

***Decision Document of the United States Environmental Protection Agency  
Review of Amendments to South Carolina’s  
Water Quality Regulations 61-68 Water Classifications & Standards  
and 61-69 Classified Waters Under § 303(c) of the Clean Water Act***

This document summarizes the EPA’s review of the revisions to the South Carolina Regulations (R.61-68) *Water Classifications & Standards* and (R.61-69) *Classified Waters* adopted by the South Carolina Department of Health and Environmental Control (SCDHEC or “Department”). These revisions were adopted as a result of South Carolina’s triennial review of water quality standards (WQS), as required by Section 303(c) of the Clean Water Act (CWA). The Department submitted the WQS revisions electronically by letter dated March 2, 2021 from Andrew J. Edwards, PE, Water Quality Standards Coordinator, SCDHEC, to Mary Walker, former Regional Administrator, EPA Region 4. The EPA received the hard copy revisions on March 24, 2021. The submittal to the EPA was accompanied by certification from W. Marshall Taylor, Jr., the General Counsel for the Department, that the WQS revisions were duly adopted pursuant to the law of South Carolina.

SCDHEC initiated a triennial review of its WQS on February 22, 2019 with a Notice of Drafting published in the *State Register*. The Department received four sets of comments on the proposed standards. SCDHEC met with stakeholders to discuss the Notice of Drafting and received additional input on April 23, 2019, and May 21, 2019. The South Carolina Board of Health and Environmental Control approved the Notice of Proposed Regulation on August 8, 2019, which was then published in the August 23, 2019 *State Register*. A final stakeholder meeting was held on September 23, 2019 to receive comment on the Notice of Proposed Regulation. Minor changes were made based on public comment. SCDHEC held a final public hearing on November 7, 2019. The Department had a Notice of Final Regulation published in the November 22, 2019 *State Register*.

The proposed amendments were referred to both the state’s House Natural Resources and Environmental Affairs Committee and the state’s Senate Agriculture and Natural Resources Committee at the beginning of the legislative session. Neither of these two committees met to consider these proposed regulations within 120 days of the referral. Therefore, revisions to R.61-68 *Water Classifications & Standards* and R.61-69 *Classified Waters* became effective for purposes of state law and were published as final in the June 26, 2020 *State Register*. The EPA reviewed the state rulemaking process with respect to public participation and finds that South Carolina complied with public participation requirements at 40 C.F.R. § 131.20(b).

Revisions to the state’s WQS regulations, found in the Attachment to this document, are shown underlined (underlined) below, while deletions to the regulations are shown stricken (~~stricken~~.) As discussed more fully below, where the EPA has determined that the South Carolina rule revisions are new or revised WQS, the EPA has reviewed and acted on these revisions pursuant to Section 303(c) of the CWA. As outlined in detail below, the EPA approves these changes to the WQS. In several instances the EPA determined that the South Carolina rule revisions were not new or revised WQS and therefore took no action on those provisions.

### **Clean Water Act and Regulatory Requirements**

Under Section 303(c) of the CWA and federal implementing regulations at 40 C.F.R. Part 131, states and authorized tribes (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. Section 303(c) of the CWA also requires states to establish WQS and to submit any new or revised standards to the EPA for review and approval or disapproval. When the EPA approves a state or tribal WQS, it becomes the applicable WQS for purposes of the CWA.

Since South Carolina last revised their WQS regulations, 40 C.F.R. Part 131 was amended to require states to provide an explanation if not adopting new or revised criteria for parameters for which the EPA has published new or updated CWA Section 304(a) criteria recommendations (40 C.F.R. § 131.20(a)). This change was made to foster meaningful and transparent involvement of the public and intergovernmental coordination with local, state, federal, and tribal entities in light of recent science provided by the EPA through its criteria recommendations. South Carolina has provided rationale for the criteria adopted during this triennial review as well as explanations regarding its evaluation of criteria it did not adopt, including some recreational water criteria, human health water quality criteria based on the EPA's 2015 updates, and criteria for ammonia, selenium and aluminum. The EPA does not approve or disapprove this explanation but notes that South Carolina has provided it according to the new requirement.

