



OFFICE OF THE REVISOR OF STATUTES

Minnesota Legislature

Cindy K. Maxwell, Assistant Deputy Revisor



July 9, 2019

Mary Lynn
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155

RE: File No. 4561

Dear Mary:

I am enclosing four copies of your rules, approved as to form. Submit the revisor file number from the upper right corner of this document to the State Register for publication. Copies of the rules approved as to form do not need to be submitted to the State Register.

If you have any questions, please call me.

Please use the revisor file number on all rulemaking documents and all communications with the governor's office.

Sincerely,

Cindy K. Maxwell

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1.1 **Minnesota Pollution Control Agency**

1.2 **Proposed Permanent Rules Relating to Standards for Water Quality**

1.3 **7050.0219 HUMAN HEALTH-BASED CRITERIA AND STANDARDS.**

1.4 *[For text of subparts 1 to 11, see Minnesota Rules]*

1.5 Subp. 12. **Final state or site BAF by trophic level.** Calculate final state or site BAF
 1.6 for TL₃ where applicable and TL₄ for use in developing human health-based chronic criteria
 1.7 or standards.

1.8 A. For nonionic organic chemicals and ionic organic chemicals with no or
 1.9 negligible ionization as defined under subpart 7, for each TL₃ and TL₄, calculate a state or
 1.10 site BAF using the following equation:

$$\text{state or site BAF}_{(TL\ n)} = \left[(\text{final baseline BAF}_1^{fd})_{TL\ n} \times (f_i)_{TL\ n+1} \right] \times (f_{fd})$$

1.11 where: (final baseline BAF₁^{fd})_{TL n} = final trophic-level-mean baseline BAF expressed on
 1.12 a freely dissolved and lipid-normalized basis for trophic level "n" (L/kg)

1.13 (f_i)_{TL n} = lipid fraction of aquatic species consumed at trophic level "n" by class 2
 1.14 subclass: class 2A = 0.06; class ~~2Bd/2B/2C/2D~~ 2Bd/2B/2D = 0.02 for TL₃ and
 1.15 0.015 for TL₄

1.16 f_{fd} = fraction of the total chemical in water that is freely dissolved in ambient waters

1.17 The default DOC and POC values for the state ambient class 2 surface waters are 7.5 x
 1.18 10⁻⁶kg/L (7.5 mg/L) and 5 x 10⁻⁷ kg/L (0.5 mg/L), respectively. For a site BAF for use in
 1.19 site-specific criteria development, the DOC and POC values are from the site monitoring
 1.20 data, if available; in all other cases, the state defaults are used.

1.21 B. For inorganic and organometallic chemicals and ionic organic chemicals with
 1.22 ionization in natural waters, the baseline BAF_T^t using total chemical concentrations or
 1.23 bioavailable forms are directly applied as the state or site BAF:

1.24 state BAF_(TL n) or site BAF = final baseline BAF_(TL n)

2.1 [For text of subpart 13, see Minnesota Rules]

2.2 Subp. 14. **Algorithm for class 2B, ~~2C~~, or 2D surface waters.** This subpart describes
 2.3 human health-based criteria or standards for classes of surface waters designated for fish
 2.4 consumption and recreational use (nondrinking water use). To develop a final chronic criteria
 2.5 (CC_{fr}) or standard (CS_{fr}) applicable to surface waters designated class 2B, ~~2C~~, or 2D, items
 2.6 A to C must be evaluated for use based on the pollutant's toxicological profile: noncarcinogen
 2.7 or nonlinear carcinogen (NLC) or linear carcinogen (C).

2.8 A. Algorithm for noncarcinogenic or NLC chemicals applicable to class 2B, ~~2C~~,
 2.9 or 2D surface waters to calculate: CC_{fr} or CS_{fr} =

$$2.10 \quad \frac{RfD_{\text{chronic}} \text{ (mg/kg-d)} \times RSC \text{ (no units)} \times 1,000 \text{ } \mu\text{g/mg}}{2.11 \quad \{IWR_{\text{chronic}} \text{ (L/kg-d)} + FCR_{\text{adult}} \text{ (kg/kg-d)}[(0.24 \times BAF_{TL3} \text{ (L/kg)}) + (0.76 \times BAF_{TL4} \text{ (L/kg)})]\}}$$

