



Quartz Valley Indian Reservation
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To: Jeanine Townsend, Clerk to the State Water Board,
From: Crystal Robinson, Environmental Director Quartz Valley Indian Reservation
Date: February 4, 2015
Re: Review and comments on *Staff Report, 2012 Integrated Report Clean Water Act 303(d) and 305(b)*

INTRODUCTION

The Quartz Valley Indian Reservation would like to offer the following comments in regard to the *Staff Report, 2012 Integrated Report Clean Water Act 303(d) and 305(b)*. We thank you for this opportunity to provide our input during this important process. And we hope to continue to work collaboratively in the future to attain water quality objectives critical to the health of the tribal culture.

COMMENTS

Proposed De-Listing of Klamath National Forest Reference Streams for Temperature and Sediment

The Staff Report concurs with the NCRWQCB's recommendation to de-listing streams within Klamath National Forest (KNF) for sediment and temperature that KNF has identified as "reference" streams. KNF identified reference streams by screening watershed conditions including road density (< 0.30 mi/mi², which also implies low past timber harvest), livestock grazing, and mining (USFS 2010). Natural disturbances such as fire were not used to exclude streams from the list of reference streams, for the stated purpose of incorporating the range of natural variability in conditions within the collection of reference streams. We agree that it is appropriate that reference streams include natural disturbances; however, we strongly disagree with the assumption that the large high-severity fires that have burned in recent decades in riparian zones on KNF lands are "natural". While it is natural for fires to burn with a mosaic of severity which would include patches of stand-replacing crown fires, a century of fire suppression has dramatically altered forest stand structure and fuel continuity. As a result, when fires now occur and escape containment, the percent area burned with high severity has likely increased, causing deleterious effects on aquatic ecosystems such as increased sediment, reduced stream shade, and increased water temperature. Prior to fire suppression, the size of individual fires was limited by features such as streams, riparian zones, and ridgetops which stopped fires from spreading long distances (Taylor and Skinner 2003) (Figure 1). Mean fire size has increased dramatically in northwestern California since the fire suppression began in the early 20th century (Miller et al. 2012).

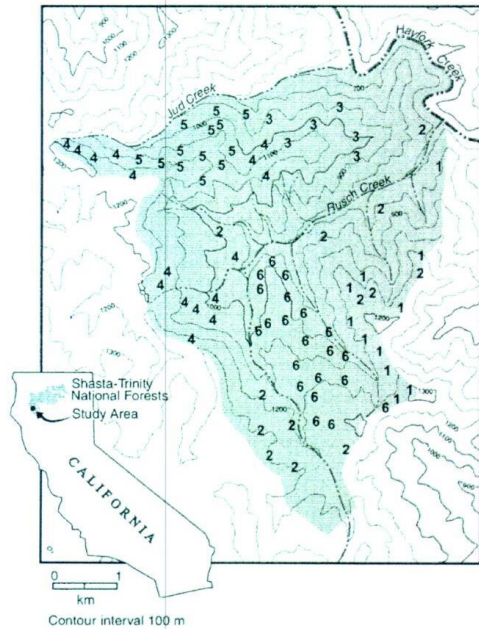


Figure 1. Location of fire occurrence groups identified by cluster analysis of fire dates for 82 sites for the period 1751–1900 (before fire suppression) in the Hayfork study area. Due to lack of fuel continuity, individual fires typically burned only small a portion of the total 2325-ha study area (i.e., if group 1 burned in a particular year, group 6 did not necessarily also burn in that same year, even though the two areas are adjacent to each other and separated only by a stream). Figure from Taylor and Skinner (2003).

Geographically widespread collection of fire severity data did not begin until 1987. An analysis of the 1987-2008 period did not find an increasing trend in fire severity in northwest California within that limited time window (Miller et al. 2012); however, case studies of localized areas suggest that high severity fires were rare in riparian zones prior to the fire suppression era. For example, a detailed analysis of fire scars on trees at Thompson Ridge near Happy Camp on the Klamath National Forest reconstructed nearly 500-years of fire severity and extent (Taylor and Skinner 1998). Fire severity was strongly driven by slope position and aspect, with high-severity fire concentrated in the upper third of slopes and ridgetops, particularly those on south- and west-facing aspects (Figure 2). Signs of high severity fire (e.g., even-aged forest structure) were found on only approximately 25% of the area of lower and middle portions of west-facing slopes, and less than 10% of east-facing slopes (Figure 2). By definition, riparian zones are located in the lower portions of slopes.