### **Endangered Species Act Requirements**

In addition to the EPA's review under Section 303 of the CWA, Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies, in consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), to ensure that their actions are not likely to jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of designated critical habitat of such species. Under Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), the EPA has the obligation to ensure that its approval of new and revised WQS as related to the protection of fish and aquatic life as adopted by SCDHEC is not likely to jeopardize the continued existence of threatened and endangered species and their critical habitat in South Carolina.

On January 29, 2021, the EPA initiated consultation under Section 7(a)(2) of the ESA with the USFWS regarding the effects of the EPA review of the revisions to the state's WQS for cadmium and carbaryl on freshwater species. The EPA drafted a biological evaluation (BE) covering the aquatic life provisions and the effects determinations for threatened and endangered freshwater species in South Carolina. In a letter dated February 9, 2021, USFWS concurred with the EPA's determination that the EPA's approval of the revisions and additions to R. 61-68 *Water Classifications & Standards* are "not likely to adversely affect" federally listed species or result in adverse modifications to critical habitats in the state.

On January 29, 2021, the EPA initiated consultation under Section 7(a)(2) of the ESA with the NMFS regarding the effects of the EPA review of the revisions to the state's WQS for cadmium and carbaryl on marine species. The EPA drafted a BE covering the aquatic life provisions and the effects determinations for marine threatened and endangered species in South Carolina. In a letter dated February 23, 2021, NMFS concurred with the EPA's determination that the EPA's approval of the revisions and additions to the state's WQS regulations are "not likely to adversely affect" federally listed species or result in adverse modifications to critical habitats in the state.

The concurrence from the USFWS and NMFS concluded the consultation requirements under Section 7(a)(2) of the ESA for Rule 0400-4-03(3) revisions.

The EPA and the Services also reviewed revisions to the use classifications in R.61-69 *Classified Waters*. The Services concurred with the EPA that the corrections, as detailed below, did not change the level of protection for waterbodies but were updates to more accurately reflect the name or description of waterbodies. In the instance where the water body description was corrected to reflect the fresh and saltwater boundaries based on updated technology, the Services confirmed that they were aware of efforts to correct the descriptions based on updated technology. The Services concurred with the EPA that this more accurately reflected the historical conditions in the waterbody and did not change the level of protection. Because of these findings, no ESA consultation was needed for these provisions.

**Government to Government Consultation**

South Carolina’s submittal of their new or revised WQS to the EPA for review and approval or disapproval triggered the Agency’s mandatory duty under Section 303(c) of the CWA to review these WQS amendments and to take action to approve or disapprove them. The state’s Regulations (R.61-68 and R.61-69) and the EPA’s decision on them will apply to waters in the state and will also apply to waters on the Catawba Indian Nation lands. Therefore, tribal resources could be impacted by this action. As such, the EPA identified and offered government to government consultation to the Catawba Indian Nation tribal government to ensure that tribal input was considered prior to final agency action on these WQS amendments in accordance with the EPA Policy on Consultation and Coordination with Indian Tribes (Policy) (May 4, 2011).

By letter of March 9, 2021, the EPA formally offered consultation to the Catawba Indian Nation. The consultation and coordination process were conducted in accordance with the EPA Policy. The process ended on April 9, 2021. The Catawba did not choose to consult on South Carolina’s amended WQS.

