

Appendix E:

North Coast Regional Water Quality Control Board 2018 Lost River Target Memo

Memo by:



North Coast Regional Water Quality Control Board
Alydda Mangelsdorf, Environmental Program Manager,
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Prepared for:



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North Coast Regional Water Quality Control Board

TO: Alan Henning, Environmental Protection Specialist
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FROM: 
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North Coast Regional Water Quality Control Board

DATE: December 7, 2018

SUBJECT: APPLICABLE TEMPERATURE STANDARDS IN CALIFORNIA WATERS WITHIN
THE LOST RIVER WATERSHED, KLAMATH RIVER BASIN

This memorandum is to document the findings of staff in the North Coast Regional Water Quality Control Board (North Coast Water Board) with respect to the applicable temperature standards in California waters within the Lost River Watershed, Klamath River Basin. The Lost River Watershed originates in northern California, travels north across the border into Oregon before turning south and returning to California into Tule Lake with connection to the Lower Klamath Lake through the Sheepy Ridge tunnel. The findings described below are the result of multiple conversations amongst the following staff:

Clayton Creager, Watershed Stewardship Coordinator
Alydda Mangelsdorf, Planning and Watershed Stewardship Division Chief
Bryan McFadin, Flow & Riparian Protection Specialist
Lisa Bernard, Planning Unit Senior
Marnie Ajello, Attorney

1. The State Water Resources Control Board adopted Resolution No. 75-89 amending the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California*. This plan is commonly referred to as the Thermal Plan.

2. The Thermal Plan is developed to address elevated temperature waste.
3. The Thermal Plan defines **Thermal Waste** as “cooling water and industrial process water used for the purpose of transporting waste heat.”
4. The Thermal Plan defines **Elevated Temperature Waste** as “Liquid, solid, or gaseous material including thermal waste discharged at a temperature higher than the natural temperature of receiving water. Irrigation return water is not considered elevated temperature waste for the purpose of this plan.”
5. Under the section entitled Implementation (No. 1), the State Water Resources Control Board and the California Regional Water Quality Control Boards are described as administering the Thermal Plan by establishing waste discharge requirements for discharges of elevated temperature waste.
6. Because the definition of **Elevated Temperature Waste** excludes irrigation return water, staff conclude that there are no elevated temperature waste discharges to the Lost River that require regulation under the Thermal Plan.
7. In the absence of elevated temperature wastes in the Lost River Basin, as defined by the Thermal Plan, the Thermal Plan does not apply. Similarly, the water quality objectives for temperature contained in the Thermal Plan do not apply. Specially, the allowance of a 2 degree increase in ambient water temperatures due to elevated temperature waste discharge when ambient waters are less than 62 °F does not apply.
8. On the other hand, the temperature objectives contained in the *Water Quality Control Plan for the North Coast Region* do apply to the ambient waters in California immediately south of the border with Oregon. This plan is commonly referred to as the Basin Plan.
9. The temperature objective contained in the Basin Plan says: “The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of COLD water be increased by more than 5 °F above natural receiving water temperature. At no time or place shall the temperature of WARM intrastate waters be increased more than 5 °F above natural receiving water temperature.”
10. An estimate of natural receiving water temperatures in the Lost River is made difficult by the fact that the Lost River system is highly modified, beginning with modifications dating back to the early 1900s. Damming of the Lost River at its headwaters formed Clear Lake Reservoir in 1910.
11. The purpose of establishing temperature objectives is to ensure protection of beneficial uses of the Lost River. A reasonable surrogate for an estimate of natural temperatures,

is an estimate of the temperatures necessary to support the most sensitive beneficial use in the Lost River, specifically the Lost River Sucker.

12. Identification of the Lost River Sucker as a sensitive species is based on its presence in the Lost River Watershed and its threatened and endangered listing status. Staff has not conducted an exhaustive analysis of aquatic species in the Lost River and their temperature sensitivities.
13. A memorandum from Jennifer Wigal of the State of Oregon Department of Environmental Quality to DEQ Water Quality Staff dated March 6, 2017 reviewed the water quality thresholds associated with Lost River and shortnose suckers. The March 6, 2017 memo identifies water temperatures greater than a 7-day average maximum (7dAM) of 28 °C as the threshold above which the Lost River Sucker (and shortnose sucker) would reasonably be expected to be impaired.
14. Consistent with the findings of the State of Oregon Department of Environmental Quality and for the purpose of Oregon's Lost River Total Maximum Daily Load for Temperature, North Coast Water Board staff conclude that a 7-day average maximum temperature of 28 °C is a reasonable numeric criterion by which to interpret the Basin Plan's narrative temperature objective for the Lost River as it re-enters California from Oregon. Because the criterion represents the threshold above which impairment can reasonably be expected, there is no allowable increase above a 7-day average maximum temperature of 28 °C.
15. Staff reserve the right to consider new information related to temperature-sensitive life cycle stage(s) of the Lost River Sucker, for example, or thresholds associated with protection of other sensitive aquatic species, when interpreting the Basin Plan's narrative temperature objective in the future.