



Mid Klamath Watershed Council

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Matt St. John
North Coast Regional Water Quality Control Board
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403
mstjohn@waterboards.ca.gov

RE: Comments on the North Coast 2008 Integrated Report for the 303(d) List of Impaired Waters

Dear Mr. St. John,

The Mid Klamath Watershed Council (MKWC) has been working since 2001 to restore the Klamath River, its fishery, and upslope habitats through coordinating dialogue and action on resource issues between diverse stakeholders, providing information on resource issues to area students and residents, and implementing restoration actions associated with restoring natural processes and mitigating impacts from human development and resource use. MKWC focuses on the section of the Klamath River from the confluence with the Trinity River to Iron Gate Dam, however we recognize that actions in the Shasta, Scott and Salmon River watershed directly affect the fisheries resource in the Mid Klamath subbasin.

Decision ID 9540: Delist Wooley Creek for temperature

We **oppose** the recommendation to delist Wooley Creek for temperature from the 303(d) list. Even though a large portion of the Wooley Creek watershed is designated as a wilderness area now, it is and has been impacted and disturbed by human activity. There is active management occurring in over 15% of the watershed.

LOE 21155: Percent of Human Disturbance

The primary human impact to Wooley Creek has been 100 years of fire suppression, beginning with the Weeks Act in 1911. The Salmon River Community Wildfire Protection Plan states that, "Much of the Salmon River watershed is at risk of **unnaturally** severe fire. Years of fire suppression have had its effect on the fuels build up of the area... Fire suppression...has contributed to the increased fire risk and damage from fire in our forests." Because of fire suppression (a human activity), the fire history in Wooley Creek is unnatural. 82% of the Wooley Creek watershed has been affected by wildfires in the past 100 years (see attached Wooley Creek fire history map). Much of that area has burned/reburned in the past 3 years.

Fire suppression and lack of traditional management practices have led to devastating fires and a reduction of species and habitats critical to a healthy ecosystem. These events culminated at Medicine Mountain in the Wooley Creek watershed during the summer of 2008. In 1994, fires on Medicine Mountain took down stands of tan oak trees. Tan oak acorns are an important subsistence food for the Karuk people. Traditional fire management that occurred prior to contact included active management of the watershed. Traditionally, the fallen debris would have been cleaned up. This practice reduced ladder fuels, so that consequent fires would burn slow with beneficial effects. However, due to poor management practices, the fuel was not cleaned-up. When a fire went through the same area in 2008, it was catastrophic.

The exclusion of natural fire by the USFS has created conditions that affect water temperatures in Wooley Creek. The unnatural vegetation regime, overstocked with conifers, has reduced the base flows in Wooley Creek. Additionally, the resulting wildfires have reduced riparian vegetation and increased sedimentation. All of these factors directly affect water temperatures. The long term impacts to water temperature as a result of 100 years of altering the natural fire regime should be identified and included in the delisting process, prior to a final determination.

In addition to fire suppression and the resulting severe wildfire events, Wooley Creek has been impacted by extensive livestock grazing. There are two grazing permits for the Wooley Creek watershed. One is managed by the Klamath National Forest and the other is managed by Six Rivers National Forest. Grazing of cows has an impact on water quality. Examples of this include reduction of riparian vegetation, destabilization of hillslopes in delicate headwater areas, increased introduction of *E. coli* into the water system, and spreading of nonnative plant species. Historically, Wooley Creek was intensively grazed by both sheep and cattle, which no doubt had a long term impact on riparian reserves, potentially increasing water temperatures.

Currently 11% of the Wooley Creek watershed is held in cattle grazing allotments. Although specific data for the Wooley Creek grazing allotment does not exist, we have accounts from local wilderness users stating that runoff off both nutrients and sediment in these areas is severe during first flush events. According to a report by Spence et al. (1996), "Grazing results in the removal of natural vegetation, the alteration of plant-community composition, and the modification of soil characteristics, which in turn affect hydrologic and erosional processes. Effects are particularly acute in the riparian zone, where livestock tend to congregate, attracted by water, shade, cooler temperatures, and an abundance of high quality forage... Devegetated riparian zones reduces shading and increases summer stream temperatures - often in streams that are where temperatures are near the upper limit of the tolerable range for salmonids." Cattle grazing is authorized by the USFS and is likely to persist in the Wooley Creek watershed into the future. Short and long term impacts need to be documented and included in the delisting process prior to a final determination.

