Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

Chapter NR 102

WATER QUALITY STANDARDS FOR WISCONSIN SURFACE WATERS

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Note: Chapter NR 102 as it existed on September 30, 1973 was repealed and a new chapter NR 102 was created, effective October 1, 1973. Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1997, No. 500.

Subchapter I — General

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. 281.15, Stats. This chapter describes the designated use categories for such waters and the water quality criteria necessary to support these uses. This chapter, chs. NR 103 to 105, and ch. NR 119 constitute the water quality standards for the surface waters of Wisconsin.

(2) The long−range goal of Wisconsin water quality standards is to protect the use of water resources for all lawful purposes. 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 and the limitations shall be determined to attain and maintain uses and criteria, unless more stringent effluent limitations are established to protect downstream waters. 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; CR 07−111: am. (1), (2) and (3) Register September 2010 No. 657, eff. 10−1−10; CR 19−093: am. (1) Register September 2022 No. 801, eff. 10−1−22.

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. In this chapter, the following definitions apply:

(1) "Ambient temperature" means the typical existing temperature of a surface water outside the direct influence of any point source discharge, which may include daily and seasonal changes.

(1c) "Benthic" means relating to the ecological zone at the bottom of a body of water, including the sediment surface and subsurface layers.

(1e) "Biological assessment threshold" means a numeric value or condition description used to measure the quality of a waterbody's biological community and to determine attainment of its designated uses.

(1g) "Chlorophyll *a*" means a green pigment present in all green plants and in cyanobacteria, responsible for the absorption of light to provide energy for photosynthesis.

(1i) "Clean Water Act" means the federal Clean Water Act of 1972 and amendments.

(1k) "Confidence interval" means a range within which the true value of a parameter is likely to occur, with a specified level of confidence.

(1m) "Diatom" means a common and diverse group of unicellular algae of the phylum Chrysophyta, having cell walls containing silica.

(1o) "Drainage lake" means a lake with an outlet stream that continually flows under average summer conditions based on the past 30 years.

(1q) "Impounded flowing water" means a waterbody impounded by a constructed outlet structure on a river or stream that is not a reservoir as defined in sub. (4s).

(1v) "Macrophyte" means an aquatic plant large enough to be seen without the use of a microscope.

(2) "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.

(3) "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.

(4) "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.

(4e) "PFOA" means perfluorooctanoic acid in its anionic, cationic, and acidic forms as well as any salts of perfluorooctanoic acid.

(4m) "PFOS" means perfluorooctane sulfonate, including its anionic, cationic, and acidic forms as well as any salts of perfluorooctane sulfonate.

(4s) "Reservoir" means a waterbody with a constructed outlet structure intended to impound water and raise the depth of the water by more than two times relative to the conditions prior to construction of the dam, and that has a mean water residence time of 14 days or more under summer mean flow conditions using information collected over or derived for a 30 year period.

(5) "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.

(6) "Section 303 (d) list" means a list of waters that do not attain water quality standards and require a total maximum daily load analysis, as specified under section 303 (d) of the Clean Water Act, 33 USC 1313 (d).

(6e) "Seepage lake" means a lake that does not have an outlet stream that continually flows under average summer conditions based on the past 30 years.

(6m) "Stratified lake or reservoir" means a lake or reservoir where sufficient field data demonstrate that the lake is dimictic or, in absence of sufficient field data, the following equation results in a value of greater than 3.8:

$$\frac{\text{Maximum Depth (meters)} - 0.1}{\text{Log}_{10}\text{Lake Area (hectares)}}$$

(6s) "Stratified two−story fishery lake" or "two−story fishery lake" means a lake greater than 5 acres in size that is typically stratified in the summer, with the potential for an oxygenated hypolimnion, that has documentation at any time since 1975 of a population of cold water fish species such as cisco, whitefish, or trout that is sustained through natural reproduction or long−term active stocking with year−to−year survival.

Note: A list of two−story fishery lakes that contain naturally reproducing lake trout, whitefish, or cisco, or are stocked and managed by the department for brook, brown, rainbow, or lake trout, is available on the department's designated uses website at https://dnr.wi.gov/topic/SurfaceWater/usedesignations.html.

(7) "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).

(7m) "Total phosphorus" means all of the phosphorus in a water sample analyzed using the methods identified under the provisions of s. NR 219.04 (1).

(8) "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.

(9) "U.S. EPA" means the United States environmental protection agency.

History: Cr. Register, September, 1973, No. 213, eff. 10−1−73; r. (1), renum. from NR 102.01, Register, February, 1989, No. 398, eff. 3−1−89; cr. (10), Register, May, 1993, No. 449, eff. 6−1−93; CR 07−111: cr. (intro.) and (1), r. (8) to (10), renum. (1) to (7) to be (2) to (8) Register September 2010 No. 657, eff. 10−1−10; CR 19−014: renum. (6) to NR 210.03 (10m), cr. (9) Register April 2020 No. 772, eff. 5−1−20; CR 21−083: cr. (4e), (4m) Register July 2022 No. 799, eff. 8−1−22; CR 19−094: am. (intro), cr. (1c) to (1m), renum. (1o) from NR 102.06 (2) (a), cr. (1q), (1v), renum. (4s) from NR 102.06 (2) (f), cr. (6), renum. (6e), (6m), (6s), (7m) from NR 102.06 (2) (fm), (g), (i), (j) and am. (6m), (6s) Register September 2022 No. 801, eff. 10−1−22; correction in (1q) made under s. 13.92 (4) (b) 7., Stats., Register September 2022 No. 801.

NR 102.04 Categories of surface water uses and criteria. (1) GENERAL. To preserve and enhance the quality of waters, surface water uses and criteria 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 surface waters including the mixing zone meet the following conditions at all times and under all flow and water level 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.

Note: For levels of public health significance for PFOA and PFOS, see s. NR 102.04 (8) (d) 1.

(2) REVISED USES AND CRITERIA. The following uses and criteria may be revised as new information or advancing technology indicate that revisions are in the public interest. Water used for hydropower and commercial shipping depends mainly on quantity, depth and elevation; consequently, no specific quality criteria for these uses have been prepared.

(3) FISH AND OTHER AQUATIC LIFE USES. All surface waters shall belong in one of the fish and other aquatic life subcategories described in this subsection. Only those use subcategories identified in pars. (a) to (c) shall be considered suitable for the protection and propagation of a balanced fish and other aquatic life community as provided in the federal water pollution control act amendments of 1972, P.L. 92−500; 33 USC 1251 et seq.

