

RESIGHINI RANCHERIA
A Federally Recognized Indian Tribe
ENVIRONMENTAL PROTECTION AUTHORITY

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October 25, 2004

Catherine Kuhlman, Executive Officer
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Dear Ms. Kuhlman

We are writing to you in response to the North Coast Regional Water Quality Control Board's (NCRWQCB) Total Maximum Daily Load (TMDL) analysis for, and the proposed de-listing of the Upper Lost River from California's 303(d) list.

The attached comments on your report reflect concerns of the Resighini Rancheria. While Lost River tributaries above Clear Lake Reservoir, and the reservoir itself, are a considerable distance from our Reservation geographically, we share the Board's concerns about Klamath Basin water quality and we recognize that all land use in the Klamath Basin contributes to the current degraded condition of Klamath River water quality as it flows onto and through our lands.

The *Upper Lost River and Clear Lake Reservoir Watershed Total Maximum Daily Load Analysis Water Temperature and Nutrients* is well researched and is clear in its description of conditions, conclusion and recommendations. While we largely agree with the report's conclusions regarding de-listing for temperature and nutrients, we also agree with its recommendation for additional data collection and assessment of the need for improvement of conditions for California's major populations of short-nose and Lost River suckers. Although grazing practices have been substantially improved on tributaries of Clear Lake Reservoir, on the Modoc National Forest, we concur with the TMDL finding that further protection along the reservoir itself may be warranted. We expect to see the recommendations within the report supported by the Board and appropriate studies and actions undertaken in a timely fashion.

Please know that we value the open communication and excellent working relationship we have enjoyed with the NCRWQCB and the U.S. EPA regarding TMDL. We hope that these comments will be fully evaluated despite their being filed after October 1. We failed to calendar this review properly, anticipating that the window for review of this

long awaited report would be 90 days. We request that review periods for future TMDL reports be a minimum of 90 days and that we continue to be notified the day of the report release.

Sincerely,

Rick R. Dowd, Chairman

Assessment of the Upper Lost River and Clear Lake Reservoir Watershed Total Maximum Daily Load Analysis Water Temperature and Nutrients

The *Upper Lost River and Clear Lake Reservoir Watershed Total Maximum Daily Load Analysis Water Temperature and Nutrients* (NCRWQCB, 2004) recommends removing of the tributaries of Clear Lake Reservoir and the reservoir itself from the impaired waterbody list (303d) and de-listing for temperature and nutrients. It lays out clear arguments and supportable recommendations, but the data it had to support it were not robust by its own admission. The question of whether redband trout inhabit the upper tributaries above Clear Lake remains open; therefore, support for de-listing for temperature must be qualified. Despite the recommendations for de-listing, the report (NCRWQCB, 2004) calls attention to other water pollution that was not the subject of the TMDL, specifically turbidity, that needs to be addressed further. It also points out that while grazing reforms on National Forest lands have helped endangered sucker spawning habitat improve in tributaries, further reforms may be warranted to protect these fish.

Nutrients

The North Coast Regional Water Quality Control Board's (NCRWQCB, 2001) *Basin Plan* states that waters in the region "shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that a nuisance is caused or beneficial use is adversely affected." The study design tested for phosphorous, nitrogen, the phosphorous to nitrogen (P:E) ratio and dissolved oxygen (DO) to support the conclusion that nutrient enrichment was not occurring.

The low phosphorous and nitrogen levels, low P:N ratio and healthy levels of DO in tributaries in most samples do not suggest nutrient enrichment. While major algae blooms could not be found in Clear Lake Reservoir, the finding of phosphorous levels higher than allowed by the U.S. Environmental Protection Agency (U.S. EPA, 1985) is still cause for concern. According to the report (NCRWQCB, 2004), it seems that the only reason that it is not stimulating algae blooms is likely due to turbidity during summer in the impoundment.

