions
- Coordinated long-term strategy:
  - Continue to encourage tribal participation in recovery efforts
  - Integrate resource and infrastructure planning for water quality, water quantity & salmon recovery
  - Continue to advance regional cooperation in South Central Puget Sound
  - Continue hatchery production for species conservation in White River; integrate hatchery production at Issaquah Creek and Soos Creek hatcheries with salmon recovery
  - Continue Kokanee conservation planning and implementation

E: Implement the Action Agenda
- Education and outreach: Continue and build on STORM education and outreach program; continue pharmaceutical take-back programs

South Sound Action Area

Ecosystem benefits provided by action area

Unique habitat types and ecosystem processes
- Marine/estuary: Nisqually River is largest undeveloped estuary in Puget Sound and largest National Wildlife Refuge in Puget Sound; important salmon, wildlife and bird habitat
- Marine/estuary: Nursery area for multiple Chinook populations
- Marine/estuary: Forage fish spawning areas
- Shoreline: Large areas of intact shoreline
- Upland: Unique prairie habitat with endemic species

Food and timber (harvest)
- Nationally renowned shellfish; one of the largest shellfish producing areas in state
- Recreational and tribal clamming, crabbing and fishing

Freshwater resources
- Hydropower for city of Centralia and city of Tacoma
- Leadership in reclaiming municipal wastewater

Recreation and tourism
- Recreation: clamming, crabbing, Mount Rainier National Park, kayaking, boating

Community and economy
- Numerous commercial and residential centers
- Center of state government
- Ports of Olympia and Shelton
- Homeland security: Fort Lewis & McCord Air Force Base
- Nisqually Tribe (sqʷαliʔαbš) meaning “People of the grass”
- Puyallup Tribe (puyαləp) meaning “Curve or bend at the bottom of the river”
- Squaxin Tribe (sqʷαx̌səd) meaning “Split apart”

Local threats to ecosystem benefits

Habitat alteration
- Marine/estuary: Loss of riparian and estuary habitat, some intertidal alterations
- Marine nearshore: 40% of shoreline modified; BNSF rail along eastern shoreline
- Freshwater: Blocked habitat including dams and culverts on Deschutes River; fill for I-5 on Nisqually River
- Upland: Loss of prairie habitat through land conversion; loss of hydrologic function from existing and expanding impervious surface

Pollution
- Toxics: Industrial pollution in bays and contaminated sediments including Oakland Bay, Chambers Bay, Budd Inlet; military sewage treatment plant at Tatsolo Point
- Bacteria contamination: Bacteria and pathogens from human and animal waste
- Nutrient loading: Low dissolved oxygen in Budd Inlet, Case Inlet, and Carr Inlet
- Air pollution: Poor air quality due to particulate pollution (wood smoke, automobiles, diesel emissions, etc.)

Freshwater resources
- Low flows in WRIAs 11, 12, 14; flow issues in WRIA 13

Invasive species
- Potential negative ecological impacts on native populations

Artificial propagation
- Fish hatcheries: Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations and may compromise ability to develop viable, locally adapted populations; Shellfish production: Potential ecosystem impacts related to some aquaculture practices

Harvest
- Fishing and bycatch, logging, and hunting practices: Local pressures need to be identified

Localized climate change impact
- Sea level rise: Significant loss of estuarine beaches; inundation of tidal flats; flooding at downtown Olympia
- Flooding of urban and rural areas

Other
- Conflicting use values of marine shorelines
- Harmful algal blooms in fresh and marine waters
- Increase in population by 2025: 44%; more than 520,000 people, in Thurston, Pierce, Mason, Kitsap counties

Priority Action Area strategies

A: Protect intact ecosystem processes, structures and functions
- Protect high value habitat:
  - Protect undeveloped shoreline and support efforts to prevent development in floodplains
  - Acquire high priority marine and fresh water habitat, including but not limited to: Gull Harbor in Budd Inlet; Lower Eld Inlet Shoreline Conservation; Twin River Ranch at Oakland Bay; Harstine Island Shoreline; Filucy Bay Farm and Shoreline; Devils Head; Lower Ohop Protection Project
- Update and implement regulatory programs: Complete and implement Shoreline Master Program updates; complete and implement Critical Area Ordinances
- Protect and conserve water flows: Continue and expand LOTT Alliance water reuse facilities and nutrient removal