(a) *Cold water communities.* This subcategory includes surface waters capable of supporting a community of cold water fish and other aquatic life, or serving as a spawning area for cold water fish species. This subcategory includes, but is not restricted to, surface waters identified as trout water by the department of natural resources (Wisconsin Trout Streams, publication 6−3600 (80)).

(b) *Warm water sport fish communities.* This subcategory includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

(c) *Warm water forage fish communities.* This subcategory includes surface waters capable of supporting an abundant diverse community of forage fish and other aquatic life.

(d) *Limited forage fish communities.* (Intermediate surface waters). This subcategory includes surface waters of limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of forage fish and other aquatic life.

(e) *Limited aquatic life.* (Marginal surface waters). This subcategory includes surface waters of severely limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of aquatic life.

(4) CRITERIA FOR FISH AND AQUATIC LIFE. Except for natural conditions, all waters classified for fish and aquatic life shall meet the following criteria:

(a) *Dissolved oxygen.* 1. For streams, rivers, and impounded flowing waters, dissolved oxygen criteria apply to samples taken from the main channel near the area with greatest flow. For lakes or reservoirs, the dissolved oxygen criteria in this paragraph apply to the epilimnion of stratified lakes and to all but the deepest one meter of the water column of unstratified lakes.

2. Except as provided in subds. 3. to 7. and par. (am), surface waters shall attain a minimum dissolved oxygen concentration of 5 mg/L at all times.

3. A waterbody classified by the department as a trout class I or II water under s. NR 1.02 (7), a cold water community that is not a two−story fishery lake covered under par. (am), or a great

lakes tributary used by salmonids for spawning during the period of habitation, shall attain all of the following:

a. A minimum dissolved oxygen concentration of 6.0 mg/L at all times.

b. A minimum dissolved oxygen concentration of 7.0 mg/L when cold water fish are spawning through fry emergence from their redds, or gravel nests.

Note: The period from spawning through fry emergence from their gravel nests is approximately mid−October through April, but varies depending on water temperature and location in the state.

c. Dissolved oxygen concentrations and diurnal patterns may not be altered from natural background levels to such an extent that cold water populations are adversely affected.

4. A waterbody classified by the department as trout class III under s. NR 1.02 (7) shall attain a minimum dissolved oxygen concentration of 6.0 mg/L at all times.

5. A waterbody for which a use attainability analysis under 40 CFR 131.10 (g) (1) to (6) demonstrates that its otherwise applicable designated use category is unattainable shall attain the following:

a. For a coldwater community with an approved use attainability analysis that redesignates it as warmwater, a minimum dissolved oxygen concentration of 5 mg/L at all times.

b. For any other community except those under subd. 7., a minimum dissolved oxygen concentration of 3 mg/L at all times to protect aquatic life.

Note: Waterbodies described in subd. 5. are also known as altered waters.

6. A waterbody designated by the department as limited forage fish shall attain a minimum dissolved oxygen concentration of 3 mg/L at all times.

7. A waterbody designated by the department as limited aquatic life or wetlands, or classified as diffuse surface waters or wastewater effluent channels shall attain a minimum dissolved oxygen concentration of 1 mg/L at all times when water is present.

(am) *Oxythermal layer thickness for two−story fishery lakes.* 1. 'Criteria.' A two−story fishery lake shall maintain, during its period of summer stratification, an oxythermal layer of at least 1 meter in thickness that maintains both a dissolved oxygen concentration of at least 6 mg/L and a maximum temperature of the following:

a. For a two−story fishery lake with lake trout, 57°F or less.

b. For a two−story fishery lake with whitefish but not lake trout, 66°F or less.

c. For a two−story fishery lake with cisco but not whitefish or lake trout, or that the department manages for brook, brown, or rainbow trout, 73°F or less.

d. For a two−story fishery lake with multiple coldwater fish species, the applicable criterion under subd. 1. a. to c. is that for the lake's species requiring the lowest temperature.

2. 'Assessment.' a. The monitoring period for the criteria under subd. 1. is June 1 to September 15. When monitoring for assessment purposes, depth profiles of temperature and dissolved oxygen shall, whenever possible, be taken in increments of 1 meter or less near the deepest part of the lake, at least monthly July to September. Samples taken outside this time frame but during summer stratification may also be used to determine assessment.

Note: Reservoirs, multi−lobed lakes, or very large lakes may need more than one sampling station to assess the lake.

b. If at any time during a lake's summer stratification the applicable criterion in subd. 1. is not met, that year is an exceedance year. At least 2 years of data are needed to make an attainment determination. If any 2 or more years within the most recent 5−year period are exceedance years, the lake is not attaining the water quality criterion. If insufficient data are available from the most recent 5−year period, data from up to 10 years may be used if representative of current conditions.

(c) *pH.* The pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum.

(d) *Toxic substances.* Unauthorized concentrations of substances are not permitted that alone or in combination with other materials present are toxic to fish or other aquatic life. Surface waters shall meet the acute and chronic criteria as set forth in or developed pursuant to ss. NR 105.05 and 105.06.

(e) *Temperature.* Water quality criteria for temperature shall be determined and applied pursuant to subch. II. Heated effluent shall not cause lethality, inside or outside of the mixing zone, to animal, plant or other aquatic life.

(f) *Other criteria.* Surface waters shall meet all other criteria that correspond to the appropriate aquatic life subcategory for the surface water, including narrative criteria specified in sub. (1).

(5) RECREATIONAL USE. (a) *General.* All surface waters shall be suitable for supporting recreational use and shall meet the criteria specified in sub. (6).

(b) *Exceptions.* Whenever the department determines, in accordance with the procedures specified in s. NR 210.06 (3), that wastewater disinfection is not required to protect recreational uses, the criteria specified in sub. (6) (a) and in chs. NR 103 and 104 do not apply.

(6) CRITERIA FOR RECREATIONAL USE. Bacteria criteria are established as follows to protect humans from illness caused by fecal contamination due to recreational contact with surface water:

(a) *Bacteria.* 1. 'Criteria.' All of the *Escherichia coli* (*E. coli*) criteria in Table A apply unless bacteria site−specific criteria have been adopted pursuant to subd. 2.

Table A

E. coli (counts[1] per 100 mL)	
Geometric Mean[2]	Statistical Threshold Value[3]
126	410
1. For determining attainment or compliance, counts are considered equivalent to either colony forming units or most probable number. 2. The geometric mean shall not be exceeded in any rolling 90−day period during the recreation season. 3. The statistical threshold value shall not be exceeded more than 10 percent of the time during any rolling 90−day period during the recreation season.	