**Review of Revisions to R. 61-68 Water Classifications & Standards**

Throughout R.61-68 *Water Classifications & Standards*, revisions were made that the state referred to as “stylistic.” The state indicated that these were done to correct typographical errors, improve consistency in expressing units of measurement, or correct spelling. The EPA has reviewed these revisions to ensure that they do not alter the meaning or intent of the previously approved corresponding provisions. A table of the revisions identified as stylistic follows:

Citation/Location	Revision	Purpose of Revision
R.61-68 Table of Contents	Added <i>Appendix 4</i>	Reflects the addition of Appendix 4 which does not change the meaning of the WQS. Appendix 4 is reviewed separately.
Multiple uses of mg/l or ml throughout the WQS.	The abbreviation mg/l was changed to mg/L.  The abbreviation ml was changed to mL.	SCDHEC’s WQS have a mix of the two acceptable abbreviations for micrograms per liter (mg/l or mg/L). For consistency, when WQS are updated, abbreviations are changed to mg/L. Similarly, the abbreviation for milliliter will be changed from ml to mL for consistency. These changes

		do not change the value as the units of measurement remains the same.
R.61-68.G.13 Class SB	<i>...or oysters for market purposes <del>or human consumption</del> or human consumption.</i>	The original WQS had erroneously included the words, “or human consumption” twice. This corrects the criteria to remove one of the phrases. This revision does not change the meaning of this provision.
R.61-68.G.13 Class SB (b)	<i>...colored, or other wastes....</i>	A comma was added for editorial purposes, which does not alter the meaning.
Appendix: Water Quality Numeric Criteria for the Protection of Aquatic Life and Human Health 75. Dimethyl Phthalate	Changed CAS Number from 13113 to 131113.	This change corrected a typo to the CAS number which does not alter the meaning.
Appendix: Water Quality Numeric Criteria for the Protection of Aquatic Life and Human Health. Footnote jj	<i>...<del>bioavailability,</del> bioavailability...</i>	The spelling of bioavailability was corrected which does not alter the meaning of this provision.

The EPA approves these editorial revisions as being consistent with the CWA and the EPA’s implementing regulations. The EPA notes, however, that its approval of these editorial changes does not re-open the EPA’s prior approval of the underlying WQS.

**Enterococci**

Two provisions relating to enterococci were modified. The first, R.61-68.E.14(c)(10)(ii) was amended as follows:

*(10) In order to protect recreational uses in Class SB saltwaters of the State, NPDES permit effluent limitations shall be specified as indicated below:*

<i>ii. Daily Maximum (enterococci)</i>	<i>(<del>enterococci</del>) 50<del>1</del> 104 MPN per 100 mL<sup>1</sup> (see c(12) below)</i>
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After review of this new provision, the EPA has concluded that it is not a new or revised WQS and is therefore taking no action on this provision. This provision does not establish or change a level of protection related to the magnitude, duration, or frequency of water quality criteria nor establish designated uses or antidegradation requirements. Rather, this provision is for the implementation of criteria in developing pollutant limits in the National Pollutant Discharge Elimination System (NPDES) permits under Section 402 of the CWA and the implementing regulations under 40 C.F.R. Part 122. While this provision was not reviewed by EPA as a new or revised WQS, it may be considered by the EPA in reviewing NPDES permits submitted by the state under Section 402 of the CWA. The decision

<sup>1</sup> Previously noted as an approved editorial change.

to not review this provision in no way confers agreement with the use of the provision for making permitting decisions.

The second modified provision, R.61-68.G.13, was amended as follows:

*13. Class SB are tidal saltwaters suitable for primary and secondary contact recreation, crabbing, and fishing, except harvesting of clams, mussels, or oysters for market purposes ~~or human consumption~~<sup>2</sup> or human consumption. Also suitable for the survival and propagation of a balanced indigenous aquatic community of marine fauna and flora.*

<b>Quality Standards for Class SB Waters</b>	
<b>ITEMS</b>	<b>STANDARDS</b>
<i>f. Enterococci</i>	<i>Not to exceed a geometric mean of 35/100 <del>mL</del> mL<sup>3</sup> based on at least four samples collected from a given sampling site over a 30 day period; nor shall a single sample maximum exceed <del>501</del>104/100 mL<sup>4</sup>. Additionally, for beach monitoring and notification activities for CWA Section 406 only, samples shall not exceed a single sample maximum of <del>501</del>104/100 mL.</i>

The revision of the criteria from 501/100 mL for a single sample maximum to 104/100 mL is more stringent than the EPA CWA Section 304(a) guidance, *Ambient Water Quality Criteria – Bacteria* (EPA 820-F-12-058, December 2012). Specifically, the 2012 guidance recommends a not more than 10% exceedance value of 130/100 mL whereas the state has adopted a single sample maxima of 104/100 mL to provide consistency across recreational waters of the state. Therefore, these criteria are consistent with the CWA and 40 C.F.R. Part 131, and the revision is approved by the EPA under CWA Section 303(c).