2.13 where: CC_{fr} or CS_{fr} = fish consumption and recreation chronic criterion or standard in
 2.14 $\mu\text{g/L}$

2.15 $IWR_{\text{chronic}} = 0.0013 \text{ L/kg-d}$; assumed incidental water intake rate based on minimum
 2.16 chronic duration

2.17 Other variables as defined under subpart 13

2.18 B. Algorithm for linear carcinogenic chemicals with lifetime adjustment factors
 2.19 (AF_{lifetime}) applicable to surface waters designated class 2B, ~~2C~~, or 2D to calculate: CC_{fr} or
 2.20 CS_{fr} =

$$\frac{CR (1 \times 10^{-5})}{CSF \text{ (mg/kg-d)}^{-1} \times AF_{\text{lifetime}}} \times \frac{1000 \text{ } \mu\text{g/mg}}{\{IWR_{\text{chronic}} \text{ (L/kg-d)} + FCR_{\text{Adult}} \text{ (kg/kg-d)}[(0.24 \times BAF_{TL3} \text{ (L/kg)}) + (0.76 \times BAF_{TL4} \text{ (L/kg)})]\}}$$

2.21 where: CC_{fr} or CS_{fr} = fish consumption and recreation chronic criterion or standard in
 2.22 $\mu\text{g/L}$

2.23 Other variables as defined under item A and subpart 13

3.1 C. Algorithm for linear carcinogenic chemicals with age-dependent adjustment
 3.2 factors (ADAF) applicable to surface waters designated class 2B, ~~2C~~, or 2D to calculate:
 3.3 CC_{fr} or CS_{fr} =

$$\frac{CR (1 \times 10^{-5}) \times 1000}{\left(\left\{ \begin{aligned} & \left\{ CSF \times ADAF_{<2} \times D_{<2} \times [IWR + FCR_{<2} \times (0.24BAF_{TL3} + 0.76BAF_{TL4})] \right\} + \\ & \left\{ CSF \times ADAF_{2 \text{ to } <16} \times D_{2 \text{ to } <16} \times [IWR + FCR_{2 \text{ to } <16} \times (0.24BAF_{TL3} + 0.76BAF_{TL4})] \right\} + \\ & \left\{ CSF \times ADAF_{16 \text{ to } 70} \times D_{16 \text{ to } 70} \times [IWR + FCR_{Adult} \times (0.24BAF_{TL3} + 0.76BAF_{TL4})] \right\} \end{aligned} \right\} / 70 \text{yrs}$$

3.4 where: CC_{fr} or CS_{fr} = fish consumption and recreation chronic criterion or standard in
 3.5 $\mu\text{g/L}$

3.6 Other variables as defined under item A and subpart 13

3.7 *[For text of subpart 15, see Minnesota Rules]*

3.8 **7050.0420 TROUT COLD WATER HABITAT WATERS.**

3.9 A. Trout lakes identified in part 6264.0050, subpart 2, as amended through June
 3.10 14, 2004, are classified as trout waters and Cold water habitat waters are listed under part
 3.11 7050.0470. Trout streams and their tributaries within the sections specified that are identified
 3.12 in part 6264.0050, subpart 4, as amended through June 14, 2004, are classified as trout
 3.13 waters. Trout streams are listed in part 7050.0470. Other lakes that are classified as trout
 3.14 waters are listed in part 7050.0470.

3.15 B. Cold water habitat waters identified as class 2A, 2Ae, or 2Ag in part 7050.0470
 3.16 must reflect an existing beneficial use that permits propagating and maintaining a healthy
 3.17 community of cold water aquatic biota and their habitats.

3.18 C. The commissioner must propose changes to part 7050.0470 when reliable
 3.19 scientific evidence supports adding or removing a water listed as class 2A, 2Ae, or 2Ag.

4.1 Changes must be supported by data relevant to the biological community, habitat, thermal
 4.2 regime, or other features of a class 2A, 2Ae, or 2Ag habitat.

4.3 D. All waters Unless otherwise listed in part 7050.0470 as, all class 1B, 2A, and
 4.4 3B 2Ae, or 2Ag waters listed in part 7050.0470 are also classified as class 1B, 3B, 4A, 4B,
 4.5 5, and 6 waters.

