



Matthew Rodriguez
Secretary for
Environmental Protection

California Regional Water Quality Control Board
North Coast Region
David M. Noren, Chairman

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Edmund G. Brown Jr.
Governor

March 2, 2012

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher:

Subject: Comments on the Department of Fish and Game Suction Dredge
Permitting Program Draft Proposed Regulations

Thank you for this opportunity for the staff of the North Coast Regional Water Quality Control Board (Regional Water Board) to submit comments. We appreciate the effort that was put into developing the draft proposed regulations, and support the scientific approach taken. The Regional Water Board has an interest in ensuring that the suction dredging regulations are protective of water quality. While our mandate may differ from the Department of Fish and Game's (DFG) mandate, we share the common goal of protecting cold water fisheries in the North Coast Region. The Regional Water Boards regulate discharges of waste to waters of the state and other controllable water quality factors in the interest of protecting the beneficial uses of water, of which the cold water fishery is one. It is with this shared goal in mind, and the desire to coordinate our regulatory approach to suction dredging, that we are submitting the following comments.

We have reviewed the changes that were made to the draft proposed regulations that were released in February 2012 and are pleased to see some changes were made consistent with comments submitted by the State Water Resources Control Board on behalf of the Regional Water Boards. However, there still remain several outstanding issues that Regional Water Board staff would like to see resolved in the final regulations.

The comments relate to five topics:

1. Consistency between DFG's proposed regulations and the Klamath Total Maximum Daily Load (TMDL) Thermal Refugia Protection Policy

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2. Compliance with the Regional Water Board's Basin Plan turbidity water quality objective
3. Addressing documented alterations to the stream channel
4. Mercury Transport and Concentration
5. Maximum Nozzle Diameters

Klamath TMDL Thermal Refugia Protection Policy

Thermal refugia play an important role in the vitality of a cold water fishery because they moderate the effects of naturally elevated temperatures and also provide a refuge from depressed mainstem dissolved oxygen levels. This is particularly important in the mainstem Klamath River, where even natural temperatures are sometimes and in some places stressful to salmonids. To provide enhanced protection of these areas, the Klamath TMDL Action Plan¹, adopted into the Water Quality Control Plan for the North Coast Region (Basin Plan) in March 2010, includes a Thermal Refugia Protection Policy (Refugia Policy). The Refugia Policy establishes buffer widths around known thermal refugia locations where parties conducting suction dredging activities are restricted from discharging. The default buffer width is 500 feet, consistent with DFG's proposed regulations, but larger buffers are prescribed in certain situations that will be explained below. The restrictions apply from April 15th through September 15th. To implement the restrictions, the Refugia Policy includes a specific policy recommendation to DFG and the State Water Resources Control Board:

“The State Water Resources Control Board and the California Department of Fish and Game should restrict discharges associated with suction dredging activities as specified by this policy. This directive in no way limits the permitting agency from implementing more stringent requirements.”

In order to identify the locations of known thermal refugia in the Klamath River basin and appropriate widths, Regional Water Board staff solicited information from fisheries biologists working in the basin through a formal request in April 2009. Letters and emails were received from the following people in response to the April 2009 request:

- Mark Stopher, California Department of Fish and Game, April 15, 2009.
- Mike Belchick, Yurok Tribal Fisheries Program, April 24, 2009.
- Earl Crosby of the Karuk Tribe, April 30, 2009.
- Will Harling, Mid-Klamath Watershed Council, April 28, 2009.
- Jon Grunbaum, Klamath National Forest, May 1, 2009.

