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Department of
Agriculture

Forest
Service

Tahoe
National
Forest

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Danny McClure
Central Valley Regional Water Quality Control Board
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Dear Mr. McClure,

I am writing in response to the recent proposal by the Central Valley Regional Water Quality Control Board (Regional Board) to list the following water bodies on as impaired water bodies on the State's 303(d) list: 1. the North Fork American River (Decision # 11187); 2. Oxbow Reservoir (Decision ID 12408); 3. the South Yuba River (Spaulding Reservoir to Englebright Reservoir) (Decision # 13217) and (Decision # 11439); 4. the Middle Yuba River (Decision # 11441); 5. the North Yuba River (Decision # 11440); 6. New Bullards Bar Reservoir (Decision # 12592), and 7. the Middle Fork Feather River (Sierra Valley to Lake Oroville, Butte and Plumas Counties) (Decision #12954) and (Decision # 12955). The proposed listings are important to the Tahoe National Forest given their potential to affect federally appropriated funds and forest management and recreational activities.

The U.S. Department of Agriculture Forest Service (USFS) manages land within all of the named watersheds as part of the Tahoe National Forest. A primary objective of the USFS in managing these lands is to improve and protect watershed conditions (USDA Forest Service Strategic Plan, 2007). The USFS recognizes its responsibilities to protect water quality and supports the efforts of the Regional Board to enforce the Clean Water Act and the California Water Code through revision of its 303(d) list of impaired water bodies. The current Tahoe National Forest watershed staff has been involved in project planning for the past 20 years. Anecdotal information from USFS staff indicates that overall water-quality conditions within Tahoe National Forest boundaries are good.

Comments on specific proposed listings:

- 1) The proposed listing Decision #11187 indicates that the North Fork American River is polluted with mercury primarily from resource extraction. The U.S. Department of Agriculture Forest Service (USFS) manages 101,816 acres within the North Fork American River watershed as part of the Tahoe National Forest.

The proposed listing is based on one line of evidence (Slotton et al 1997). The samples were taken at one location on the North Fork of the American River, 0.5 miles upstream of the confluence with the Middle Fork of the American River, which is approximately 18 miles downstream of the TNF boundary, during three sampling events (October 16, 1981; October



20, 1982; and September 14, 1988). Four out of four fish tissue samples (two Sacramento Sucker and two Smallmouth Bass) exceeded the USEPA fish tissue criterion for human health. Very little water quality data exist for the upper part of the watershed. Some limited water quality data is available for North Fork Dam, approximately two miles upstream of the confluence with the Middle Fork American River and around 18 miles downstream of the TNF boundary (USGS Station 11427000). Seven samples were taken from July 11, 1977 to October 22, 1979, but samples were not analyzed for mercury.

The elemental mercury found on the Tahoe National Forest generally is not associated with bedrock geology, but was imported to specific gold mining sites (Slotton, et al 1997). Elemental mercury in the North Fork American River watershed was largely imported to specific gold mining sites, and therefore the mercury in this watershed should not be viewed as a watershed-wide issue, but rather a localized potential threat to water quality. The part of the Tahoe National Forest that drains into the North Fork American River upstream of the sample site used in the above mentioned line of evidence was not heavily mined. Furthermore, there are very few sources of elemental mercury in the upper part of the North Fork American River.

Listing the entire North Fork American River as impaired for mercury based on one line of evidence located approximately a half mile from the bottom of the watershed and approximately 20 miles below the Tahoe National Forest Boundary (from data taken in the 1980's) is not warranted. I suggest that the Central Valley Regional Water Quality Control Board look at listing a shorter segment of the North Fork American River (below the North Fork of the North Fork of the American River) that is more closely associated with the imported mercury sources.

2) The proposed listing Decision #12408 indicates that the Oxbow Reservoir is polluted with mercury primarily from resource extraction. The Tahoe National Forest manages approximately half of the watershed acres above Oxbow Reservoir in the Middle Fork American River watershed.

