UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
WATER AND
WATERSHEDS

Reply to
Attn Of: OWW-131

MEMORANDUM

SUBJECT: Endangered Species Act (ESA) Analysis for EPA's Approval of the Oregon Revised Surface Water Quality Standards Submitted to EPA on January 9, 2013

FROM: Kathleen Collins
Water Quality Standards Unit

TO: The Record

DATE: February 10, 2014

1. Overview

The purpose of this memorandum is to address Endangered Species Act (ESA) considerations associated with the U.S. Environmental Protection Agency's (EPA or Agency) action on the Oregon water quality standards (WQS) adopted by the State in December 2013 and submitted to EPA for review and action on January 9, 2014. The basis for EPA's Clean Water Act (CWA) action on these new and revised standards is provided in *Technical Support Document for Action on the State of Oregon's Revised Surface Water Quality Standards Submitted on January 9, 2014.*

The following table compares Oregon's old criteria to their newly adopted criteria:

POLLUTANT	**Old/New criterion**	**FRESHWATER**		**SALTWATER**	
		ACUTE (µg/L)	CHRONIC (µg/L)	ACUTE (µg/L)	CHRONIC (µg/L)
Arsenic (Arsenic III only), total recoverable	OLD	360	190	69	36
Arsenic (Arsenic III + V), dissolved	**NEW**	**340**	**150**	**69**	**36**
Chromium VI, total recoverable	OLD	---	---	1100	50
Chromium VI, dissolved	**NEW**	**---**	**---**	**1100**	**50**
Heptachlor epoxide	OLD	None	None	None	None
Heptachlor epoxide	**NEW**	**0.52**	**0.0038**	**0.53**	**0.0036**
Endosulfan, alpha	OLD	None	None	None	None
Endosulfan,alpha	**NEW**	**0.22**	**0.056**	**0.034**	**0.0087**
Endosulfan, beta	OLD	None	None	None	None
Endosulfan, beta	**NEW**	**0.22**	**0.056**	**0.034**	**0.0087**
POLLUTANT	**Old/New criterion**	**FRESHWATER**		**SALTWATER**	
		ACUTE	CHRONIC	ACUTE	CHRONIC

		(µg/L)	(µg/L)	(µg/L)	(µg/L)
Selenium, total recoverable	OLD	260	35	---	---
Selenium[1], dissolved	**NEW**	**Footnote 1**	**4.6**	---	---
FOOTNOTES: 1. Acute criterion = 1/[(f1/CMC1)+(f2/CMC2)]*CF, where f1 and f2 are selenite and selenate, respectively, and CMC1 and CMC2 are 185.0 µg/L and 12.82 µg/L, respectively. CF is a conversion factor that converts the total recoverable criterion to a dissolved criterion. The acute selenium CF is equal to 0.996.					

The acute criteria for arsenic, chromium VI and selenium are expressed as a one hour average concentration that should not be exceeded more than once in three years, and the chronic criteria for arsenic and chromium VI are expressed as four day average concentrations that should not be exceeded more than once in three (3) years.

The acute criteria for endosulfan alpha, endosulfan beta and heptachlor epoxide may not be exceeded at any time and the chronic criteria may not be exceeded based on a 24-hour average.

2. ESA and EFH Consultation Considerations

In general, any EPA action approving new or revised WQS is considered a federal action that may require consultation with the U.S. Fish and Wildlife Service (FWS) and/or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) under section 7(a)(2) of the ESA, where the action may affect federally-listed endangered or threatened species or the designated critical habitat of such species. Section 7(a)(2) of the ESA requires federal agencies, in consultation with the FWS and NMFS (the Services), to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of federally listed endangered or threatened species or result in the destruction or adverse modification of designated critical habitat of such species [16 U.S.C. 1536 (a)(2)]. Under relevant ESA implementing regulations, consultation is required for actions that "may affect" listed species or designated critical habitat [50 CFR 402.14]. The effects of the action are defined by regulation to include both the direct and indirect effects on species or critical habitat [50 CFR 402.02]. However, consultation under section 7(a)(2) is not required where the action has no effect on listed species or designated critical habitat. In addition, the requirements of section 7(a)(2) of the ESA only apply to agency actions where there is discretionary federal involvement or control [50 CFR 402.03].

3. Oregon's December 2013 Aquatic Life Criteria and ESA Consultation

Arsenic and Chromium VI

In 2004, Oregon revised its water quality standards. As part of the 2004 adoption, Oregon adopted the following arsenic and chromium VI criteria:

POLLUTANT	**FRESHWATER**		**SALTWATER**	
	ACUTE (µg/L)	CHRONIC (µg/L)	ACUTE (µg/L)	CHRONIC (µg/L)
Arsenic (Arsenic III + V), dissolved	**340**	**150**	**69**	**36**
Chromium VI, dissolved	**---**	**---**	**1100**	**50**
NOTE: The acute criteria for arsenic, chromium VI are expressed as a one hour average concentration that should not be exceeded more than once in three years, and the chronic criteria for arsenic and chromium VI are expressed as the four day average concentration that should not be exceeded more than once in three (3) years.				

In a 2007 rulemaking, Oregon inadvertently deleted the arsenic and chromium VI criteria that were adopted in 2004. As part of the December 2013 rulemaking, Oregon re-adopted the arsenic and chromium VI criteria.

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In 2004, the EPA completed its Biological Evaluation[1] and included an analysis of the effects of arsenic and chromium VI that were originally adopted by Oregon in 2004. The FWS and NMFS completed their respective biological opinions on each of the arsenic and chromium VI criteria and found that EPA's action with respect to these particular pollutants is not likely to jeopardize listed species[2]. Since the criteria adopted by the State in 2013 are the same as the criteria that EPA completed consultation on, the results of the consultation process are still valid. Therefore, a new consultation is not necessary for arsenic and chromium VI.