B: Restore ecosystem processes, structures and functions
- Implement priority ecosystem restoration projects:
  - Complete restoration of Nisqually estuary
  - Implement Salmon Recovery three-year workplans (WRIAs 10/12, 11, 13/14, 15)
  - Restore shorelines using WRIAs 11, 12, 13, 14, 15 nearshore assessments
  - Implement existing basin protection and restoration plans in Key Peninsula, Clover/Chambers, and Nisqually basins; develop plans for other South Sound basins
  - Develop and implement a multi-species recovery and management plan for salmonids and forage fish not addressed in Chinook Recovery Plans
  - Support habitat and shoreline restoration efforts in Budd Inlet and Hammersley-Oakland Bay
  - Develop and implement conservation and recovery plans for prairie-dependent species
  - Restore estuaries and pocket estuaries throughout South Puget Sound
- Revitalize waterfront communities: Support and encourage Port of Shelton and Port of Olympia strategic redevelopment plans, including stormwater retrofits; complete Deschutes Estuary Restoration

C: Reduce sources of water pollution
- Prevent pollution: Implement existing Watershed Action Plans, Shelllfish Protection Districts, and other water pollution cleanup plans in a coordinated way; implement the Oakland Bay Sa-Heh-Wa-Mish Initiative and the Oakland Bay Clean Water District strategies; reopen key shellfish-producing areas in North Bay, Oakland Bay, Henderson Inlet, Burley Lagoon; implement recommendations of South Puget Sound Dissolved Oxygen study
- Manage stormwater runoff: Develop and implement LID where feasible; retrofit outdated, existing legacy systems; support development of local surface water management utilities and associated fees
- Upgrade and manage wastewater treatment plants: Shelton, LOTT, Chambers Bay, Solo Point and others
- Manage on-site sewage systems: Implement on-site management plans for Pierce, Thurston, Mason and Kitsap counties, prioritize areas with shellfish production, low dissolved oxygen, and high nutrient and pathogen loading; implement Shellfish Partners, and enhance on-site grants and loans programs for repairs and connection to sewers
- Prioritize inwater and upland toxic clean up sites: Clean up industrial pollution in Budd Inlet, Oakland Bay, and Chambers Bay

D: Work together as a system on priority actions
- Coordinated long-term strategy:
  - Continue recent collaborative work in watershed coordination; investigate whether more formal collaboration is needed
  - Maintain Nisqually hatchery operations to conserve Chinook species
  - Integrate nearshore and marine efforts (e.g., Shoreline Master Program) with watershed recovery efforts (e.g., Critical Areas Ordinances, Salmon Recovery Plan)

E: Implement the Action Agenda
- Science and monitoring: Implement Ecology best management practices guidelines for geoduck aquaculture; resolve shoreline use conflicts

