

Chapter NR 102

WATER QUALITY STANDARDS FOR
WISCONSIN SURFACE WATERS

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History: Chapter NR 102 as it existed on September 30, 1973 was repealed and a new chapter NR 102 was created, effective October 1, 1973.

NR 102.01 Purpose. (1) The purpose of this chapter is to establish, in conjunction with chs. NR 103 to 105, water quality standards for surface waters of the state pursuant to s. 144.025 (2) (b), Stats. This chapter describes the designated use categories for such waters and the water quality criteria necessary to support these uses. This chapter and chs. NR 103 to 105 constitute the water quality standards for the surface waters of Wisconsin.

(2) Water quality standards shall protect the public interest, which includes the protection of public health and welfare and the present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, domestic and recreational purposes, and agricultural, commercial, industrial, and other legitimate uses. In all cases where the potential uses are in conflict, water quality standards shall protect the general public interest.

(3) Water quality standards serve as a basis for developing and implementing control strategies to achieve legislative policies and goals. Water quality standards are the basis for deriving water quality based effluent limitations. Water quality standards also serve as a basis for decisions in other regulatory, permitting or funding activities that impact water quality.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.02 Applicability. The provisions of this chapter are applicable to surface waters of Wisconsin.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.03 Definitions. (1) "Mixing zone" means a region in which a discharge of different characteristics than the receiving water is in transit and progressively diluted from the source to the receiving system.

(2) "Natural conditions" means the normal daily and seasonal variations in climatic and atmospheric conditions, and the existing physical and chemical characteristics of a water or the course in which it flows.

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(3) "Natural temperature" means the normal existing temperature of a surface water including daily and seasonal changes outside the zone of influence of any artificial inputs.

(4) "Resource management" means the application of control techniques to enhance or preserve a surface water in accordance with statutory provisions and in the general public interest.

(5) "Sanitary survey" means a thorough investigation and evaluation of a surface water including bacteriological sampling to determine the extent and cause of any bacterial contamination.

(6) "Surface waters" means all natural and artificial named and unnamed lakes and all naturally flowing streams within the boundaries of the state, but not including cooling lakes, farm ponds and facilities constructed for the treatment of wastewaters (the term waters as used in this chapter means surface waters).

(7) "Unauthorized concentrations of substances" means pollutants or other chemicals introduced into surface waters without prior permit or knowledge of the department, but not including accidental or unintentional spills.

(8) "Best practicable control technology" means that level of treatment established by the department under s. 147.04 (2) (a), Stats., for categories and classes of point sources to be achieved by not later than July 1, 1977.

(9) "Best available control technology" means that level of treatment established by the department under s. 147.04 (2) (b) 1., Stats., for categories and classes of point sources to be achieved by not later than July 1, 1983.

History: Cr. Register, September, 1973, No. 213, eff. 10-1-73; r. (1), renun. from NR 102.01, Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.04 Categories of standards. (1) **GENERAL.** To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and the effluent channel meet the following conditions at all times and under all flow conditions:

(a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

(b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

(c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

(d) Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

2. Namekagon river between its confluence with the St. Croix river and the outlet of Lake Namekagon in Bayfield county.

(b) *State wild and scenic rivers*. All state wild and scenic rivers designated under s. 30.26, Stats., including:

1. Pike river in Marinette county.

2. Pine river and its tributary Popple river in Florence and Forest counties.

(c) Wolf river upstream of the northern Menominee county line.

(d) The following Class I trout waters:

1. Adams county — Big Roche-a-Cri creek

2. Barron county — Yellow river

3. Bayfield county — Flag river, Sioux river

4. Burnett county — North Fork Clam river, South Fork Clam river

5. Chippewa county — Duncan creek, Elk creek, McCann creek

6. Door county — Black Earth creek above the easternmost CTY KP crossing

7. Door county — Logan creek

8. Douglas county — Bois Brule river and its tributaries

9. Dunn county — Elk creek

10. Florence county — Brule river including Montagne creek and Riley creek tributaries; tributaries to the Pine-Popple rivers including Chipmunk, Cody, Haley, Haymarsh, LaMontagne, Lepage, Lunds, Martin, Olson, Patten, Pine, Riley, Rock, Simpson, Seven Mile, Wakefield and Woods creeks; Little Popple river