LOE 21154: Road Density

Although the density of roads in the Wooley Creek watershed is low, there are several miles of roads in the watershed that have not been decommissioned. Some are maintained by the USFS and some are not. In addition, several miles of road were recently decommissioned in the lower portion of the Wooley Creek watershed. Observations suggest that there continue to be significant runoff and sedimentation problems in the Steinacher decommissioning project. No long term monitoring is being performed to document these problems and no information is currently on record for the affects of road management on water temperature in Wooley. The short and long term impacts of road management in Wooley Creek should be documented and incorporated into any final recommendations for the delisting of Wooley Creek. In addition we would like to see all road related problems in the Wooley

drainage prioritized for restoration. An opportunity concurrent with fire suppression activities in 2008 has presented itself as USFS road 12N07 was reopened to the saddle below East Peak, from which the rest of the road system in Wooley Creek could be surveyed for potential decommissioning. Many crossings along this road system have failed already.

LOE 26643: Natural Receiving Water Temperature

This LOE relies on the assumption that Wooley Creek has not been altered by human activities, and therefore the water temperature does not exceed natural receiving levels. Based on our argument that much more than 15% of the Wooley Creek Watershed has been affected by human activities, the natural receiving water temperature of Wooley Creek has been altered. In which case, its MWAT values of 16.1-25.6 C are well above the 16C recommendation for fish health laid out in the Evaluation Guideline.

The LOE also states that “There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.” The data collected during July-October 2006 was taken during a severe wildfire event. Heavy smoke inversions in 2006 reduced water temperatures. That statement is therefore incorrect.

Even with below average water temperatures, temperatures for much of the summer of 2006 were in exceedance of the Evaluation Guidelines (please refer to QVIR and Karuk Tribe comments for data analysis). Wooley Creek is not meeting the temperature criteria for the protection of the cold-water fishery. High temperatures are known to be deleterious to anadromous fish. Current runs of anadromous fish species in Wooley Creek are demonstrably lower than historic runs (USFS and Karuk Tribal records on Spring Chinook and Summer Steelhead). According to the NRC report on Klamath Fisheries, “The principal habitat for spring-run Chinook salmon and summer steelhead in the Salmon River drainage today is Wooley Creek (Moyle et al. 1995, Moyle 2002). Although Wooley Creek has suitable habitat for Spring Chinook, the population is critically low. The reasons for this remain somewhat mysterious. There has been inadequate assessment of the relationship between high water temperatures, which exceed standards, and the human caused short and long term impacts in Wooley Creek that we have documented in this submission.

Water temperatures in Wooley Creek exceed the EPA criteria for protection of moderate to high density summertime salmon and trout juvenile rearing. We requested and received data from Six Rivers National Forest for lower Wooley Creek. The data set was from 7/6/2006-10/9/2007. A 7-day average of daily maximums (7DADM) was calculated for this data set. The EPA criteria listed in the Wooley Creek Fact Sheet for LOE ID 26643 was a 16 C 7DADM. Of the 445 calculations, 157 exceeded the EPA criteria. For the data provided, this occurred between July and September for both 2006 and 2007 (Figure 1). Therefore, temperatures in Wooley Creek are not protective of juvenile salmonids during the hot summer months. Juveniles and adult salmonids oversummering at the mouth of Wooley Creek during the summer have nowhere to go when Wooley Creek reaches temperatures lethal to salmonids.

