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To: North Coast Regional Water Quality Control Board
From: Crystal Robinson, Tributary Water Resources Coordinator, Karuk Tribe

Date: April 18, 2014

Re: Review and comments on *Staff Report for the 2012 Integrated Report for the 305(B) Water Quality Assessment and the 303(d) List of Impaired Waters*

INTRODUCTION

The document “*Public Review Draft Staff Report for the 2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters*” (Public Review Draft 2012 Integrated Report) was circulated for public comment by the North Coast Regional Water Quality Control Board (NCRWQCB) in March 2014. With the help of our consultants we have prepared the following comments in regard to the proposed listings and delistings within the Klamath Watershed. Please contact Crystal Robinson at 530-469-3456 or cbowman@karuk.us if there are any questions regarding these comments.

COMMENTS

The comments below are organized into sections by topic.

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

The Public Review Draft 2012 Integrated Report recommends 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). Mean fire size has increased dramatically in northwestern California since the fire suppression began in the early 20th century (Miller et al. 2012).

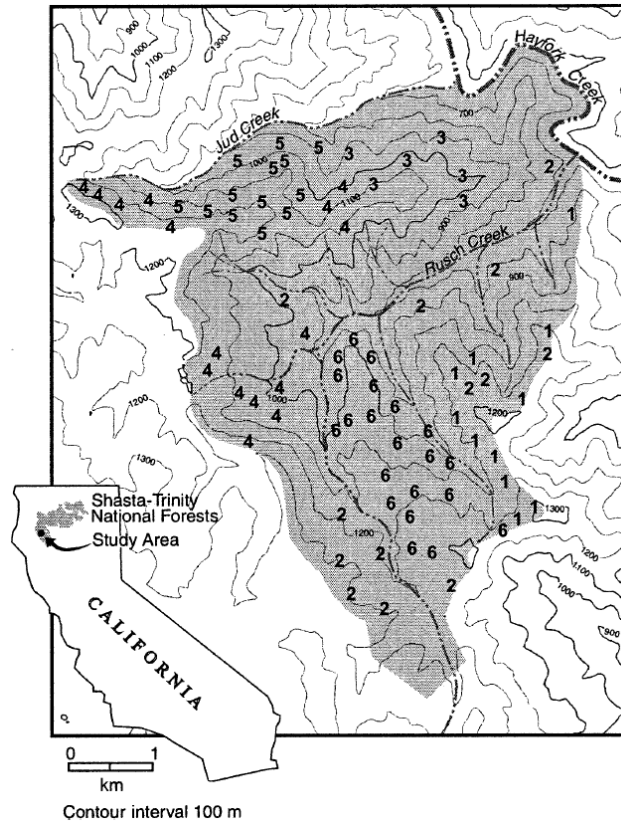


Figure 1. Location of fire occurrence groups identified by cluster analysis of fire dates for 82 sites for the period 1751–1900 (before fire suppression) in the Hayfork study area. Due to lack of fuel continuity, individual fires typically burned only small a portion of the total 2325-ha study area (i.e., 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).

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.

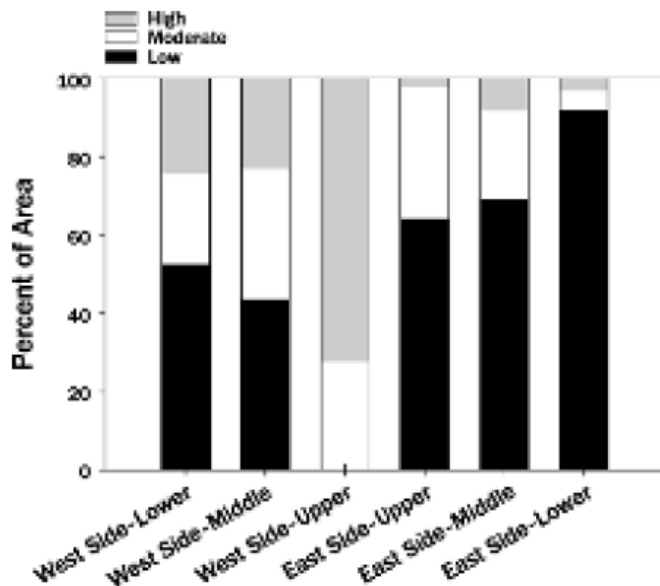


Figure 2. Chart depicting the distribution of cumulative fire severity patterns on Thompson Ridge near Happy Camp (data from Taylor and Skinner 1998, figure from Skinner et al. 2006).

