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

August 4, 2015

Ms. Wendy Wiles
Administrator
Environmental Solutions Division
Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204-1390

Re: The EPA's Action on the State of Oregon's January 7, 2015 Revision to Their Surface Water Quality Standards

Dear Ms. Wiles:

The U.S. Environmental Protection Agency (EPA) has completed its Clean Water Act review of the revised water quality standards that Oregon submitted to the EPA on January 23, 2015. Under Section 303 of the Clean Water Act (CWA), 33 U.S.C § 1313, states must establish water quality standards and submit them to the EPA for approval or disapproval. Revisions to a state's water quality standard must also be submitted to the EPA for approval or disapproval. A summary of the EPA's actions is provided below and further described in the enclosed *Technical Support Document for Action on the State of Oregon's Revised Surface Water Quality Standards Submitted on January 23, 2015* (hereafter referred to as the TSD).

Summary of the EPA's Approval Action
Pursuant to the EPA's authority under CWA Section 303(c) and implementing regulations found at 40 CFR Part 131, the EPA is approving the following provisions:

- Toxic Substances, introduction (OAR 340-041-0033)
- Freshwater aquatic life criteria for ammonia (Table 30 , OAR 340-041-8033)
- Correction to the pH value applicable to the Snake River (OAR 340-041-0124)
- Revisions to the West Division Main Canal water quality standards in the Umatilla Basin (OAR 340-041-0410 and OAR 340-041-0315)
- Numerous minor editorial revisions throughout the water quality standards document

The revisions adopted by Oregon, and approved today, address the EPA's January 31, 2013, disapproval of freshwater aquatic life criteria for ammonia and its November 15, 2013 partial disapproval of site-specific criteria and use designations for the West Division Main Canal.

Provisions the EPA Did Not Take Action On
The EPA did not take an action on several provisions submitted by Oregon because they are not water quality standards under section 303(c) of the CWA. The TSD (page 22) provides the EPA's rationale for not acting on the provisions. The provisions include:

- Changes to the narrative provision at OAR 340-041-0033(4)
- Changes to the Arsenic Reduction Policy (OAR 340-041-0033, provision 6).

Addressing the National Marine Fisheries Service (NMFS) Jeopardy Opinion for Aquatic Life Criteria for Ammonia.

On July 8, 2004, Oregon submitted revised aquatic life criteria for toxic pollutants to the EPA for review. Oregon's revised criteria included freshwater ammonia criteria which were the same as the EPA's nationally recommended criteria at the time of adoption (*1999 Update of Ambient Water Quality Criteria for Ammonia*, December 1999). In its August 14, 2012 biological opinion for the revised aquatic life criteria the NMFS found jeopardy for the freshwater ammonia criteria. The opinion included a Reasonable and Prudent Alternative (RPA) to address the jeopardy opinion.

On July 23, 2015, the EPA completed an analysis that compared Oregon's new ammonia criteria with the RPA offered in the opinion. The EPA provided its analysis to the NMFS. Based on the information in the NMFS opinion and its own analysis, the EPA concludes that the acute ammonia criteria adopted by Oregon is consistent with the derivation process specified by the NMFS in the RPA. Also based on the information in the NMFS opinion and its own analysis, the EPA concludes that the chronic ammonia criterion adopted by Oregon is consistent with NMFS' recommendation that Oregon simply retain its current chronic ammonia criterion. The EPA has thereby ensured that its approval of these criteria is not likely to jeopardize or adversely modifying the critical habitat of ESA listed species. A copy of the analysis completed by the EPA is enclosed for your information. Additionally, the EPA received a letter from the NMFS today indicating the freshwater ammonia criteria adopted by Oregon are consistent with the RPA.

We have greatly appreciated our work together throughout this process. If you have any questions concerning this letter please contact me at (206) 553-1855 or your staff may contact Kathleen Collins, Water Quality Standards Coordinator, at (206) 553-2108.

Sincerely,

Christine Foyle for

Daniel D. Opalski
Director
Office of Water and Watersheds

Enclosure

cc: Jennifer Wigal, ODEQ
Deborah Sturdevant, ODEQ
Andrea Matzke, ODEQ

U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION 10

Technical Support Document

for Action on the State of Oregon's Revised Surface Water Quality Standards Submitted on January 23, 2015

August 4, 2015

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I. INTRODUCTION

The Oregon Environmental Quality Commission adopted new and revised water quality standards (WQS) in Chapter 340, Division 41, of Oregon's Administrative Rules (OAR 340-041) on January 7, 2015 (hereafter referred to as the "2015 adoption"). Oregon submitted the new and revised standards to the U.S. Environmental Protection Agency (EPA) on January 23, 2015.

Revisions addressed in today's decision can be divided into the general categories described below.

- Two freshwater aquatic life criteria for ammonia contained in Table 30.
- Corrections to an error in the stated applicability of the pH standard for the main stem Snake River.
- Amendments made to OAR 340-041-0310 (Beneficial Uses to Be Protected in the Umatilla Basin) and 340-041-0315 (Water Quality Standards and Policies for this Basin)
- Addition of editorial notes for two statewide natural conditions criteria provisions (located at OAR 340-041-0007(2) and OAR 340-041-0028(8)).
- Adoption of a new section in Division 041 that contains Tables 30, 31 and 40 (see OAR 340-041-8033).
- Minor editorial revisions to the text of WQS.

This document is organized in the following manner:

Part II of this document describes the Clean Water Act (CWA) requirements for action on WQS submissions.

Part III contains the basis for EPA's approval under section 303(c) of the CWA of the new or revised WQS in the 2015 adoption. This part distinguishes among two categories of revisions to Oregon's WQS: (1) revised provisions that are WQS and (2) administrative revisions to the WQS.

The revised provisions to the WQS include the revisions to the introductory paragraph to the Toxic Narrative at OAR 340-041-0033, and adoption of new freshwater aquatic life criteria for ammonia. The administrative revisions include amendments to OAR 340-041-0002(39), OAR 340-041-0310 and 340-041-0315 to conform to the EPA's partial disapproval of site specific criteria and use designations for the West Division main Canal in the Umatilla River basin[1], a correction to the pH criteria for the main stem Snake River at OAR 340-041-0124, and numerous minor editorial revisions to the text of the WQS document.

Part IV discusses provisions that EPA is not acting on because EPA has determined that the provisions are not WQS under the CWA. These provisions include the addition of the editorial notes for two narrative natural conditions provisions (OAR 340-041-0007(2) and OAR 340-041-0028(8)), minor editorial revisions to the Arsenic Reduction Policy (OAR 340-041-0033(6)), and the narrative provision at OAR 340-041-0033(4) which cites different sources of information that may be used to establish

[1] The language in the WQS was amended to be consistent with EPA's 2013 partial disapproval of site-specific criteria and use designations for the West Division Main Canal. For those provisions that EPA disapproved in 2013, the previously EPA approved provisions became applicable for CWA purposes (see 40 CFR 131.21). Oregon has amended their WQS to incorporate the previously approved provisions.

permit or other regulatory limits for toxic substances that do not have criteria established in Tables 30 or 40.