Note: The department developed the *E. coli* criteria in this section based on criteria developed by U.S. EPA. U.S. EPA developed the *E. coli* criteria using membrane filtration methods to count *E. coli* colony forming units. Entities wishing to use quantitative polymerase chain reaction (qPCR) and a conversion factor to compare resulting *E. coli* counts to the criteria in Table A may seek U.S. EPA and department approval for using alternative indicators and methods as outlined in U.S. EPA technical support document EPA−820−R−14−011.

Note: Under the department's beach advisory program, a beach advisory is issued when a beach reaches the "Beach Action Value" of 235 counts per 100 mL and a beach closure is issued at 1000 counts per 100 mL, unless site−specific conditions indicate use of an alternate metric. More information on the beach advisory program is available at http://wibeaches.us.

2. 'Site−specific criteria.' a. The department may establish bacteria site−specific criteria by rule to protect a waterbody's recreational use when it is determined that the statewide *E. coli* criteria under subd. 1. are inappropriate due to site−specific conditions. Once bacteria site−specific criteria are adopted in a rule and approved by U.S. EPA, those criteria supersede the statewide *E. coli* criteria under subd. 1. for that waterbody.

b. Any interested party may submit proposed bacteria site−specific criteria for a waterbody to the department for review and consideration. Any request for bacteria site−specific criteria must include a demonstration that the proposed site−specific criteria

were developed using a U.S. EPA approved method, procedure, or test, are based on sound scientific rationale, and are as protective of the recreational use as the statewide *E. coli* criteria in subd. 1. A request for a less−stringent site−specific criteria must also demonstrate that the predominant source of the bacteria is non−human or non−fecal.

(7) PUBLIC HEALTH AND WELFARE USE. (a) *General.* All surface waters shall be suitable for supporting public health and welfare.

(b) *Exceptions.* Whenever the department determines a discharge of heated effluent is not exposed or situated in a manner that may pose a realistic potential for scalding of humans, the criterion specified in sub. (8) (c) does not apply.

(8) CRITERIA FOR PUBLIC HEALTH AND WELFARE USE. (a) *General.* The criteria developed pursuant to ss. NR 105.08 and 105.09 shall be met regardless of whether the surface water is used for public drinking water supply or the applicable fish and aquatic life subcategory.

(b) *Taste and odor criteria.* All surface waters providing public drinking water supplies or classified as cold water or warm water sport fish communities as described in sub. (3) shall meet the taste and odor criteria specified or developed pursuant to s. NR 102.14.

(c) *Temperature criteria.* To protect humans from being scalded, the water temperature of a discharge may not exceed 120ºF unless specifically authorized under provisions in subchs. V or VI of ch. NR 106.

(d) *PFOS and PFOA criteria and assessment.* 1. Surface waters shall meet all of the following criteria for PFOS and PFOA at all times and under all flow and water level conditions:

a. In order to protect against adverse public health impacts from consumption of fish taken from surface waters, concentrations of PFOS shall not be present in amounts found to be of public health significance, which is 8 parts per trillion, except in waters that cannot naturally support fish and do not have downstream waters that support fish.

b. In order to protect against adverse public health impacts from the incidental consumption of surface waters associated with recreational activities in the water, concentrations of PFOA shall not be present in amounts found to be of public health significance, which is 95 parts per trillion for surface waters not classified as public water supplies under ch. NR 104.

c. In order to protect against adverse public health impacts from consumption of drinking water supplied by surface waters, concentrations of PFOA shall not be present in amounts found to be of public health significance, which is 20 parts per trillion for surface waters classified as public water supplies under ch. NR 104.

2. The PFOS and PFOA criteria in subd. 1. shall be met in surface waters, and a surface water shall be considered an impaired water as defined in s. NR 151.002 (16m) if any of the criteria are exceeded more than once every 3 years. Permit requirements shall be implemented following the procedures under subch. VIII of ch. NR 106.

(9) WILDLIFE USE AND CRITERIA. (a) *Use.* All surface waters shall be suitable for supporting wildlife.

(b) *Criteria.* The criteria specified in or developed pursuant to s. NR 105.07 shall be met.

History: Cr. Register, September, 1973, No. 213, eff. 10−1−73; am. (3), Register, December, 1977, No. 264, eff. 1−1−78; renum. from NR 102.02, r. (3) (d) 1. to 3., and (5), renum. (3) (intro.) to (d) (intro.) and (e) and (4) to be (4) (intro.) to (e) and (5) and am. (4) (a), (d), (e) (intro.) and (5), cr. (6) and (7), Register, February, 1989, No. 398, eff. 3−1−89; am. (3) (intro.), (6), (7), r. (3) (a), renum. (3) (b) to (f) to be (3) (a) to (e) and am. (3) (a), Register, August, 1997, No. 500, eff. 9−1−97; CR 07−111: am. (title), (1) (intro.), (2), (3) (intro.), (4) (title) and (a), r. (4) (b), (e) 1. and (5) to (7), renum. (4) (e) (intro.), 2. and 3. to be (4) (b) and am. (4) (b) (intro.), cr. (4) (e) and (5) to (9) Register September 2010 No. 657, eff. 10−1−10; correction in (8) (c) made under s. 13.92 (4) (b) 7., Stats., Register September 2010 No. 657; CR 19−014: am. (5) (a), r. and recr. (6) Register April 2020 No. 772, eff. 5−1−20; CR 21−083: cr. (8) (d) Register July 2022 No. 799, eff. 8−1−22; CR 19−094: r. and recr. (4) (a), cr. (4) (am), r. (4) (b), am. (4) (d), cr. (4) (f), am. (5) (b) Register September 2022 No. 801, eff. 10−1−22.

NR 102.05 Application of standards. (1) ANTIDEGRADATION. (a) No waters of the state shall be lowered in quality unless it has been affirmatively demonstrated to the department that such a change is justified as a result of necessary economic and social development, provided that no new or increased effluent interferes with or becomes injurious to any assigned uses made of or presently possible in such waters.

(b) *Classification system.* For the purposes of this subsection, all surface waters of the state, or portions thereof, shall be classified as one of the following:

1. Outstanding resource waters as listed in s. NR 102.10,
2. Exceptional resource waters as listed in s. NR 102.11,
3. Great Lakes system waters as listed in s. NR 102.12 (1),
4. Fish and aquatic life waters as described in s. NR 102.13, or
5. Waters listed in tables 3 through 8 in ss. NR 104.05 to 104.10.