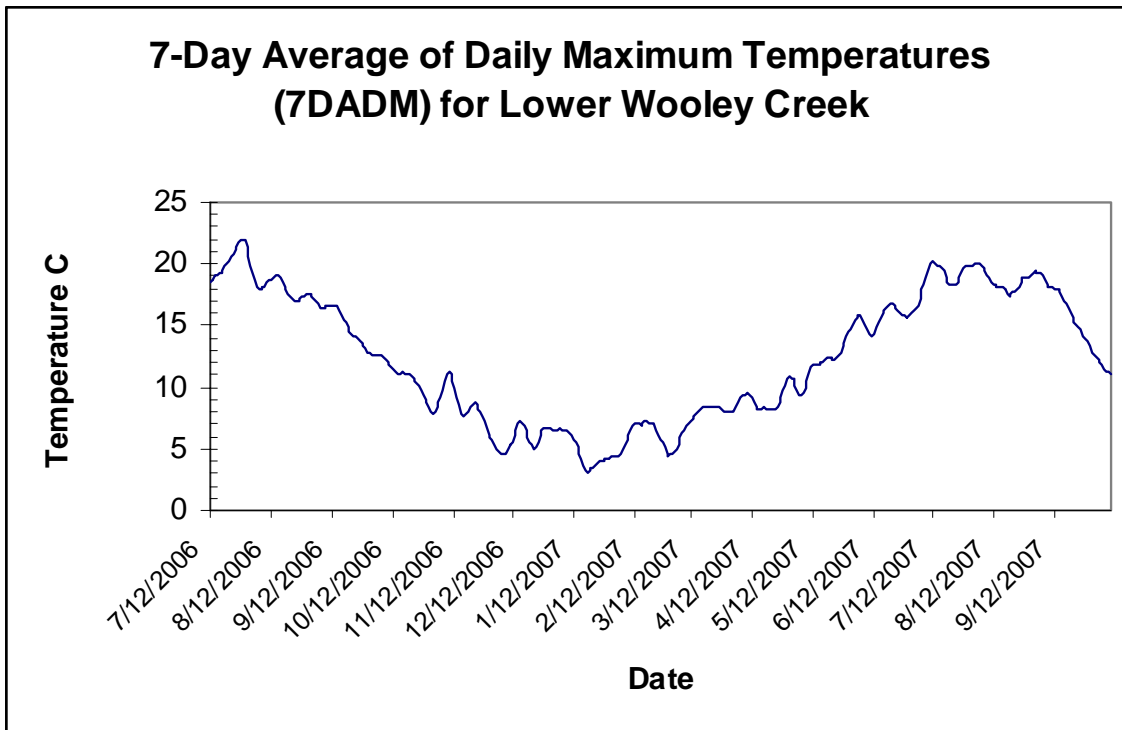


Figure 1. Seven day average of daily maximum temperature for lower Wooley Creek. Calculations were done by Karuk Tribe Water Quality. Data was provided by Six Rivers National Forest.

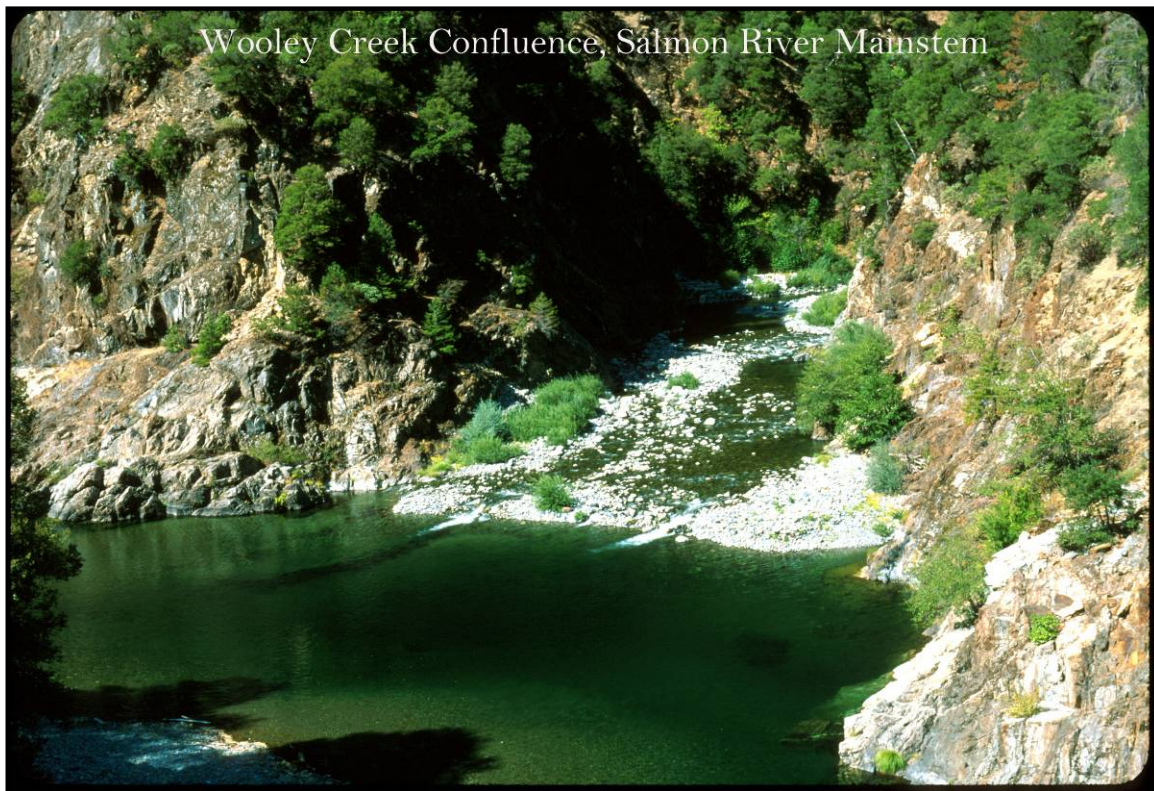


Figure 2. Photo of mouth of Wooley Creek August 6, 2003 by Michael Hentz. Dark plume below main Wooley Creek flow into confluence pool are adult spring Chinook salmon seeking thermal refugia.

LOE 21156: Sediment

This data does not include the effects of the 2008 wildfires in Wooley Creek, which burned a large portion of the watershed. We also question the results of a model that requires landslide/mass-wasting volumes of 200% over background conditions, and surface erosion volumes of 400% over background conditions, before the impacts become a cause for concern.