II. CLEAN WATER ACT REQUIREMENTS FOR WATER QUALITY STANDARDS

Under § 303(c) of the CWA and federal implementing regulations at 40 CFR § 131.4, states have the primary responsibility for reviewing, establishing, and revising WQS, which consist of the designated uses of a waterbody or waterbody segment, the water quality criteria necessary to protect those designated uses, and an antidegradation policy. This statutory framework allows states to work with local communities to adopt appropriate designated uses (as required in 40 CFR § 131.10(a)) and to adopt criteria to protect those designated uses (as required in 40 CFR § 131.11(a)).

States are required to review applicable WQS periodically, and as appropriate, modify and adopt these standards (40 CFR § 131.20). Each state must follow its own legal procedures for adopting such standards (40 CFR § 131.5) and submit certification by the state's attorney general, or other appropriate legal authority within the state, that the WQS were duly adopted pursuant to state law (40 CFR § 131.6(e)).

Section 303(c)(2)(B) of the CWA requires states to adopt water quality criteria for toxic pollutants listed pursuant to § 307(a)(1) for which the EPA has published criteria under § 304(a) where the discharge or presence of these toxics could reasonably be expected to interfere with the designated uses adopted by the state. In adopting such criteria, states must establish numeric values based on one of the following:

(1) 304(a) guidance;
(2) 304(a) guidance modified to reflect site-specific conditions; or,
(3) Other scientifically defensible methods (40 CFR § 131.11(b)(1)).

In addition, states can establish narrative criteria where numeric criteria cannot be determined or to supplement numeric criteria (see 40 CFR § 131.11(b)(2)).

Section 303(c) of the CWA also requires states to submit new or revised WQS to the EPA for review. The EPA is required to review these changes to ensure revisions to WQS are consistent with the CWA. The EPA determines whether a particular provision is a new or revised WQS after considering the following four questions:[2]

(1) Is it a legally binding provision adopted or established pursuant to state or tribal law?
(2) Does the provision address designated uses, water quality criteria (narrative or numeric) to protect designated uses, and/or antidegradation requirements for waters of the United States?
(3) Does the provision express or establish the desired condition (e.g. uses, criteria) or instream level of protection (e.g. antidegradation requirements) for waters of the United States immediately or mandate how it will be expressed or established for such waters in the future?
(4) Does the provision establish a new WQS or revise an existing WQS?

[2] See EPA's *What Is A New or Revised Water Quality Standard Under CWA 303(c)(3)? Frequently Asked Questions*, October 2012 at http://water.epa.gov/scitech/swguidance/standards/cwa303faq.cfm

Furthermore, the federal WQS regulations at 40 CFR § 131.21 state, in part, that when the EPA disapproves a state's WQS, the EPA shall specify the changes that are needed to ensure compliance with the requirements of § 303(c) of the CWA and federal WQS regulations.

Finally, the EPA has the authority to approve or disapprove administrative edits or editorial changes, to EPA-approved WQS, as revised WQS that the EPA has the authority to approve or disapprove. While these edits and changes do not substantively change the meaning or intent of the existing WQS, the EPA believes it's reasonable to treat these edits and changes in this manner to ensure public transparency as to which provisions are applicable for CWA purposes. The EPA notes that the scope of its review and action on administrative edits or editorial changes extend only to the edits or changes themselves. The EPA is not re-opening or reconsidering the underlying WQS which are the subject of the administrative edits or editorial changes.

III. EPA ACTION ON NEW AND REVISED WATER QUALITY STANDARDS

A. Revised Provisions to the Water Quality Standards

1. Narrative Toxic Substances (OAR 340-041-0033), introductory paragraph

The following presents the new and revised language to the WQS contained in the Toxic Substances Section (OAR 340-041-0033) introductory paragraph. All underlined text indicates language that is new and strikeout text indicates the language that was removed by the 2015 adoption.

> ~~(1)~~ ***Effectiveness.*** *Amendments to ~~sections (1-5) and (7) of~~ this rule ~~(OAR 340-041-0033)~~ and associated revisions to Tables 30 under OAR 340-041-8033 ~~20, 33A, 33B, 33C, and 40~~ do not become ~~effective on April 18, 2014. The amendments do not become~~ applicable for purposes of ORS chapter 468B or the federal Clean Water Act~~, however, unless approved by EPA pursuant to~~ until EPA approves the revisions it identifies as water quality standards according to 40 CFR 131.21 (4/27/2000).*

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR Part 131, the EPA approves the revisions to the introductory language in OAR 340-041-0033.

This paragraph removes the number from the paragraph, adds the title *Effectiveness*, identifies the new water quality section (i.e., OAR 340-041-8033) where Table 30 (Aquatic Life Criteria for Toxics Pollutants) is located, removes language which is no longer applicable and clarifies that the new and revised WQS provisions become applicable under state and federal law upon EPA approval.

2. EPA Action on Aquatic Life Criteria for Ammonia

The following presents the introductory language for section OAR 340-041-8033 and the new ammonia criteria contained in Table 30. All underlined text indicates language that is new and strikeout text indicates the language that was removed by the 2015 adoption.

340-041-8033

Table 30: *Aquatic Life Water Quality Criteria for Toxic Pollutants.*

Table 31: *Aquatic Life Water Quality Guidance Values for Toxic Pollutants.*

Table 40: *Human Health Water Quality Criteria for Toxic Pollutants.*

The tables listed above in this rule are referenced in the water quality standards Toxics Substances Rule under OAR 340-041-0033. Please see the Toxics Substances Rule for important information about the applicability and content of these tables. Click here for a PDF copy of Tables 30, 31 and 40.

NOTE: In January 2015, the Environmental Quality Commission adopted revisions to Table 30 that revised the aquatic life freshwater criteria for ammonia. The Table 30 version accessed below reflects the revision to the ammonia criteria including several other clarifications. ***Revised Table 30 is not applicable for Clean Water Act purposes until EPA approves the revisions.*** *Click here for a PDF copy of revised Table 30.*

TABLE 30: Aquatic Life Water Quality Criteria for Toxic Pollutants

Effective XXXX~~April 18, 2014~~

Table not effective until EPA approval

Aquatic Life Criteria Summary

The concentration for each compound listed in Table 30 is a criterion not to be exceeded in waters of the state in order to protect aquatic life. The aquatic life criteria apply to waterbodies where the protection of fish and aquatic life ~~are~~is~~the~~a designated use~~s~~. All values are expressed as micrograms per liter (µg/L). Compounds are listed in alphabetical order with the corresponding information: the Chemical Abstract Service (CAS) number, whether there is a human health criterion for the pollutant (i.e. "y"= yes, "n" = no), and the associated aquatic life freshwater and saltwater acute and chronic criteria. Italicized pollutants are not identified as priority pollutants by EPA. Dashes in the table column indicate that there is no aquatic life criterion.