(2) STREAMFLOW. Water quality standards will not be maintained under all natural occurrences of flow, temperature, or other water quality characteristics. The determination of water quality based effluent limitations or other management practices shall be based upon the following conditions except as provided in ch. NR 106 for toxic and organoleptic substances and whole effluent toxicity:

(a) The average minimum 7−day low streamflow which occurs once in 10 years (7−day Q_{10}); or,

(b) In the case of dissolved oxygen and wherever sufficient data on streamflow and temperature are available, by application of a 0.274% level of nonattainment. This is equivalent to an expected nonattainment of the dissolved oxygen criterion of one day per year.

(3) MIXING ZONES. Water quality standards shall be met at every point outside of a mixing zone. The size of the mixing zone shall be based on such factors as effluent quality and quantity, available dilution, temperature, current, type of outfall, channel configuration and restrictions to fish movement. For toxic and organoleptic substances with water quality criteria or secondary values specified in or developed pursuant to chs. NR 102 and 105, allowable dilution shall be determined as specified in ch. NR 106 in addition to the requirements specified in this subsection. As a guide to the delineation of a mixing zone, the following shall be taken into consideration:

(a) Limiting mixing zones to as small an area as practicable, and conforming to the time exposure responses of aquatic life.

(b) Providing passageways for fish and other mobile aquatic organisms.

(c) Where possible, mixing zones being no larger than 25% of the cross−sectional area or volume of flow of a flowing water body and not extending more than 50% of the width.

(d) Final acute criteria and secondary values specified in or developed pursuant to s. NR 105.05 for the fish and aquatic life subcategory for which the receiving water is classified not being exceeded at any point in the mixing zone.

(e) Mixing zones not exceeding 10% of an inland lake's total surface area.

(f) Mixing zones not adversely impacting spawning or nursery areas, migratory routes, nor mouths of tributary streams.

(g) Mixing zones not overlapping, but where they do, taking measures to prevent adverse synergistic effects.

(h) Restricting the pH to values greater than 4.0 s.u. and to values less than 11.0 s.u. at any point in the mixing zone for the protection of indigenous fish and fish food organisms.

(5) RESOURCE MANAGEMENT EXEMPTIONS. Application of chemicals for water resource management purposes in accordance with statutory provisions is not subject to the requirements

of the standards except in case of water used for public water supply.

(6) ANALYTICAL PROCEDURES. (a) The criteria in the Radiation Protection Code, s. DHS 157.44, shall apply to the disposal and permissible concentrations of radioactive substances.

(b) Methods used for analysis of samples shall be as set forth in ch. NR 219 unless alternative methods are specified by the department.

History: Cr. Register, September, 1973, No. 213, eff. 10–1–73; renum. (5) and (6) to be (6) and (7), cr. (5), Register, July, 1975, No. 235, eff. 8–1–75; r. and recr. (3), Register, August, 1981, No. 308, eff. 9–1–81; correction in (7) made under s. 13.93 (2m) (b) 7., Stats., cr. (4) (h), Register, September, 1984, No. 345, eff. 10–1–84; renum. from NR 102.03, r. (1), cr. (1) (b), renum. (2) to (7) to be (1) (a) to (6) and am. (2), (3) (intro.) and (d) and (6), Register, February, 1989, No. 398, eff. 3–1–89; am. (1) (b) 3., (3) (intro.) and (d), Register, August, 1997, No. 500, eff. 9–1–97; correction in (6) (a) made under s. 13.93 (2m) (b) 7., Stats. Register July 2006 No. 607, eff. 8–1–06; correction in (6) (a) made under s. 13.92 (4) (b) 7., Stats., Register July 2010 No. 655; CR 07–111: am. (3) (intro.), (b), (c), (e) and (f), r. (4) Register September 2010 No. 657, eff. 10–1–10.

NR 102.06 Phosphorus. (1) GENERAL. This section identifies the water quality criteria for total phosphorus that shall be met in surface waters. Assessment procedures for waterbodies are specified in ss. NR 102.07 and 102.60.

(2) DEFINITIONS. In this section, the following definitions apply:

(b) "Ephemeral stream" means a channel or stream that only carries water for a few days during and after a rainfall or snowmelt event and does not exhibit a flow during other periods, and includes, but is not limited to, grassed waterways, grassed swales, and areas of channelized flow as defined in s. NR 243.03 (7).

(c) "Mean water residence time" means the amount of time that a volume of water entering a waterbody will reside in that waterbody.

(d) "Nearshore waters" means all waters of Lake Michigan or Lake Superior within the jurisdiction of the State of Wisconsin in the zone extending from the shore to a depth of 10 meters, based on the long–term mean elevation for Lake Superior of 183.4 meters (601.7 feet) and for Lake Michigan of 176.5 meters (579.0 feet).

(e) "Open waters" mean all waters of Lake Michigan or Lake Superior within the jurisdiction of the State of Wisconsin with depths greater than nearshore waters.

(3) RIVERS, STREAMS, AND IMPOUNDED FLOWING WATERS. To protect the fish and aquatic life uses established in s. NR 102.04 (3) on rivers and streams that generally exhibit unidirectional flow, total phosphorus criteria are established as follows:

(a) A total phosphorus criterion of 100 ug/L is established for the following rivers or other unidirectional flowing waters:

1. Apple River from the outlet of the Apple River Flowage in Amery to the St. Croix River, excluding Black Brook Flowage.

2. Bad River from confluence with the Marengo River within the Bad River Indian Reservation downstream to Lake Superior.

3. Baraboo River from highway 58 in La Valle to the Wisconsin River.

4. Bark River from confluence with Scuppernong River near Hebron to the Rock River.

5. Black River from confluence with Cunningham Creek near Neillsville to Mississippi River, excluding Lake Arbutus.

6. Brule River from state highway 55 in Forest County downstream to Menominee River.

7. Buffalo River from confluence with Harvey Creek near Mondovi to Mississippi River.

8. Chippewa River from Lake Chippewa in Sawyer County to Mississippi River, excluding Holcombe Flowage, Cornell Flowage, Old Abe Lake, Lake Wissota and Dells Pond.

9. Crawfish River from confluence with Beaver Dam River to Rock River.

10. East Branch Pecatonica River from confluence with Apple Branch Creek near Argyle to Pecatonica River.

11. Eau Claire River from confluence with Bridge Creek near Augusta to Chippewa River, excluding Altoona Lake.

12. Embarrass River from confluence with Pigeon River near Clintonville to Wolf River.

13. Flambeau River from outlet of Turtle–Flambeau Flowage in Iron County to Chippewa River, excluding Pixley Flowage, Crowley Flowage and Dairyland Flowage.

14. Fox River from outlet of Lake Puckaway near Princeton to Green Bay, excluding Lake Butte des Morts and Lake Winnebago.

