



**California Regional Water Quality Control Board**  
**North Coast Region**  
**Bob Anderson, Chairman**



Linda S. Adams  
Secretary for Environmental  
Protection

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Arnold  
Schwarzenegger  
Governor

MEMORANDUM

TO: Darrin Polhemus  
Deputy Director, Division of Water Quality  
State Water Resources Control Board

FROM:   
for Catherine Kuhlman, Executive Officer

DATE: August 20, 2010

SUBJECT: Site Specific Objective for Dissolved Oxygen in the Klamath River

The Regional Water Quality Control Board, North Coast Region (Regional Water Board) adopted an amendment to the Water Quality Control Plan for the North Coast Region (Basin Plan) on March 24, 2010 in Resolution No. R1-2010-0025. The Basin Plan amendment establishes revised dissolved oxygen (DO) objectives for the Klamath River (mainstem) in the Middle Klamath River Hydrologic Area and Lower Klamath River Hydrologic Area, updating the data and scientific approach used in 1975 when they were first established. The Site Specific Objectives (SSOs) for DO are set at natural background levels and are protective of the beneficial uses of water in the Klamath River, including the rare and threatened salmonid species historically and currently present in the mainstem.

Regional Water Board Resolution No. R1-2010-0025 grants the Executive Officer the authority to make minor, non-substantive changes to the language of the adopted Basin Plan amendment.

The State Water Resources Control Board intends to consider approval of the Basin Plan amendment at a meeting scheduled for September 7, 2010. It has come to my attention that there are corrections to the wording of Basin Plan amendment necessary to improve clarity and consistency.

I am hereby making the following minor, non-substantive changes to Attachment-1 (Resolution R1-2010-0025, Basin Plan Amendment) in strike-out and underline that clarify the existing language. Attachment-2 is a clean copy of the Basin Plan Amendment:

1. Page A1-1, beginning with the fifth line and including the former DO objectives for the Middle Klamath River Hydrologic Area and Lower Klamath River Hydrologic Area, show in

strikeout to indicate that the former DO objectives will be struck from the Basin Plan, as intended.

2. Bracket and rewrite in italics the directions to insert a footnote to Table 3-1 and insert Table 3-1a after Table 3-1.
3. Correct two typos:
  - a. Page A1-1, Table 3-1a, change 3.1a to 3-1a to be consistent with the text.
  - b. Page A1-2, Footnote 1 to Table 3-1a, remove the asterisk to be consistent with the footnote style.

If you have any questions about this request, please contact Alydda Mangelsdorf at (707) 576-6735 or Holly Lundborg at (707) 576-2609.

Attachment 1—Strikeout and underline version of corrected Basin Plan Amendment for the SSO for DO in the Klamath River

Attachment 2—Clean version of corrected Basin Plan Amendment for the SSO for DO in the Klamath River

Cc: North Coast Board Members  
Steve Blum, OCC  
Samantha Olson, OCC  
Rik Rasmussen, DWQD  
Paul Hann, DWQ  
Michael Buckman, DWQ

*[In Table 3-1 of the Basin Plan, strikeout 6 separate dissolved oxygen (DO) objectives and replace with a footnote directing the reader to a new Table 3-1a including Site Specific Objectives for DO for the mainstem Klamath River. The DO objectives to be struck include:*

Middle Klamath River HA

*Klamath River above Iron Gate Dam including Iron Gate and Copeo Reservoirs*

- ~~\_\_\_\_\_ 7.0 mg/L minimum~~
- ~~\_\_\_\_\_ 10.0 50% lower limit~~

*Klamath River below Iron Gate Dam*

- ~~\_\_\_\_\_ 8.0 mg/L minimum~~
- ~~\_\_\_\_\_ 10.0 mg/L 50% lower limit~~

Lower Klamath River HA

*Klamath River*

- ~~\_\_\_\_\_ 8.0 mg/L minimum~~
- ~~\_\_\_\_\_ 10.0 mg/L 50% lower limit]~~

*[Insert a nNew fFootnote to Table 3-1 as follows:]*

*“The Site Specific Objectives (SSOs) for dissolved oxygen (DO) have been recalculated for the mainstem Klamath River and are presented separately in Table 3-1a.”*

*[Insert after Table 3-1 the following rRecalculated SSOs for DO in mainstem Klamath River]*

*“Table 3-1a<sup>1</sup>*

<b>Location<sup>2</sup></b>	<b>Percent DO saturation based on natural receiving water temperatures<sup>3</sup></b>	<b>Time period</b>
Stateline to the Scott River	90%	October 1 through March 31
	85%	April 1 through September 30
Scott River to Hoopa	90%	Year round
Downstream of Hoopa-California boundary to Turwar	85%	June 1 through August 31
	90%	September 1 through May 31
Upper and Middle Estuary	80%	August 1 through August 31
	85%	September 1 through October 31 and June 1 through July 31
	90%	November 1 through May 31
Lower Estuary	For the protection of estuarine habitat (EST), the dissolved oxygen content of the lower estuary shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors.	

- <sup>1</sup> States may establish site specific objectives equal to natural background (USEPA, 1986. Ambient Water Quality Criteria for Dissolved Oxygen, EPA 440/5-86-033; USEPA Memo from Tudor T. Davies, Director of Office of Science and Technology, USEPA Washington, D.C. dated November 5, 1997). For aquatic life uses, where the natural background condition for a specific parameter is documented, by definition that condition is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans (Davies, 1997). These DO objectives are derived from the T1BSR run of the Klamath TMDL model and described in Tetra Tech, December 23, 2009 *Modeling Scenarios: Klamath River Model for TMDL Development*. They represent natural DO background conditions due only to non-anthropogenic sources and a natural flow regime.
- <sup>2</sup> These objectives apply to the maximum extent allowed by law. To the extent that the State lacks jurisdiction, the Site Specific Dissolved Oxygen Objectives for the Mainstem Klamath River are extended as a recommendation to the applicable regulatory authority.
- <sup>3</sup> Corresponding DO concentrations are calculated as daily minima, based on site-specific barometric pressure, site-specific salinity, and natural receiving water temperatures as estimated by the T1BSR run of the Klamath TMDL model and described in Tetra Tech, December 23, 2009. *Modeling Scenarios: Klamath River Model for TMDL Development*. The estimates of natural receiving water temperatures used in these calculations may be updated as new data or method(s) become available. After opportunity for public comment, any update or improvements to the estimate of natural receiving water temperature must be reviewed and approved by Executive Officer before being used for this purpose.“