Unless otherwise noted in the table below, the acute criterion is the Criterion Maximum Concentration (CMC) applied as a one-hour average concentration, and the chronic criterion is the Criterion Continuous Concentration (CCC) applied as a 96-hour (4 days) average concentration. The CMC and CCC criteria may ~~should~~ not be exceeded more than once every three years. Footnote A, associated with eleven pesticide pollutants in Table 30, describes the exception to the frequency and duration of the toxics criteria stated in this paragraph.

Table 30

Aquatic Life Water Quality Criteria for Toxic Pollutants
340-041-8033

	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
1	Aldrin	309002	y	3 [A]	--	1.3 [A]	--
[A] See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
2	Alkalinity		n	--	20,000 [B]	--	--
[B] Criterion shown is the minimum (i.e. CCC in water may not be below this value in order to protect aquatic life).							
3	Ammonia	7664417	n	The ammonia ~~C~~criteria are pH and~~,~~ temperature~~, and salmonid or sensitive coldwater species.~~dependent. -- See ammonia criteria Tables 30(a)-(c) at end of Table 30.~~document USEPA January 1985 (Fresh Waters).~~ [M]	The a~~A~~mmonia criteria ~~for saltwater may~~ are~~depend on~~ pH, ~~and~~ temperature and salinity dependent. Values for saltwater criteria (total ammonia) can be calculated from the tables specified in Ambient Water Quality Criteria for Ammonia (Saltwater)—1989 (EPA 440/5-88-004)~~;~~ ~~http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm)~~ See DEQ's calculator for calculating saltwater ammonia criteria at: http://www.deq.state.or.us/wq/standards/toxics.htm.	
~~M See expanded endnote M equations at bottom of Table 30 to calculate freshwater ammonia criteria.~~ The acute criteria in Table 30(a) apply in waterbodies where salmonids are a designated use in OAR 340-041-0101 through OAR 340-041-0340. The acute criteria in Table 30(b) apply in waterbodies where salmonids are not a designated use. The chronic criteria in Table 30(c) apply where fish and aquatic life is a designated use. It is not necessary to account for the presence or absence of salmonids or the presence of any early life stage of fish for the chronic criteria. Refer to DEQ's beneficial use website at: http://www.deq.state.or.us/wq/standards/uses.htm for additional information on salmonid beneficial use designations, including tables and maps.							

AMMONIA FRESHWATER CRITERIA TABLES

Tables (a)-(c) based on EPA April 2013 document, Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater 2013. Office of Water (EPA 822-R-13-001).

Table 30(a): Ammonia Acute Criteria Values (One-hour Average)—Salmonid Species Present
Temperature and pH-Dependent and expressed as Total Ammonia Nitrogen (mg/L TAN)

Criteria cannot be exceeded more than once every three years

$$Acute\ Criterion = MIN\left(\left(\frac{0.275}{1+10^{7.204-pH}}+\frac{39.0}{1+10^{pH-7.204}}\right),\left(0.7249\times\left(\frac{0.0114}{1+10^{7.204-pH}}+\frac{1.6181}{1+10^{pH-7.204}}\right)\times\left(23.12\times 10^{0.036\times(20-T)}\right)\right)\right)$$

	Temperature (°C)																
pH	**0-14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	33	33	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	31	31	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	30	30	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	28	28	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	26	26	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	24	24	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	8.0	7.3
7.1	22	22	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	20	20	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	18	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	15	15	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	11	11	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	9.6	9.6	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3.0
7.8	8.1	8.1	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	6.8	6.8	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	5.6	5.6	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	4.6	4.6	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	3.8	3.8	3.7	3.5	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	3.1	3.1	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	2.6	2.6	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	2.1	2.1	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	1.8	1.8	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.59	0.54
8.7	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.2	1.2	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.0	1.0	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	0.88	0.88	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

AMMONIA FRESHWATER CRITERIA TABLES

Tables (a)-(c) based on EPA April 2013 document, Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater 2013, Office of Water (EPA 822-R-13-001).

Table 30(b): Ammonia Acute Criteria Values (One-hour Average)—Salmonid Species Absent
Temperature and pH-Dependent and expressed as Total Ammonia Nitrogen (mg/L TAN)

Criteria cannot be exceeded more than once every three years

$$Acute\ Criterion = 0.7249 \times \frac{0.0114}{1+10^{7.204-pH}} + \frac{1.6181}{1+10^{pH-7.204}} \times MIN\left(51.93, 23.12 \times 10^{0.036 \times (20-T)}\right)$$

	Temperature (°C)																				
pH	**0-10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	38	35	33	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9	7.3
7.1	34	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	3.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	8.8	8.2	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	6.0	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.58	0.54
8.7	2.3	2.2	2.0	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

AMMONIA FRESHWATER CRITERIA TABLES

Tables (a)-(c) based on EPA April 2013 document, Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater 2013. Office of Water (EPA 822-R-13-001).

Table 30(c): Ammonia Chronic Criteria Values (30-day rolling Average*)
Temperature and pH-Dependent and expressed as Total Ammonia Nitrogen (mg/L TAN)
*The highest four-day average within the 30-day averaging period must not be more than 2.5 times the chronic value
Criteria cannot be exceeded more than once every three years

$$Chronic\ Criterion = 0.8876 \times \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}}\right) \times \left(2.126 \times 10^{0.028\times(20-MAX(T,7))}\right)$$

	Temperature (°C)																							
pH	**0-7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.1
6.6	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1
6.9	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0
7.0	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99
7.1	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95
7.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.97	0.91	0.85
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90	0.85	0.79
7.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.83	0.78	0.73
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.1	0.98	0.92	0.86	0.81	0.76	0.71	0.67
7.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47
8.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.56	0.53	0.50	0.44	0.44	0.41
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35
8.2	1.3	1.2	1.2	1.1	1.0	0.96	0.90	0.84	0.79	0.74	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30
8.3	1.1	1.1	0.99	0.93	0.87	0.82	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22
8.5	0.80	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18
8.6	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.16	0.15
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13
8.8	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
8.9	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.09
9.0	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08

EPA Action
In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR Part 131, the EPA approves the addition of new section OAR 340-041-8033, including the introductory language to this section and the inclusion of Table 30, *Aquatic Life Water Quality Criteria for Toxic Pollutants*, and Table 40, *Human Health Water Quality Criteria for Toxic Pollutants*. EPA's approval of Table 30 includes approval of the magnitude, frequency and duration of the acute and chronic freshwater ammonia criteria contained in Table 30, the revised footnote M and Tables 30(a)-(c). Table 31, *Aquatic Life Water Quality Guidance Values for Toxic* Pollutants, is not a WQS under section 303(c) of the CWA.

The EPA is also approving the editorial changes to the description of the saltwater ammonia criteria which were previously approved by the EPA. The criteria are dependent on salinity, temperature and pH rather than just pH and temperature as previously described. In approving these editorial changes, the EPA is not re-opening or reconsidering its prior approval of the underlying WQS. The change also replaces a reference to an EPA web address hosting EPA's *Ambient Water Quality Criteria for Ammonia (Saltwater)-1989* (EPA 440/5-88-004) with a reference to a DEQ web address that hosts a calculator for calculating the saltwater criteria using the information contained in the EPA's *Ambient Water Quality Criteria for Ammonia (Saltwater)-1989* (EPA440/5-88-004).

