

**Interim Targets – MARINE WATER QUALITY**

Marine Water Quality				
	2014	2016	2018	2020
<b>Progress Milestones and 2020 Target</b>	(No interim target proposed <sup>1</sup> )	<ul style="list-style-type: none"> <li>Reduced extent and/or severity of D.O. reductions from human-related contributions of nitrogen relative to 2012<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>(No interim target proposed<sup>3</sup>)</li> </ul>	Dissolved Oxygen in Marine Waters By 2020, human-related contributions of nitrogen do not result in more than 0.2 mg/L reductions in dissolved oxygen levels anywhere in Puget Sound.
<b>Outputs</b>	<ul style="list-style-type: none"> <li>For each location, management approaches assessed and selected<sup>4</sup> (C6.3 and C9.1 ongoing programs) (Ecology)</li> <li>Permitted facilities requiring nutrient reductions identified and options for reductions determined<sup>5</sup> (C6.3 ongoing program) (Ecology)</li> <li>Nonpoint source reduction options determined for each location<sup>5</sup> (C9.1 ongoing program) (Ecology)</li> </ul>	<ul style="list-style-type: none"> <li>Areas of human DO reduction identified by refined modeling (C9.1 ongoing program) (Ecology)</li> <li>As needed, management approaches for addressing reductions updated (C6.3 and C9.1 ongoing programs) (Ecology)</li> <li>Funding mechanisms identified and preliminary designs developed for any WWTP upgrades (C6.3 ongoing program) (Permittees)</li> <li>Nonpoint source reduction programs implemented (C9.1 ongoing program) (various coordinated by Ecology)</li> <li>Effectiveness monitoring programs implemented (C9.1 ongoing program?) (Ecology?)</li> </ul>	<ul style="list-style-type: none"> <li>Areas of human DO reduction identified by refined modeling (C9.1 ongoing program) (Ecology)</li> <li>As needed, management approaches for addressing reductions updated (C6.3 and C9.1 ongoing programs) (Ecology)</li> <li>WWTP upgrade designs finalized (C6.3 ongoing program) (Permittees)</li> <li>Nonpoint source reduction programs updated to reflect new information (Ecology)</li> <li>Remaining NPS reduction programs implemented (C9.1 ongoing program) (various coordinated by Ecology)</li> <li>Remaining effectiveness monitoring programs implemented (C9.1 ongoing program?) (Ecology?)</li> </ul>	

<sup>1</sup> No interim target is proposed for 2014 in recognition that we do not yet know the location, extent, or severity of human-related D.O. reductions and any efforts specifically designed to address these reductions may need to be planned and implemented before any change in conditions can be expected.

<sup>2</sup> The proposed 2016 interim target does not specify an amount of reduction but instead suggests that progress in this timeframe would be indicated by a detectable change (improvement) relative to 2012 benchmark conditions; note that this interim target would be met if either extent (measured by area or volume) or severity of D.O. reduction in 2016 is significantly different from the 2012 characterization.

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<sup>3</sup> No interim target is proposed for 2018 because implementing changes to wastewater infrastructure are expected to take some years to implement.

<sup>4</sup> Assumes that in 2013/14 Ecology will identify potential regulatory mechanisms for managing human nutrient contributions identified through the three Ecology modeling efforts and other efforts such as Hood Canal. Regulatory options include total maximum daily load (TMDL) studies, but also other direct-to-implementation programs such as Pollution Identification and Control. Different regulatory mechanisms may be appropriate in different locations.

<sup>5</sup> This output applies to permitted facilities identified in a prior study as affecting an area of human-related D.O. reduction. (For example, the 2014 output would apply only to facilities identified. This step will also develop a definition of how nutrient reductions will be measured.