

EXISTING

Forum on Monitoring Salmon Recovery and Watershed Health
Preliminary summary of 2009-11 Agency Existing Monitoring
 July 16, 2008

Agencies: Ecology, WDFW, DNR, WCC, WDA, RCO, PSP (in part)

#	Title and description	CMS priorities	Biennial cost	Fund source	Comments (e.g., relationship to Puget Sound, Col. Basin, coast; duration)
	EXISTING MONITORING				
1	WDFW - Adult Abundance – Adult spawner abundance and monitoring. Funding is combination of federal, local, and state dollars.	Essential	\$7,890K	State/Federal/ Local	
2	WDFW - Juvenile (Smolt) Monitoring – Juvenile monitoring. Funding is combination of federal, local, and state dollars.	Essential	\$5,407K	State/Federal/ Local	
3	WDFW - Harvest Monitoring – Sport and commercial monitoring in Puget Sound, Ocean, Columbia River.	Essential	\$1,468K	State/Federal/ Local	
4	WDFW - Hatchery Marking and Coded Wire Tagging (CWT) Program – Coded wire tags allow managers to trace the contribution of Washington stocks to all coastal fisheries from Alaska to California.	Essential	\$6,984K	State/Federal/ Local	
5	WDFW - Salmon and Steelhead Habitat Inventory Program (SSHIAP) – WDFW’s program to inventory, assess, and manage data for fish barriers across the state. Includes the Intensively Monitored Watersheds database, Fish Passage Barrier database, and SSHIAP data.	Essential	\$550K	GF-S	
6	WDFW - Stock Identification – Genetics Program –WDFW collects genetic data on fish and wildlife populations, and for forensic evidence in law enforcement cases. Fish Age Structure (Otolith) Program –Program evaluates restoration and supplementation projects for salmonids, including listed chum in the Hood Canal and Lower Columbia ESUs.	Essential	\$2,144K	State/Federal	
7	WDFW - Invasive Species Monitoring – Monitors certain tunicate species, green crab, mitten crab, zebra mussel, and other invasive species to evaluate potential economic impacts, competition with native species, and efforts intended to prevent or control their spread. In 07-09, program expanded to include inspectors.	?	\$1,654K	State/Federal	

8	WDFW - Washington Lakes and Rivers Information System GIS Database – A statewide GIS layer of fish presence, spawning, and rearing reaches compiled onto the 1;24,000 streams layer for Washington state. These data represent generalized fish presence and use data for anadromous salmonids (including bull trout).	?	\$253K	State/Federal	
9	WDFW- PSAMP Monitoring – Puget Sound Assessment & Monitoring Program <ul style="list-style-type: none"> • Fish contaminant monitoring • Long-term Monitoring of Puget Sound Marine Birds • Census of Burrow-Nesting Seabirds in Puget Sound • Comprehensive Surveys for Marine Rockfish 	Essential	\$1,412K	PSAT	
10	RCO - Intensively monitored watersheds	High priority #8	\$2.934M	PCSRF via SRFB	10 yrs from start \$1.467 per year Puget Sound and Lower Columbia
11	RCO - Project-scale effectiveness monitoring	High priority #4	\$908k	PCSRF via SRFB	Complete 2018 Statewide
12	RCO - Project implementation monitoring	Essential	\$171k	RCO	Ongoing Statewide
13	RCO - Smolt monitoring (fish-in/fish-out)	High priority #11, 18	\$416k	PCSRF via SRFB	\$208K per year Statewide
14	RCO - Estuary & nearshore habitat project effectiveness in Puget Sound	Medium priority #51	\$400k		Identified by Puget Sound Partnership as a gap; expands item 2 to encompass estuary and nearshore habitat ; could be applied by SRFB to Lower Columbia and Coast
15	RCO – State of Salmon in Watershed report	Essential	\$40k	RCO – state	To GSRO for production of statewide State of Salmon in Watersheds report
16	RCO - Pacific Northwest Aquatic Monitoring Partnership	?	\$40k	RCO – state	Ongoing
17	PSP – Status and Trends – Working through an IAG with Ecology to complete first-year start-up activities in FY 2009 following the Forum’s S&T framework.	High Priority #6	\$610	GF-S	PSP received \$305K in 2008 to initiate the Forum’s S&T monitoring framework in PS and Coastal Wa.
18	Ecy - Watershed Plan Implementation - ongoing costs for operation and maintenance of existing stream gages, increased quality assurance needs and development of a centralized groundwater database.	Add gages: High Priority #17, 27	\$1.6M	Watershed Planning & Implementation	About \$1M is for O&M of existing stream gages. The remainder is a new request to allocate existing CFL watershed planning funds to provide quality assurance support and a centralized groundwater database. As watersheds move from planning towards implementation, data collection is expected to increase.
19	Ecy - Environmental Information Management Database (EIM)	Essential	\$500K	Many	Database management and support, application development, and database administration for Ecology’s EIM database. This is the core environmental database for the agency. Additional resources from Clean Sites CFL (STCA) will be invested in 09-11 to support EIM
20	Ecy - Long-term Ambient Monitoring Marine Water and Sediment Monitoring	Essential	\$2.9M	GF-S, GF-F, Beach	Includes marine water monitoring in Puget Sound and coastal estuaries, Puget Sound sediment monitoring, Urban Waters Initiative, and BEACH. Marine waters and Puget Sound sediments are included in the PSAMP program.

