Making progress on WA State Blue Ribbon Panel Recommendations for Ocean Acidification

Local land-based contributions

October 2015

Chapter 5 of the Washington State Blue Ribbon Panel on Ocean Acidification (OA) identifies recommendations to reduce local land-based contributions to OA. It calls for six actions within two strategies:

- **Strategy 5.1** Strengthen and augment existing pollutant reduction actions to reduce nutrients and organic carbon
- **Strategy 5.2** Impose stringent controls to reduce and limit nutrients and organic carbon from sources that are contributing significantly to acidification of Washington's marine waters

The following table highlights accomplishments towards implementing these actions.

Notes: [KEA] stands for Key Early Actions.
Italic text indicates priorities identified by MRAC but are not being implemented currently.

Action	Action Title	Accomplishments & Priorities	Partners	Funding
Action 5.1.1	Implement effective nutrient and organic carbon reduction programs in locations where these pollutants are causing or contributing to multiple water quality problems. *[KEA]*	Support existing nutrient and organic carbon reduction programs by: ▪ Maintaining their current funding ▪ Assessing their effectiveness on a local scale ▪ Ensuring adequate field capacity is available to maximize their collective impact		
		Distributing grants to projects preventing polluted run-off, simultaneously addressing OA and water quality in shellfish growing areas. Funded projects maintain or open shellfish growing areas for recreational, commercial and tribal harvest.	State Conservation Commission	$5M in capital funding ($4.5M state funds, $500k federal authority); $1M for operations
		Implementing a citizen-monitoring program (the State of the Oyster Study) that enables waterfront property owners to test their shellfish for the presence of bacterial indicators of fecal contamination, and to identify and remediate potential pollution sources.	WA Sea Grant (WSG)	

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		Leading a volunteer program that guides local property owners and harvesters through the range of water quality and shellfish resource management issues challenging Puget Sound and Hood Canal. Volunteers are recruited and trained to identify and eliminate sources of pollution in their watershed. Tribal, state and shellfish industry partners contribute shellfish for planting for enhancement projects.	WSG	
		Educating individuals and communities to improve water quality by reducing stormwater pollutant inputs and implementing low-impact residential practices. Working with local tribes and property owners to prevent human and animal waste from entering local waterways through technical assistance and training.	WSG	
		Raising boaters' awareness of state sewage pump-out facilities, helping marina operators secure grants to install new facilities, and by distributing free boater pump-out kits that prevent boater sewage discharge.	WSG, WA Parks & Recreation Commission	
		Expanded Mussel Watch in several counties to monitor local contaminant levels.	WSG, WDFW, MRC	
		Installing rain gardens in Jefferson, Island, San Juan, and Skagit counties.	WDFW, MRC, WSG	
		Monitoring eelgrass trends in Jefferson County.	WSG, MRC	
		Providing supplemental funding for agricultural best management practices in some counties through the Pollution Identification and Correction (PIC) program.	NEP (ECY and DOH)	
		Providing additional water quality inspectors in Whatcom, Skagit, Snohomish counties and for the Samish Indian Nation.	NEP (ECY and DOH)	Ecology inspectors funded until 2017
		Complying with stormwater permit requirements, including cleaning catchbasins and general stormwater treatment	Cities and counties	