The proposed listing is based on one line of evidence (Placer County Water Agency, 2008). This line of evidence consists of one sampling event on September 14, 2007 at one location from Oxbow Reservoir. Sample size was 10 fish: 4 Brown Trout, 1 Rainbow Trout, and 5 Sacramento Suckers. Two of 10 samples (2 Sacramento Suckers) exceeded the evaluation guidelines for mercury. This line of evidence is part of the Middle Fork American River Relicensing/Final 2007 Technical Report AQ 11 – Water Quality. Figure AQ 11-2 shows the methyl mercury fish tissue analysis results by sampling location. Table AQ 11-17 shows a summary of the fish specimens collected for fish tissue analysis. Nine of the 45 individual fish sampled in this study exceed the USEPA Fish Tissue Residue Criterion for methyl mercury in fish, 0.3 mg/kg (0.3 ppm). Six of the nine exceedences came from fish (all Brown Trout) from Hell Hole Reservoir, well above the geographic zone of resource extraction that is identified as the source of mercury for the potential listing. The range of mercury concentrations in the six samples was .66-1.14 ppm, the highest in the study. One fish, a Brown Trout, from French Meadows exceeded the evaluation criterion. Mercury concentration was 0.36 ppm. Two fish, both Sacramento Pike Minnow, in Ralston Afterbay (part of Oxbow Reservoir) exceeded the evaluation criterion. Mercury concentration in these

fish was 0.31 and 0.35. Given that the highest mercury concentrations were found in fish in the uppermost part of the watershed, this data does not seem to support a listing for mercury due to resource extraction in this watershed.

The elemental mercury in this watershed was largely imported to specific gold mining sites; therefore the mercury in the watersheds above Oxbow Reservoir should not be viewed as a watershed-wide issue, but rather a localized potential threat to water quality.

3) The South Yuba River from Spaulding Reservoir to Englebright Reservoir is proposed for listing for mercury and for temperature.

3a) The proposed listing Decision #13217 indicates that the South Yuba River from Spaulding Reservoir to Englebright Reservoir is polluted with mercury primarily from resource extraction. The U.S. Department of Agriculture Forest Service (USFS) manages 94,425.9 acres within the South Yuba River watershed as part of the Tahoe National Forest.

The proposed listing is based on three lines of evidence (May et al, 2002; Slotton, 1997; State Water Resources Control Board, 2002). One line of evidence consists of a two Rainbow Trout taken from the South Yuba River just downstream from Edwards Crossing on September 29, 1999. Neither fish exceeded the USEPA fish tissue criterion for human health (0.3 ppm). Fish sampled had mercury concentrations of 0.09 and 0.15 ppm. The second line of evidence consisted of 18 samples (16 Rainbow Trout and 2 Brown Trout) taken on November 12, 1993 or October 24, 1995. Samples were collected at two locations on the South Yuba River: one mile downstream of Washington and just downstream of Lake Spaulding. Thirteen Rainbow Trout were taken near Washington with mercury concentrations ranging from 0.10 to 0.30. Five fish were sampled near Lake Spaulding: two Brown Trout (0.07 and 0.07 ppm mercury) and three Rainbow Trout (0.06 to 0.11 ppm mercury). Of the 18 samples taken, 1 sample (Rainbow Trout) taken one mile downstream of Washington exceeded the evaluation guidelines for mercury. The third line of evidence is one three-fish composite of Smallmouth Bass taken on the South Yuba River near Bridgeport taken on August 4, 1980. This composite sample had a mercury concentration of 0.69 ppm, which exceeds the USEPA fish tissue criterion.

The elemental mercury in the South Yuba River watershed was largely imported to specific gold mining sites; therefore the mercury in this watershed should not be viewed as a watershed-wide issue, but rather a localized potential threat to water quality.

The lines of evidence used in this listing are not very supportive of the proposal to list the entire South Yuba River from Spaulding Reservoir to Englebright Reservoir. The sample locations on two of the three lines of evidence are lower in the watershed, five or more river miles below the National Forest Boundary (May et al, 2002; State Water Resources Control Board, 2002). This data would not necessarily reflect conditions within the entire South Yuba River. Also no evidence of mercury pollution in the upper reaches of the South Yuba River below Spaulding Reservoir is presented

in the supporting documentation. I would like to suggest that further study is needed before a listing can be made (at least for the headwaters reaches). If the Central Valley Regional Water Quality Control Board chooses to continue to consider listing the South Yuba River, then I suggest that the Board look at listing a shorter segment of the South Yuba River that is more closely associated with the imported mercury sources.

3b) The proposed listing Decision #11439 indicates that the South Yuba River is impaired for temperature from unknown source. The U.S. Department of Agriculture Forest Service (USFS) manages 101,816 acres within the North Fork American River watershed as part of the Tahoe National Forest.

The proposed listing is based on one line of evidence (South Yuba River Citizens League, 2007). Temperature measurements were taken at nine locations on the South Yuba River between Bridgeport and Langs Crossing. Measurements were generally taken on a monthly basis from 2001 to 2006. The two uppermost stations Keleher Campground and Langs Crossing only have data for 2006. Fifty out of 58 samples exceeded the recommended temperature for salmon and trout. Given that no evidence of temperature impairment above Langs Crossing is presented, my suggestion is that the Central Valley Water Quality Control Board look at listing a shorter segment of the South Yuba River that is more closely associated with the measured data.