### **Microcystins/Cylindrospermopsin**

R.61-68.E.15.d(7) was added as follows:

*(7) The assessment of total microcystins for purposes of issuing a swimming advisory for freshwater recreational use will be based on the single sample maximum of 8 µg/L. Once issued, the swimming advisory will remain in effect until resample results indicate the toxin concentration falls below 8 ug/L.*

R.61-68.E.15.d(8) was added as follows:

*(8) The assessment of total microcystins for purposes of Section 303(d) listing determinations for recreational uses shall be based on no more than three (3) swimming advisories in a three (3)-year assessment period.*

R.61-68.E.15.d(9) was added as follows:

<sup>2</sup> Previously noted as an approved editorial change.

<sup>3</sup> Previously noted as an approved editorial change.

<sup>4</sup> Previously noted as an approved editorial change.

(9) The assessment of cylindrospermopsin for purposes of issuing a swimming advisory for freshwater recreational use will be based on the single sample maximum of 15 µg/L. Once issued, the swimming advisory will remain in effect until resample results indicate the toxin concentration falls below 15 µg/L.

R 61-68.E.15.d(10) was added as follows:

(10) The assessment of cylindrospermopsin for purposes of Section 303(d) listing determination for recreational uses shall be based on no more than three (3) swimming advisories in a three (3)-year assessment period.

After review of these new provisions, the EPA has concluded that it is not a new or revised WQS and is therefore taking no action on these provisions. These provisions do not establish or change a level of protection related to the magnitude, duration, or frequency of water quality criteria nor establish designated uses or antidegradation requirements. Rather, provisions under subparagraphs (7) and (9) describe the assessment methodology to determine when a swimming advisory should be issued for freshwater recreational uses. Provisions under subparagraphs (8) and (10) describe the procedures for determining when a waterbody does not meet the recreational uses when assessed under Section 303(d) of the CWA. See 40 C.F.R. §130.7(b)(6). While these provisions are not reviewed by EPA as a new or revised WQS, they may be considered by the EPA in reviewing swimming advisories or reviewing the lists of impaired waters submitted by the state under Section 303(d) of the CWA. The decision to not review these provisions in no way confers agreement with the use of these provisions for those purposes.

The following criteria were added to amend R.61-68.G.9 and 10. (the entire table is not included here, only the added criteria.)

9. The standards below protect the uses of Natural and Put, Grow and Take trout waters.

<b><i>Quality Standards for Trout Waters</i></b>	
<b><i>ITEMS</i></b>	<b><i>STANDARDS</i></b>
<i>j. Total microcystins</i>	<i>Not to exceed 8 µg/L. For freshwater primary contact recreational use notification and advisories samples shall not exceed 8 ug/L.</i>
<i>k. Cylindrospermopsin</i>	<i>Not to exceed 15 µg/L. For freshwater primary contact recreational use notifications and advisories samples shall not exceed 15 µg/L.</i>

10. Freshwaters are freshwaters suitable for primary and secondary contact recreation and as a source for drinking water supply after conventional treatment in accordance with the requirements of the Department. Suitable for fishing and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. Suitable also for industrial and agricultural uses.