¹ http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/klamath_river/



In addition, Regional Water Board staff consulted the following references to compile the list of thermal refugia locations:

1. Grunbaum, Jon B. Memo of Recommended Suction Dredging Guidelines for the Happy Camp Ranger District of Klamath National Forest. 2005.
2. Superior Court of California, County of Alameda, Hayward Division. Case No.: RG 05 211597. Declaration of Peter B. Moyle, Ph. D., in Support of Entry of Stipulated Judgment. January 26, 2006.
3. Belchik, Michael. Use of Thermal Refugia Areas on the Klamath River by Juvenile Salmonids; summer 1998. Yurok Tribal Fisheries Program, November, 2003.
4. Belchik, Michael Summer Locations and Salmonid Use of Cool Water Areas in the Klamath River. Yurok Tribal Fisheries Program. August 1997.

While the draft proposed regulations provide similar protections as those in the Refugia Policy, there are a couple of differences Regional Water Board staff would like to resolve in order to better coordinate our approach. First, there are some inconsistencies between the lists of thermal refugia locations. Table 1 below, also included in the Refugia Policy, lists tributaries of the Klamath River and Scott River known to provide thermal refugia in the Klamath River basin. DFG's draft proposed regulations do not afford default buffer protections to the creeks highlighted in the table below. We recommend that the final regulations provide the default instream buffer protection for the highlighted creeks. We recommend that these creeks be included in table (47) Siskiyou County of the proposed regulations.

Table 1. Tributaries to the Klamath River known to provide thermal refugia in and around their confluence

Tributaries		
Aikens Creek	Halverson Creek	Pine Creek
Aubrey Creek	Hopkins Creek	Portuguese Creek
Barkhouse Creek	Horse Creek	Red Cap Creek
Beaver Creek	Humbug Creek	Reynolds Creek
Blue Creek	Hunter Creek	Roach Creek
Bluff Creek	Ikes Creek	Rock Creek
Bogus Creek	Independence Creek	Rogers Creek
Boise Creek	Indian Creek	Rosaleno Creek
Boulder Creek ¹	Irving Creek	Sandy Bar Creek
Cade Creek	Kelsey Creek ¹	Salt Creek
Camp Creek	King Creek	Seiad Creek
Canyon Creek ¹	Kohl Creek	Slate Creek

Cappell Creek	Kuntz Creek	Stanshaw Creek
Cheenitch Creek	Ladds Creek	Swillup Creek
China Creek	Little Horse Creek	Ten Eyck Creek
Clear Creek	Little Humbug Creek	Thompson Creek
Coon Creek	Little Grider Creek	Thomas Creek
Crawford Creek (Humboldt Co.)	Lumgrey Creek	Ti Creek
Crawford Creek (Siskiyou Co.)	McGarvey Creek	Titus Creek
Dillon Creek	Mill Creek	Tom Martin Creek
Doggett Creek	Miners Creek	Trinity River
Dona Creek	McKinney Creek	Tully Creek
Donahue Flat Creek	Nantucket Creek	Ukonom Creek
Elk Creek	Negro Creek	Ullathorne Creek
Elliot Creek	Oak Flat Creek	Walker Creek
Empire Creek	O'Neil Creek	West Grider Creek
Fort Goff Creek	Pecwan Creek	Whitmore Creek
Grider Creek	Pearch Creek	Wilson Creek

¹ Scott River tributary

The second difference between the Refugia Policy and the proposed regulations is in the prescribed buffer lengths where suction dredging is prohibited. The Regional Water Board's policy provides additional protection for certain tributaries by extending the default buffer to 1,500 feet. The additional buffer lengths were developed based on a thermal infrared study of the Klamath River basin conducted in August 2003, as well as information submitted in response to the Regional Water Board's April 2009 request for information. The thermal infrared study depicted the spatial dimensions and water temperatures of cold-water refugia in the mainstem Klamath River. The images clearly showed that for some tributaries, the influence of the cold water extended greater than 500 feet below the tributary confluence. Based on this study, we recommend that DFG include a 1,500 foot buffer in the mainstem Klamath River downstream of the confluence with the following tributaries: Aubrey, Beaver, Clear, Dillon, Elk, Grider, Horse, Indian, Rock, Swillup, Thompson, and Ukonom Creeks.