Given that the South Yuba Rives FERC relicensing is due to be completed in 2013, using a date of 2021 for the TMDL doesn't seem appropriate. Why are these two connected actions being separated?

4) The proposed listing Decision # 11441 indicates that the Middle Fork Yuba River is polluted with mercury primarily from resource extraction. The U.S. Department of Agriculture Forest Service (USFS) manages 68,463 acres within the Middle Yuba River watershed as part of the Tahoe National Forest.

The proposed listing is based on two lines of evidence (State Water Resources Control Board, 2002; Slotton, 1997). One line of evidence consists of a four-fish composite of Sacramento Pikeminnow from the Middle Yuba River downstream of the Highway 49 crossing taken on August 4, 1980. This sample found 0.64 ppm which exceeded the evaluation guidelines for mercury. The other line of evidence consisted of 19 samples (17 Rainbow Trout and 2 Sacramento Suckers) taken on three dates between October 1, 1993 and March 24, 1994 on the Middle Yuba River upstream of Oregon Creek, Middle Yuba River upstream of Kanaka Creek, and Middle Yuba River upstream of Plumbago Road. Of the 19 samples taken, 2 samples (Sacramento Suckers) taken upstream of Oregon Creek (the lowest sample point) exceeded the evaluation guidelines for mercury. Very little water quality data exists for the upper part of the watershed.

The elemental mercury in the Middle Yuba River watershed was largely imported to specific gold mining sites; therefore the mercury in this watershed should not be viewed as a watershed-wide issue, but rather a localized potential threat to water quality.

Slotton et. al. found low mercury concentrations in the Middle Yuba River upstream of the major mining activity (Slotton, 1997). I suggest that further study is needed before a listing can be made (at least for the headwaters reaches). If the Central Valley Water Quality Control Board chooses to continue to consider listing the Middle Yuba River, then I suggest that the Board look at listing a shorter segment of the Middle Yuba River that is more closely associated with the imported mercury sources. My staff recommends listing below Buckeye Ravine or Bear Creek.

5) The proposed listing Decision #11440 indicates that the North Yuba River is polluted with mercury primarily from resource extraction. The U.S. Department of Agriculture Forest Service (USFS) manages 184,308 acres within the North Yuba River watershed as part of the Tahoe National Forest.

The proposed listing is based on one line of evidence (State Water Resources Control Board, 2002). The samples were taken at one location on the North Yuba River near the New Colgate Powerhouse approximately 1.3 miles upstream of Englebright Reservoir, during one sampling event (October 15, 1991). Four out of five fish tissue samples (Smallmouth Bass) exceeded the USEPA fish tissue criterion for human health (0.3 ppm). New Bullards Bar Reservoir is located approximately 9 river miles upstream of Englebright Reservoir. The location of the fish samples being used to support the listing of the North Yuba River is located between two reservoirs. This data does not appear to support listing the entire North Yuba River above Englebright and New Bullards Bar Reservoirs.

The elemental mercury in the North Fork American River watershed was imported to specific gold mining sites; therefore the mercury in this watershed should not be viewed as a watershed-wide issue, but rather a localized potential threat to water quality.

I think that the Central Valley Regional Water Quality Control Board should look at listing a shorter segment of the North Yuba River that is more closely associated with the imported mercury sources. Based on your data, my staff recommends listing the North Yuba River from New Bullards Bar Reservoir to Englebright Reservoir.

6) The proposed listing Decision #12592 indicates that New Bullards Bar Reservoir is polluted with mercury primarily from resource extraction. The U.S. Department of Agriculture Forest Service (USFS) manages land on the eastern and northern shores of New Bullards Bar Reservoir as part of the Tahoe National Forest.

The proposed listing is based on two lines of evidence (State Water Resources Control Board, 2002; California Bay-Delta Authority, 2007). The first line of evidence consists of two fish composite samples from one location from the East Arm of New Bullards Bar Reservoir near the Willow Creek inlet. The samples were taken on October 12, 1989 and October 26, 1990. Both samples exceeded the USEPA Fish Tissue Residue Criterion for methyl mercury (0.30 ppm): one six-fish (carp) composite sample (0.61 ppm) and one five-fish (Smallmouth Bass) composite sample (0.63 ppm). The second line of evidence reports 30 out of 38 fish sampled exceeded the evaluation fish tissue criterion for mercury. Fish were sampled at two locations on New Bullards Bar Reservoir: East Arm near its confluence with the West Arm and the East Arm near the Willow Creek inlet. Samples were taken on August

14, 2006. Thirteen Smallmouth Bass were collected at the first site (0.22-0.68 ppm mercury). Eight of the 13 exceeded the USEPA fish criterion for human health. At the East Arm near Willow Creek inlet, 25 fish were sampled: 3-Bluegill (0.12-0.39 ppm), 1 exceedence; 11-Carp (0.34-0.83 ppm), 11 exceedences; 1-Largemouth Bass (0.61 ppm), 1 exceedence; and 10-Smallmouth Bass (0.29-0.72 ppm), 9 exceedences.

