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In Search of Cooler Waters: Implementing EPA's Temperature Limits on The Columbia and Lower Snake Rivers

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The Washington State Department of Ecology (Ecology) is hosting an informal meeting on January 28, 2021 to discuss implementing the U.S. Environmental Protection Agency's (EPA) new total maximum daily load (TMDL) for temperature in the Columbia and Lower Snake rivers. On 18 May 2020, EPA released a draft TMDL for water temperatures in these rivers, and it invited public comment on the TMDL between 21 May 2020 and 21 August 2020. Ecology must now develop a plan to implement this new TMDL. Ecology's implementation plan will impact a host of industries, as summarized below, including hydropower facilities, agriculture, forestry, industrial and manufacturing operations, and municipal waste water treatment plants along the Columbia and Lower Snake rivers subject to Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) permits. We will be monitoring what actions Ecology will require to implement the TMDL and the potential impact it will have on the operations and activities of affected parties so we can provide clients with an informed assessment of what to expect and how to proceed.

Under the CWA, once a state determines that a waterbody is impaired for a particular pollutant or pollutants and places it on its 303(d) list, the state must develop and issue a technical plan—known as a TMDL—to attain water quality standards.[1] A TMDL is the maximum amount of a pollutant that a waterway may receive while still meeting water quality standards. The limit is allocated among different sources: (1) wasteload allocations for point sources that hold NPDES permits, and (2) load allocations for nonpoint sources, such as dams and agriculture runoff. For purposes of this calculation, temperature is considered a pollutant, and the wasteload allocations are ultimately used to develop NPDES permit limits.

If a state fails to meet its obligation to develop and issue a TMDL, then EPA must do so.[2] In 2019, the 9th Circuit determined that Washington and Oregon failed to comply with the CWA and issue a TMDL for the Columbia and Lower Snake rivers, which both states had placed on their respective 303(d) lists for impairment due to temperature—i.e., high water temperatures in both rivers fail to achieve state-mandated water quality standards. As a result, the court ordered EPA to issue the TMDL for temperature for the Columbia and Lower Snake rivers.[3] Once the EPA issues the temperature TMDL, it falls to individual states to implement those limits within their jurisdictions.

EPA's proposed temperature TMDL targets sections of the Columbia and Lower Snake rivers that Washington and Oregon identified as impaired waters under Section 303(d) of the CWA due to temperatures that exceed each state's given water quality standards. One of the goals of the TMDL is to protect salmon and steelhead population segments in these rivers from rising temperatures caused by climate change and compounded by runoff and artificially large, shallow reservoirs developed for hydroelectric dams along the rivers.

Jurisdictional Reaches for TMDL for Temperature

The proposed temperature TMDL allocates 0.3°C among three source groups: (1) dams (nonpoint sources), (2) NPDES point sources and reserves, and (3) major tributaries. Each category is assigned 0.1°C of the 0.3°C increase in loading capacity. Additionally, the EPA proposed temperature targets to achieve Oregon's narrative cold water refuge (CWR) standard for the lower Columbia River, which is intended to provide supplementary protection to migrating salmon and steelhead. To this end, the EPA has recently released the Columbia River Cold Water Refuges Plan, outlining the critical role that zones of cooler water play in salmon survival.

If finalized in its current form, the proposed TMDL will impact several industries, including the hydropower industry. For example, the temperature TMDL could impact the CWA 401 Certification process for hydroelectric dams during relicensing proceedings before the Federal Energy Regulatory Commission. As a result, hydropower dam operators may be required to make changes to their operations and flow rates to accommodate the TMDL requirements, which could have impacts on electricity generation, electricity rates, and water flow allocation. These potential impacts underscore the broader implications of EPA's TMDL, as hydropower assets on the Columbia and Lower Snake rivers are an important and reliable source of baseload renewable energy that allow for integrating other renewable sources, such as wind and solar, which are critical components to meeting Washington's and Oregon's renewable energy standards and carbon reduction goals.

Industries requiring new or renewed NPDES point source permits, such as agriculture or forest products industries, could find that they are subject to more stringent water quality-based effluent discharge limits. Similarly, entities holding municipal, industrial, and construction stormwater permits are also subject to the TMDL and could soon have to grapple with implementing changes to their NPDES stormwater permits. In turn, this could require industries with NPDES permits to invest in new technology or adopt new best practices to remain in compliance with TMDL-based limits.

From a water resources perspective, irrigators that are building or repairing pump stations and water users that are requesting changes in points of diversion or building or purchasing from water banks may also be impacted. Ecology may use its authority over water withdrawals and water rights to limit the impact activities have on water temperature in the Columbia and Lower Snake rivers. Water users may be required to analyze and mitigate for changes in temperature in the Columbia and Lower Snake rivers, particularly near CWRs.

Finally, the TMDL allocates a cumulative temperature increase of 0.1°C in the Columbia and Lower Snake rivers to 23 major tributaries, including the point and nonpoint sources within those tributaries. Ecology's implementation plan may need to assess sources within the tributaries and divide the 0.1°C allocation between anthropogenic and natural heat loading in the tributaries. The TMDL allocation for these tributaries will serve as a benchmark for establishing whether or not these waterbodies are meeting water quality standards.

EPA is currently considering hundreds of pages of comments submitted on the temperature TMDL and may modify the TMDL based on those comments. Once finalized, EPA will transmit the TMDL to Oregon and Washington to incorporate the TMDL into the states' water quality management plans. Ecology's 28 January informational meeting should provide an early glimpse at EPA's plans to finalize the TMDL, Washington State's implementation plans, and what affected parties can expect in the year ahead.

[1] 33 U.S.C. § 1313(d)(2).

[2] *Id*.

[3] Columbia Riverkeeper v. Wheeler, 944 F.3d 1204 (9th Cir. 2019).

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