Strait of Juan de Fuca Action Area

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies
Unique species • Rare and unique upland species of birds, plants, and animals • Summer chum salmon spawn only in eastern Strait of Juan de Fuca and Hood Canal tributaries Unique habitat type and ecosystem processes • Marine/estuary: Exchange of fresh and marine waters helps keep Puget Sound from becoming stagnant • Marine/estuary: Migration corridor for fish, bird and marine mammal species • Marine/estuary: Protection Island is marine mammal haul-out area and Puget Sound's major marine bird rookery • Upland: Intact forests in and around Olympic National Park, Forest, and Wilderness Areas Food and timber (harvest) • Timber and pulp production • Non-timber products (cultural and commercial materials for basketry, carving, and floral arrangements) • Agricultural production with an extended growing season because of low precipitation conditions • Shellfish production • Commercial, recreational, and tribal fishing • Hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild: Elwha spring Chinook, Dungeness spring Chinook, Dungeness pink salmon Recreation and tourism • Olympic National Park and Forest, Dungeness National Wildlife Refuge, Olympic Discovery Trail, Highway 112 Scenic Byway Community and economy • Rural communities • Favorable climate conditions draws retirees to reside in area • Marine vessel passage, shipping and marine trades • Jamestown S'Klallam Tribe (stətiɬəm nəxʷsx̌ɑy̓əm) meaning "Jamestown strong people" • Lower Elwha Klallam Tribe (ʔəʔɬxʷə nəxʷ sx̌ɑyʾəm) meaning "Elwha river (strong people)" • Makah Tribe (qʷidiččɑʔɑ ˙ tx̌) meaning "People living by the rocks and sea gulls"	Habitat alteration • Marine/estuary: Loss of estuary habitat and pocket estuaries; derelict fishing gear • Marine nearshore: 14% of shoreline modified stretching from Point Wilson to Elwha; 1439 overwater structures; 1.8 miles of railroad along marine shoreline • Freshwater: Blocked habitat in over 70 miles of river mainstem and tributaries; 95% of historic Chinook habitat blocked by Elwha Dam system; disruption of river processes through dikes, loss of large woody debris and spawning gravels, riparian development, vegetation removal, and some forest practices • Upland: Loss of working farms and forests through conversion Pollution • Toxics: Port Angeles Harbor contamination, including Rayonier Mill site contamination; contamination from Warmhouse Beach Open Dump site threatens human health, water quality, and shellfish areas; threats from oil spills and other contaminants due to high marine transportation rates • Bacterial pollution: High levels of pathogen contamination in lower Dungeness River (including independent streams) and Dungeness and Discovery bays resulting in shellfish bed closures • Surface water runoff impacts: Combined Sewer Overflow events (69 in 2007); point and non-point sources of pollutants Freshwater resources • Limited water availability for people, farms, and fish: Low summer (and some year round) flows in WRIA 17, 18, 19; extreme high flows in WRIA 18 & 19; critical freshwater shortages in Neah Bay; many instream flow rules not established • Alteration of surface hydrology: Major alteration of flows in Elwha and Dungeness Rivers Invasive species • Potential negative ecological impacts on native populations: Japanese knotweed, European bittersweet, reed canary grass, and butterfly bush infestations along riparian corridors; Japanese oyster drill, tunicates, and green crab, Spartina in marine waters Artificial propagation • Fish hatcheries: Potential negative ecological and genetic impacts on natural salmon and other hatchery populations; Finfish aquaculture: Effects of existing and potential expansion of finfish aquaculture requires investigation; Shellfish production: Not identified as a local issue Harvest • Fishing and bycatch: Strait salmon runs are