Additionally, the EPA acknowledges the removal of Endnote M which contained the equations for Oregon's previously approved freshwater ammonia criteria. With the freshwater ammonia criteria approved in today's action the equations in the removed Endnote M are no longer relevant.

EPA Rationale
The freshwater ammonia criteria adopted by Oregon are consistent with the EPA's 2013 304(a) recommendations for freshwater aquatic life criteria. The EPA's 304(a) recommendation provides an extensive technical basis and justification as to how the recommended aquatic life criteria adequately protect aquatic life uses.[3] Based on the information in the 304(a) recommendations, the EPA has determined that Oregon's new criteria are protective of Oregon's fish and aquatic life use, therefore, the EPA approves these aquatic life criteria pursuant to section 303(c) of the CWA.

Oregon's adoption of the ammonia criteria and EPA's approval resolves the disapproval action taken by the EPA on January 31, 2013.

B. Administrative Revisions to the Water Quality Standards

1. EPA Action on Revisions to the Definitions in OAR 340-041-0002

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR Part 131, the EPA approves the editorial changes to the definitions contained in OAR 340-041-0002 as set forth in the table below. These revisions do not change the meaning or intent of the existing previously approved WQS. The EPA's approval of these editorial changes does not re-open the EPA's prior approval of the substance of the underlying WQS. For the EPA's action on definition #39 (i.e., removal of the definition for "Modified Aquatic Life Habitat") see section III.B.4. All underlined text indicates language that is new and strikeout text indicates the language that was removed by the 2015 adoption.

[3] *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, 2013,* EPA 822-R-13-001.

REVISIONS to Definitions in OAR 340-041-0002	COMMENTS
(3) "Anthropogenic," when used to describe "sources" or "warming," means that which results from human activity~~;~~ .	The editorial changes for these definitions include grammatical changes and/or punctuation changes. These revisions do not alter the definitions that were previously approved by EPA.
(4) "Applicable Criteria" means the biologically based temperature criteria in OAR 340-041- 0028(4), the superseding cold water protection criteria in OAR 340-041-0028(11). or the superseding natural condition criteria ~~as described~~ in OAR 340-041-0028(8). The applicable criteria may also be site-specific criteria approved by U.S. EPA. A subbasin may have a combination of applicable temperature criteria derived from some or all of these numeric and narrative criteria.	
(9) "Cold-Water Aquatic Life" means aquatic organisms that are physiologically restricted to cold water~~,~~ including, but not limited to, native salmon, steelhead, mountain whitefish, char ~~(~~including bull trout~~)~~, and trout.	
(11) "Commission" or "EQC" means the Oregon Environmental Quality Commission.	
(12) "Cool- Water Aquatic Life" means aquatic organisms that are physiologically restricted to cool waters~~,~~ including, but not limited to, native sturgeon, Pacific lamprey, suckers, chub, sculpins~~,~~ and certain species of cyprinids (minnows.)~~.~~	
(13) "Core Cold- Water Habitat Use" means waters ~~that are~~ expected to maintain temperatures within the range generally considered optimal for salmon and steelhead rearing, or that are suitable for bull trout migration, foraging~~,~~ and sub-adult rearing that occurs during the summer. These uses are designated on the following subbasin maps set out at OAR 340-041-0101 to 340-041-0340: Figures 130A, 151A, 160A, 170A, 180A, 201A, 220A, 230A, 271A, 286A, 300A, 310A, 320A, and 340A.	
(14) "Critical Habitat" means those areas that support rare, threatened, or endangered species or serve as sensitive spawning and rearing areas for aquatic life as designated by the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration-Fisheries ~~pursuant~~ according to the Endangered Species Act (16 U.S. Code § 1531).	
(15) "Daily Mean" for dissolved oxygen means the numeric average of an adequate number of data to describe the variation in dissolved oxygen concentration throughout a day, including daily maximums and minimums. ~~For the purpose of~~For calculating the mean, concentrations in excess of 100 percent of saturation are valued at the saturation concentration.	
(23) "High Quality Waters" means those waters that meet or exceed levels ~~that are~~ necessary to support the propagation of fish, shellfish~~,~~ and wildlife; recreation in and on the water; and other designated beneficial uses.	
(29) "Land Development" means any human-induced change to improved or unimproved real estate~~, including but not limited to~~ including, but not limited to, construction, installation or expansion of a building or other structure; land division; drilling; ~~and~~ or site alteration such as land surface mining, dredging, grading, construction of earthen berms, paving, improvements for use as parking or storage, excavation~~,~~ or clearing.	

REVISIONS to Definitions in OAR 340-041-0002	COMMENTS
(30) "Load Allocation" or ~~("LA)~~" means the portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading that may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting loading. Whenever possible, natural and nonpoint source loads should be distinguished.	
(31) "Loading Capacity" or ~~("LC)~~" means the greatest amount of loading that a water body can receive without violating water quality standards.	
(33) "Managed Lakes" refers to lakes in which hydrology is managed by controlling the rate or timing of inflow or outflow~~,~~.	
(37) "Migration Corridors" mean those waters that are predominantly used for salmon and steelhead migration during the summer and have little or no anadromous salmonid rearing in the months of July and August~~, as~~ Migration corridors are designated in ~~. These uses are designated on the following subbasin maps designate these uses in set out at OAR 340-041-0101 to 340-041-0340:~~ Tables 101B~~,~~ and 121B~~,~~ and Figures 151A, 170A, 300A and 340A under OAR 340-041-0101 to 340-041-0340.	
~~(43)~~(42) "Nonpoint Sources" means any source of water pollution other than a point source. Generally, a nonpoint source is a diffuse or unconfined source of pollution where wastes can ~~either~~ either enter into waters of the state or be conveyed by the movement of water into waters of the state.	The editorial changes for these definitions include grammatical changes, punctuation changes and/or re-numbering. These revisions do not alter the definitions that were previously approved by the EPA.
~~(45)~~(44) "Outstanding Resource Waters" means ~~those~~ waters designated by the ~~commission~~ EQC where existing high quality waters constitute an outstanding state or national resource based on their extraordinary water quality or ecological values or where special water quality protection is needed to maintain critical habitat areas.	
~~(47)~~(46) "Point Source" means a ~~discernable~~discernible, confined, and discrete conveyance ~~, including but not limited to~~including, but not limited to, a pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or leachate collection system from which pollutants are or may be discharged. Point source does not include agricultural storm water discharges and return flows from irrigated agriculture.	
~~(52)~~(51) "Salmon" means chinook, chum, coho, ~~sockeye, and~~sockeye and pink salmon.	
~~(55)~~(54) "Salmonid or Salmonids" means native salmon, trout, mountain whitefish~~,~~ and char ~~(~~including bull trout~~)~~. For purposes of Oregon water quality standards, salmonid does not include brook or brown trout because ~~since~~ they are introduced species.	
~~(56)~~(55) "Secondary Treatment" means the following depending on the context: *(a) For ~~"~~sewage wastes,~~"~~ secondary treatment means the minimum level of treatment mandated by ~~EPA~~ U.S. Environmental Protection Agency regulations pursuant to Public Law 92-500.* *(b) For ~~"~~industrial and other waste sources,~~"~~ secondary treatment means control equivalent to best practicable treatment ~~(BPT)~~.*	