<b><i>Quality Standards for Freshwaters</i></b>	
<b><i>ITEMS</i></b>	<b><i>STANDARDS</i></b>

<u>j. Total microcystins</u>	<u>Not to exceed 8 µg/L. For freshwater primary contact recreational use notification and advisories samples shall not exceed 8 ug/L.</u>
<u>k. Cylindrospermopsin</u>	<u>Not to exceed 15 µg/L. For freshwater primary contact recreational use notifications and advisories samples shall not exceed 15 µg/L.</u>

The first portion of R.61-68.G.9.j and k, and R.61-68.G.10.j and k, added new criteria of total microcystins not to exceed 8 µg/L and cylindrospermopsin not to exceed 15 µg/L for the protection of trout waters and freshwaters. These criteria are consistent with the EPA’s latest CWA Section 304(a) guidance, *Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin*. (May 2019, EPA 822-R-19-001). Therefore, these criteria are consistent with the CWA and 40 C.F.R. Part 131 and are approved by the EPA under CWA Section 303(c).

The second portion of each of these new provisions states that for freshwater primary contact recreational use notifications and advisories the level shall not exceed 8 µg/L for microcystin and shall not exceed 15 µg/L for cylindrospermopsin. Those values are consistent with the EPA’s latest CWA Section 304(a) guidance, *Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin*. (May 2019, EPA 822-R-19-001). However, after review of these new provisions, the EPA has concluded that it is not a new or revised WQS and is therefore taking no action. These provisions do not establish or change a level of protection related to the magnitude, duration, or frequency of water quality criteria nor establish designated uses or antidegradation requirements, but are instead used as the values at which recreational use notifications and advisories are issued. While these provisions are not reviewed by EPA as a new or revised WQS, they may be considered by the EPA in reviewing recreational use notifications and advisories. The decision to not review these provisions in no way confers agreement with the use of these provisions for making use notifications and advisories.

## Cadmium

South Carolina revised aquatic life criteria for cadmium and the associated footnote (“Y”), are as follows:

<i>Priority Pollutant</i>	<i>CAS Number</i>	<i>Freshwater Aquatic Life CMC</i>	<i>Freshwater Aquatic Life CCC</i>	<i>Saltwater Aquatic Life CMC</i>	<i>Saltwater Aquatic Life CCC</i>	<i>FR Cite/ \ Source</i>
4. Cadmium	7440439	<del>0.5</del> 0.49 D, E, <del>K</del> , <u>Y</u>	<del>0.10</del> 0.25 D, E, <del>K</del> , <u>Y</u>	<del>43</del> 33 D, Y	<del>9.3</del> 7.9 D, Y	65FR31682

Footnote: “Y” *This water quality criterion is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines (Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, PB85-227049, January 1985) and was issued in one of the following criteria documents: Arsenic (EPA 440/5-84-033), Cadmium (EPA 440/5-84-032 EPA-820-R-16-002), Chromium (EPA 440/5-84-029), Copper (EPA 440/5-84-031), Cyanide (EPA 440/5-84-*

028), Lead (EPA 440/5-84-027), Nickel (EPA 440/5-86-004), Pentachlorophenol (EPA 440/5-86-009), Toxaphene, (EPA 440/5-86-006), Zinc (EPA 440/5-87-003).

These values and references are consistent with the EPA’s latest CWA Section 304(a) guidance value. Therefore, these criteria are consistent with the CWA and 40 C.F.R. Part 131. This change is approved by the EPA under CWA Section 303(c).

South Carolina amended the chart and the footnote related to cadmium in, “Attachment 2 – Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness Dependent,” as follows:

Chemical	$m_A$	$b_A$	$m_C$	$b_C$	Freshwater Conversion Factors (CF)	
					Acute	Chronic
Cadmium	$\frac{1.0166}{0.9789_A}$	$\frac{-3.924}{-3.866_A}$	$\frac{0.7409}{0.7977_A}$	$\frac{-4.719}{-3.909_A}$	$1.136672 - [\ln(\text{hardness})(0.041838)]$	$1.101672 - [\ln(\text{hardness})0.041838]$

Footnote: "A" This parameter was issued by the EPA in Aquatic Life Ambient Water Quality Criteria Cadmium – 2016 (EPA-820-R-16-002).