15. Fox River from confluence with Mukwonago River near Mukwonago to state line, excluding Tichigan Lake.

16. Grant River from confluence with Rattlesnake Creek near Beetown to Mississippi River.

17. Jump River from confluence with the North Fork and the South Fork of the Jump rivers in Price County to Holcombe Flowage.

18. Kickapoo River from confluence with Weister Creek near La Farge to Wisconsin River.

19. Kinnickinnic River from confluence with Wilson Park Creek in Milwaukee to Milwaukee River.

20. La Crosse River from confluence with Fish Creek near Bangor to Mississippi River, excluding Neshonoc Lake.

21. Lemonweir River from outlet of New Lisbon Lake in New Lisbon to Wisconsin River, excluding Decorah Lake.

22. Little Wolf River from confluence with South Branch Little Wolf River near Royalton to Wolf River.

23. Manitowoc River from confluence of North Branch and South Branch Manitowoc rivers to the opening at the end of the piers at Lake Michigan.

24. Menominee River from confluence with Brule River to the opening at the end of the piers at Green Bay.

25. Menomonee River from confluence with Little Menomonee River to Milwaukee River.

26. Milwaukee River from confluence with Cedar Creek downstream to the openings of the breakwaters at Lake Michigan.

27. Mississippi River main channels and side channels.

28. Namekagon River from outlet of Trego Lake near Trego to St. Croix River.

29. Oconto River from confluence with Peshtigo Brook to the opening at the end of the piers at Green Bay.

30. Pecatonica River from confluence with Vinegar Branch near Darlington to state line.

31. Pelican River from confluence with Slaughterhouse Creek near Rhinelander to Wisconsin River.

32. Peshtigo River from confluence with Brandywine Creek downstream to Green Bay, excluding Cauldron Falls Flowage and High Falls Flowage.

33. Pine River from confluence with Popple River in Florence County to Menominee River, excluding Pine River Flowage.

34. Red Cedar River from confluence with Brill River to Chippewa River, excluding Rice Lake, Tainter Lake and Lake Menomin.

35. Rock River from outlet of Sinissippi Lake downstream to the state line, excluding Lake Koshkonong.

36. St. Croix River from confluence with Namekagon River downstream to Mississippi River, excluding Lake St. Croix near Hudson.

37. St. Louis River from state line to the opening between Minnesota Point and Wisconsin Point at Lake Superior.

38. Sheboygan River from outlet of Sheboygan Marsh to the opening at the end of the piers at Lake Michigan.

39. South Fork of Flambeau River from state highway 13 near Fifield to Flambeau River.

40. Sugar River from outlet of Albany Lake to state line, excluding Decatur Lake.

41. Tomahawk River from outlet of Willow Reservoir to Lake Nokomis.

42. Trempealeau River from confluence with Pigeon Creek near Whitehall to Mississippi River.

43. White River from outlet of White River Flowage in Ashland County to Bad River.

44. Wisconsin River from the Rhinelander Dam to Mississippi River, excluding Lake Alice, Lake Mohawksin, Alexander Lake, Lake Wausau, Mosinee Flowage, Lake Dubay, Wisconsin River Flowage, Biron Flowage, Petenwell Flowage, Castle Rock Flowage and Lake Wisconsin.

45. Wolf River from confluence with Hunting Creek in Langlade County to Lake Poygan.

46. Yahara River from outlet of Lake Kegonsa to Rock River.

(b) Except as provided in subs. (6) and (7), all other surface waters generally exhibiting unidirectional flow that are not listed in par. (a) are considered streams and shall meet a total phosphorus criterion of 75 ug/L.

(c) An impounded flowing water shall meet the river or stream criterion in par. (a) or (b) that applies to the primary stream or river entering the impounded water.

(4) RESERVOIRS AND LAKES. Except as provided in subs. (6) and (7), to protect fish and aquatic life uses established in s. NR 102.04 (3) and recreational uses established in s. NR 102.04 (5), total phosphorus criteria are established for reservoirs and lakes as follows:

(a) For stratified reservoirs, total phosphorus criterion is 30 ug/L. For reservoirs that are not stratified, total phosphorus criterion is 40 ug/L.

(b) For the following lakes that do not exhibit unidirectional flow, the following total phosphorus criteria are established:

1. For stratified, two−story fishery lakes, 15 ug/L.

2. For lakes that are both drainage and stratified lakes, 30 ug/L.

3. For lakes that are drainage lakes, but are not stratified lakes, 40 ug/L.

4. For lakes that are both seepage and stratified lakes, 20 ug/L.

5. For lakes that are seepage lakes, but are not stratified lakes, 40 ug/L.

(5) GREAT LAKES. To protect fish and aquatic life uses established in s. NR 102.04 (3) and recreational uses established in s. NR 102.04 (5) on the Great Lakes, total phosphorus criteria are established as follows:

(a) For both open and nearshore waters of Lake Superior, 5 ug/L.

(b) For both open and nearshore waters of Lake Michigan, excluding waters identified in par. (c), 7 ug/L.

(c) For the portion of Green Bay from the mouth of the Fox River to a line from Long Tail Point to Point au Sable, the water clarity and other phosphorus−related conditions that are suitable for support of a diverse biological community, including a robust and sustainable area of submersed aquatic vegetation in shallow water areas.

(6) EXCLUSIONS. The following waters are excluded from subs. (3) (b), (4) and (5):

(a) Ephemeral streams.

(b) Lakes and reservoirs of less than 5 acres in surface area.

(c) Wetlands, including bogs.

(d) Waters identified as limited aquatic life waters in ch. NR 104. Limited aquatic life waters are those subject to the criteria in s. NR 104.02 (3) (b) (2).

(7) SITE−SPECIFIC CRITERIA. (a) A criterion contained within this section may be modified by rule for a specific surface water segment or waterbody. A site−specific criterion may be adopted in place of the generally applicable criteria in this section where site−specific data and analysis using scientifically defensible methods and sound scientific rationale demonstrate a different criterion is protective of the designated use of the specific surface water segment or waterbody. Procedures for developing site−specific criteria for phosphorus are established in ch. NR 119.

Note: Assessment procedures for site−specific phosphorus criteria are the same as those for statewide phosphorus criteria under s. NR 102.07, unless otherwise specified.

(b) Site−specific criteria apply to the following waterbodies to protect fish and aquatic life uses and recreational uses:

1. For Castle Rock Lake, the total phosphorus criterion is 55 ug/L.

2. For Petenwell Lake, the total phosphorus criterion is 53 ug/L.

3. For Lake Wisconsin, the total phosphorus criterion is 47 ug/L.

4. For Lac Courte Oreilles, a stratified two−story fishery lake, the total phosphorus criterion is 10 ug/L. Attainment of the criterion is determined by taking samples within 2 meters of the surface at the deepest points of the lake's two−story fishery basins: East, Central, and West Basins. If the criterion is not attained at any one of the 3 deep points, then the lake as a whole, including the bays, is not attaining the criterion.