REVISIONS to Definitions in OAR 340-041-0002	COMMENTS
~~(62)~~(61) "Stormwater Quality Control Facility" means any structure or drainage way ~~that is~~ designed, constructed~~,~~ and maintained to collect and filter, retain, or detain surface water runoff during and after a storm event for the purpose of water quality improvement. It may also include, but is not be limited to, existing features such as wetlands, water quality swales~~,~~ and ponds ~~that are~~ maintained as stormwater quality control facilities.	
~~(65)~~(64) "Threatened or Endangered Species" means aquatic species listed as either threatened or endangered under the federal Endangered Species Act (16 U.S. Code~~C~~ § 1531 et seq. and Title 50 of the Code of Federal Regulations).	
~~(68)~~(67) "Wasteload Allocation" or "~~(~~WLA~~)~~" means the portion of a receiving water's loading capacity ~~that is~~ allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.	
~~(72)~~(71) "Water Quality Swale" means a natural depression or wide, shallow ditch that is used to temporarily store, route~~,~~ or filter runoff for the purpose of improving water quality.	
~~(73)~~(72) "Waters of the ~~State~~state" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.	
~~(75)~~(74) "Weekly (seven-day) Minimum Mean" for dissolved oxygen means the minimum of the seven consecutive-day floating average of the daily minimum concentration. For ~~purposes of~~ application of the criteria, this value ~~will be used as~~ is the reference for diurnal minimums.	
~~(40)~~ (39) "Monthly (30-day) Mean Minimum" for dissolved oxygen means ...	Each of these definitions were re-numbered to reflect the deletion of the definition for "modified aquatic habitat" (formerly definition 39). These administrative edits do not alter the definition that was previously approved by EPA.
~~(41)~~ (40) "Natural Conditions" means...	
~~(42)~~(41) "Natural Thermal Potential" means...	
~~(44)~~(43) "Ocean Waters" means...	
~~(46)~~(45) "Pollution" means...	
~~(48)~~(47) "Public Water" means...	
~~(49)~~(48) "Public Works Project" means...	
~~(50)~~(49) "Reserve Capacity" means...	
~~(51)~~(50) "Resident Biological Community" means...	
~~(53)~~(52) "Salmon and Steelhead Spawning Use" means...	
~~(54)~~(53) "Salmon and Trout Rearing and Migration Use" means...	
~~(57)~~(56) "Seven-Day Average Maximum Temperature" means...	
~~(58)~~(57) "Sewage" means...	
~~(59)~~(58) "Short-Term Disturbance" means...	
~~(60)~~(59) "Spatial Median" means...	
~~(61)~~(60) "SS" means...	
~~(63)~~(62) "Subbasin" means...	
~~(65)~~(64) "Threatened or Endangered Species" means...	
~~(66)~~(65) "Total Maximum Daily Load (TMDL)" means...	

REVISIONS to Definitions in OAR 340-041-0002	COMMENTS
~~(67)~~*(66) "Toxic Substance" means...*	
~~(69)~~*(68) "Warm Water Aquatic Life" means...*	
~~(70)~~*(69) "Wastes" means...*	
~~(71)~~*(70) "Water Quality Limited" means...*	
~~(74)~~*(73) "Weekly (seven-day) Mean Minimum" means...*	
~~(76)~~*(75) "Without Detrimental Changes in the Resident Biological Community" means...*	

2. EPA Action Revisions to OAR 340-041-0033, Toxic Substances

In accordance with its CWA authority, 33 U.S.C. § 1313(c) (3) and 40 CFR Part 131, the EPA approves the administrative edits and editorial changes to the narrative toxic provisions contained in OAR 340-041-0033. The revisions include grammatical changes, identifying the section of the regulations where Tables 30 and 40 are housed, punctuation and re-numbering changes. These revisions do not change the meaning or intent of the existing previously approved WQS. The EPA's approval of these revisions does not re-open the EPA's prior approval of the substance of the underlying WQS. The revisions the EPA has approved are set forth in the italicized text below. All underlined text indicates language that is new and strikeout text indicates the language that was removed by the 2015 adoption.

340-041-0033

*(1~~2~~) **Toxic Substances Narrative**. Toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife~~,~~ or other designated beneficial uses.*

*(2~~3~~) **Aquatic Life Numeric Criteria**. Levels of toxic substances in waters of the state may not exceed the applicable aquatic life criteria listed in ~~Table 30~~Table 30 under OAR 340-041-8033.*

*(3~~4~~) **Human Health Numeric Criteria**. The criteria for waters of the state listed in ~~Table 40~~Table 40 under OAR 340-041-8033 are established to protect Oregonians from potential adverse health effects associated with long-term exposure to toxic substances associated with consumption of fish, shellfish~~,~~ and water.*

*(5~~6~~) **Establishing Site-Specific Background Pollutant Criteria**: This provision is a performance based water quality standard that results in site-specific human health water quality criteria under the conditions and procedures specified in this rule section. It addresses existing permitted discharges of a pollutant removed from the same body of water. For waterbodies where a discharge does not increase the pollutant's mass and does not increase the pollutant concentration by more than 3~~%~~ percent, and where the water body meets a pollutant concentration associated with a risk level of 1 x 10-4, DEQ concludes that the pollutant concentration continues to protect human health.*

(a) Definitions: As used in this section:

