

APPENDIX C: INVENTORY OF RECOMMENDED RESEARCH

Inventory of Scientific Study Recommendations

| Ref # | Ecosystem Component | Primary Pressure | Recommended Study | Source Document | Study Details (if provided) | Weblink |
|-------|----------------------|-----------------------------------|---|---|--|---|
| R0473 | All | n/a | Establish a new coordinated multi-party structure to collect, analyze, and disseminate credible and useful information about the Puget Sound Basin's freshwater, marine environments and aquatic habitat to strengthen policy and management decisions that affect the Basin. | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations | Representatives of twenty-four public and private organizations met between September and December 2006 to discuss the need for and components of a regional monitoring program for surface waters and aquatic habitat. The Surface Water and Aquatic Habitat Advisory Committee members quickly reached agreement that there is a need for and interest in coordinated regional monitoring throughout Washington State. The Committee also reached consensus that initially the joint monitoring program needs to focus on the Puget Sound Basin before being extended throughout or replicated elsewhere in the State. | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0474 | All | n/a | What is the status and trends of surface waters and aquatic habitat monitoring in the Puget Sound Basin? | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations (3/9/07) | What monitoring is currently being done to determine status and trends? Who is doing it? Is the monitoring the result of regulatory directives or is it being done voluntarily? Does that have any impact on the direction of studies (i.e., are the study designs inherently creating bias)? | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0475 | All | Non-Point Source Loading & Runoff | Do surface waters and aquatic habitat meet water quality goals? | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations (3/9/07) | Are scientifically appropriate performance standards available to help determine success in achieving the goals and standards? | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0476 | All | Non-Point Source Loading & Runoff | If the goals are not being met, what are the reasons for that and what would it take to achieve them? | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations (3/9/07) | Are we doing appropriate compliance, effectiveness or performance monitoring? Temporal, Spatial, Gaps in our knowledge | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0477 | All | Non-Point Source Loading & Runoff | How do we ensure monitoring is applicable and useful? | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations (3/9/07) | How do we consistently perform and apply effective, defensible and scientifically powerful monitoring regionally? And how can we most effectively and efficiently share the information that results from monitoring so that it is accessible and understandable to everyone in the region who needs it? | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0478 | All | n/a | Provide information that improves decision-making for public policy and aquatic resource management through more direct communication and connection between policy-makers and the scientific and technical community. | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations (3/9/07) | | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0479 | All | n/a | Assist regulators and the regulated to work collaboratively to ensure that monitoring-related regulatory requirements are consistent with the monitoring priorities identified by the regional monitoring program. | Surface Water and Aquatic Habitat Monitoring Advisory Committee: The Committee's Report and Recommendations (3/9/07) | | http://www.ecy.wa.gov/programs/wq/psmonitoring/ps_monitoring_docs/16Mar2007FinalReportTemp.pdf |
| R0480 | Marine - Water | Non-Point Source Loading & Runoff | Create a comprehensive conceptual model for pollutants of the Puget Sound Basin. | Control of Toxic Chemicals in Puget Sound, Phase 2: Pollutant Loading Estimates for Surface Runoff and Roadways (11/2008) | Model should fit Ecology's Toxics Box Model and allow other scientists can compare their assumptions, input data, and analytical methods. | http://www.ecy.wa.gov/biblio/0810084.html |
| R0481 | Marine - Water | Non-Point Source Loading & Runoff | Improve its estimates of the relative contribution of toxic chemicals from land use and roadway areas with additional data collected through studies of relatively small catchments. | Control of Toxic Chemicals in Puget Sound, Phase 2: Pollutant Loading Estimates for Surface Runoff and Roadways (11/2008) | The contribution of toxic chemical loadings from highways was a small fraction (less than 1 percent to 14 percent, depending on the chemical) of the total loading from surface runoff into Puget Sound. | http://www.ecy.wa.gov/biblio/0810084.html |