The NCRWQCB (2004) suggests that elevation of phosphorous may be as a result of the element occurring in soils surrounding Clear Lake Reservoir and may be exacerbated by erosion caused by grazing. Since Clear Lake Reservoir is an essential habitat for survival of endangered adult Lost River and shortnose sucker species, proactive steps should be taken to improve conditions for what represents one of the last viable populations of these species in California (Moyle, 2002) (see Fisheries as Beneficial Uses below).

Temperature

The NCRWQCB (2004) had listed the Upper Lost River basin as impaired with regard to temperature based on the assumption that it supported cold water fish species, when in fact the presence of native, redband rainbow trout could not be established (see Fish as Beneficial Uses below). It is likely that lower reaches of tributaries to Clear Lake, such as Willow Creek, are naturally warm because of lack of topographic shading as they flow across the hot, arid Modoc Plateau. However, if there are tributaries of these streams at higher elevation in California that still support redband trout, then cold water standards (NCRWQCB, 2001) should apply to those reaches.

If the assertion regarding redband trout distribution is accepted, then the species of concern as a “beneficial use” in this area become the Lost River and shortnose suckers, both of which have very high water temperature tolerance (Bellerud and Saiki, 1995). The data do not suggest that stressful or lethal temperatures for these species prevail. There are some indications, however, that grazing practices in this area have the potential to elevate water temperatures more than 5 degrees Fahrenheit, which would also be a violation of *Basin Plan* (2001) standards.

The Modoc National Forest (1996) and U.S. Bureau of Reclamation (US BOR, 2002) both acknowledge that past temperature problems related to grazing in the tributaries of Clear Lake have caused bank erosion, loss of riparian vegetation, drops in the water table and water temperature increases. The rise in temperature in some reaches of Willow Creek were on the order of ten degrees (Modoc NF, 1996). The *Upper Lost/Clear Lake TMDL* (NCRWQCB, 2004) notes that models suggest temperatures in Willow Creek could be further moderated if riparian conditions are allowed to improve. These findings stress the need for continuing riparian protection from grazing on National Forest lands (see Land Use discussions).

Fisheries as Beneficial Uses

The decision to eliminate the redband trout from consideration for this TMDL is acceptable despite the fact that the species may be present in the headwaters of Willow Creek. Clear Lake tributaries do not reach higher elevations, where stream temperatures would be expected to be cool enough for trout, except in their extreme headwaters of Willow Creek in Oregon and out of the NCRWQCB jurisdiction. The Lost River and shortnose sucker populations, however, are important beneficial uses, particularly since the populations that use Clear Lake Reservoir and its tributaries are some of the last viable ones in California.

The *Upper Lost River and Clear Lake Reservoir TMDL* (NCRWQCB, 2004) did an excellent job of researching the historic status and importance of the sucker species and the historical account of 50 tons of suckers being harvested annually at one Lost River location by Native Americans gives one perspective on their former abundance and importance. Moyle (2002) notes that these fish have been extirpated from Lower Klamath Lake and Sheepy Lake nearby and that the Clear Lake populations are the last ones of

consequence in California and extremely important for conservation given the tenuous status of these species in Upper Klamath Lake (NRC, 2003).

While it is beyond the authority of the NCRWQCB to assess fish passage issues related to irrigation and stock water diversions, it was troubling to note that as much as 20 miles of Willow and Boles creeks might have impediments to sucker spawning migrations. Also, winter water levels in the reservoir during freezing conditions seems like a critical concern that is in a gray area with regard to NCRWQCB control. The NCRWQCB (2004) makes a compelling case that Clear Lake was formerly less turbid and that reform of grazing practices on the shores of Clear Lake itself might help remedy turbidity problems and improve conditions for sucker species (see Study Recommendations below).