heavily impacted by Canadian harvest; Logging and hunting practices: Local pressures need to be identified Localized climate change impact • Sea level rise: Predicted loss of tidal flats, complete loss of Dungeness Spit, loss of 58% of estuarine and marine shoreline beaches • Changes in hydrology due to loss of permanent snowfields and glaciers • Ocean acidification: Proximity to ocean could impact local ecosystem Other • Population increase by 2025: 23% in Clallam County (more than 14,000 people) and 55% in Jefferson County (more than 14,000 people) • Harmful algae blooms: localized occurrences of seasonal or occasional shellfish area closures from paralytic shellfish poisoning and amnesic shellfish poisoning	A: Protect intact ecosystem processes, structures, and functions • Protect high value habitat: Acquire priority habitats identified in the Salmon Recovery Plan • Update and implement regulatory programs: Critical Area Ordinance (Sequim); Shoreline Master Programs (Clallam County, Port Angeles, Sequim, Jefferson County) • Protect and conserve water flows: Establish and enforce instream flow rules for WRIA 17, 18, 19; complete and/or implement 2514 plans; improve aquifer resources in the Dungeness and other flow limited basins • Protect and support long-term stewardship of working farms, forests and shellfish farms B: Restore ecosystem processes, structures, and functions • Implement priority ecosystem restoration projects: o Complete Elwha River Ecosystem Recovery efforts and associated projects o Implement Salmon Recovery Plans and multi-species strategies through the three-year work plans, including: Puget Sound Chinook, Eastern Strait of Juan de Fuca/Hood Canal Summer Chum, bull trout o Implement existing county Marine Resource Plans o Implement Forest Practices Habitat Conservation Plans o Implement Road Maintenance and Abandonment Plans on private and public lands o Implement Conservation District Work Plans o Implement Dungeness River management plans • Clean up and restore the Port Angeles Harbor and waterfront; update and implement the Harbor Resource Management Plan for ecosystem restoration, development and redevelopment; identify local lead C: Reduce the sources of water pollution • Prevent pollution: Implement Sequim-Dungeness and East Jefferson Clean Water District Strategies to address TMDLs and shellfish downgrades; enhance capacity to address and mitigate threats and impacts from marine vessel traffic including a permanent tug at Neah Bay and oil spill response capacity for the Makah tribe • Manage stormwater runoff: Implement NPDES permits; update and implement Stormwater Management Plans and Codes (Clallam County, Sequim); reduce CSO events (Port Angeles) • Upgrade and manage wastewater treatment plants: Implement Carlsborg Urban Growth Area Wastewater Treatment and Water Reuse strategy • Manage on-site sewage systems: Implement Clallam and Jefferson counties on-site sewage management programs • Prioritize and implement inwater and upland toxic cleanup sites: Clean up and restore Port Angeles Harbor Baywide toxic sites, including the Rayonier Mill site; close and remediate the Makah Tribe Warmhouse Beach Open Dump and develop a solid waste transfer and reuse facility; investigate and remediate where necessary the impact of contaminants leaching form the Port Angeles Landfill D: Work effectively and efficiently together on priority actions • Coordinated long-term strategy: o Coordinate planning and implementation: Start with shorelines, land use, and water supply planning o Coordinate protection and restoration actions identified in major plans: Start with salmon recovery, water supply (quantity and quality), and county Marine Resource Plans E: Implement the Action Agenda • Outreach and education: Implement stewardship and outreach programs and provide technical assistance focused on protection and prevention with residents and tourists