| R0482 | Marine - Water | Non-Point Source Loading & Runoff | Differentiate the loading contributions from potential pollutant sources within each land use category. | Control of Toxic Chemicals in Puget Sound, Phase 2: Pollutant Loading Estimates for Surface Runoff and Roadways (11/2008) | Distinguishing the loading contributions of the various land use areas from the roadway areas was difficult because most of the data that existed for the non-highway roadwaytypes reflected commingled runoff (a mixture of runoff from the road and parking lot surfaces and from the general non-road land surfaces). | http://www.ecy.wa.gov/biblio/0810084.html |
| R0483 | Marine - Water | Non-Point Source Loading & Runoff | d) Increase the priority of monitoring organic toxic chemicals in surface runoff. | Control of Toxic Chemicals in Puget Sound, Phase 2: Pollutant Loading Estimates for Surface Runoff and Roadways (11/2008) | Particularly for compounds that are a growing concern in urban stormwater runoff such as PAHs, PBDEs, phthalates, and TPH. | http://www.ecy.wa.gov/biblio/0810084.html |
| R0484 | Marine - Water | Non-Point Source Loading & Runoff | e) Require laboratory-reporting limits that are as low as analytically feasible for all monitoring of stormwater runoff. | Control of Toxic Chemicals in Puget Sound, Phase 2: Pollutant Loading Estimates for Surface Runoff and Roadways (11/2008) | Facilitate the detection of trace amounts of toxic chemicals. | http://www.ecy.wa.gov/biblio/0810084.html |
| R0485 | Marine - Water | Non-Point Source Loading & Runoff | f) Consolidate efforts to further assess toxic chemicals with the assessment of other contaminants, such as nutrients. | Control of Toxic Chemicals in Puget Sound, Phase 2: Pollutant Loading Estimates for Surface Runoff and Roadways (11/2008) | | http://www.ecy.wa.gov/biblio/0810084.html |
| R0486 | Nearshore - Habitats | Shoreline Armoring | Synthesize existing inventories of armoring trends; identify field sites for monitoring, field experiments, and modeling efforts; quantify the percentage of Puget Sound shoreline suffering from passive erosion; attempt to quantify rates (volume) of sediment source reduction as a result of shoreline armoring. | Impacts of shoreline armoring on sediment dynamics by P. Ruggerio, in Shipman et al 2010 | Desk studies | http://pubs.usgs.gov/sir/2010/5254/ |
| R0487 | Nearshore - Habitats | Shoreline Armoring | Develop a nearshore morphology monitoring program along walled/no-walled sections of coast. Separate short-term morphodynamic variability (active) from interannual or longer-term shoreline change trends (passive). | Impacts of shoreline armoring on sediment dynamics by P. Ruggerio, in Shipman et al 2011 | Field studies | http://pubs.usgs.gov/sir/2010/5254/ |
| R0488 | Nearshore - Habitats | Shoreline Armoring | Investigate the interactions between seawalls and active nearshore processes via detailed examination of the following: random high frequency fetch limited waves, complicated beach morphology and mixed sediment environment, and variable water levels changing position of seawall relative to surf zone. | Impacts of shoreline armoring on sediment dynamics by P. Ruggerio, in Shipman et al 2012 | Field studies and numerical modeling | http://pubs.usgs.gov/sir/2010/5254/ |
| R0489 | Nearshore - Habitats | n/a | Complete analysis of Z. marina monitoring data recorded in Westcott Bay and other shallow embayments in the San Juan Archipelago in 2008 and 2009 to assess changes in Z. marina distribution in other related areas of concern. | Eelgrass Stressor-Response Report 2007-2008: Zostera marina L. (eelgrass) transplant growth and survival along a spatial and tidal gradient in Westcott Bay | | http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx |
| R0490 | Nearshore - Habitats | n/a | Assess the carbohydrate reserves in root and rhizome tissue of Z. marina transplants from Westcott Bay in order to identify the potential early depletion of the carbohydrate reserve and to better understand causes of Z. marina losses. | Eelgrass Stressor-Response Report 2007-2008: Zostera marina L. (eelgrass) transplant growth and survival along a spatial and tidal gradient in Westcott Bay | | http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx |
| R0491 | Nearshore - Habitats | n/a | Analyze existing water column nutrient data in Westcott Bay in order to characterize nutrient variability along a spatial scale from the entrance to the head of the bay. | Eelgrass Stressor-Response Report 2007-2008: Zostera marina L. (eelgrass) transplant growth and survival along a spatial and tidal gradient in Westcott Bay | | http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx |
| R0492 | Nearshore - Habitats | Non-Point Source Loading & Runoff | Assess the combined effect of elevated water temperature and sediment sulfides on Z. marina survival in Westcott Bay. | Eelgrass Stressor-Response Report 2007-2008: Zostera marina L. (eelgrass) transplant growth and survival along a spatial and tidal gradient in Westcott Bay | | http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx |
| R0493 | Nearshore - Habitats | Non-Point Source Loading & Runoff | Analyze water column oxygen in Westcott Bay in order to identify hypoxic or anoxic events. | Eelgrass Stressor-Response Report 2007-2008: Zostera marina L. (eelgrass) transplant growth and survival along a spatial and tidal gradient in Westcott Bay | | http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx |
| R0494 | Nearshore - Habitats | n/a | Analyze 2009 PAR data (recorded at different tidal elevations) to evaluate light availability in late summer and fall. Reduced light levels in late summer and fall may prove to be critical to plant survival, e.g., during high plant respiration due to stress. | Eelgrass Stressor-Response Report 2007-2008: Zostera marina L. (eelgrass) transplant growth and survival along a spatial and tidal gradient in Westcott Bay | | http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_publications.aspx |
| R0495 | Marine - Habitats | n/a | Promote coordination between tribes, state and federal agencies, and local jurisdictions in Puget Sound and on the coast relative to existing MPAs and future MPA planning efforts with dedicated support for coordination. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Requires Legislative Action; Implementation Lead: PSP, DNR, WDFW, ECY | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0496 | Marine - Habitats | n/a | MPAs should address a documented conservation concern through clear goals and objectives and performance evaluation | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0497 | Marine - Habitats | n/a | Agencies should link their respective processes for consideration of new MPAs and should use one or more existing MPA authorities to address conservation needs. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: WDFW, DNR | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0498 | Marine - Habitats | n/a | Coordinated by the MPA Work Group, MPA managing agencies should develop common criteria and a process for evaluating MPAs. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: MPAWG | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0499 | Marine - Habitats | n/a | Provide adequate funding for MPA designation, management, and monitoring. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Requires Legislative Action; Implementation Lead: Legislature | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0500 | Marine - Habitats | n/a | Promote consistent use of MPA-related terms among state MPAs and between state and federal MPAs where possible. Where necessary, change state laws and regulations to reflect a consistent set of terms across multiple agencies. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Requires Legislative Action; Implementation Lead: Legislature | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0501 | Marine - Habitats | n/a | Inventory and evaluate current monitoring activities and identify overlaps and critical gaps. Key monitoring activities should address a range of necessary management targets, including socioeconomic targets, where appropriate. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0502 | Marine - Habitats | n/a | Promote consistent management and sharing of monitoring data and maximize benefits of monitoring efforts by leveraging funding through formal agency partnerships. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |

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| R0503 | Marine - Habitats | n/a | Target monitoring towards identified management goals, objectives, and threats in an ecosystem context and, where possible, coordinate monitoring of common threats across MPAs. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0504 | Marine - Habitats | n/a | Conduct a Puget Sound and coast-wide marine conservation needs assessment and gap analysis of existing MPAs and provide recommendations for action | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Requires Legislative Action; Implementation Lead: MPAWG | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0505 | Marine - Habitats | n/a | Use other ecosystem-based management tools to inform MPA management and establishment | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0506 | Marine - Habitats | n/a | Consider using Marine Stewardship Areas to engage local governments and NGOs in developing MPA proposals | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0507 | Marine - Habitats | n/a | Use the tribal MPA policy developed by the tribes of the Northwest Indian Fisheries Commission in 2003 as a starting point from which to evaluate the effectiveness of MPAs. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: PSP | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0508 | Marine - Habitats | n/a | Implement a comprehensive process to evaluate the effectiveness of existing MPAs using the tribal MPA policy statement to determine what would be required to create networks of MPAs | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: PSP | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0509 | Marine - Habitats | n/a | Use adaptive management to optimize efficiency and effectiveness of individual MPAs and MPA networks. | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0510 | Marine - Habitats | n/a | Identify and monitor reference sites in order to evaluate MPA effectiveness | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Requires Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0511 | Marine - Habitats | n/a | Promote consistent area-based marine conservation through alternatives to MPAs | Marine Protected Areas in Washington: Recommendations of the Marine Protected Areas Work Group to the Washington State Legislature (Van Cleve et al. 2009) | Does not require Legislative Action; Implementation Lead: Managing agencies | http://wdfw.wa.gov/publications/pub.php?id=00038 |
| R0512 | Marine - Species & Food Webs | n/a | Support partners in identifying special habitat conditions and actions necessary to reach wild fish population goals | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=0 |
| R0513 | Marine - Species & Food Webs | n/a | Protect habitat by providing additional technical assistance to effectively implement the Growth Management Act, Forest and Fish Act, Shorelines Management Act and other state statutes | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=0 |
| R0514 | Marine - Species & Food Webs | n/a | Support habitat restoration by providing engineering and technical assistance needed to implement salmon recovery projects. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=0 |
| R0515 | Marine - Species & Food Webs | n/a | Develop and implement management plans for WDFW lands with additional emphasis on habitat needs for salmon and steelhead. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=1 |
| R0516 | Marine - Species & Food Webs | Dams, Levees & Tidegates | Identify, prioritize, and correct barriers to fish passage on WDFW lands. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=2 |
| R0517 | Marine - Species & Food Webs | Water Withdrawals & Diversions | Develop and implement policies to manage WDFW water rights consistent with salmon recovery. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=3 |
| R0518 | Marine - Species & Food Webs | Unsustainable Fishing / Harvesting | Reduce the number of hatchery fish spawning in rivers and as appropriate, use wild salmon and steelhead as broodstock to increase the productivity and diversity of wild populations. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=4 |
| R0519 | Terrestrial - Species & Food Webs | Aquaculture | Ensure that hatchery facilities are "wild salmon friendly" with passage facilities, intake screening, and pollutant control systems that comply with environmental regulations. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=5 |
| R0520 | Terrestrial - Species & Food Webs | Unsustainable Fishing / Harvesting | Eliminate programs that cannot be modified to meet conservation and fishery objectives in a cost-effective manner. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=6 |
| R0521 | Marine - Species & Food Webs | Unsustainable Fishing / Harvesting | Expand selective fisheries to increase opportunities for recreational and commercial fishing on hatchery fish and reduce the harvest of wild salmon. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=7 |

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| R0537 | Marine - Species & Food Webs | Unsustainable Fishing / Harvesting | Continue to provide technical support to watershed "Lead Entities," Regional Recovery boards, and Regional Fishery Enhancement Groups for habitat restoration. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must: support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=23 |
| R0538 | Marine - Species & Food Webs | Unsustainable Fishing / Harvesting | Expand involvement of citizen advisory groups in management processes. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must: support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=24 |
| R0539 | Marine - Species & Food Webs | Unsustainable Fishing / Harvesting | Support the Puget Sound Partnership in implementing the "Action Agenda" for restoring the health of Puget Sound. | 21st Century Salmon and Steelhead Initiative (WDFW, 2008) | Big challenges for wild salmon and steelhead require that management and recovery efforts be more strategic than ever. WDFW must: support the work of our partners to restore and protect habitat; ensure fisheries protect wild populations; and reform hatchery programs. WDFW formed a planning team—with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement, and outreach—to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized around six key outcome areas: Wild Fish Populations, Habitat, Fisheries, Co-Management, Internal Alignment, and External Support. | http://hccc.wa.gov/Integrated+Watershed+Management+Plan/WatershedDocumentsInventory/regional-plans/Downloads_GetFile.aspx?id=363200&fd=25 |