Note: Reservoirs, two−story fishery lakes and water bodies with high natural background phosphorus concentrations are the most appropriate water bodies for site−specific criteria.

History: Cr. Register, July, 1975, No. 235, eff. 8−1−75; am. Register, October, 1986, No. 370, eff. 11−1−86; renum. from NR 102.04, Register, February, 1989, No. 398, eff. 3−1−89; am. Register, November, 1992, No. 443, eff. 12−1−92; CR 10−035: r. and recr. Register November 2010 No. 659, eff. 12−1−10; renumbering of (2) (fm) made under s. 13.92 (4) (b) 1., Stats., Register November 2010 No. 659; CR 19−083: am. (4) (intro.), renum. (7) to (7) (a), cr. (7) (b) Register May 2020 No. 773, eff. 6−1−20; CR 10−093: am. (7) (a) Register September 2022 No. 801, eff. 10−1−22; CR 19−094: am. (1), (2) (intro.), renum. (2) (a), (f), (fm), (g), (i), (j) to NR 102.03 (1o), (4s), (6e), (6m), (6s), (7m) and, as renumbered, am. (6m), (6s), r. and recr. (3) (title), renum. (4) (c) to (3) (c) and am. Register September 2022 No. 801, eff. 10−1−22; **CR 22−082: cr. (7) (b) 4. Register January 2024 No. 817, eff. 2−1−24.**

NR 102.07 Assessing phosphorus concentration.

(1) DATA REQUIREMENTS. (a) *Lakes and reservoirs.* The total phosphorus criteria specified in s. NR 102.06 (4) apply to samples taken near a lake or reservoir's deepest point, within 2 meters of the surface. For assessment purposes samples shall, whenever possible, be taken at least once per month for 3 months during the sampling period of June 1 to September 15. The department shall calculate a lake or reservoir's arithmetic mean total phosphorus concentration using at least 2 years of data from the sampling period.

Note: Reservoirs, multi−lobed lakes, or very large lakes may need more than one sampling station to assess the lake.

(b) *Flowing waters.* The total phosphorus criteria specified in s. NR 102.06 (3) apply to samples taken from the main channel near the area with greatest flow. For assessment purposes samples shall, whenever possible, be taken at least once per month for 6 months during the sampling period of May 1 to October 31. The department shall calculate the median total phosphorus concentration for a stream, river, or impounded flowing water using at least one year of data from the sampling period.

(c) *Assessment timeframe for lakes, reservoirs and flowing waters.* 1. In this paragraph, "weather−controlled total phosphorus concentration" means a waterbody's mean or median total phosphorus concentration during the applicable assessment period, estimated from measured data while controlling for weather variability using a method such as the department's Phosphorus Mixed Effects Regression calculation method.

2. All representative data from the most recent 5 years shall be used for assessments, but data from the most recent 10 years may be used if representative of current conditions. If fewer than the recommended number of samples in par. (a) or (b) are avail-

able, the department may be able to make an assessment determination on a case–by–case basis. The department may calculate a site's weather–controlled total phosphorus concentration to correct for weather variability and use this value to make an assessment determination in place of the mean or median calculated under par. (a) or (b).

Note: A mean total phosphorus concentration is used for lakes or reservoirs; a median concentration is used for streams, rivers, or impounded flowing waters. Total phosphorus data may be submitted and weather–controlled concentrations can be obtained by contacting the department at DNRSWIMS@wisconsin.gov for access to the department's SWIMS database. The statistical computer programming script to run the Phosphorus Mixed Effects Regression calculation can be obtained through the department's Water Evaluation Section by contacting the department's call center at 1–888–WDNRINFo (1–888–936–7463) or using options provided on its website at https://dnr.wi.gov/contact/.

Note: The procedures in pars. (b) to (c) are also used for determining upstream concentrations of phosphorus under s. NR 217.13 (2) (d) for purposes of calculating a water–quality based effluent limit for a Wisconsin pollutant discharge elimination system (WPDES) permit.

(2) EXCEEDANCE DETERMINATION. The department shall compare the mean or median calculated under sub. (1) to the waterbody's applicable total phosphorus criterion specified in s. NR 102.06 to determine whether the waterbody is exceeding the criterion. To determine whether additional data are needed to make an attainment decision for section 303 (d) listing purposes, the department shall apply the confidence interval approach in s. NR 102.52 (2) (b) to (c). If application of those methods indicates that the waterbody is exceeding the phosphorus criterion, the department shall propose to include the waterbody on the section 303 (d) list as impaired for total phosphorus unless the department determines the waterbody is not exhibiting a biological response to phosphorus as specified in s. NR 102.60.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.10 Outstanding resource waters. (1) The following surface waters are designated as outstanding resource waters:

(a) *National wild and scenic rivers.* All rivers designated under the national wild and scenic rivers act, as amended, 16 USC 1271 to 1287, except those portions flowing through Indian reservations, including:

1. St. Croix river between the northern boundary of the Hudson city limits and the St. Croix flowage dam in Douglas county except that the portion of the St. Croix river from the northern boundary of the St. Croix Falls city limits to a distance one mile below the STH 243 bridge at Osceola shall be classified exceptional resource waters under s. NR 102.11.

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 and its headwater branches in Marinette county.

2. Pine river and its headwater branches in Florence and Forest counties.

3. Popple River and its headwater branches in Florence and Forest counties.

4. The portion of the Brunsweiler River (Martin Hanson Wild River) from the point in Ashland County at which it leaves T44N R4W S22 QSW QQSW downstream to the point at which it crosses the boundary of the Chequamegon–Nicolet National Forest at T45N R4W S22 QNW.

5. Portions of the Totagatic River in Bayfield, Sawyer, Washburn, Douglas, and Burnett Counties as described in the following table:

SEG 1: From the outlet of Totogatic Lake located in Bayfield County to the upstream end of Nelson Lake at the southern edge of the walleye spawning refuge located in Sawyer County.

SEG 2: From a point 500 feet below the dam in the Totogatic Wildlife Area located in Washburn County to the upstream end of the Colton Flowage located in Washburn County.

SEG 3: From a point 500 feet below the dam that forms the Colton Flowage located in Washburn County to the point where the river crosses the Washburn–Douglas County line immediately above the upstream end of the Minong Flowage.