The Refugia Policy also recommends additional buffers in tributaries where juvenile fish have been found holding in the cold water in the tributary upstream of the confluence with the mainstem Klamath River. Fisheries biologists responding to the April 2009 solicitation identified a number of tributaries known to provide refugia for fish. To protect these tributaries from the impacts of suction dredging, we recommend that a buffer be extended 3,000 feet within the tributary upstream of its confluence with the mainstem Klamath River. The following tributaries should be afforded this added protection or should be added to the list of tributaries where no dredging is allowed:



Aubrey, Empire, Little Humbug, Nantucket, O'Neil, Reynolds, Sandy Bar, Swillup, and Ti creeks.

Compliance with the Water Quality Objective for Turbidity

The Regional Water Board's Basin Plan contains the following water quality objective for turbidity:

"Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof."

As turbidity values in the North Coast Region are, on average, relatively low during the dry season when suction dredging is permitted, it is likely that the Regional Water Board's turbidity objective will be violated downstream of suction dredge operations. The draft regulations include the requirement that "reasonable care shall be used to avoid dredging silt and clay materials that would result in a significant increase in turbidity." This requirement needs more definition to be enforceable. Regional Water Board staff are available to consult with DFG staff regarding potential modifications to the suction dredging regulations to ensure turbidity impacts are minimized.

Risk of Alterations to the Stream Channel

Significant alterations to the stream channel are well documented in the literature that covers the geomorphic impacts of suction dredging. Whether the impact of these alterations will persist through the winter is dependent on the average winter flows in the given stream. In streams, or stream reaches, that have significant flushing flows in the winter, any alterations due to suction dredging will mostly be redistributed during the winter season. However, smaller stream channels do not produce the same magnitudes of winter flows compared to the mainstems of rivers, such as the Klamath or Trinity Rivers, and therefore have the potential to undergo significant alterations to their channel structure. These alterations may persist through the winter resulting in more permanent damage to stream habitat. While Regional Water Board staff recognize that a provision to return the stream to the pre-mining grade to the greatest extent possible is included in the draft proposed regulations, it is still more likely that any effect of suction dredging would be longer lasting in a smaller stream. Therefore, to address the heightened risk of longer term impacts to fish habitat, staff recommend that DFG consider adding some level of additional protection to smaller streams in the proposed regulations.

Mercury Transport and Concentration

The Central Valley Regional Water Board has noted several potential impacts of suction dredging on the mobilization of mercury and the potential increase in mercury concentrations. The State Anti-Degradation Policy directs the Regional Water Boards



to prevent the degradation of high quality or unimpaired waters. Staff therefore support the recommendations of the Central Valley Regional Water Board staff regarding the mitigation of the effects of suction dredging on mercury transport and concentration.

Maximum Nozzle Diameters

Regional Water Board staff support a limit of 4 inches on the nozzle diameter of suction dredges to minimize turbidity and impacts to the stream channel, especially in smaller streams. The proposed regulations state that an 8-inch diameter nozzle may be permitted in certain rivers, however it is unclear if this permission is limited only to the mainstem of these rivers or also to the tributaries of the specified river. If suction dredging with a nozzle diameter greater than 4 inches is to be allowed, it should only be allowed in the mainstem of the river, not in the tributaries. If this is the intent, please state this more clearly in the text of the regulations. And, in addition, we recommend the regulations be more specific regarding the conditions under which an 8-inch nozzle will be permitted. For example, we recommend that 8-inch nozzles not be permitted in locations where significant turbidity is likely to result.

In closing, Regional Water Board staff appreciate this opportunity to provide additional comments on the draft proposed regulations. It is our hope that DFG and the Regional Water Board continue to coordinate their approach to protecting the beneficial uses of waterbodies in the North Coast Region. Please feel free to contact Ben Zabinsky of my staff if you have questions about these comments or want to coordinate further on subsequent drafts: (707) 576-6750 BZabinsky@waterboards.ca.gov.

Sincerely,

Original signed by

Cat Kuhlman
Executive Officer

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