11. Forest county — Brule river

12. Iowa county — Love-Strutt creek, Trout creek

13. Kewaunee county — Little Scarboro creek

14. Langlade county — Clearwater creek, Drew creek, Evergreen river, South Branch Oconto river

15. Lincoln county — Center fork New Wood creek, Little Pine creek, Prairie river

16. Marathon county — Holt creek, Spranger creek, Plover river

17. Marinette county — Cedarville creek, Otter creek, Holmes creek, East Thunder creek, North fork Thunder river, Eagle creek, Little Eagle creek, Plumadore creek, Meadow brook, Upper Middle Inlet creek, Middle Inlet creek, Wausaukee river, Little Wausaukee creek, Coldwater brook, Medicine brook, South Branch Miskauno river, Miskauno river, Swede John creek, South Branch Pemebonwon river, Spikehorn creek, Silver creek, Little Silver creek, Sullivan creek; tributaries to the Pike river including Little South Branch Pike river, Camp D creek, Camp F creek, Camp 9 creek, Cole creek, Glen creek, Harvey creek, North Branch Harvey creek, South Branch Harvey creek, Hemlock creek, Holloway creek, K.C. creek, Little Harvey creek, Lost creek, MacIntire

creek, Phillips creek, Sackerson creek, Shinns creek, Sidney creek, Smeesters creek, Springdale brook, Whiskey creek

18. Marquette county — Chaffee creek, Lawrence creek, Tagatz creek

19. Monroe county — Rullands Coulee creek

20. Oconto county — First South Branch Oconto river, Second South Branch Oconto river, South Branch Oconto river, Hills Pond creek

21. Polk county — Clam river, McKenzie creek

22. Portage county — Emmons creek, Radley creek, Sannes creek, Tomorrow river, Trout creek

23. Richland county — Camp creek

24. Sheboygan county — Nichols creek

25. St. Croix county — Kinnickinnic river above STH "35"

26. Vernon county — Rullands Coulee creek, Spring Coulee creek, Timber Coulee creek

27. Vilas county — Deerskin river, Plum creek

28. Walworth county — Bluff creek, Potawatomi creek, Van Slyke creek

29. Waupaca county — Emmons creek, Griffin creek, Jackson creek, Leers creek, Peterson creek, Radley creek, Sannes creek, Spaulding creek, Trout creek, Whitcomb creek, North Branch Little Wolf river

30. Waushara county — Willow creek north of Redgranite, Mekan river north of Richford, Little Pine creek, West Branch White river

(e) The following Class II trout waters:

1. Barron county — Yellow river

2. Burnett county — North Fork Clam river

3. Forest county — Brule river, Peshtigo river

4. Grant county — Big Green river, Castle Rock creek

5. Marinette county — Peshtigo river

6. Polk county — McKenzie creek

7. Vilas county — Plum creek

(2) The waters in sub. (1) may not be lowered in quality.

(3) Surface waters, or portions thereof, may be added to, or deleted from, the outstanding resource waters designation through the rule making process under the provisions of ch. 227, Stats., and s. NR 2.03.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89; am. (1) (d), cr. (1) (e), Register, July, 1989, No. 403, eff. 8-1-89.

NR 102.11 Exceptional resource waters. (1) Surface waters which provide valuable fisheries, hydrologically or geologically unique features, outstanding recreational opportunities, unique environmental settings, and which are not significantly impacted by human activities may be classified as exceptional resource waters. All the following surface waters are designated as exceptional resource waters:

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(a) Class I trout waters listed in Wisconsin Trout Streams publication 6-3600 (80) that are not listed in s. NR 102.10.

(b) Other Class I trout waters:

1. Abraham Coulee creek in section 29, township 20 north, range 8 west from its headwaters to the Abraham Coulee road bridge in Trempealeau county.