	Freshwater Ambient Monitoring	Essential	\$2.4M	GF-S, GF-F, several federal grants	Long-term freshwater ambient monitoring at 62 stations across the state and ~ 20 annual basin stations. Additional project-funding for EMAP and ISEMP monitoring, and some limited groundwater studies.
	Statewide Stream Gaging	Essential	\$2.1M	GF-S, WQA	Approx 102 stream gages in salmon-critical watersheds across the state
	IMW Project	Essential	\$3.0M	SRFB	Intensively Monitored Watersheds research/monitoring in 4 IMW complexes.
	Type N. Type 5, Ext Temp Monitoring	Essential	\$2.1M	DNR/CMER grants	Several research/monitoring targeted grants. Pass-through funding from DNR and CMER
21	Ecy - Conduct Environmental Studies for Pollution Source Identification and Contro	Essential			
	TMDL Monitoring; WQ Assessment	Essential	\$2.9M	GF-S, WQPF, WQA, GF-F	
	Toxics Monitoring	Essential	\$3.0M	STCA	Includes Wa Toxics Monitoring Program, and Dept of Ag pass-through for on-going pesticides monitoring.
	Water Quality Modeling	?	\$1.9M	GF-S, GF-F, STCA, WQPF, WQA	Modeling support primarily for TMDL development
22	Ecy - Improve the Quality of Data used for Environmental Decision Making	Medium 26, 67	\$1.03M	GF-S, GF-F, STCA, WQA, WQPF	Quality Assurance and Control. Supports agency Quality Assurance office, Laboratory Accreditation Program, QAPP review, etc.
23	WCC - Conservation Practice Data System. A data system that stores habitat project data and allows the roll-up of conservation district data across the state to report implementation measures in a consistent and accurate manner. This allows us to track the amount of habitat restored and protected due to district actions.	?	<\$600k	State General	This helps address the CMS recommendation to monitor 100% of projects to completion. Conservation Districts typically implement well over 2,000 projects per year ¹ to improve watershed health. Data are used by Conservation District, regional recovery boards, GSRO for the State of the Salmon in Watersheds Report, the Puget Sound Partnership, and other entities. Necessary for tracking salmon habitat restoration activities and funds. Programs to be tracked include: Irrigation Efficiencies, CREP (riparian restoration), Livestock (best management practices to improve habitat and water quality), Engineering, and Water Quality.

¹ WSCC. 2006. Washington State Conservation Commission Annual Report.
WSDD. 2007. Washington State Conservation Commission Annual Report.