Selenium

As part of its 2004 adoption, Oregon also adopted the following freshwater acute and chronic aquatic life criteria for selenium.

POLLUTANT	**FRESHWATER**	
	ACUTE (µg/L)	CHRONIC (µg/L)
Selenium, dissolved	1/[(f1/CMC1)+(f2/CMC2)]	5
NOTE: The acute criteria for selenium are expressed as a one hour average concentration that should not be exceeded more than once in three years, and the chronic criteria for selenium are expressed as four day average concentration that should not be exceeded more than once in three (3) years.		

The Oregon water quality standards expressed the selenium criteria as dissolved, however, Oregon did not apply the appropriate conversion factors to the magnitudes for the acute and chronic criteria. Oregon did not provide a scientific justification for the criteria, therefore, the EPA disapproved these criteria on January 31, 2013. In December 2013, Oregon re-adopted the magnitudes for each criterion and applied the conversion factors so that the criteria are now consistent with EPA's 304(a) recommendation. The criteria are:

POLLUTANT	**FRESHWATER**	
	ACUTE (µg/L)	CHRONIC (µg/L)
Selenium, dissolved	1/[(f1/CMC1)+(f2/CMC2)] * 0.996	4.6
NOTE: The acute criteria for selenium are expressed as a one hour average concentration that should not be exceeded more than once in three years, and the chronic criteria for selenium are expressed as four day average concentration that should not be exceeded more than once in three (3) years.		

EPA completed a Biological Evaluation (BE) on the criteria that Oregon adopted in 2004 and consulted with the Services on the criteria that Oregon adopted in 2004 (i.e., chronic criterion of 5.0 µg/L and an acute criterion of 1/[(f1/CMC1)+(f2/CMC2)]). In its BE, the EPA presumed that Oregon applied the appropriate conversion factors for the magnitudes consistent with EPA's 304(a) recommendation[3]. The FWS and NMFS completed their biological opinions on the selenium criteria in 2012 and found that the action is not likely to jeopardize listed species.

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[1] *Biological Evaluation of Oregon's Water Quality Criteria for Toxics*, USEPA, Region 10, January 2008.

[2] *Jeopardy and Destruction or Adverse Modification of Critical Habitat, Endangered Species Act, Biological Opinion for Environmental Protection Agency's Proposed Approval of Certain Oregon Administrative Rules Related to Revised Water Quality Criteria for Toxic Pollutants,* National Marine Fisheries Service, Northwest Region, August 14, 2012; *U.S. Fish and Wildlife Service Biological and Conference Opinion for USEPA's Proposed Approval of Oregon Water Quality Criteria for Toxics*, U.s. Fish and Wildlife Service, Oregon Fish and Wildlife Office, July 30, 2012.

[3] The EPA did not realize that Oregon did not apply the appropriate conversion factors until after the FWS and NMFS biological opinions were completed.

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The chronic criterion adopted by Oregon in 2013 is slightly more stringent than the chronic criterion that EPA consulted on with the Services. The acute criterion is the same (i.e., the conversion factor for the acute criterion only changes the value slightly and once the value is calculated and then rounded to 2 significant figures the resulting value is the same value as that calculated without the conversion factor). Since the criteria adopted by the State in 2013 are either slightly more stringent or the same as the criteria that EPA completed consultation on, the results of the consultation process are still valid. Therefore, a new consultation is not necessary for selenium.

Endosulfan alpha, Endosulfan beta, Heptachlor epoxide

As part of its 2004 adoption, Oregon adopted freshwater and saltwater acute and chronic aquatic life criteria for endosulfan alpha, endosulfan beta and heptachlor epoxide. The magnitudes for each of the criteria were consistent with EPA's 304(a) recommendations however the frequency and duration were not (in the 2004 adoption the acute criteria were expressed as a one hour average concentration that should not be exceeded more than once in three years rather than as a criterion that should never be exceeded, and the chronic criteria were expressed as a four day average concentration that should not be exceeded more than once in three years rather than as a 24-hour average that should not be exceeded). The criteria adopted by Oregon in 2004 were less stringent than EPA's 304(a) recommendations. Oregon did not provide a scientific justification for the change to the frequency and duration, therefore, EPA disapproved the criteria on January 31, 2013.

In 2013, Oregon adopted the magnitude, frequency and duration for endosulfan alpha, endosulfan beta and heptachlor epoxide consistent with EPA's 304(a) recommendation.

The EPA completed a Biological Evaluation in 2004 on the pesticide criteria that Oregon adopted in 2004. The FWS and NMFS completed their biological opinion on each of the pesticide criteria in the EPA's Biological Evaluation and found that the EPA action with respect to these particular criteria is not likely to jeopardize listed species.

Since the criteria adopted by the State in 2013 are more stringent than the criteria that EPA completed consultation on, the results of the consultation process are still valid. Therefore, a new consultation is not necessary for endosulfan alpha, endosulfan beta or heptachlor epoxide.

4. Summary

The criteria that the EPA completed a biological evaluation on in 2004 and for which the Services completed their biological opinions on in 2012, were either the same as or less stringent than the revised criteria that Oregon adopted in 2013. There have been no new species (or critical habitat) added to the threatened or endangered species list since the Services completed their biological opinions; therefore, using the findings from the Services 2012 biological opinions is appropriate to support this action and satisfies the consultation requirements under section 7(a)(2) of the ESA.

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