4.6 **7050.0470 CLASSIFICATIONS FOR SURFACE WATERS IN MAJOR DRAINAGE**
 4.7 **BASINS.**

4.8 Subpart 1. **Lake Superior basin.** The water-use classifications for the stream reaches
 4.9 within each of the major watersheds in the Lake Superior basin listed in item A are found
 4.10 in tables entitled "Beneficial Use Designations for Stream Reaches" published on the website
 4.11 of the Minnesota Pollution Control Agency at
 4.12 www.pca.state.mn.us/regulations/minnesota-rulemaking. The tables are incorporated by
 4.13 reference and are not subject to frequent change. The date after each watershed listed in
 4.14 item A is the publication date of the applicable table. The water-use classifications for the
 4.15 other listed waters in the Lake Superior basin are as identified in items B to D. See parts
 4.16 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use
 4.17 information for water bodies can also be accessed through the agency's Environmental Data
 4.18 Access (<http://www.pca.state.mn.us/quick-links/eda-surface-water-data>).

4.19 *[For text of item A, see Minnesota Rules]*

4.20 B. Lakes:

4.21 *[For text of subitems (1) to (24), see Minnesota Rules]*

4.22 (25) Cedar Lake, 69-0431-00, (T.58, R.15W, S.20): 1B, 2A 2Bd, 3B;

4.23 *[For text of subitems (26) to (140), see Minnesota Rules]*

4.24 (141) Twin Lake, ~~69-1345-00~~ lower, 69-0967-00, (T.50, R.14W, S.28, 33):

4.25 1B, 2A, 3B;

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- 5.1 (142) Twin Lake, upper, 69-0967-01, (T.50, R.14W, S.28, 33): 1B, 2A, 3B;
- 5.2 ~~(142)~~ (143) *Twin Lake, upper (Bear Lake), 38-0408-00, [3/7/88R] (T.56,
- 5.3 R.8, S.25): 1B, 2A, 3B;
- 5.4 ~~(143)~~ (144) unnamed lake, 16-0903-00, (T.63, R.3E, S.20, 21, 28, 29): 1B,
- 5.5 2A, 3B;
- 5.6 ~~(144)~~ (145) unnamed lake, 16-0908-00, (T.63, R.1W, S.31): 1B, 2A, 3B;
- 5.7 ~~(145)~~ (146) *unnamed lake, 16-0237-00, [11/5/84P] (T.63, R.1, S.19, 30;
- 5.8 T.63, R.2, S.24, 25): 1B, 2Bd, 3B;
- 5.9 ~~(146)~~ (147) *Vale Lake, 16-0061-00, [11/5/84P] (T.64, R.2E, S.3): 1B, 2A,
- 5.10 3B;
- 5.11 ~~(147)~~ (148) Vaseux Lake (East Lily), see Lily Lakes;
- 5.12 ~~(148)~~ (149) *Vista Lake, 16-0224-00, [11/5/84P] (T.64, R.1): 1B, 2A, 3B;
- 5.13 ~~(149)~~ (150) *Wanihigan Lake (Trap Lake), 16-0349-00, [11/5/84P] (T.63,
- 5.14 64, R.2, 3): 1B, 2A, 3B;
- 5.15 ~~(150)~~ (151) *Wee Lake, 16-0183-00, [11/5/84P] (T.62, R.4W, S.13): 1B,
- 5.16 2A, 3B;
- 5.17 ~~(151)~~ (152) *Wench Lake, 16-0398-00, [11/5/84P] (T.63, R.3W, S.7, 18):
- 5.18 1B, 2A, 3B;
- 5.19 ~~(152)~~ (153) White Pine Lake, 16-0369-00, [WR] (T.61, R.3W, S.19, 20, 29,
- 5.20 30): 2B, 3B; and
- 5.21 ~~(153)~~ (154) *Winchell Lake, 16-0354-00, [11/5/84P] (T.64, R.2, 3): 1B, 2A,
- 5.22 3B.

5.23 *[For text of items C and D, see Minnesota Rules]*

6.1

[For text of subparts 2 to 9, see Minnesota Rules]