ADDS

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Preliminary summary of 2009-11 Agency Proposed Monitoring Adds
 July 16, 2008

Agencies: Ecology, WDFW, DNR, WCC, WDA, RCO, PSP (in part)

#	Title and description	CMS priorities and questions	Biennial cost	Fund source	Comments (e.g., relationship to Puget Sound, Col. Basin, coast; duration)
	PROPOSED NEW MONITORING				
1	Ecy/PSP - Status and Trends – Implement a water quality and aquatic habitat status and trends monitoring program in salmon recovery regions and watersheds across WA. First year start-up was funded in PSP’s 2008 Supplemental budget. Sampling will be conducted through contracts with locals and stratified according to the 8 salmon recovery regions (2 per year) beginning first in the Puget Sound and Coastal regions.	High Priority # 6	\$1.3M	Water Quality Account STCA?	The PSP received \$305,000 in the 2008 Supplemental budget to develop a status and trend monitoring workplan. This work is being accomplished through an Interagency agreement with Ecology. PSP received \$610K in Carry Forward Level to implement status and trend monitoring in the 2009-2011 biennium. It is anticipated that an additional \$1.3 million will be needed to cover the costs to fully implement this monitoring program. PSP will work with Ecology to coordinate the necessary funding to fill this gap.
2	WDFW - Adaptively Manage Populations and Habitat Fish in / Fish out – Fill gaps in the statewide spawning abundance and smolt (juvenile) production for the population monitoring framework. Monitor up to 5 additional salmon and steelhead populations to assess ESA delisting criteria. WDFW - Remote Sensing Status and Trend – Provide the remote sensing portion of the habitat status and trends for the Washington Monitoring Forum. Demonstration project in Puget Sound to establish methods for utilizing satellite and low-level aerial photography for habitat status and trend information.	Smolt traps High Priority #11, 18 High Priority #6	\$506K (+indirect) \$411 (+ indirect)	GF-S	Adds five new smolt traps to fill remaining gaps.
3	DNR – Aquatic Lands Habitat Conservation Plan	?	\$3,960,000	GF-S; ALEA	Ongoing, statewide on state owned aquatic lands. Approximately 61% of aquatic lands covered by HCP are in the Puget Sound basin. (GFS ~\$3M; ALEA ~\$1M)
4	WCC - Effectiveness Monitoring of the Livestock Program. Assess the effectiveness of the Livestock Program, a program that funds the installation of best management practices to improve water quality and habitat on livestock farms.	High Priority	~250k	State General	Effectiveness monitoring data were listed as “Poor” in the CMS, and current effectiveness monitoring does not measure farm-related best management practices. With increased emphasis on implementing best management practices for livestock operations to improve water quality. These practices are funded by the Conservation Commission’s Livestock Program. This proposal seeks to monitor the effectiveness of the Livestock Program by implementing the proposal developed by Plotnikoff 2006 ¹ . The data are important for better accountability of funds and adaptive management.

5	WDA - Surface water monitoring for pesticides in salmon bearing streams	Essential	\$1,529,580 CFL \$128,697 new	MTCA	<ol style="list-style-type: none"> 1. This monitoring program was implemented after the CMS was completed. 2. The Columbia and Puget Sound basins are monitored. 3. This is part of WSDAs cooperative agreement with EPA for assessing pesticide effects on listed species under ESA. 4. New money is a maintenance request for salary COLA and increase of operational costs to support IAG with Ecology
6	Ecy - Common Hydrography Data Set (Phase 1) – The State of Washington is currently using three different hydrography GIS data sets to make regulatory decisions (and to describe sample sites). The data are inconsistent resulting in sample-site disagreement and conflicting decisions on cross-agency environmental permit decisions. This proposal would fund the initial phase of the production of a consolidated regulatory data set for the state natural resource agencies to jointly use and maintain. Other agency costs to successfully complete this phase are \$995K (\$795 DNR and \$275 WDFW).	Medium Priority #75	\$891,385	Many	Ecology is looking for confirmation and commitment from other agencies regarding how they will fund their pieces (cost allocation vs. new request)?

ⁱ Plotnikoff, R., D. Hallock, P. Pickett, D. Sargent. 2006. Preparing elements of a quality assurance monitoring plan to conduct water quality monitoring near dairies and CAFOs. Washington Department of Ecology. Olympia, WA 98504. 38 pp.