Recommendations for all LOE

- 1) The Water Board should not make a final recommendation for the delisting of Wooley Creek, until the existing data on file for the time period subsequent to 2006 has been included and adequately incorporated into the delisting assessment and determination process for Wooley Creek.
- 2) The Water Board staff should review its determination that the natural receiving water temperature of Wooley Creek has not been altered by human activities. As stated above, there have clearly been additional human caused impacts to the watershed that were not considered in the delisting evaluation, and which have likely damaged Wooley Creek and its riparian reserves. Therefore this determination is premature and in error.
- 3) If the Water Board proceeds with delisting, we recommend that a resolution be made stating that Wooley Creek will continue to be managed under the guidelines currently laid out in the Salmon River TMDL and Implementation Plan.

Wooley Creek is designated as a “key watershed.” The Karuk Tribe ranked Wooley Creek as its highest priority for restoration due to its habitat condition requirements for Salmonids (Soto et al. 2003). It provides critical habitat for spring Chinook, and is an important watershed for research and monitoring. We are concerned that this delisting will de-prioritize it for getting adequate protection and restoration. Consideration needs to be given to the possibility that this delisting will reduce the opportunity for funding research/monitoring and restoration projects in this important watershed. The SRRC has past experience with this issue. As a result of the denial to list the Salmon River for sediment impairment, a grant submission for sediment monitoring was turned down, based upon the Salmon River’s lack of a TMDL for sediment. We do not want to see this dynamic negatively impact future opportunities to restore and protect the Wooley Creek watershed.

Decision ID 13974: List Mainstem Klamath River from Iron Gate to Scott River for cyanobacteria hepatotoxic microcystins AND Decision ID 13971: List Mainstem Klamath River from Scott River to Trinity River for cyanobacteria hepatotoxic microcystins

MKWC **supports** the decision to list the mainstem Klamath River for microcystins. The mainstem Klamath River can be polluted by the toxigenic hepatotoxin microcystin during the hot summer months, particularly in August and September. Being in the water during these months is not an option for Karuk residents in the Mid Klamath. Critical ceremonies occur during this time period that require bathing in the River water. Traditionally, medicine men drank Klamath River water. This is also the time of year when Karuk fishermen are in the River for subsistence fishing. Since they still practice the traditional style of dipnet fishing, it requires them to spend long hours in backwaters and eddies, where the blooms are likely to be the most toxic, and near large falls where they inhale mist all day.

Mussels in the River were shown to be toxic and unfit for human consumption as cited in your fact sheets LOE ID 25846 and 25847. Mussels are an important subsistence food for the Karuk people. The effect of microcystin on other Tribal Trust species is still undetermined and needs to be studied. It is imperative that the microcystins be eliminated from the Klamath River to protect Cultural Use and Subsistence Fishing beneficial uses.

To be protective of beneficial uses, the Klamath River should be listed for not only microcystin but also the toxigenic cyanobacteria *Microcystis aeruginosa* that produces microcystin.

Decision ID 9638: List Lake Shastina for Mercury


We **support** the recommendation to list Lake Shastina for Mercury. Mercury contamination is a very important public health issue. Lake Shastina is used as a drinking water supply, for water contact recreation, and for recreational fishing. All of these beneficial uses are severely impacted by the presence of mercury in the system.

Decision ID 13197: List Klamath River from Beaver Creek to the Scott River for Sediment AND Decision ID 13198: List Klamath River from O'Neil Creek to Elk Creek for Sediment

We **support** the recommendation to list the Klamath River for sediment in the proposed reaches. However, the Klamath River and associated tributaries should **also** be listed for sediment from the Scott River to O'Neil Creek and from Elk Creek to the Trinity River for sediment. There are very few watersheds from Beaver Creek to Trinity River that are not impacted by land management. Several factors may affect sediment transport and deposition in watersheds including roads, logging, mining, and fire management practices. In particular, any watershed with roads and/or the occurrence of catastrophic fires should be included in the listing. Of all the tributary watersheds between Beaver Creek and the Trinity, only Fort Goff and Portuguese Watersheds could be exempted from the listing. Examples of road failures and catastrophic fires are found in watersheds between Elk Creek and the Trinity River. An example of roads negatively effecting watersheds is Rock Creek which is upriver of Somes Bar. Road failures led to a huge slug of sediment that effectively blocked fish passage into the creek except for the lower ½ mile. An example of catastrophic fire damage by poor fire management practices is found at Dillon Creek. A huge fire burned through Dillon Creek in summer 2008. During a storm event in March 2009, Dillon Creek was transporting noticeable sediment into the Klamath River.

For questions regarding these comments, please contact Will Harling, Executive Director, Mid Klamath Watershed Council (will@mkwc.org).

Sincerely,



Will Harling, Executive Director
Mid Klamath Watershed Council