~~*For the purpose of this section (OAR 340-041-0033(6), this section):*~~

(A) "Background pollutant concentration" means the ambient water body concentration immediately upstream of the discharge, regardless of whether those pollutants are natural or result from upstream human activity.
(B) An "intake pollutant" is the amount of a pollutant ~~that is~~ present in ~~public~~ waters of the state (including groundwater) as provided in subsection (C), below, at the time it is withdrawn from such waters by the discharger or other facility supplying the discharger with intake water.
(C) "Same body of water": An intake pollutant is considered to be from the "same body of water" as the discharge if ~~the department~~DEQ finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. To make t~~T~~his finding, DEQ requires information showing that ~~may be deemed established if~~:
(i) The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water; and,
(ii) There is a direct hydrological connection between the intake and discharge points.~~; and~~
(I) ~~The department~~DEQ may also consider other site-specific factors relevant to the transport and fate of the pollutant to make the finding in a particular case that a pollutant would or would not have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee.
(II) An intake pollutant from groundwater may be considered to be from the "same body of water" if ~~the department~~DEQ determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee.~~, except that such a~~ A pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to past or present human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes.
(iii) Water quality characteristics (e.g., temperature, pH, hardness) are similar in the intake and receiving waters.
b) Applicability
(A) DEQ may establish s~~S~~ite-specific criteria ~~may be established~~ under this rule section only for carcinogenic pollutants.
(B) Site-specific criteria established under this rule section apply in the vicinity of the discharge for purposes of establishing permit limits for the specified permittee.
(C) The underlying waterbody criteria continue to apply for all other Clean Water Act programs.
(D) The site-specific background pollutant criterion will be effective upon ~~department~~ DEQ issuance of the permit for the specified permittee.
(E) DEQ will reevaluate a~~A~~ny site-specific criteria developed under this procedure ~~will be reevaluated~~ upon permit renewal.
(c) DEQ may establish ~~A~~a site-specific background pollutant criterion ~~may be established where~~ when all of the following conditions are met:
(A) The discharger has a currently effective NPDES permit;
(B) The mass of the pollutant discharged to the receiving waterbody does not exceed the mass of the intake pollutant from the same body of water, as defined in section (5~~6~~)(a)(C) above, and~~,~~ therefore~~,~~ does not increase the total mass load of the pollutant in the receiving water body;
(C) DEQ has not assigned t~~T~~he discharger ~~has not been assigned~~ a TMDL wasteload allocation for the pollutant in question;
(D) The permittee uses any feasible pollutant reduction measures available and known to minimize the pollutant concentration in their discharge;

(E) The pollutant discharge has not been chemically or physically altered in a manner that causes adverse water quality impacts that would not occur if the intake pollutants were left in-stream; and,
(F) The timing and location of the pollutant discharge would not cause adverse water quality impacts that would not occur if the intake pollutant were left in-stream.
(d) The site-specific background pollutant criterion must be the most conservative of the following four values. The procedures deriving these values are described in the sections (5~~6~~)(e) of this rule.
(A) The projected in-stream pollutant concentration resulting from the current discharge concentration and any feasible pollutant reduction measures under (c)(D) above, after mixing with the receiving stream.
(B) The projected in-stream pollutant concentration resulting from the portion of the current discharge concentration associated with the intake pollutant mass after mixing with the receiving stream. This analysis ensures that there will be no increase in the mass of the intake pollutant in the receiving water body as required by condition (c)(B) above.
(C) The projected in-stream pollutant concentration associated with a 3~~%~~ percent increase above the background pollutant concentration as calculated:
(i) For the main stem Willamette and Columbia Rivers, using 25~~%~~ percent of the harmonic mean flow of the waterbody.
(ii) For all other waters, using 100~~%~~ percent of the harmonic mean flow or similar critical flow value of the waterbody.
(D) A criterion concentration value representing a human health risk level of 1 x 10-4. DEQ calculates t~~T~~his value ~~is calculated~~ using EPA's human health criteria derivation equation for carcinogens (EPA 2000), a risk level of 1 x 10-4, and the same values for the remaining calculation variables that were used to derive the underlying human health criterion.
(e) Procedure to derive a site-specific human health water quality criterion to address a background pollutant:
(A) ~~The department~~DEQ will develop a flow-weighted characterization of the relevant flows and pollutant concentrations of the receiving waterbody, effluent and all facility intake pollutant sources to determine the fate and transport of the pollutant mass.
(i) The pollutant mass in the effluent discharged to a receiving waterbody may not exceed the mass of the intake pollutant from the same body of water.
(ii) Where a facility discharges intake pollutants from multiple sources that originate from the receiving waterbody and from other waterbodies, ~~the department~~DEQ will calculate the flow-weighted amount of each source of the pollutant in the characterization.
(iii) Where a municipal water supply system provides intake water for a facility ~~is provided by a municipal water supply system~~ and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration and mass of the intake water pollutant ~~shall~~ must be determined at the point where the water enters the water supplier's distribution system.
(B) Using the flow weighted characterization developed in Section (5~~6~~)(e)(A), ~~the department~~DEQ will calculate the in-stream pollutant concentration following mixing of the discharge into the receiving water. DEQ will use the ~~The~~ resultant concentration ~~will be used~~ to determine the conditions in Section (~~5~~6)(d)(A) and (B).
(C) Using the ~~flow weighted~~flow-weighted characterization, ~~the department~~DEQ will calculate the in-stream pollutant concentration based on an increase of 3~~%~~ ~~percent~~ above background pollutant concentration. ~~DEQ will use the~~ The resultant concentration will be used to determine the condition in Section (5~~6~~)(d)(C).

(i) For the main stem Willamette and Columbia Rivers, ~~DEQ will use~~ 25~~%~~ percent of the harmonic mean flow of the waterbody ~~will be used~~.
(ii) For all other waters, DEQ will use 100~~%~~ percent of the harmonic mean flow or similar critical flow value of the waterbody ~~will be used~~.
(D) ~~The department~~DEQ will select the most conservative of the following values as the sites-specific water quality criterion.
(i) The projected in-stream pollutant concentration described in Section (5~~6~~)(e)(B);
(ii) The in-stream pollutant concentration based on an increase of 3~~%~~ percent above background described in Section (5~~6~~)(e)(C); or
(iii) A water quality criterion based on a risk level of 1 x 10-4.
(f) Calculation of water quality based effluent limits based on a site-specific background pollutant criterion:
(A) For discharges to receiving waters with a site-specific background pollutant criterion, ~~the department~~DEQ will use the site-specific criterion in the calculation of a numeric water quality based effluent limit.
(B) ~~The department~~DEQ will compare the calculated water quality based effluent limits to any applicable aquatic toxicity or technology based effluent limits and select the most conservative for inclusion in the permit conditions.
(g) In addition to the water quality based effluent limits described in Section (5~~6~~)(f), ~~the department~~DEQ will calculate a mass-based limit where necessary to ensure that the condition described in Section (~~5~~6)(c)(B) is met. Where mass-based limits are included, the permit ~~shall~~ will specify how DEQ will assess compliance with mass-based effluent limitations ~~will be assessed~~.
h) The permit shall include a provision requiring ~~the department~~DEQ to consider the re-opening of the permit and re-evaluation of the site-specific background pollutant criterion if new information shows the discharger no longer meets the conditions described in subsections (5~~6~~)(c) and (e).
(i) Public Notification Requirements.
(A) If ~~the department~~DEQ proposes to grant a site-specific background pollutant criterion, it must provide public notice of the proposal and hold a public hearing. The public notice may be included in the public notification of a draft NPDES permit or other draft regulatory decision that would rely on the criterion and will also be published on ~~the~~ DEQ's water quality standards website;
(B) ~~The department~~DEQ will publish a list of all site-specific background pollutant criteria approved ~~pursuant~~ according to this rule. DEQ will add ~~A~~the criterion ~~will be added~~ to this list within 30 days of its effective date. The list will identify~~:~~ the:
(i) ~~p~~Permittee;
(ii) ~~the s~~Site-specific background pollutant criterion and the associated risk level;
(iii) ~~the w~~Waterbody to which the criterion applies;
(iv) ~~the a~~Allowable pollutant effluent limit; and
(v) ~~h~~How to obtain additional information about the criterion.