| R0540 | Nearshore - Habitats | n/a | Feasibility studies to identify restoration projects in multiple locations in East Kitsap; investigation of soft bank alternatives in Dee-Enetai estuary; assess geomorphic history of Fowlweather marsh; evaluate effects of Hood Canal floating bridge on wave energy/sediment transport north of bridge; evaluate mouth of Gamble Creek; investigate impacts at Kings Spit | East Kitsap Nearshore Assessment (Battelle, 2009) | Processes functional at site and landscape scale - high likelihood of restoration success; restoration will improve local conditions. | http://www.kitsapgov.com/dod/nr/nearshore/NSA_REPORT/East_Kitsap_Assessment_Final.pdf |
| R0541 | Nearshore - Habitats | n/a | Feasibility studies to identify restoration projects in multiple areas within the City of Bremerton: Phinney Bay, Mud Bay, Oyster Bay, Port Washington Narrows, Ostrich Bay, and Enetai Creek Estuary (in Dee). | West Kitsap Nearshore Assessment (Battelle, 2008) | research study needed to address fluvial deposition processes | http://www.kitsapgov.com/dod/nr/nearshore/WEST_KITSAP_NS_A/Appendix%20E%20Revised.pdf |
| R0542 | All | n/a | Refine the 20 indicators on the Puget Sound Dashboard of Ecosystem Indicators adopted by the Leadership Council in 2011. | Puget Sound Science Update - Science Panel Conclusions Regarding Action Agenda Implications of the Science Update | 1) Finalize specific indicator metrics of the indicators chosen in 2011. For example, what aspect(s) of salmon become indicators? 2) Determine how to modify existing monitoring program metrics to have them serve more broadly as ecosystem health indicators. 3) Develop sampling protocols and then identify responsible parties for data collection, analysis, etc. 4) Identify funding sources where necessary. | http://www.psp.wa.gov/downloads/pssu2011/PSSUimplicationsforpolicymakers.pdf |
| R0543 | All | n/a | Provide targets for as many of the 20 dashboard indicators as possible. | Puget Sound Science Update - Science Panel Conclusions Regarding Action Agenda Implications of the Science Update | This should commence immediately and consider the ecological and social (human health and well being) tradeoffs by simultaneously examining them during target setting. | http://www.psp.wa.gov/downloads/pssu2011/PSSUimplicationsforpolicymakers.pdf |
| R0544 | All | n/a | Conduct a comprehensive analysis of threats to Puget Sound health | Puget Sound Science Update - Science Panel Conclusions Regarding Action Agenda Implications of the Science Update | This includes: 1) a process to link threats to ecosystem function, 2) a careful prioritization of threats for both the marine and non-marine portions of the ecosystem as well as the human well-being components of the system, and 3) an assessment of effective strategies to address key threats. This work would include collecting more information regarding people's attitudes, how they make decisions related to their actions, and the impacts they have on Puget Sound. | http://www.psp.wa.gov/downloads/pssu2011/PSSUimplicationsforpolicymakers.pdf |
| R0545 | Humans - Social Conditions | n/a | Organize social scientists and advance the social science pieces of the recovery strategy for Puget Sound | Puget Sound Science Update - Science Panel Conclusions Regarding Action Agenda Implications of the Science Update | There are a variety of social science techniques available to elicit public opinions about the environment. These techniques should be used and this timing of this work should precede or coincide with the target setting of indicators (if possible). It should begin by assessing the market and non-market value of ecosystem goods and services, and developing mechanisms for evaluating trade-offs among different management options in ways that provide a direct tie between ecosystem services and current decision making. | http://www.psp.wa.gov/downloads/pssu2011/PSSUimplicationsforpolicymakers.pdf |
| R0546 | All | n/a | Revisit the evaluation of ecosystem indicators work conducted in spring 2011 with a specific emphasis on peer-reviewed evidence. | Puget Sound Science Update, pg. 44 | Evaluations of indicators were based on the presence or absence of peer-reviewed evidence that an indicator met each criterion established by the indicator work group. A more detail analysis would be to evaluate the rigor of the evidence. This would be done through careful review of the evidence and distinguishing between weak and strong evidence to support a particular criterion. | |