These values are consistent with the EPA’s latest CWA Section 304(a) guidance value. Therefore, these criteria are consistent with the CWA and 40 C.F.R. Part 131. This change is approved by the EPA under CWA Section 303(c).

### Carbaryl

South Carolina adopted aquatic life criteria for carbaryl as follows:

Non Priority Pollutant	CAS Number	Freshwater Aquatic Life CMC	Freshwater Aquatic Life CCC	Saltwater Aquatic Life CMC	Saltwater Aquatic Life CCC	FR Cite/ Source
<u>64. Carbaryl</u>	<u>63252</u>	<u>2.1</u>	<u>2.1</u>	<u>1.6</u>	=	<u>77FR30280</u>

These values are consistent with the EPA’s latest CWA Section 304(a) guidance (EPA 2012, *Aquatic Life Ambient Water Quality Criteria for Carbaryl*). Therefore, these criteria are consistent with the CWA and 40 C.F.R. Part 131. This change is approved by the EPA under CWA Section 303(c).

### Calculation of the Sample Specific Freshwater Acute and Chronic Criterion for Metals

South Carolina amended R.61-68 APPENDIX, *Water Quality Numeric Criteria for the Protection of Aquatic Life and Human Health*, to add, “Attachment 4 – Calculation of the Sample Specific Freshwater Acute and Chronic Criterion for Metals,” as follows:

As provided in R.61-68.E.14d(3), in order to “appropriately evaluate the ambient water quality for the bioavailability of the dissolved portion of hardness dependent metals, the Department may utilize a federally-approved methodology to predict the dissolved fraction or partitioning coefficient in determining compliance with the water quality standards.” Per R61-68.E.14a(3), the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC) are based on a



hardness of 25 mg/L if the ambient stream hardness is equal to or less than 25 mg/L. Concentrations of hardness less than 400 mg/L may be based on the stream hardness if it is greater than 25 mg/L and less than 400 mg/L and 400 mg/L if the ambient stream hardness is greater than 400 mg/L. In absence of actual stream hardness it is assumed to be 25 mg/L. (bold added.)

1. Conversion Factor for Dissolved Metals

Refer to R.61-68, Water Classifications and Standards, Attachment 2 – Parameters for Calculating Freshwater Dissolved Metals Criteria that are Hardness-Dependent to determine the appropriate parameters and conversion factor. Both CMC and CCC may be express as total recoverable or dissolved using the appropriate equations found in Attachment 2.

2. Partitioning Coefficient (Translator)

The partitioning coefficient ( $K_p$ ) is a translator for the fraction of the total recoverable metal that is bound to adsorbents in the water column, i.e. TSS. The calculation of partitioning coefficients is determined using the following equation.

$$K_p = K_{PO} \times (TSS_b)^a$$

Where  $K_p$  has units of L/kg

$TSS_b$  = In-stream Total Suspended Solids concentration in mg/L

Parameters for default partition coefficient estimation equations ( $K_{PO}$  and  $a$ ) are provided from Table 3 of the The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From a Dissolved Criterion, EPA 823-B-96-007.

<u>Metal</u>	<u>Lakes</u>		<u>Streams</u>	
	<u><math>K_{PO}</math></u>	<u><math>a</math></u>	<u><math>K_{PO}</math></u>	<u><math>a</math></u>
<u>Cadmium</u>	<u>3.52E+06</u>	<u>-0.9246</u>	<u>4.00E+06</u>	<u>-1.1307</u>
<u>Chromium III</u>	<u>2.17E+06</u>	<u>-0.2662</u>	<u>3.36E+06</u>	<u>-0.9304</u>
<u>Copper</u>	<u>2.85E+06</u>	<u>-0.9000</u>	<u>1.04E+06</u>	<u>-0.7436</u>
<u>Lead</u>	<u>2.0E+06</u>	<u>-0.5337</u>	<u>2.80E+06</u>	<u>-0.8</u>
<u>Nickel</u>	<u>2.21E+06</u>	<u>-0.7578</u>	<u>4.90E+05</u>	<u>0.5719</u>
<u>Zinc</u>	<u>3.34E+06</u>	<u>-0.6788</u>	<u>1.25E+06</u>	<u>-0.7038</u>