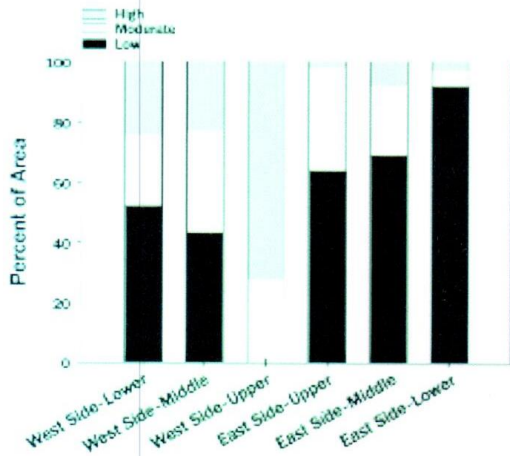


Figure 2. Chart depicting the distribution of cumulative fire severity patterns on Thompson Ridge near Happy Camp (data from Taylor and Skinner 1998, figure from Skinner et al. 2006).

Therefore, we recommend that the list of “reference” streams within KNF be re-visited to explicitly identify streams where riparian zones have been impacted by high-severity fire, and that those impacted streams not be de-listed for sediment and temperature.

We conducted a very brief review of recent fire perimeters and time series aerial photos using Google Earth and found Burney Valley Creek in the headwaters of Elk Creek, which is proposed for de-listing despite high-severity fire in its riparian zone during the 2008 Panther Fire (Figure 3). There are likely additional areas within Klamath National forest “reference” streams with similar conditions.

Several large fires occurred in the Klamath National Forest in the summers of 2013 and 2014. These watersheds, which contain “reference” streams, are now being salvage logged or slated for salvage logging in the upcoming year. These logging operations may involve opening old roads and/or building new roads with the potential to increase sediment and hydrologic run-off rates. These are concerns for water quality and the beneficial uses of fish. Salvage logging operations are not part of the natural ecosystem and we strongly encourage the Regional Water Board to require continued monitoring of these “reference” streams, even if delisted, so that we can collect data to assess these unnatural impacts.

