State of Oregon
Department of Environmental Quality Memorandum

Date: Oct. 31, 2018

To: Environmental Quality Commission

From: Richard Whitman, Director

Subject: Agenda item I, Informational item: Willamette Basin Mercury TMDL Re-issuance and Interrelated Projects Across Water Quality Subprograms
Nov. 15-16, 2018, EQC meeting

Purpose of item

DEQ, with representatives of U.S. Environmental Protection Agency, Oregon Department of Agriculture, U.S. Bureau of Land Management and Oregon Association of Clean Water Agencies, will provide information on mercury pollution and actions to reduce it in Oregon's environment. Mercury reduction efforts span multiple DEQ, agriculture and forestry programs, making cross-program and cross-agency coordination an important focus. DEQ intends this informational item as preparation for a subsequent request for EQC approval of a new rule on a Multi-Discharger Variance for permitted low-level mercury discharges. DEQ will also provide an update on the court-mandated reissuance of the Willamette Basin Total Maximum Daily Load for mercury and plans for its implementation.

Background

In 2002, DEQ developed an agency-wide Mercury Reduction Strategy, which summarized the status of knowledge on mercury pollution in Oregon and DEQ's plan for addressing it in all pathways. DEQ updated the strategy in 2007 and 2012 as part of DEQ's agency-wide Toxics Reduction Strategy.

In 2006, EPA approved DEQ's Willamette Basin Mercury Total Maximum Daily Load and DEQ began implementing the TMDL

In 2011, Oregon adopted new human health criteria based on an increased fish consumption rate, which resulted in a more stringent mercury criterion. In 2012, Northwest Environmental Advocates filed a lawsuit objecting to EPA's 2006 approval of the TMDL. The U.S. District Court issued a ruling in April 2017 requiring revision of the TMDL by April 2019, but allowing the 2006 TMDL to remain in effect

until issuance or approval of a revised TMDL. EPA funded their watershed contractor to update the model used for the 2006 TMDL and DEQ convened an Advisory Committee focused on implementing mercury reduction actions as part of developing the revised TMDL.

Mercury sources and pathways for exposure

Mercury is naturally occurring in some of Oregon's volcanic soils. In addition, activities like burning coal for electrical power introduce local and global sources of mercury through atmospheric transport. These natural and global factors affect the amount or mercury that ends up in Oregon's waters. Most of mercury pollution to Oregon's landscape is from atmospheric deposition. A small portion of this air deposition of mercury falls directly on waterways, both dry and in rain. Mercury deposited on the landscape enter waterways through soil erosion from natural and human caused erosion. Less than 5 percent of this human-influenced mercury load to waters is in permitted point source discharges and about 90 percent is from general landscape contributions, some of which are nonpoint sources.

Once the mercury enters the water, the main pathway for human exposure is the consumption of the resident fish that naturally bioaccumulate methylmercury, among other compounds, in their tissue through their diet and habitat.

DEQ is committed to reducing the controllable Oregon human-caused sources of mercury to air, land and water. The agency's goal is to use adaptive management for implementation of the Willamette Basin Mercury TMDL and to implement other water, air, waste and land remediation programs in concert with the TMDL efforts to meet mercury water quality standards and ensure the protection of human health and aquatic life throughout the state.

Agency tools for mercury reductions

In the Willamette Basin, a variety of tools will be necessary in making progress on this goal. Key features of TMDL implementation will be specified in DEQ's Water Quality Management Plan and include waste load allocations in permits and nonpoint source load allocations applied in mercury reduction strategies developed by various Designated Management Agencies, such as ODA or Bureau of Land Management. Important water program tools include mercury minimization programs, water intake credits, advanced treatment technologies and water quality variances for a variety of permitted dischargers. DEQ is

currently considering and applying these tools for permit actions. Specifically, DEQ is considering site-specific variances for mercury in discharges from four publicly owned sewage treatment facilities, intake credits for one municipality and a multi-discharger variance for the Willamette Basin.

Next steps

DEQ will develop an updated Willamette Basin Mercury TMDL, and Water Quality Management Plan. DEQ will continue to implement the NPDES permit program and begin rulemaking on the Willamette Basin Multi-Discharger Variance. Each of these actions has mercury pollution as a driving factor and DEQ will continue to coordinate with EPA and partner with other federal, state and municipal agencies.

EQC involvement

No commission action is requested at this time. DEQ will request commission action for a proposed rule amendment for a Willamette Basin Multi-Discharger Variance for mercury in 2019.

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