SEG 4: From the bridge on CTH "I" that crosses the river located in Washburn County to the confluence of the river with the Namekagon River located in Burnett County.

Note: Section NR 302.02 (1) contains a detailed description of the extent of the Pike, Pine, and Popple river systems designated as Wild Rivers.

(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. Dane county — Black Earth creek above the easternmost CTY KP crossing

7. Door county — Logan creek

8. Douglas county — Bois Brule river and its tributaries including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth

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, Lamon Tangue, Lepage, Lunds, Martin, Olson, Patten, Pine, Riley, Rock, Simpson, Seven Mile, Wakefield and Woods creeks; Little Popple river (T38N R19E S3)

11. Forest county — Brule river

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 Miscauno creek, Miscauno creek, 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 branch, 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, Nace (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, Little Wolf river (North Branch Little Wolf river)

30. Waushara county — Chaffee creek, Willow creek north of Redgranite, Mecan 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

(f) The following cold or warm water streams and rivers or portions thereof:

1d.	Ashland	Bad River	SEG 1: Origin to Outfall in Mellen at NW¼SW¼ S6 T44N R2W
		Brunsweiler River	SEG 1: Origin to Inlet of Spider Lake
			SEG 2: Outlet of Moquah Lake to origin of Wild River designation under par. (b) 4. at T44N R4W S22 SW ¼ of SW ¼
			SEG 3: All portions included as Wild River under par. (b) 4.
			SEG 4: End of Wild River segment under par. (b) 4. at the boundary of the Chequamegon–Nicolet National Forest (T45N R4W S22 ¼ NW) to the Bad River Indian Reservation Boundary
1h.	Ashland & Bayfield	Marengo River	SEG 1: Origin to Inlet of Marengo Lake
			SEG 2: Outlet of Marengo Lake to Bad River Indian Reservation Boundary
1p.	Ashland & Sawyer	E. Fork Chippewa River	SEG1: T42N R1E S17/18 Line to Ashland County Highway "N" in Glidden
			SEG 6: Outlet of Barker Lake to Confluence with Chippewa Flowage
			SEG 3: Outlet of Pelican Lake to Inlet of Blaisdell Lake
			SEG 4: Outlet of Blaisdell Lake to Inlet of Hunter Lake
			SEG 5: Outlet of Hunter Lake to Inlet of Barker Lake
1t.	Barron	Engle Creek	Class I & II Portions
		Hickey Creek	Class I & II Portions
		Red Cedar River	SEG 1: Outlet of Red Cedar Lake to Inlet of Rice Lake
		Rock Creek	SEG 2: All within Barron County
		Upper Pine Creek	Above Dallas Flowage
2.	Bayfield	Bark River	All–Class I Portions including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth
		Big Brook	All
		Cranberry River & Tribs.	All–Class I Portion including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.
		East Fork Iron River & Tribs.	All–Class I Portion
		East Fork White River	All–Class I Portion
		Eighteen Mile Cr. & Tribs.	All–Class I Portion
		Fish Creek (Main)	All including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.

		Long Lake Branch & Tribs.	From below Drummond Lake to White River All–Class I Portions
		No. Fork Fish Creek & Tribs.	All–Class I & II Portions
		Onion River & Tribs.	All–Class I Portions including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.
		Pikes Creek & Tribs.	All–Class I Portion including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.
		Sioux River & Tribs.	All–Class I & II Portions including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.
		So. Fork White River	All–Class I Portion
		Thompson Creek	All–Class I Portion
		Twenty Mile Creek	All–Class I & II Portions
		White River	All–Class I Portion
		Whittlesey Creek & Tribs.	All–Class I Portions including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.
2d.	Bayfield & Ashland	Beartrap Creek	SEG 1: Origin to Bad River Indian Reservation Boundary
2h.	Bayfield, Ashland & Sawyer	West Fork Chippewa River	SEG 1: Origin (Outlet of Chippewa Lake) to Inlet of Day Lake SEG 2: Outlet of Day Lake to Inlet of Upper Clam Lake SEG 3: Outlet of Upper Clam Lake to Inlet of Lower Clam Lake SEG 4: Outlet of Lower Clam Lake to Inlet of Cattail Lake SEG 5: Outlet of Cattail Lake to Inlet of Meadow Lake SEG 6: Outlet of Meadow Lake to Inlet of Partridge Crop Lake SEG 7: Outlet of Partridge Crop Lake to Inlet of Moose Lake SEG 8: Outlet of Moose Lake to Sawyer County Highway "B"
2p.	Bayfield, Sawyer, Washburn, Douglas & Burnett	Totagatic River	SEG 1: All portions included as Wild River under SEG 1 of par. (b) 5. SEG 2: All portions included as Wild River under SEG 2 of par. (b) 5., and the 500 feet immediately downstream of the dam in the Totagatic Wildlife Area in Washburn County SEG 3: All portions included as Wild River under SEG 3 of par. (b) 5., the 500 feet immediately downstream of the dam that forms the Colton Flowage, and from the end of the Wild River designation at the Douglas/Washburn County line to the inlet of Minong Flowage SEG 4: All portions included as Wild River under SEG 4 of par. (b) 5.
3.	Burnett	North Fork Clam River	County Highway "H" to Confluence with Clam River

Tributaries to the N. & S. Forks of the Clam River	All–Class I & II Portions	4.	Dane	Mt. Vernon Creek	All–Class I Portion
		5.	Door	Mink River	All
		5m.	Douglas	Amnicon River	SEG 1: Origin (Outlet of Amnicon Lake) to Inlet of Lyman Lake
					SEG 2: Outlet of Lyman Lake to mouth at Lake Superior, including the waters of Lake Superior within a ¼ mile semi–circular arc centered at the middle of the river mouth.
				Moose River	All
				Spruce River	All
				St. Croix River	SEG 1: Outlet of Upper St. Croix Lake to Inlet of St. Croix Flowage
		6.	Forest	Allen Creek	All
				Brule Creek	All
				Elvoy Creek	All
				Jones Creek	Class I & II portions
				Otter Creek (T37N R14E S23, North Otter Creek)	All
		6m.	Forest & Langlade	Swamp Creek	SEG 1: Outlet of Lake Lucerne to Mole Lake Indian Reservation Boundary
					SEG 3: All below Mole Lake Indian Reservation Boundary to Confluence of Wolf River
		7.	Grant	Little Green River	All
		7m.	Iron & Ashland	Tyler Forks	SEG 1: Origin in Iron County to Bad River Indian Reservation Eastern Boundary in Ashland County
					SEG 3: From Bad River Indian Reservation Southern Boundary to Confluence with Bad River
				Potato River	SEG 1: Origin to Bad River Indian Reservation Boundary