Whatcom County

Ecosystem benefits provided by action area	Local threats to ecosystem benefits	Priority action area strategies
Unique species • Two unique spring run Chinook populations in Nooksack River • Historically significant Cherry Point herring spawning area • ESA listed bull trout distinct population segments Unique habitat type and ecosystem processes • Marine/estuary: Forage fish habitat • Upland: Migratory bird habitat • Upland: Intact forests in and around Cascades National Park • Cherry Point Aquatic Reserve Freshwater resources • Lake Whatcom watershed, including water diverted from the Middle Fork Nooksack River, provides water for half of Whatcom County • Shared rivers and streams with Canada Food and timber (harvest) • Large agriculture: Significant dairy industry (ranks in top 5 dairy regions nationally), 75% of U.S. raspberry production, blueberries. • Shellfish aquaculture and Dungeness crab fishery (tribal, commercial and recreational) • Commercial, tribal, and recreational fishing • Commercial timber production • Hatcheries to provide harvest opportunities and population stability while wild salmon stocks rebuild (South Fork Nooksack spring Chinook, North Fork Nooksack spring Chinook) Recreation and tourism • Mount Baker, North Cascades, rafting, hiking, kayaking, skiing, birding, Birch Bay, Nooksack River, Lake Whatcom Community and economy • Rural communities • Proximity to recreation draws outdoor enthusiasts to reside in area • Lummi Nation (Nexw xləmi') • Nooksack Tribe (Noxwsaʔaq) meaning "Always ferns"	Habitat alteration • Marine: 3,000+ derelict crab pots and multiple fishing nets in Cherry Point reach and other areas • Marine/estuary: Loss of native eelgrass meadows due to shoreline modification and dredging in inner Bellingham Bay • Marine nearshore: 36% of shoreline modified; degradation of marine riparian vegetation and function • Freshwater: Loss of mainstem and floodplain river habitat; culverts and dams disrupt hydrology and/or block habitat; loss of riparian function and straightening of stream channels • Upland: Loss of forest cover and extensive forest road drainage resulting in landslides and adding to high water temperatures that cause pre-spawn mortality Pollution • Toxics: Industrial pollution in Bellingham Bay include metals, PAHs, nutrients; large refinery and aluminum smelter at Cherry Point • Bacterial pollution: Nutrients and pathogens from human and animal waste lead to shellfish closures in Drayton Harbor, Portage Bay, Chuckanut (Mud) Bay, Birch Bay • Low dissolved oxygen, mercury and phosphorous in Lake Whatcom • Surface water runoff impacts: Bellingham Bay, Birch Bay, Drayton Harbor Freshwater resources • Low instream flows and many established instream flows not being met Invasive species • Potential negative ecological impacts on native populations: tunicates in Blaine Marina, Drayton Harbor, Chuckanut Bay, Birch Bay; rock snot in Chuckanut area; knotweed in Nooksack estuary; *Spartina* in Birch Bay Artificial propagation • Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations; Fall Chinook hatchery production has potential negative impacts on native spring-run Chinook Harvest • Fishing and bycatch: Nooksack Chinook salmon runs heavily impacted by Canadian harvest and fish poaching; Logging and hunting practices: Local pressures need to be identified Localized climate change impact • Sea level rise: loss of swamp, marsh and estuarine beach in Nooksack Delta; possible conversion of habitat types • Potential hydrologic changes in Middle and North Forks of the Nooksack due to loss of glaciers and earlier snow melt Other • Increase in population by 2025: 48%, more than 79,000 people	A: Protect intact ecosystem processes, structures, and functions • Protect high value habitat: Develop strategy to protect large intact marine and nearshore habitat; implement protection strategies in salmon recovery plans and Shoreline Master Program; complete management plan for Cherry Point Aquatic Reserve • Update and implement regulatory programs: Implement Critical Area Ordinance updates and the county's and cities' Shoreline Master Programs; implement new land use measures and mitigation alternatives through implementation of the Birch Bay Watershed characterization Pilot Study • Protect and conserve water flows: Implement Instream Flow Action Plan for WRIA 1; address illegal water withdrawals • Protect and support long-term stewardship of working farms, forests and shellfish farms: Limit forest and farm conversions; ensure that forest practices are enforced B: Restore ecosystem processes, structures, and functions • Implement priority ecosystem restoration projects in existing plans: o Implement Salmon Recovery three-year work plan for WRIA 1 o Implement the Shoreline Master Program restoration plan coordinated with salmon recovery efforts and nearshore and marine resource programs and projects • Quantify impacts from derelict fishing and strategically remove starting with Cherry Point • Enhance habitat on forested and resource lands C: Reduce sources of water pollution • Prevent pollution: Implement Watershed Management Plans in Drayton Harbor, Whatcom Creek, Lower Nooksack Basin, Lake Whatcom; clean up Drayton Harbor, Birch Bay, and Portage Bay by implementing Shellfish Protection Plans and completing and implementing other water quality plans in a coordinated way; continue efforts to manage refinery at Cherry Point to minimize pollution • Manage stormwater runoff: Implement NPDES permits; implement Lake Whatcom, Birch Bay and Bellingham Bay Comprehensive Stormwater Management Plans; use and increase site-appropriate LID techniques; implement stormwater retrofits in Bellingham; prioritize local stormwater actions across existing plans; improve regulatory compliance for discharges • Manage on-site sewage systems: Implement O&M plans with initial focus on marine recovery areas, shellfish protection districts, and Lake Whatcom; improve regulatory enforcement and compliance for reduction of nutrient and pathogen loading • Prioritize inwater and toxic cleanup sites: Continue to implement Bellingham Bay Pilot Program D: Work effectively and efficiently together on priority actions • Coordinated long-term strategy: o Continue to work cooperatively with farming community to enhance habitat on farm land and maintain the agricultural land base o Improve cooperative cross-agency (local, regional, state, federal, tribal) coordination, implementation, and enforcement o Integrate and coordinate nearshore and marine protection and restoration efforts (e.g., pollution clean up, Shoreline Master Program, Cherry Point Marine Managed Area) with watershed recovery efforts (e.g., Critical Areas Ordinances, Instream Flow Action Plan, Watershed Management Plan, Salmon Recovery Plan, MRC plans, Shellfish District Protection Plans); coordinate development of Cherry Point Aquatic Reserve Management Plan with County Shoreline Management Program requirements o Continue to support South Fork Chinook Supplementation plan • Continue to work cooperatively with Canadian neighbors on transboundary water quality, water quantity, fish habitat, and flooding issues • Recover Cherry Point herring stock