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.

It should also be noted that the Woolly Creek drainage in the Salmon River does have a grazing allotment and should not be considered a reference stream.

Proposed Delay in Deciding Whether to List the Scott River as Flow Impaired

The Public Review Draft 2012 Integrated Report recommends not listing the Scott River as impaired by lack of flow. The flow listing was requested by the Quartz Valley Indian Reservation (QVIR) as well as a coalition of 26 conservation and fishing advocacy groups. The stated reasons are that: “The Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) List (Listing Policy) does not provide guidance for evaluation of water quality impairments related to reduced flow.” (p. 26) ... “In the absence of a statewide methodology for assessing flow through the Integrated Report process, Regional Water Board staff are unable to continue any further assessment of the data. Lines of evidence and decisions were not developed.” (p. 27). We disagree with the proposed delay in flow impairment listing decisions. Developing a consistent statewide process would be beneficial for assessing cases in which it is unclear whether flow impairment exists; however, the Scott River is not an ambiguous case. QVIR supplied ample evidence that the Scott River and its tributaries are clearly flow impaired.

The next steps proposed in the Public Review Draft 2012 Integrated Report are:

“Regional Water Board staff intend to work with staff from the State and Regional Water Boards to develop a state-wide scientifically defensible approach to evaluating flow impairment in order to ensure consistency and objectivity. The approach should be applicable to any stream in the state. Regional Water Board staff suggests that the State

Water Board take a lead role in developing such an approach, with involvement from all Regional Water Boards.

Regional Water Board staff suggests that a methodology for evaluating flow impairment should consider the following factors: (1) whether flows are altered from natural or historic flows, (2) whether flow alterations are caused by human activities, (3) impacts to beneficial uses caused by altered flows, and (4) exceedance of water quality objectives caused by altered flows. Staff suggests that factors 1 and 2, and either 3 or 4 must be demonstrated for an affirmative flow impairment listing determination. The methodology should also include guidance for assessment of the four factors.” (p. 27)

While we strongly disagree that it is necessary to delay listing any North Coast waterbodies as flow-impaired until a statewide approach can be developed, the four factors in the bullet list do seem to be a reasonable general framework for evaluating flow impairment. Given the importance of this issue, we request to be involved in the development of the statewide approach to evaluating flow impairment. Please clarify what opportunities Tribes and the public will have to participate in the development of the approach. In addition, please specify a timeline for when the approach will be developed. We are concerned this process may take many years and result in unnecessary delays. Therefore, **we request that the Scott River be listed under the methodologies used for listing portions of the Ventura River in Southern California in order to avoid the delays that may be associated with development of the statewide approach.**

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

Based on data collected/submitted by QVIR, the Public Review Draft 2012 Integrated Report recommends listing 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.

Proposed Listings for Aluminum in the Klamath River Hydrologic Unit

The Public Review Draft 2012 Integrated Report recommends listing the mainstem Scott River and the mainstem Klamath River from Iron Gate Dam to the Scott River as impaired by high concentrations of Aluminum. These listings are based on Aluminum concentrations from samples collected by the Surface Water Ambient Monitoring Program (SWAMP) that exceeded the secondary Maximum Contaminant Level of 200 ug/L (0.2 mg/L).

For reasons that are unclear, the Public Review Draft 2012 Integrated Report compares the Aluminum concentrations in the SWAMP samples from the Shasta River Hydrologic Area with the *primary* MCL of 1,000 ug/L (1.0 mg/L) (For details, see http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/140313/FactSheets/00539).

shtml#24675), rather than the *secondary* MCL of 200 ug/L (0.2 mg/L). Thus, the Public Review Draft 2012 Integrated Report does not propose listing any waterbodies within the Shasta River Hydrologic Unit, even though the concentrations of Aluminum are higher within the Shasta River Hydrologic Unit than either the Scott River or mainstem Klamath River (which are proposed for listing). In addition, the Lower Klamath River is not proposed to be listed for Aluminum, even though the NCRWQCB (2008) SWAMP samples show exceedances of 0.2 mg/L (see excerpts below). This seems inconsistent. The Shasta River and Lower Klamath River should be recommended for listing as Aluminum impaired.