The elemental mercury in the New Bullards Bar Reservoir watershed was largely imported to specific gold mining sites, and therefore the mercury in this watershed should not be viewed as a watershed-wide issue, but rather a localized potential threat to water quality.

7) The proposed listing Decision #12954 and Decision #12955 indicates that the Middle Fork Feather River is impaired for Dissolved Oxygen and Unknown Toxicity from sources unknown. The U.S. Department of Agriculture Forest Service (USFS) manages 95,486 acres within the Sierra Valley watershed as part of the Tahoe National Forest.

The proposed listing for Dissolved Oxygen is based on two lines of evidence with samples taken close to Lake Oroville. The samples for Unknown Toxicity were also taken in the lower part of the watershed miles from the Sierra Valley. The limited sample size and the location of the samples do not support listing the Feather River to the Sierra Valley.

Listing the entire Middle Fork Feather River as impaired from the Sierra Valley to Lake Oroville mercury based on the current lines of evidence taken from the bottom of the watershed many river miles below the Sierra Valley is not warranted. I suggest that the Central Valley Water Quality Control Board look at listing a shorter segment of the Middle Fork Feather River closer to Lake Oroville and the sites that were sampled.

Water quality on the national forests in California has been protected since 1981 through a Management Agency Agreement (MAA) between the State Water Resources Control Board (State Board) and the USFS. This MAA provides for a USFS Water Quality Management Program (WQMP) that is based on Best Management Practices (BMPs) developed for a wide variety of USFS resource-management activities. These BMPs were certified by the State Board and approved by the U.S. Environmental Protection Agency (USEPA).

The State's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (2004) supports the use of BMPs and MAAs as the primary mechanisms for meeting water quality standards on public lands. As described in this policy, successful MAAs are more efficient than direct regulation by the Regional Boards, limit unnecessary duplication of effort, and leverage limited staffing and financial resources.

BMP implementation and effectiveness are monitored annually by the USFS and reported to the Regional Board. Between 2003 and 2007, BMPs monitored on the Tahoe National Forest were found to be effective in 90% of the instances monitored. I therefore feel confident that resource management activities on the Tahoe National Forest provide a high level of protection for beneficial uses of water.

For water bodies that are added to the State's 303(d) list, the State's Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structures and Options (2005) allows Regional Boards to certify non-regulatory programs of other entities as appropriate TMDL

implementation. The 2007 Memorandum of Agreement between the USFS and the U.S. Environmental Protection Agency [see copy attached to email] encourages the use of Category 4b in place of TMDL implementation plans for 303(d) listed water bodies on or downstream of national forest lands if proper implementation of preventative and restorative BMPs can reasonably be expected to achieve Basin Plan water-quality objectives. For Category 4b to be employed, the following conditions must be met:

1. Sources of pollution must be identified and the general treatments determined. The treatments must be designed to achieve State and Basin Plan water quality objectives.
2. A watershed-specific monitoring plan must be provided that identifies the current condition and the target conditions that will indicate compliance with Basin Plan objectives.
3. A realistic, aggressive schedule for implementing restoration BMPs based on currently available or reasonably foreseeable funding must be provided.
4. If monitoring indicates that recovery is slower than expected, an iterative cycle of more effective treatments will be applied until recovery goals are met.
5. The Regional Board retains the authority to revert to Category 5 if for any reason achievement of state or basin water-quality objectives appears to be unlikely.

Although Category 4b is likely to be more cost-effective than traditional TMDL development, it has not, to my knowledge, been used previously in California. I welcome an opportunity to work with you and your staff to develop a precedent for this approach to improving water quality on national forest system lands.

Thank you for the opportunity to comment on the proposed listing. If you have any questions, please contact Tahoe National Forest Watershed Program Manager, Carol Kennedy at (530) 478-6239.

Sincerely,

JUDIE L. TARTAGLIA

for
TOM QUINN
Forest Supervisor

References

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