Whidbey Action Area

Ecosystem benefits provided by action area

Unique species
- Numerous salmonids; core bull trout populations
- Gray whales in Saratoga Passage

Unique habitat types and ecosystem processes
- Marine/estuary: Important hake spawning area
- Marine/estuary: Three large estuaries provide migratory cross-roads for many salmon populations, significant bird habitat, some of the largest eelgrass beds in Puget Sound, significant kelp beds
- Freshwater: Major Chinook producing rivers (Skagit, Stillaguamish, Snohomish systems); major producer of coho in Puget Sound and on West Coast
- Upland: Intact upland forests in and around North Cascades National Park, Alpine Lakes, Wild Sky, Glacier Peak Wilderness

Freshwater resources
- Significant freshwater input from large rivers
- Hydropower for Western Washington power grid
- Sultan River provides water supply for Everett

Food and timber (harvest)
- Strong agriculture base: dairy, flowers, vegetables, berries, nursery
- Shellfish production and Dungeness crab fishery
- Commercial, tribal, and recreational fishing
- Some hatcheries provide harvest opportunities and population stability while wild salmon stocks rebuild
- Timber, pulp production

Recreation and tourism
- North Cascades National Park and Wilderness Areas, Boulder River and Henry M. Jackson Wildernesses sport fishing, boating, whale watching, skiing
- Tourist attractions at small waterfront communities

Community and economy
- Significant employment and population centers, including rural water-connected communities
- Deepwater ports that support shipping and industry, including Port of Everett
- Homeland security: Whidbey Island Naval Air Station; Naval Station Everett
- Swinomish Tribe (swədəbš)
- Tulalip Tribes (dxʷliləp)
- Stillaguamish Tribe (stuləgʷabš) meaning “River people”
- Sauk-Suiattle Tribe (sakʷbixʷ) meaning “People of the Sauk River” and (suʔalbixʷ) meaning “People of the Suiattle River”
- Upper Skagit Tribe (sqaǰət)
- Snoqualmie Tribe
- Samish Tribe

Local threats to ecosystem benefits

Habitat alteration
- Marine/estuary: Loss of estuary tidal marsh and habitat connectivity, with more than 80% of the Snohomish, approximately 75% of the Skagit, and 85% of the Stillaguamish estuaries diked, cutting off tidal marshes and blind tidal channels; only 18% of historic wetlands remain; potential future impacts from tidal power generation
- Shorelines: Development along lake shorelines, reducing habitat availability and heterogeneity, increasing nitrification, increases in invasive species and toxic algal blooms
- Marine nearshore: 38% of marine shoreline armored; over 5,000 overwater structures; 5.6 miles of railroad grade; disconnected feeder bluffs and pocket estuaries, development in sensitive areas
- Freshwater: Loss of large river habitat complexity and floodplain connectivity from diking, riparian clearing, and floodplain development, reducing wood debris jams, side-channels, forested islands and pools
- Uplands: Loss of working farms and forests through conversion resulting in altered basin hydrology and degraded habitat; 16% increase in impervious surface in Snohomish watershed from 1991-2001; potential future development pressure in nearshore, river valley and upland areas

Pollution
- Toxics: Groundwater contamination leaching from past industrial development
- Bacterial pollution: 48% of impaired waters listings due to bacterial pollution; shellfish harvest closures in Holmes Harbor, Penn Cove, Samish Bay, Similk Bay, and Port Susan Bay
- Nutrient loading: Contributes to eutrophication and naturally occurring low dissolved oxygen concentrations in Penn Cove, Saratoga Passage, Possession Sound; dissolved oxygen and temperate concerns found in streams
- Surface water runoff impacts: Pollutant loading from urban stormwater and agricultural runoff; emerging pre-spawn fish mortality concern

Freshwater resources
- Limited water availability for people, farms, and fish: Low summer flows in WRIAs 5 & 7;
- Altered magnitude, frequency and duration of peak flow events in WRIAs 3, 4, 5 & 7
- Alteration of surface hydrology: Major alterations for flows in Skagit and Sultan rivers below dams
- Increased freshwater demand from more people, resulting in decreased aquifer levels, saltwater intrusion, and decreased groundwater discharge

