

## *Northwest Environmental Advocates v. City of Medford*

### **Background & History**

- 2011 Oregon Department of Environmental Quality (DEQ) issues NPDES discharge permit to City of Medford without effluent limits on nutrient pollution (nitrogen and phosphorus) or requirements to study Medford’s effect on downstream water quality. Permit does prohibit the discharge from violating state water quality standards.
- 2012 – 2013 Local river users observe and report poor water quality conditions in the Rogue River downstream from the Medford facility, including a foamy, discolored effluent and proliferation of nuisance algae and aquatic weeds. Rogue Fly Fishers & Federation of Fly Fishers commission study by Richard E. Hafele (retired aquatic biologist at Oregon DEQ), *Medford Regional Water Reclamation Facility Outfall Assessment Study* (Jan. 2013), that finds the Medford plant is causing aquatic degradation and is contributing to violations of Oregon’s biocriteria water quality standard downstream of the discharge.
- 2014 Medford commissions study by Brown and Caldwell, *Medford Regional Water Reclamation Facility Mixing Zone and Biological Assessment Study* (April 25, 2014), that largely confirms results of the 2013 Hafele report.
- 2014 Oregon DEQ studies 31 miles of the Rogue and issues report, *Rogue River Algae Reconnaissance: A Response to the Algae Concerns Related to the Medford WWTP* (Sept. 2014), finding that above the Medford sewage outfall, algae levels are low and macroinvertebrates are dense and diverse but below the outfall, algae levels are high and macroinvertebrates diversity is low. DEQ concluded that the observed conditions are “consistent with responses typically associated with nutrient enrichment.”
- 2018 U.S. Environmental Protection Agency adds the middle Rogue River—the segment where Medford’s facility is located—to Oregon’s list of impaired waters based on its violating Oregon’s biocriteria water quality standard.
- 2018 Northwest Environmental Advocates (NWEA), represented by the Earthrise Law Center, sues Medford in federal court, Oregon District, Medford Division, Case No. 1:18-cv-00856-CL (filed May 16, 2018), alleging violations of the Clean Water Act.
- 2019 Partial settlement of case requires NWEA and Medford to work together to the extent possible to gather and analyze data to propose permit pollution limits (May 28, 2019).
- 2020 Medford releases Stillwater Sciences, *Nutrient Discharge Limit Assessment for the Rogue River in the Vicinity of the City of Medford Regional Water Reclamation Facility* (March 2020) that confirms violation is caused by nutrient pollution and recommends summer only permit limits of 5.65 mg/L total nitrogen (TN) and 1.35 mg/L total phosphorus (TP).
- 2020 NWEA issues panel report (JoAnn M. Burkholder, Ph.D; Richard E. Hafele, M.Sc; Christine Weilhoefer, Ph.D.) *Rebuttal of the Report, “Nutrient Discharge Limit Assessment for the Rogue River in the Vicinity of the City of Medford Regional Water Reclamation Facility,”* by Stillwater Sciences (March 2020) (March 15, 2020). Noting that the Medford study relies on inadequate and flawed data, the NWEA report recommends that permit limits for Medford be at least: 3.10 mg/L TN and 0.54 mg/L TP, to apply year-round. (State of the art is: 3.0 mg/L for TN and 0.01 – 0.1 mg/L for TP.)

## Highlights of NWEA Expert Panel Report

- Nutrient contamination from the Medford facility has repeatedly been identified as the source of the noxious benthic algal and submersed aquatic vegetation (SAV) overgrowth downstream.
- Excessive nutrient pollution is also causing unhealthy diel (24-hour) dissolved oxygen variation.
- Stillwater Sciences' suggested permit limits are inadequate, and will not decrease the major growth of the noxious macroalga *Cladophora*, a renowned responder to sewage that Medford's discharge has made dominant in the Rogue River.
- Medford's Stillwater Sciences study is seriously flawed:
  - timing likely missed the maximum levels of the benthic algal biomass;
  - used inadequate reporting limits in measuring nutrient concentrations;
  - repeatedly deviated from field and laboratory protocols to which it had agreed;
  - included such poor sampling and analysis of SAV that it was unable to use the data to recommend permit limits—despite that SAV is a known result of nutrient pollution.
- Stillwater Sciences described a low amount of dilution had resulted in the algal growth downstream seeking to convey the tacit, false message that downstream effects from the Medford effluent can be remedied by less nutrient reduction than is actually required. In reality, a downstream effect that occurs in higher river flow requires greater nutrient reduction.
- Stillwater Sciences incorrectly compared the Rogue River—where a small amount of nutrients will fuel algal growth—to less nutrient-sensitive Midwestern rivers in developing permit limits.
- Stillwater Sciences chose the outcome Medford desired and then picked data to fit calculations, thereby failing to follow the appropriate derivation steps for choosing permit limits.

## DEQ Response

Materials obtained through a Public Records Act request show DEQ staff clearly concluding in 2020 that nutrient pollution is the “stressor” causing the problems found downstream of Medford's discharge:

- “The biological signatures evident in each study show classic and unmistakable nutrient enrichment responses, at multiple community levels[.]”
- “[Previous reports] showed nutrient concentrations downstream of and for a distance of at least 2 miles below the outfall to be substantially higher than the upstream background nutrient concentrations.”
- “[Re: Stressor ID] I really don't see the need to pursue this any further. . . . Across all reports the biological and chemical data agree: the only pollutants likely to cause biological changes observed are nutrients. Both the City of Medford and NWEA agree that nutrients need to be addressed, and I agree that both nitrogen and phosphorus concentrations need to be reduced.”
- “Ultimately Stillwater suggested final targets resulting in reductions of TN by 73% and TP by 60%. But at these levels . . . concentrations would still remain approximately 2X upstream background levels[.]”

Nevertheless, by June 2, 2020, DEQ had concluded that it “did not feel it is appropriate to use either of the studies to set final nutrient limits in the next permit at this time” and that it was planning on issuing a new permit to Medford that would require an “optimization study to determine if additional operational changes w/o major expenditures could be made” and requiring Medford to “conduct[] stressor analysis to identify stressors contributing to biocriteria issues.”

June 10, 2020