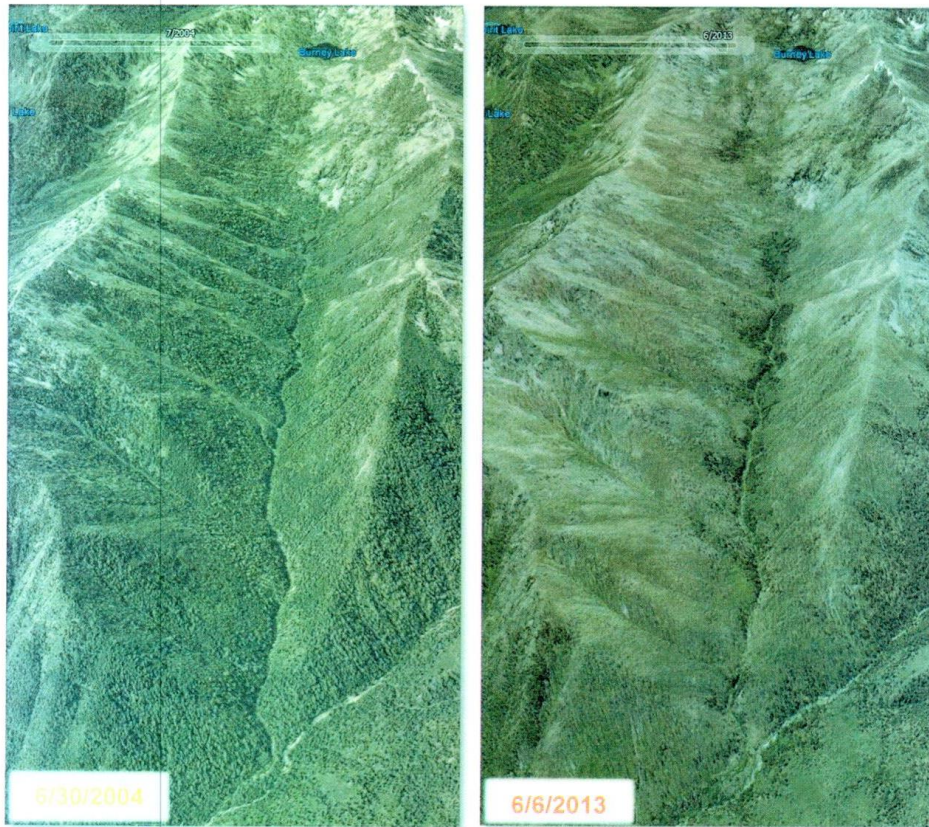


Figure 3. Comparison of aerial photos in Burney Valley Creek before and after the 2008 Panther fire, which burned at high severity across almost the entire watershed. Despite lower overall burn severity in the riparian zone than on middle/upper slopes, substantial portions of the riparian zone burned at high severity, likely directly affecting water temperature through reduced shade. The photos are draped over digital elevation model and tilted at an oblique angle using Google Earth. Area shown is approximately 1.5x3 miles.

Scott River Flow Impairment

We are disappointed by the decision not to list Scott River as impaired by lack of flow, which had been requested by the Quartz Valley Indian Reservation (QVIR) as well as a coalition of 26 conservation and fishing advocacy groups. Flow impairment is a key driver of water quality impairments in the basin, and until flow issues are substantively addressed, TMDL targets will not be met and beneficial uses will continue to be impaired. Lack of a flow-impairment listing may affect other processes such as the implementation of recent statewide groundwater legislation and applications for new appropriative water rights.

Proposed Listings for pH, Dissolved Oxygen, Biostimulatory Conditions in the Scott River Hydrologic Area

Based on data collected/submitted by the Quartz Valley Indian Reservation, the NCRWCB and SWRCB recommend listing a portion the mainstem Scott River as impaired by high pH, low Dissolved Oxygen, and Biostimulatory Conditions. In addition, Shackleford Creek above Campbell Lake is proposed for listing due to low pH. We support the recommendations for these listings; however, we are concerned with the segmentation of the Scott River, as described in the following section of our comments.

Segmentation of Scott River and other Waterbodies

In response to comments from County of Siskiyou and Siskiyou County Flood Control and Water Conservation District, NCRWQCB staff decided to segment the Scott River into three segments and only list the middle section as impaired (by Biostimulatory Conditions, Dissolved Oxygen, pH, and Aluminum) rather than list the entire river as impaired. The NCRWQCB does not have a defined protocol regarding how segmentation decisions are made, resulting in opportunities for arbitrary decisions. The segmentation of the river appears to have been driven in part by the availability of data. Far more data have been collected in the middle reach (which includes the US Geological Survey's streamflow gaging station) than in the other reaches. For example, the middle segment is the only segment where multiple years of continuous multi-parameter water quality data (i.e., dissolved oxygen and pH) have been collected. Dissolved oxygen and pH conditions may also be impaired in the upper segment, but such data have not been collected, in part due to lack of landowner cooperation. Segmenting a waterbody to not list segments that have been poorly sampled is an implicit reward to landowners who do not allow monitoring on their land. If allowed to stand, NCRWQCB's decision would set an unfortunate precedent. Therefore, we request that SWRCB reverse the NCRWQCB's decision and list the entire Scott River as impaired. In doing this the RWB would be protecting beneficial uses in the basin from a more conservative approach. If in the future NCRWQCB adopts a policy providing an explicit protocol for how waterbodies should be segmented and additional data collection indicates that the upper and lower reaches of the Scott River are not impaired, then those reaches could be delisted at that time.

Sincerely,



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REFERENCES CITED

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