2. Bear creek originating in section 3, township 20 north, range 7 west in Trempealeau county.

3. Biser creek originating in section 19, township 12 north, range 3 west in Sauk county.

4. Bostwick creek from CTH M upstream 6.2 miles to the headwaters in LaCrosse county.

5. Bufton Hollow creek originating in section 23, township 12 north, range 2 west in Richland county.

6. Columbus creek originating in section 29, township 20 north, range 6 west in Jackson county.

7. Dutch creek originating in section 12, township 19 north, range 8 west in Trempealeau county.

8. Joe Coulee creek originating in section 1, township 20 north, range 7 west in Trempealeau county.

9. Little creek originating in section 21, township 20 north, range 6 west in Jackson county.

10. Marble creek originating in section 30, township 10 north, range 3 east in Sauk county.

11. Marshall creek originating in section 4, township 11 north, range 1 west in Richland county.

12. Martin creek originating in section 22, township 6 north, range 2 east in Iowa county.

13. South Bear creek originating in section 2, township 12 north, range 2 west in Richland county.

14. Spring brook downstream from CTH Y south of Antigo to its confluence with the Eau Claire river in Marathon county.

15. Spring Coulee creek from the headwaters to SE $\frac{1}{4}$, SE $\frac{1}{4}$, section 33, township 16 north, range 1 east in Monroe county.

16. Unnamed creek 2-12 originating in section 36, township 20 north, range 7 west of Trempealeau county.

17. Unnamed creek 4-9 originating in section 4, township 11 north, range 1 west in Richland county.

18. Unnamed creek 5-6 originating in section 6, township 19 north, range 8 west in Trempealeau county.

19. Unnamed creek 7-4 originating in section 6, township 20 north, range 7 west in Trempealeau county.

20. Unnamed creek 8-9 originating in section 5, township 20 north, range 7 west in Trempealeau county.
21. Unnamed creek 8-14 originating in section 1, township 20 north, range 8 west in Trempealeau county.
22. Unnamed creek 9-13 originating in section 4, township 20 north, range 6 west in Jackson county.
23. Unnamed creek 10-8 originating in section 10, township 11 north, range 1 west in Richland county.
24. Unnamed creek 10-10 originating in section 14, township 20 north, range 6 west in Jackson county.
25. Unnamed creek 11-4 originating in section 1, township 20 north, range 7 west in Trempealeau county.
26. Unnamed creek 11-7 originating in section 2, township 20 north, range 7 west in Trempealeau county.
27. Unnamed creek 13-3a originating in section 19, township 20 north, range 6 west in Trempealeau county.
28. Unnamed creek 13-3b originating in section 6, township 20 north, range 6 west in Trempealeau county.
29. Unnamed creek 15-13 originating in section 1, township 20 north, range 8 west in Trempealeau county.
30. Unnamed creek 15-4 originating in section 3, township 20 north, range 6 west in Trempealeau county.
31. Unnamed creek 16-2 originating in section 22, township 20 north, range 6 west in Jackson county.
32. Unnamed creek 17-5 originating in SE 1/4, section 5, township 20 north, range 6 west in Jackson county.
33. Unnamed creek 24-3a originating in section 24, township 11 north, range 1 west in Richland county.
34. Unnamed creek 26-7 originating in section 2, township 20 north, range 6 west in Jackson county.
35. Unnamed creek 34-2 originating in section 17, township 20 north, range 8 west in Trempealeau county.
36. Unnamed creek 34-15 originating in section 27, township 20 north, range 7 west in Trempealeau county.
37. Unnamed stream originating in section 29, township 10 north, range 3 east in Sauk county.
38. Washington Coulee creek originating in section 29, township 20 north, range 6 west in Jackson county.

(c) The following Class II trout waters:

1. Ashland county — White river above the Bad River Indian reservation
2. Bayfield county — White river

3. Dane county — Mt. Vernon creek
4. Forest county — North Branch Oconto river
5. Grant county — Blue river
6. Iowa county — Blue river
7. Langlade county — Prairie river, South Branch Oconto river
8. Lincoln county — Prairie river
9. Marquette county — Mekan river
10. Oconto county — North Branch Oconto river, South Branch Oconto river
11. Pierce county — Rush river
12. Portage county — Tomorrow river
13. Richland county — Willow creek
14. St. Croix county — Willow river, Race Branch
15. Waushara county — Mekan river

(2) The waters identified in sub. (1) may not be lowered in quality except as provided in ch. NR 207.