3. Final Sample Specific Total Recoverable CMC or CCC ( $\mu\text{g/L}$ ) Adjusted for In-Situ Hardness and TSS

The instream total recoverable concentration is determined using Equation 6.4 of The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From a Dissolved Criterion, EPA 823-B-96-007.

$$CMC \text{ (total recoverable adjusted)} = CMC \text{ (dissolved)} \times \{1 + (K_p \times TSS_b \times 10^{-6})\}$$

Where  $CMC \text{ (dissolved)} = \exp \{m_A[\ln(\text{hardness})] + b_A\}$  (CF)

$$K_p = K_{PO} \times (TSS_b)^a$$

$TSS_b$  = In-stream Total Suspended Solids concentration is mg/L

$10^{-6}$ =Units conversion factor to express CCC(total recoverable adjusted) in  $\mu\text{g/L}$

$$\text{CCC}(\text{total recoverable adjusted}) = \text{CCC}(\text{dissolved}) \times \{1 + (KP \times \text{TSS}_b \times 10^{-6})\}$$

Where  $\text{CCC}(\text{dissolved}) = \exp\{m_C[\ln(\text{hardness})] + b_C\}(\text{CF})$

$$\text{KP} = \text{K}_{PO} \times (\text{TSS}_b)^a$$

$\text{TSS}_b$ =In-stream Total Suspended Solids concentration in  $\text{mg/L}$

$10^{-6}$ =Units conversion factor to express CCC (total recoverable adjusted) in  $\mu\text{g/L}$ .

Note: The background TSS is assumed to be the measured instream data ( $\text{mg/L}$ ) or  $1 \text{ mg/L}$  in the absence of actual instream data (based on the 5<sup>th</sup> percentile of ambient TSS data on South Carolina waterbodies from 1993-2000).

If the ambient stream metals result exceeds CMC (total recoverable adjusted) or CCC (total recoverable adjusted) based on the measured TSS and hardness collected with the metal sample it constitutes a standard exceedance. Lacking actual instream TSS and hardness data, a metals results exceeding CMC (total recoverable adjusted) or CCC (total recoverable adjusted) based on the default hardness of  $25 \text{ mg/L}$  and the default TSS value of  $1 \text{ mg/L}$  constitutes a potential standard exceedance.

After review of this new provision, the EPA has concluded that it is not a new or revised WQS and is therefore taking no action on this provision. This provision does not establish or change a level of protection related to the magnitude, duration, or frequency of water quality criteria nor establish designated uses or antidegradation requirements. Rather, in its submission, SCDHEC states that this provision was added to, "...define the methodology used for permitting purposes to determine appropriate freshwater acute and chronic metals criterion..." and stated that it is based on the EPA's *Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit From A Dissolved Criterion* (EPA 823-B-96-007). The Department further stated that codifying this provision, intended for the implementation of criteria in developing pollutant limits in the NPDES permits under Section 402 of the CWA and the implementing regulations under 40 C.F.R. Part 122, provides clarity for stakeholders and the permitted community on how limits are derived. While this provision was not reviewed by the EPA as a new or revised WQS, it may be considered by the EPA in reviewing NPDES permits submitted by the state under Section 402 of the CWA. The decision to not review this provision in no way confers agreement with the use of the provision for making permitting decisions.