3. EPA Action on Revisions to OAR 340-041-0124 -Water Quality Standards and Policies to the Main Stem Snake River

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR Part 131, the EPA approves the editorial changes to OAR 340-041-0124 (Water Quality Standards and Policies to the Main Stem

Snake River). The EPA's approval of this editorial change does not re-open the EPA's prior approval of the substance of the underlying water quality standard. This revision was made to correct an error that occurred during the reformatting of OAR 340, Division 041 in 2003. Prior to the error, the pH standard of 7.0 - 9.0 applied to the full extent of the main stem Snake River in Oregon (river miles 176-409). However, the 2003 rule split the Snake River into basin-specific rules for the tributary subbasins, including the Grand Ronde, Powder, Malheur and Owyhee Rivers. Oregon established a separate rule section in OAR 340-041-0124 for the main stem Snake River during the reformatting and intended to transfer the existing pH standards to this new section. Oregon only transferred the river miles associated with the Powder Basin to the new section for the Snake River. Oregon 2015 adoption has corrected that error.

The revision the EPA is approving is below. Strikeout text indicates the language that was removed by the 2015 adoption.

(1) pH (hydrogen ion concentration). P H values may not fall outside the following range: main stem Snake River ~~(river miles 260 to 335)~~: 7.0-9.0.

4. EPA Action on Revisions to the Beneficial Uses, Water Quality Standards and Policies for the Umatilla Basin (OAR 340-041-002(39), OAR 340-041-0310 and OAR 340-041-0315)

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR Part 131, the EPA approves the removal of the definition for "Modified Aquatic Life Habitat" at OAR 340-041-0002(39) and the administrative edits and editorial changes to the WQS for the Umatilla Basin contained in OAR 340-041-0310 and OAR 340-041-0315.

On November 15, 2013, the EPA disapproved the "Modified Aquatic Life Habitat" definition at OAR 340-041-0002(39) and partially approved and partially disapproved several revisions to OAR 340-041-0310 and OAR 340-041-0315[4] that were adopted by Oregon for the West Division Main Canal in the Umatilla Basin. The changes approved today were adopted by Oregon to make its WQS consistent with EPA's November 15, 2013 disapprovals. In accordance with 40 CFR 131.21, if EPA disapproves a water quality standard it does not become applicable for CWA purposes, and the previously approved water quality standard remains applicable. The EPA has determined that Oregon's revised language is consistent with the remedy options suggested in EPA's November 15, 2013 disapprovals and has not substantively revised the WQS that have been applicable for CWA purposes since the EPA's November 15, 2013 action. These revisions do not change the meaning or intent of the existing previously approved WQS. The EPA's approval of these administrative edits and editorial changes does not re-open the EPA's approval of the underlying WQS.

The text below presents the language changes to OAR 340-041-0002(39), OAR 340-041-0310 and OAR 340-041-0315 that EPA is approving today. All underlined text indicates language that is new and strikeout text indicates the language that was removed by the 2015 adoption.

[4] Oregon submitted new and revised WQS for the West Division Main Canal to the EPA on June 6, 2012. On November 15, 2013 the EPA partially approved and partially disapproved the new and revised WQS (see *Technical Support Document for EPA's Action on the State of Oregon's Revised Water Quality Standards for the West Division Main Canal, Submitted to EPA on June 25, 2012).*

340-041-0002

~~*(39) "Modified Aquatic Habitat" means waters in which cool or cold water aquatic communities are absent, limited or substantially degraded due to modifications of the physical habitat, hydrology or water quality. The physical, hydrologic or chemical modifications preclude or limit the attainment of cool or cold water habitat or the species composition that would be expected based on a natural reference stream, and cannot feasibly or reasonably be reversed or abated.*~~

340-041-0310

Beneficial Uses to Be Protected in the Umatilla Basin

(1) Water quality in the Umatilla Basin (see Figure 1) must be managed to protect the designated beneficial uses shown in Table 310A (~~April 2012~~January 2015).

(2) Designated fish uses to be protected in the Umatilla Basin are shown in Figures 310A and 310B (November 2003, except as noted in Table 310A).

Table 310A – Designated Beneficial Uses – Umatilla Basin
340-041-0310

Beneficial Uses	*Umatilla Subbasin*	*Willow Creek Subbasin*	*West Division Main Canal – constructed channel[3]*	*West Division Main Canal – overflow channels[3]*
Public Domestic Water Supply[1]	*X*	*X*		
Private Domestic Water Supply[1]	*X*	*X*		
Industrial Water Supply	*X*	*X*	*X*	*X*
Irrigation	*X*	*X*	*X*	*X*
Livestock Watering	*X*	*X*	*X*	*X*
Fish & Aquatic Life[2]	*X*	*X*		*X*
~~*Modified Aquatic Habitat*~~				~~*X*~~
Wildlife & Hunting	*X*	*X*	*X*	*X*
Fishing	*X*	*X*		*X*
Boating	*X*	*X (at mouth)*		
Water Contact Recreation	*X*	*X*	*X*	*X*
Aesthetic Quality	*X*	*X*	*X*	*X*
Hydro Power	*X*	*X*	*X*	*X*
Commercial Navigation & Transportation				

[1]With adequate pretreatment (filtration & disinfection) and natural quality to meet drinking water standards.

[2]See also Figures 310A and 310B for fish use designations for this basin. Note: The fish & aquatic life use designations for the "constructed channel" segment of the West Division Main Canal in this table supersede Figure 310A, which incorrectly identifies Redband trout use in that portion of the canal.

[3]The West Division Main Canal extends from the point of diversion from the Umatilla River to the confluence with the Columbia River. The canal consists of two segments. The constructed channel segment extends from the Umatilla River 27 miles down gradient to the flow control gate at the end of the concrete structure as it was originally built (concrete-lining was later added to parts of the overflow channels). The overflow channels segment extends from the lower end of the constructed channel to the outflow to the Columbia River.

340-041-0315

Water Quality Standards and Policies for this Basin

(1) pH (hydrogen ion concentration). pH values may not fall outside the following range: all Basin streams ~~(other than~~except the main stem Columbia River and the "~~overflow~~constructed channel~~s~~" segment of the West Division Main Canal~~)~~: 6.5-9.0. When ~~greater~~ more than 25 percent of ambient measurements taken between June and September are greater than pH 8.7, and as resources are available according to priorities set by ~~the Department~~DEQ, ~~the Department~~DEQ will determine whether the values higher than 8.7 are anthropogenic or natural in origin.

(2) The following criteria apply to the "constructed channel" segment of the West Division Main Canal and supersede the water quality standards in OAR 340-041-0011 through 340-041-0036 for the "constructed channel" segment of the canal. ~~:~~ The criteria in (b) and (c) also apply to the "overflow channels" segment of the West Division Main Canal.