| R0547 | Terrestrial - Habitats | Water Withdrawals & Diversions | Revisit the evaluation of ecosystem indicators work conducted in spring 2011 with a specific emphasis on Freshwater and Terrestrial Domains | Puget Sound Science Update, pg. 55 | Future versions of this document would benefit from the evaluation of more indicators pertinent to the Freshwater and Terrestrial Domains, and the inclusion of more candidate indicators in the Marine Domain to ensure a full treatment of the key attributes identified in Section 3.2.3.3. Indicators of energy and material flows deserve particular attention in future assessments, as they were not the focus of the review by O'Neill et al. | |
| R0548 | All | Non-Point Source Loading & Runoff | Revisit the evaluation of ecosystem indicators work conducted in spring 2011 and complete a full evaluation of all water quality indicators in marine, freshwater and interface environments. | Puget Sound Science Update, pg. 81 | none provided | |
| R0549 | Humans - Social Conditions | n/a | Document the connections between economic, social, and environmental factors and HWB, particularly those covering environmental factors in general and for Puget Sound in particular. | Puget Sound Science Update, pg. 173 | One must be careful in drawing conclusions from the current literature, as the absence of evidence documenting the strength of a connection should never be taken as evidence of the absence of such a connection. Nevertheless, documenting such absences can identify potentially important areas for future research. | |
| R0550 | Nearshore - Species & Food Webs | Residential, Commercial, Port & Shipyard | Long term assessment of major forage fish species is needed to evaluate their current population levels and trends so that the impacts of habitat loss, fishing and climate change can be determined. | Puget Sound Science Update, pg. 237 | none provided | |
| R0551 | Marine - Species & Food Webs | n/a | More information is needed to assess the current population sizes and future trends of all four key benthopelagic fish in Puget Sound. | Puget Sound Science Update, pg. 242 | Specifically, analysis of long-term trends in abundance, population structure and dependence on environmental conditions is needed to ascertain status and key drivers. | |
| R0552 | Nearshore - Species & Food Webs | n/a | Additional work is needed to determine whether changes in abundance of particular marine birds reflect actual population changes or shifts in regional distribution that would locally mimic population declines. | Puget Sound Science Update, pg. 284 | Many marine birds migrate, overwinter or breed in regions quite distant from the area(s) they use in Puget Sound. The degree to which potentially significant limiting factors in those areas influence observed changes in abundance in Puget Sound is largely unknown. | |
| R0553 | Terrestrial - Water | Water Withdrawals & Diversions | Conduct a full analysis of stream gauge data and appropriate vetting of methods and interpretations to fully assess the status of freshwater flows. | Puget Sound Science Update, pg. 389 | none provided | |
| R0554 | Humans - Social Conditions | n/a | Impacts of threats to human health and wellbeing - positive or negative - were not addressed and should be included in future editions. | Puget Sound Science Update, pg. 429 | Future editions of this document should include both a review and evaluation of the threats relative to human systems (economies, HWB, cultural resources, etc.) as well as ecological systems. Specifically, evaluations of the linkages between threats, human systems and ecological systems should be included, highlighting not just how enhancement of one system is costly to the other, but how the two systems benefit from each other. | |
| R0555 | All | n/a | Work is needed to more comprehensively evaluate the impact of single threats as well as the interactions among them. | Puget Sound Science Update, pg. 434 | A key information gap is quantitative and analytical approaches to ranking threats in Puget Sound. The literature review suggests the need for a more comprehensive, quantitative and systematic assessment that addresses uncertainty surrounding the relative magnitude of threats. | |
| R0556 | Terrestrial - Water | Residential, Commercial, Port & Shipyard | Need an expanded discussion of impervious surface impacts on hydrology and soils. | Puget Sound Science Update, pg. 457 | none provided | |
| R0557 | Terrestrial - Habitats | Residential, Commercial, Port & Shipyard | Need an expanded discussion of altered soil conditions such as compaction and reduced absorption. | Puget Sound Science Update, pg. 457 | none provided | |
| R0558 | Terrestrial - Habitats | Residential, Commercial, Port & Shipyard | A more thorough investigation of federal, state and local government reports, as well as non-governmental organization documents, may provide significant information to fill many of the information gaps associated with residential, commercial and industrial development. | Puget Sound Science Update, pg. 460 | Beyond data limitation, there is also the need to comprehensively analyze existing data, in order to understand the interplay between the distinct landscape characteristics of developed versus undeveloped lands. Expanded efforts at adapting existing ecosystem process models or developing new ones for the region could help us understand and predict the effects of development on biogeochemical fluxes. | |