However, the EPA notes that the bolded portion of this provision in the Appendix could be considered to establish or change a level of protection related to the magnitude, duration, or frequency of water quality criteria. SCDHEC has clarified that this section was drafted to ensure permit writers were accurately using provisions already found in their WQS and in other permitting guidance. In its submission, SCDHEC noted that the bolded portion of the provision, "is not a new rule," but has existed, "in R.61-68 E.14(3) dating back to 2001," and, "merely references the existing regulation." If this was a new or revised provision, the EPA would review it as a change to WQS. However, the EPA concurs that the language added to the Appendix for use by the permit writer reflects existing language in the WQS that has already been approved, therefore EPA does not consider that this is a new or revised standard and is taking no action on this provision.

### **Review of Revisions to South Carolina Regulation 61-69 Classified Waters**

The following revision was made that the state referred to as “stylistic.” The EPA has reviewed this revision to ensure that it does not alter the meaning or intent of the previously approved corresponding provisions.

Citation/Location	Revision	Purpose of Revision
R.61-69 Table of Contents and Preamble	Updated approval dates	Updating the approval dates does not change the meaning of the WQS.

The EPA approves this editorial revision as being consistent with the CWA and the EPA’s implementing regulations. The EPA notes, however, that its approval of this editorial change does not re-open the EPA’s prior approval of the underlying WQS.

During this triennial review, the Department undertook a detailed review of the use classifications for all waters identified in R.61-69. As documented in the submission, the Department made changes to the description of 57 waterbodies. These changes included revisions such as correcting the name (e.g. Crane Creek corrected to Cane Creek), description (e.g., correcting the description of Rocky Bluff Swamp to note it flows to Scape Ore Swamp then to Black River, not directly to Black River), or location of the waterbody (e.g., correcting the county for portions of Savannah River in Anderson County) to make it more accurately describe the waterbody. These revisions did not change the use designation of the waterbodies or change the level of protection for these waterbodies. One waterbody, the Atlantic Intracoastal Waterway, had a correction from Class SA to Class SB. SCDHEC clarified that this waterbody overlaps with and is part of another waterbody, Winyah Bay, which was previously approved as Class SB.<sup>5</sup> The revision corrects the classification to the previously approved classification for the overlapping portion of this waterbody. The EPA approves these editorial revisions as being consistent with the CWA and the EPA’s implementing regulations. The EPA notes, however, that its approval of these editorial changes does not re-open the EPA’s prior approval of the underlying WQS.

As part of the effort to update and correct waterbody names and descriptions, the state also corrected the delineation of the fresh and saltwater boundaries for portions of the Ashley River in Charleston and Dorchester counties. This resulted in changes to the descriptions of the waterbodies on each side of the fresh and saltwater boundary. According to SCDHEC, the original fresh and saltwater boundary was delineated coarsely, using easy to find man-made landmarks, such as bridges near the fresh/saltwater boundary. Updated GIS technology was used to delineate the exact location of the actual fresh and saltwater boundary, bringing consistency between SCDHEC and South Carolina Department of Natural Resources. The EPA notes that the Department confirmed that the changes to the fresh and saltwater boundary were corrections, only. These changes were not the result of any anthropogenic changes, such as those that may be caused by surface or ground water withdrawals, salt water intrusion, or any effect due to climate change, but are reflections of the actual historic location of the fresh/saltwater boundary.<sup>6</sup> The EPA approves these revisions as being consistent with the CWA and 40 C.F.R. Part 131. This change is approved by the EPA under CWA Section 303(c).

**Conclusion**

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<sup>5</sup> Additional support material submitted by email, March 29, 2021, from Andrew Edwards, SCDHEC, to Lisa Perras Gordon, US EPA with maps delineating the overlapping sections with multiple names.

<sup>6</sup> Personal communication between Lisa Perras Gordon, US EPA, and Andrew Edwards, SCDHEC, November 16, 2020.

Based on the reasons outlined above, the EPA concludes that the requirements of the CWA and 40 C.F.R. Part 131 have been met for the new or revised WQS contained in South Carolina's submission. Therefore, the new or revised criteria addressed in this Decision Document are approved by the EPA pursuant to Section 303(c) of the CWA.

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Date

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Jeaneanne M. Gettle, Director  
Water Division