(a) Canal waters may not exceed the numeric criteria shown in Table 315~~. These criteria apply~~ from the uppermost irrigation withdrawal to the ~~confluence with the Columbia River~~ end of the "constructed channel"segment of the canal~~;~~.

(b) Toxic substances ~~shall~~ must not be present in canal waters in amounts ~~that are~~ likely to singularly or in combination harm the designated beneficial uses of the canal or downstream waters. ~~The presence of substances at naturally occurring levels shall not be considered harmful to the designated uses;~~

(c) Sediment load and particulate size shall not exceed levels that interfere with irrigation or the other designated beneficial uses of the canal;

~~(d) The dissolved oxygen criteria contained in OAR 340-041-0016 (4) apply to "overflow channels" segment of the canal to protect the "modified aquatic habitat" use.~~

~~(e)~~(d) pH values ~~in the "constructed channel" segment of the canal~~ may not fall outside the range of 4.5 to 9.0.

~~(f) pH values in the "overflow channels" segment of the canal may not fall outside the range of 6.5 to 9.0 in order to protect the "modified aquatic habitat" use.~~

(3) Minimum Design Criteria for Treatment and control of Sewage Wastes in this Basin:

(a) During periods of low stream flows (approximately April 1 to October 31): Treatment resulting in monthly average effluent concentrations not to exceed 20 mg/l of BOD and 20 mg/l of SS or equivalent control;

(b) During the period of high stream flows (approximately November 1 to April 30): A minimum of secondary treatment or equivalent control and unless otherwise specifically authorized by ~~the Department~~DEQ, operation of all waste treatment and control facilities at maximum practicable efficiency and effectiveness so as to minimize waste discharges to public waters.

Table 315 *Water Quality Criteria* *Constructed Channel Segment,* *West Division Main Canal, Umatilla Basin* *340-041-0315*		
Parameter	*For Irrigation* *(mg/l, metals as dissolved)*	*For Livestock Watering* *(mg/l, metals as dissolved)*
Total dissolved solids	*450*	
Arsenic (inorganic)	*0.1*	*0.2*
Beryllium	*0.1*	
Cadmium	*0.01*	*0.05*
Chromium	*0.1*	*1*
Copper	*0.2*	*0.5*
Lead	*5*	*0.1*
Mercury		*0.01*
Nickel	*0.2*	
Selenium	*0.02*	*0.05*
Zinc	*2*	*25*

Table revised January 2015

IV. PROVISIONS WHICH EPA HAS DETERMINED ARE NOT WQS

A. EPA's Review of the Inclusion of Editorial Notes to Narrative Provisions for Natural Conditions

The text below presents the two natural condition provisions contained in Oregon's WQS (OAR 340-041-0007 and OAR 340-041-0028(8)) and the editorial notes that were added to the provisions in the 2015 adoption. The editorial notes were adopted to clarify that the provisions are not applicable to CWA actions. The EPA acknowledges the notes but is taking no action on these additions because they are not WQS but simply clarify that EPA disapproved both natural conditions provisions in 2013[5] and consequently they are not effective under the CWA. All underlined text indicates language that is new.

OAR 340-041-0007

(2) Where a less stringent natural condition of a water of the State exceeds the numeric criteria set out in this Division, the natural condition supersedes the numeric criteria and becomes the standard for that water body. However, there are special restrictions, described in OAR 340-041-0004(9)(a)(D)(iii), that may apply to discharges that affect dissolved oxygen.

NOTE: On August 8, 2013, the Environmental Protection Agency disapproved rule section OAR 340-041-0007(2). Consequently, section (2) is no longer effective as a water quality criterion for purposes of CWA Section 303(c) and it cannot be used for issuing certifications under CWA Section 401, permits under CWA Section 402, or total maximum daily loads under CWA section 303(d).

[5] See EPA's August 8, 2013 letter to Gregory Aldrich, Water Quality Programs Administrator, Oregon Department of Environmental Quality.

OAR 340-041-0028(8)
(8) Natural Conditions Criteria. Where the department determines that the natural thermal potential of all or a portion of all or a portion of a water body exceeds the biologically-based criteria in section (4) of this rule, the natural thermal potential temperatures supersede the biologically-based criteria, and are deemed to be the applicable temperature criteria for that water body.

NOTE: On August 8, 2013, the Environmental Protection Agency disapproved rule section OAR 340-041-0028(2). Consequently, section (8) is no longer effective as a water quality criterion for purposes of CWA Section 303(c) and it cannot be used for issuing certifications under CWA Section 401, permits under CWA Section 402, or total maximum daily loads under CWA section 303(d).

B. EPA's Review of the Changes to the Narrative Provision at OAR 340-041-0033(4) and the Arsenic Reduction Policy OAR 340-041-0033(6)

OAR-340-041-0033(4) is a narrative implementation provision explaining different sources of information that may be used to establish permit or other regulatory limits for toxic substances that do not have criteria established in Table 30 or 40. In its June 6, 2010 action, the EPA determined that this provision[6] is not a WQS under section 303(c) of the CWA because "...it does not establish a legally binding requirement under state law, and it does not describe a desired ambient condition of a waterbody to support a particular designated use. Instead, it is a nonexclusive list of sources that may be used to interpret the narrative toxics criterion, for pollutants without numeric criteria." Since OAR 340-041-0033(4) is not WQS the editorial changes to this provision are not WQS, therefore, the EPA is taking no action to approve or disapprove the editorial changes to this provision.

OAR 340-041-0033(6) contain Oregon's Arsenic Reduction Policy. ~~On June 16, 2011, Oregon adopted revised human health criteria for arsenic.~~ In conjunction with revised human health arsenic criteria that Oregon adopted on June 16, 2011 and in recognition that the revised criteria provide a lower level of protection than other human health criteria in Oregon, the Arsenic Reduction Policy was also adopted. In its October 17, 2011 action the EPA determined that this policy is not a WQS subject to EPA review and approval under Section 303(c) of the CWA because the policy "...does not establish a legally binding ambient condition for a waterbody to support a particular designated use. Nor does it establish a binding process whereby the State would establish an alternate ambient condition for a waterbody following a public process. Rather, this policy outlines permitting requirements that the State will place on selected dischargers (those located in a surface water drinking water protection area as delineated under the Safe Drinking Water Act). These permitting requirements are not tied to what is necessary to protect the designated uses of Oregon's waters, but rather to what measures are "feasible" to reduce arsenic loading. The permitting requirements are to be used in association with other implementation tools to encourage further arsenic reductions below the established criteria, but they do not modify those criteria." Since OAR 340-041-0033(6) is not WQS the editorial changes to this provision are not WQS, therefore, the EPA is taking no action to approve or disapprove the editorial changes to this provision.

[6] This provision has been re-numbered several times. In its July 8, 2004 rulemaking Oregon re-numbered OAR 340-041-0033(4) to OAR 340-041-0033 (3). In its July 19, 2011 rulemaking this provision was re-numbered to OAR 340-041-0033(5). In the 2015 adoption this provision was re-numbered to OAR-340-041-0033(4).