Land Use

The *Upper Lost River Clear Lake Reservoir TMDL* (NCRWQCB, 2004) makes clear that grazing has by far the largest impact on water quality. Modoc National Forest (2002) recognizes that riparian zones are extremely important biological areas that are only a very small portion of the landscape and very sensitive to disturbance. The reforms of grazing practices on Modoc NF (1996) on tributaries of Clear Lake have led to U.S. Fish and Wildlife Service approval of these practices for the Lost River, shortnose and Modoc suckers through a Biological Opinion (USFWS, 2001). However, access to cattle is still allowed in some seasons in Boles and Willow Creek and this still allows for potential degradation (Figure 1).

Grazing allotments need continuous monitoring to make sure that all riparian functions that might effect sucker survival be protected as recommended by the NCRWQCB (2004): “Willow trees in the Willow Creek riparian area should be allowed to reach a mature size, which also provide more protection for spawning sites.” We hope that the NCRWQCB staff will remain in contact with Modoc NF and USFWS to make sure that progress is made in this regard.

Turbidity

While the Upper Lost River watershed above Clear Lake is not listed as impaired with regard to turbidity, the data collected related to this TMDL (NCRWQCB, 2004) provide cause for concern. Values of 20-89 ntu indicate levels that are known to impair salmonid feeding and growth (Sigler et al., 1984). While the high turbidity may prevent algae blooms in Clear Lake Reservoir, it is likely that it also reduces emergent and submerged aquatic vegetation which can provide essential habitat for juvenile suckers.

The findings with regard to turbidity in Clear Lake and high phosphorous levels (NCRWQCB, 2004) suggest a linkage to grazing practices on the shores of the reservoir (Figure 2). Compelling historic information suggesting that Clear Lake was in fact clear and that aquatic plants, which provide cover for sucker juveniles, were once much more abundant is presented by the TMDL (NCRWQCB, 2004). The USFWS Clear Lake



Figure 1. Grazing in the riparian zone of Boles Creek, shown here, and Willow Creek to which it is tributary have the potential to reduce shade and wetland function as well as directly contributing nutrients.



Figure 2. Cows grazing on shoreline areas adjacent to Clear Lake Reservoir.

Wildlife Refuge decision to allow grazing for the benefit of avian species should be re-evaluated in light of the TMDL findings.

Study Recommendations

The *Upper Lost River/ and Clear Lake Reservoir TMDL* (NCRWQCB, 2004) clearly states that the data to support the study were not robust and makes several recommendations for needed studies and data collection.

The most important work needed is a study by USFWS to determine if wildlife habitat benefits for bird species provided by grazing in the margins of Clear Lake Reservoir outweigh the harm done to water quality and potential sucker habitat. The elevated turbidity and nutrient contributions are undesirable and preventable. Shoreline habitats would likely yield much less sediment and allow colonization of vegetation along shorelines in spring and early summer which could provide cover for sucker juveniles.

While Modoc NF (1996) studies show progress on improvements of grazing practices, periodic reports with photo points, cross sections and trends in riparian tree height and shade should be conducted for adaptive management and to insure that sucker habitat spawning habitat areas continue to improve.

While elevation data suggest that redband trout would only occur in the portions of Willow Creek in Oregon, the NCRWQCB should work with the California Department of Fish and Game and ODFW to make a final determination on this issue.

One of the principal study recommendations from the TMDL (NCRWQCB, 2004) deserves support:

“The relationship between nutrients, dissolved oxygen and biomass must be better understood for a complete analysis of limiting factors in the watershed. Additionally, an analysis of soils in the watershed and the impact of soils on the levels of nutrients (notably phosphorus) in the water would be helpful.”

Conclusion

The Resighini Rancheria should be concerned about the sparse data used by the NCRWQCB in this report to support conclusions. However, because of the clear, logical methods of inference, the de-listing position should be supported. Though, in complex environmental settings, such as the lower Lost River, use of reconnaissance level data may be inadequate to draw conclusions or to shape remedies for water quality problems under the TMDL process.

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