| R0559 | Terrestrial - Water | Water Withdrawals & Diversions | Requirements for groundwater recharge are needed to fill out the region's strategy on managing stormwater. | Puget Sound Science Update, pg. 603 | WDOE's approach to stormwater management needs to include a groundwater recharge element and to treat channel protection in terms of duration instead of volume explicitly. | |
| R0560 | Terrestrial - Water | Agriculture & Livestock Grazing | Further work is needed to institutionalize the strategy for agriculture BMPs in watersheds subject to the negative impacts of eutrophication and, in general, to provide more directed guidance on the full range of contaminant issues to Puget Sound agricultural concerns. | Puget Sound Science Update, pg. 616 | none provided | |

Inventory of Scientific Study Recommendations

| Ref # | Ecosystem Component | Primary Pressure | Recommended Study | Source Document | Study Details (if provided) | Weblink |
|-------|----------------------------|------------------|--|---|--|---------|
| R0561 | Marine - Habitats | n/a | Indicators are needed to monitor the progress of marine spatial planning with respect to inputs, activities, outputs, and outcomes. | Puget Sound Science Update, pg. 649 | Progress needs to be monitored at all levels of the system to provide feedback on areas of success, as well as areas where improvements maybe needed. | |
| R0562 | Humans - Social Conditions | n/a | Conduct an assessment of social sciences for ecosystem management. | Human Dimensions of Puget Sound and Washington Coast Ecosystem-based Management - Workshop Report | PSP should consider assessing how it is currently using science (both natural and social). An assessment should include the dynamics of how social sciences research informs the policy decision-making process, its prioritization across recovery actions, the tradeoffs that are inherent in recovery, and existing tensions between the social and biophysical sciences. | |
| R0563 | Humans - Social Conditions | n/a | Develop a human dimensions actions framework. | Human Dimensions of Puget Sound and Washington Coast Ecosystem-based Management - Workshop Report | Several specific research projects were highlighted in discussion: a literature review, an institutional analysis of the Shared Strategy approach used by the PSP, an evaluation of public engagement and behaviors, and building a conceptual model so that the human dimensions components of the Open Standards Framework can be completed. Participants also highlighted the importance of spatial and temporal scale, especially in scenario analyses regarding future ecosystem states. | |
| R0564 | Humans - Social Conditions | n/a | Develop a Social Sciences Strategic Plan targeted towards ecosystem recovery in Puget Sound. | Human Dimensions of Puget Sound and Washington Coast Ecosystem-based Management - Workshop Report | It is recommended that the PSP Social Science Advisory Committee review other coastal management social sciences strategic efforts for suggested plan outlines and, with this background, develop a preliminary draft work plan. | |
| R0565 | All | Climate Change | Identify /inventory critical research and scientific information being generating by agencies and organizations, and make it accessible to a wide range of users. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0566 | All | Climate Change | Identify and/or provide coordinated input on high priority research needs that would improve our understanding of climate impacts and responses of natural and human systems. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0567 | All | Climate Change | Periodically update the comprehensive regional downscaled climate scenarios for Washington State, for example after each new IPCC report... working with CIG, CIRC, CSCs and others. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0568 | Terrestrial - Water | Climate Change | Using hydrologic climate scenarios developed by CIG, update hydrologic models/information currently used in planning to better represent future scenarios for changes in water supply, stream flows and flooding patterns. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0569 | All | Climate Change | Engage, in partnership with research communities, in piloting or applying research, and decision making tools to test, demonstrate and encourage support of policy makers and stakeholders. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0570 | Humans - Social Conditions | Climate Change | Work with and listen to local governments, Tribes, businesses, NGOs and other stakeholders to identify needs for data, information, and resources that would foster their understanding of the socioeconomic consequences of climate change and what it would require to integrate climate information in their decision making. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0571 | All | Climate Change | Support the research communities in developing downscaled regional climate projections and updating existing projections as information about climate impacts and variability and the response of human and natural systems improves. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | Strategy: Partner with and support the research community in carrying out existing research activities to improve climate change projections and better understand how human and natural systems respond to climate impacts. Key Concept: Several governmental agencies, universities and non-profit organizations are generating scientific knowledge needed to understand, predict, and respond to climate change. We need to ensure that the science is responsive and applied to the needs of managers. 7 "Actions" are listed | |
| R0572 | All | Climate Change | Encourage and facilitate implementation of monitoring programs with sufficient coverage to track climate patterns and changes in those patterns on management-relevant scales, as well as track changes in related physical or chemical environmental parameters (e.g., marine pH, salinity, base stream flow, etc.) | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | This action includes: Develop and maintain large scale monitoring of key early warning indicators for species of interest such as timing of migration, changes of population patterns, size at first reproduction, etc. Enhance statewide stream gauging networks to document climate change impacts on freshwater systems. Collaborate with various agencies to monitor the spread of pests, and diseases and to increase the overall efficiency and sensitivity of current surveillance systems. Monitor essential floodplain and riparian functions at risk from climate change, and track shifts in distributions of vegetation and species in wetlands and lakes. Enhance existing monitoring of physical, chemical and biological properties of marine systems to identify and track climate change impacts. Support monitoring and research of marine acidification to understand local extent and impacts to food web, water quality and shellfish industry. Implement and/or adjust monitoring programs to identify changes in natural systems and relate those changes to climate conditions, weather events, and related physical or chemical parameters (e.g., ocean acidification). Implement monitoring programs designed specifically to test assumptions underlying proposed adaptation actions (e.g., the assumption that pristine systems are more resistant or resilient to change). Implement monitoring programs designed specifically to test the effectiveness of adaptation actions. Encourage each agency/partner to monitor the implementation of its respective actions. Coordinate data collection needs, ensure data sharing and facilitate access to all relevant data among conservation partners (state and federal agencies, tribes and other organizations). | |
| R0573 | All | Climate Change | Compile existing tools that can be used by agencies and communities to understand key vulnerabilities to climate impacts, such as the climate ready water utility toolbox. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | | |
| R0574 | All | Climate Change | Seek funding to support vulnerability assessments by local communities and regional organizations. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | | |
| R0575 | All | Climate Change | Ensure that information on climate change adaptation strategies and actions is accessible and targeted towards the needs of land and water managers and other decision makers. | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | This action includes: Improve the clearinghouse Incorporate climate change considerations into existing planning tools which evaluate the effects of alternative land-use policies (for example, ENVISION, INVEST, and models from the Natural Capital Project). Conduct pilot projects to develop decision analysis tools for land and water managers; for example, build on the USGS/NWS Methow Basin project for future runoff projections. | |
| R0576 | All | Climate Change | Identify species and ecosystems within geographic areas most vulnerable to climate change | Preparing for a Changing Climate: Washington State's Integrated Climate Change Response Strategy - DRAFT October 2011 | This action includes: Identify key indicators for climate change response in species and ecosystems., Further develop research to support the Pacific Northwest Climate Change Vulnerability assessment for species and habitats, and identify additional assessments needed by scale and geography. Conduct a climate change vulnerability assessment for marine species. | |