(3) Surface waters, or portions thereof, may be added to, or deleted from, the exceptional resource waters designation through the rule making process under the provisions of ch. 227, Stats., and s. NR 2.03.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89; cr. (1) (c), Register, July, 1989, No. 403, eff. 8-1-89.

NR 102.12 Great Lakes waters. (1) The following surface waters are designated as Great Lakes waters:

- (a) Lake Michigan, including Green Bay.
- (b) Lake Superior.

(2) For the purpose of administering ch. NR 207 and consistent with chs. NR 105 and 106, the waters identified in sub. (1) and their tributaries are to be protected from the impacts of persistent, bioaccumulating toxic substances by avoiding or limiting to the maximum extent practicable increases in these substances.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.13 Fish and aquatic life waters. All surface waters not included in s. NR 102.05 (1) (b) 1, 2, 3 or 5 are fish and aquatic life waters.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.14 Taste and odor criterion. (1) At certain concentrations, substances may not be toxic to humans, but may impart undesirable taste or odor to water or aquatic organisms ingested by humans. The taste and odor criterion is derived to prevent substances from concentrating in surface waters or accumulating in aquatic organisms to a level which results in undesirable tastes or odors to human consumers.

(2) The taste and odor criterion is derived as follows:

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(a) For substances which impart tastes and odors to waters, the taste and odor criterion shall equal that threshold concentration (TC_w) below which objectionable tastes or odors to human consumers do not occur. Threshold concentrations for substances imparting tastes and odors to water are listed in Table 1.

Table 1

Threshold Concentrations (TC_w) for Substances Causing Taste and Odor in Water

Substance	Threshold Concentration (ug/L) ¹
Acenaphthene	20
Chlorobenzene	20
2-Chlorophenol	0.1
3-Chlorophenol	0.1
4-Chlorophenol	0.1
Copper	1000
2,3-Dichlorophenol	0.04
2,4-Dichlorophenol	0.3
2,5-Dichlorophenol	0.5
2,6-Dichlorophenol	0.2
3,4-Dichlorophenol	0.3
2,4-Dimethylphenol	400
Hexachlorocyclopentadiene	1
2-Methyl-4-Chlorophenol	1800
3-Methyl-4-Chlorophenol	3000
3-Methyl-6-Chlorophenol	20
Nitrobenzene	30
Pentachlorophenol	30
Phenol	300
2,3,4,6-Tetrachlorophenol	1
2,4,5-Trichlorophenol	1
2,4,6-Trichlorophenol	2
Zinc	5000

¹A threshold concentration expressed in micrograms per liter (ug/L) can be converted to milligrams per liter (mg/L) by dividing the threshold concentration by 1000.

(b) For substances which impart tastes or odors to aquatic organisms, the taste and odor criterion shall be calculated as follows:

$$TOC = \frac{TC_f}{BAF}$$

Where: TOC = Taste and odor criterion in milligrams per liter (mg/L).
 TC_f = Threshold concentration in milligrams of substance per kilogram of wet tissue weight (mg/kg) of the aquatic organism being consumed below which undesirable taste and odor is not detectable to human consumers as derived in par. (d).
 BAF = Aquatic life bioconcentration factor with units of liter per kilogram (L/kg) as derived in s. NR 105.10.

(c) The lower of the taste and odor criteria derived as specified in pars. (a) and (b) is applicable to surface waters classified as public water supplies. The taste and odor criteria derived as specified in par. (b) is applicable to Great Lakes, cold water, and warm water sport fish communities.

(d) Threshold concentrations for substances imparting tastes or odors to water (TC_w) other than those listed in Table 1 and threshold concentrations for substances imparting tastes or odors to aquatic organisms (TC_f) shall be selected by the department using its best professional judgment.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

Register, July, 1989, No. 403