Invasive species
- Potential negative ecological impacts on native populations: Japanese knotweed, Spartina

Artificial propagation
- Salmon production has potential negative ecological and genetic impacts on natural populations and other hatchery populations; Shellfish production: not identified as a local issue

Harvest
- Fishing and bycatch, logging, and hunting practices: Fishing and poaching; other local pressures need to be identified

Localized climate change impacts
- Sea level rise: significant change and loss of estuarine habitat in Snohomish, Stillaguamish, and Skagit estuaries; significant loss of Whidbey Island beaches; risk of salt water intrusion; potential loss of floodplain capacity from diking
- Changes in hydrology due to reduced snow pack and forest cover

Other
- Increase in population by 2025: 49% in Skagit, Island, Snohomish counties (over 380,000 people)
- Toxic algal blooms in lake systems

Priority action area strategies

A: Protect intact ecosystem processes, structures and functions
- Protect high value habitat: Examples include Northern Smith Island kelp, Padilla, Skagit and Fidalgo bays eelgrass beds, intact mainstem rivers, and unique spawning areas and bird habitat; evaluate need to protect ecosystem processes and quality of life needs when considering tidal energy projects
- Update and implement regulatory programs: Complete and implement Shoreline Master Program updates on schedule; adopt clearing and grading ordinances throughout Whidbey Basin
- Protect and conserve water flows: Implement flow rules and programs in all basins; upgrade flow rules in Snohomish, Skagit, and Stillaguamish basins
- Protect and support long-term working farms, forests, and shellfish farms: Support TDR/PDR programs; provide technical assistance to landowners
- Invasive species: Continue local efforts to identify and eradicate invasive species impairing habitat

B: Restore ecosystem processes, structures and functions
- Implement priority restoration projects: Implement Salmon Recovery three-year work plan (WRIAs 3, 4, 5, 6, 7), and restoration components of shoreline management plans
- Complete large scale estuary restoration projects in the Skagit, Snohomish, and Stillaguamish rivers and meet restoration targets set in the salmon recovery plans
- Implement large-scale floodplain projects to remove bank armoring, re-connect side channels and provide mainstem rivers with ability to migrate and create diverse instream habitat
- Prioritize and strategically remove derelict gear removal

C: Reduce sources of water pollution
- Prevent pollution:
  - Implement Watershed Management Plans addressing temperature, dissolved oxygen, mercury, and bacteria impairments
  - Evaluate low dissolved oxygen levels in Penn Cove, Holmes Harbor, Saratoga Passage, and Possession Sound, and develop and implement strategy to address low dissolved oxygen levels if necessary (using lessons learned in Hood Canal)
  - Provide support for technical assistance and cost-share programs for small farms and commercial agriculture to improve and integrate agricultural nutrient management; integrate small farms into current programs; and keep livestock out of streams
  - Implement shellfish protection plans
- Manage stormwater runoff: Implement NPDES permits; use and increase site-appropriate LID techniques to manage for future planned growth; begin stormwater retrofits in dense urban areas
- Manage on-site sewage systems: Support local efforts to identify and control sources of pollution

D: Work effectively and efficiently together on priority actions
- Coordinated long-term strategy:
  - Support integration of species recovery, water quality, aquatic reserve and natural resource management plans, shoreline master programs, and Marine Resource Committee strategies; start with salmon recovery, MRC, and water management plans
  - Continue to work cooperatively with farming community to develop a coordinated restoration strategy that balances the needs of agriculture and fish; support engagement of salmon recovery watershed groups with the Snohomish and Skagit County Agricultural Advisory Boards and other farming groups; support collaborative efforts to negotiate the Skagit Delta Tidegates and Fish Initiative
  - Sustain recent collaborative efforts to identify protection and restoration opportunities in the Skagit watershed; maintain ongoing efforts in the Snohomish and Stillaguamish basins
  - Investigate a permit coordination pilot project in the Snohomish Basin
  - Implement Skagit Alternatives Futures Project results; expand project as warranted; integrate and coordinate project with other Skagit community efforts

E: Implement the Action Agenda
- Outreach and education: Implement STORM group recommendations