Excerpt from the NCRWQCB (2008) SWAMP report summarizing data from sites on the mainstem Scott River:

“Aluminum concentrations potentially exceeded USEPA’s continuous concentration for freshwater aquatic life protection (87 ug/L) on 13 of 37 site visits (35% exceedance rate), exceeded USEPA’s secondary MCL for drinking water (50 ug/L) on 19 site visits (51% exceedance rate), and *exceeded DHS’s secondary MCL for drinking water (200 ug/L) on three site visits (8% exceedance rate)*. Aluminum concentrations ranged from 1.02 to 361.00 ug/L.” (p. 188, *emphasis added*)

Excerpt from the NCRWQCB (2008) SWAMP report summarizing data from sites in the Shasta River below Dwinnell Reservoir:

“Aluminum concentrations potentially exceeded USEPA’s continuous concentration for freshwater aquatic life protection (87 ug/L) on 14 of 23 site visits (61% exceedance rate), exceeded USEPA’s secondary MCL for drinking water (50 ug/L) on 17 site visits (74% exceedance rate), and *exceeded DHS’s secondary MCL for drinking water (200 ug/L) on seven site visits (30% exceedance rate)*. Aluminum concentrations ranged from 18.50 to 514.00 ug/L.” (p. 179, *emphasis added*)

Excerpt from the NCRWQCB (2008) report summarizing data from sites on the Lower Klamath River:

“Aluminum concentrations potentially exceeded USEPA’s continuous concentration for freshwater aquatic life protection (87 ug/L) on 12 of 28 site visits (43% exceedance rate), exceeded USEPA’s secondary MCL for drinking water (50 ug/L) on 15 site visits (54% exceedance rate), and *exceeded DHS’s secondary MCL for drinking water (200 ug/L) on four site visits (14% exceedance rate)*. Aluminum concentrations ranged from 8.80 to 565.00 ug/L.” (p. 189, *emphasis added*).

Proposed Listings for Indicator Bacteria (*Escherichia coli*) in the Scott River Hydrologic Area

Based on data submitted by QVIR, the Public Review Draft 2012 Integrated Report recommends listing portions of Shackleford Creek and Snicktaw Creek within QVIR as impaired by high levels of *E. coli*. As noted in the document, the State of California does not have the authority to list or delist waterbodies within Native American Reservations, so instead the recommendation is forwarded to U.S. EPA. We support the recommendation to list Shackleford Creek and Snicktaw Creek as impaired by Indicator

Bacteria (*E. coli*). It should also be noted that the sample locations are based on landowner access which is extremely limited and other locations in these sub-basins, off reservation lands, may also have exceedances occurring.

The Public Review Draft 2012 Integrated Report recommends not listing the mainstem Scott River as impaired by *E. coli*, because less than 10% of the samples collected at QVIR's Scott River sites (all sites combined together into a single pool) exceeded 235 MPN per 100 mL. However, when we examined the QVIR data (Excel file "07-09 raw data_all sites.xls", available at http://www.waterboards.ca.gov/water_issues/programs/tmdl/records/region_1/2010/ref3665.zip), we found that for the following mainstem Scott River stations, the frequency of exceedance is greater the 4% threshold for April through October samples required to merit listing according to the SWRCB (2004) Listing Policy:

- Scott River USGS gage (station SRGA, the Scott River site with the highest number of samples), 9% (5 of 58) of April-October samples exceeded 235 MPN per 100 mL. (note: exceedance across all months was 5 of 73 [7%]).
- Scott River at Jones Beach (station SCJB, the Scott River site with the second highest number of samples), 11% (3 of 28) of April-October samples exceeded 235 MPN per 100 mL. (note: no samples were collected outside the April-October period).

Therefore, we request that the mainstem Scott River from the USGS gage to Jones Beach be listed as impaired by *E. coli*.

Sincerely,

Crystal Robinson

Tributary Water Resources Coordinator

Karuk Tribe

REFERENCES CITED

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