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		Providing stormwater retrofit grants and programs, including enlarging, fixing, building new stormwater facilities to address stormwater quality in planned urban centers.	Department of Commerce and WA Dept. of Ecology	$100 million allocated by WA state legislature in 2013-2015 session
		Working towards reducing regulatory barriers to soil health through the Specialty Crop Block Grant Program	USDA	
		Working with private forest land owners to address water quality.	DNR, Ecology	
		Contingent on Action 7.2.1. To determine the relationship between nutrients/organic carbon and acidification-related parameters, the modeling identified in Action 7.2.1 is needed. Developing, implementing and tracking dissolved oxygen and pH water quality studies conducted by Ecology as part of 7.2.1 (develop and apply computer models to determine where human activities are causing or contributing to water quality problems). Looking to expand funding to increase the program for additional staff and evaluation of water quality criteria Ecology public noticed a dissolved oxygen TMDL for the Deschutes (freshwater) in April 2015, and is working on a pH TMDL in the Lower White. The South Sound dissolved oxygen effort is also underway.	Ecology, EPA	
Action 5.1.2	Support and reinforce current planning efforts and programs that address	Incorporating Blue Ribbon Panel recommendations and scientific findings into the Puget Sound Action Agenda, the Biennial Science Work Plan, and the ecosystem monitoring program.	Puget Sound Partnership	

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	the impacts of nutrients and organic carbon. *[KEA]*	Evaluated current programs and planning efforts and developing initial recommendations on how to reinforce them (appendix to the Blue Ribbon Panel Report).	Center for Ocean Solution at Stanford University, Ecology in coordination with DOH, Agriculture, State Conservation Commission	
		Homeowner training in 1) septic system maintenance; 2) reducing nutrient runoff; and 3) shellfish gardening to improve marine water quality.	WSG	
		DOH marine recovery planning area designations, where establishing criteria includes low dissolved oxygen and nutrient loading.	DOH in coordination with Ecology	
		Implementing the Voluntary Stewardship Program (VSP) which includes Grays Harbor, Mason, Pacific, San Juan, Skagit and Thurston counties. Chelan and Thurston counties are already funded; looking to expand funding to other counties.	State Conservation Commission	
		Implementing the 319 nonpoint program. The programmatic plan was updated in 2014. The updated nonpoint plan discusses OA in very general terms. Ecology commits to coordinating their nonpoint program with key state initiatives, specifically supporting the MRAC efforts to address OA. A priority implementation action in 2015-2016 is to create a tribal and stakeholder process that Ecology will use to identify recommended agricultural Best Management Practices (BMPs) that, if implemented will meet state water quality standards. This fulfills federal requirements for our nonpoint program and Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) program. Subsequent years will implement the process that is developed in 2015-2016.	Ecology, EPA, NOAA	

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		Meeting at the director-level to coordinate work around water quality and agricultural issues.	State Conservation Commission, Agriculture, Ecology, WDFW, EPA, NOAA, NRCS	
		Created the Agriculture and Water Quality Advisory Committee that brings together a broad array of agricultural interests to help Ecology improve working relationships with agricultural producers, and ensure both water quality protection and a healthy agricultural industry. There are opportunities to address OA impacts through discussion and work products produced by the committee. For example, in 2015 the committee developed a guidance document that provides information on livestock-related water quality impacts to help landowners and producers make informed management decisions to protect water quality (*Clean Water and Livestock Operations: Assessing Risks to Water Quality*).	Ecology	
		Investigating the work of groups addressing OA (e.g., the MRAC) to help coordinate efforts.	EPA	
Action 5.1.3	Assess the need for water quality criteria relevant to ocean acidification.			
Action 5.1.4	Adopt legislation that will allow sewer connections in rural areas to limit nutrients entering marine waters where it is determined to be necessary based on water quality impacts.	*Contingent on Action 7.2.1. To determine the relationship between nutrients/organic carbon and acidification-related parameters, the modeling identified in Action 7.2.1 is needed.*	Ecology, MRAC	

Action	Action Title	Accomplishments & Priorities	Partners	Funding
Action 5.2.1	If it is scientifically determined that nutrients from small and large on-site sewage systems are contributing to local acidification, require the installation of advanced treatment technologies.	*Contingent on the results of the modeling under Action 7.2.1.*	*Ecology*	
Action 5.2.2	If determined necessary based on scientific data, reduce nutrient loading and organic carbon from point source discharges.	*Contingent on the results of the modeling under Action 7.2.1*	*Ecology*	