8.	Iron, Ashland & Price	Flambeau River	SEG 1: Turtle–Flambeau Flowage (Outlet @ Turtle–Flambeau Dam) to Inlet of Upper Park Falls Flowage
9.	LaCrosse	Berge Coulee Creek	All
10.	Langlade	Elton Creek	Class I Portion
		Evergreen Creek	All
		Mayking Creek	All
		Michelson Creek	All
		Mid Branch Embarrass River	Class I Portion
10m.	Lincoln	New Wood River	Origin (T33N R4E S14) to Confluence with Wisconsin River
11.	Marathon	Falstad Creek	Class II Portion
		So. Branch Embarrass River	Class I Portion
12.	Marinette	No. Branch Beaver Creek	Entire River & tributaries
13.	Oneida	Noisy Creek	Class II Portion
		Squirrel River	Outlet of Squirrel Lake to Confluence with Tomahawk River
		Tomahawk River	SEG 2: Outlet of Willow Flowage Dam to Inlet of Lake Nokomis
14.	Pierce	Kinnickinnic River	From Powell Dam to St. Croix River
15.	Polk	Sand Creek & Tribs	All–Class I & II Portions
15e.	Polk & Burnett	Clam River	SEG 1: Outlet of Clam Falls Flowage to Inlet of Clam Lake
			SEG 2: Outlet of Lower Clam Lake to Section Line @ T39N R16W S21/22
15m.	Price	Elk River	SEG 1: Headwaters to Inlet of Musser Lake
	Price & Lincoln	Spirit River	Outlet of Spirit Lake to Inlet of Spirit River Flowage
16.	Price, Rusk & Sawyer	So. Fork Flambeau River	All–Round L. Dam downstream to Jxn with No. Fork Flambeau R.
17.	Richland	Elk Creek	All
18.	Rusk	Devils Creek	All–Class I & II Portions
		Soft Maple Creek	SEG 1: Origin to Rusk County Highway "F"
		So. Fork Main Creek	Class I & II Portions (T35N R3W S28 downstream to T34N R4W S11)
		Swift Creek	Outlet of Island Lake to Inlet of Fireside Lake
19.	Sauk	Otter Creek	From headwaters to southern section line of T11N R6E S33
		Parfrey's Glen	From headwaters to CTH DL
20.	Sawyer	Benson Creek	All–Class I Portion
		Couderay River	SEG 1: Origin at Outlet of Billy Boy Flowage to Inlet of Grimh Flowage (Including Waters within Lac Courte Oreilles Indian Reservation)
		Eddy Creek	All–Class I Portion
		Grindstone Creek	All–Class I Portion
		Knuteson Creek	SEG 1: Outlet of Wise Lake to Inlet of Knuteson Lake
			SEG 2: Outlet of Knuteson Lake to Inlet of Lake Chetek
		Little Weirgor Creek & Tribs	All–Class I & II Portions
		McDermott Brook	All
		Mosquito Brook	All–Class I Portion
		Teal River	Outlet of Teal Lake to Confluence with West Fork Chippewa River
20m.	Sawyer & Rusk	Thornapple River	SEG 1: Origin to Rusk County Highway "J"
		Chippewa River	SEG 1: Dam at Chippewa Flowage to Inlet of Radisson Flowage (T38N R7W S13)

21.	Shawano	Middle Br. Embarrass R.	Origin to but not including Homme Pond
		No. Br. Embarrass R.	Origin to CTH J
		So. Br. Embarrass R.	Origin to but not including Tigerton Pond
21g.	Taylor & Chippewa	Yellow River	SEG 1: Confluence with South Fork Yellow River to Inlet of Chequamegon Waters Flowage
			SEG 2: Outlet of Chequamegon Waters Flowage (at Miller Dam) to State Highway 64/73
21r.	Taylor & Price	Silver Creek	SEG 1: Origin to Westboro Sanitary District Outfall
22.	Vilas	Allequash Creek & Springs	Class I & II Portions
		Brule Creek	All
		East Br. Blackjack Cr.	All
		Elvoy Creek & Springs	Class I & II Portions
		Manitowish River	SEG 1: Adjacent to Dam Road Downstream to Inlet of Boulder Lake
			SEG 2: Outlet of Boulder Lake to Inlet of Island Lake
		Mishonagon Creek	Class I & II Portions
		Siphon Creek	All
		Spring Meadow Creek	Class I Portion
		Tamarack Creek	All
		Trout River	SEG 1: Outlet of Trout Lake to Lac Du Flambeau Indian Reservation Eastern Boundary
22m.	Vilas & Oneida	Wisconsin River	SEG 1: Origin (Outlet of Lac Vieux Desert) to Inlet of Watersmeet Lake
23.	Washburn	Beaver Brook	All–Class I Portion
		Sawyer Creek	All–Class I & II Portions
		So. Fork Bean Brook	All–Class I Portion
		Stuntz Brook	Origin to Confluence with Namekagon River
23m.	Washburn & Barron	Bear Creek	SEG 1: Outlet of Kekegama Lake to Inlet of Bear Lake
			SEG 2: Outlet of Bear Lake to Inlet at Stump Lake

(1m) (a) The following lakes are designated as outstanding resource waters:

1.	Ashland	Bad River Slough
		Kakagon Slough
		Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore
2.	Barron	Bear Lake (T36N R12W S2; also in Washburn County)
		Red Cedar Lake (also in Washburn County)
		Sand Lake
		Silver Lake
3.	Bayfield	Bark Bay Slough
		Diamond Lake
		Lake Owen
		Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore
		Lower Eau Claire Lake (also in Douglas County)
		Middle Eau Claire Lake
		Namekagon Lake
		Pike Chain of Lakes (Pike, Millicent, Buskey Bay, Hart, Twin Bear, Eagle, Flynn and Hildur Lakes)
		Star Lake
		Upper Eau Claire Lake
4.	Burnett	Big Sand Lake
		McKenzie Lake (also in Washburn County)
		Middle McKenzie Lake (also in Washburn County)
		Sand Lake (T40N R15W S25)
4m.	Chippewa	Chain Lake (also in Rusk County)
5.	Columbia	Crystal Lake (T12N R10E S1)
6.	Douglas	Bardon Lake (Whitefish Lake)
		Bond Lake
		Lake Nebagamon
		Lower Eau Claire Lake (also in Bayfield County)
		St. Croix (Gordon) Flowage
		Upper St. Croix Lake

7.	Florence	Edith Lake
		Keyes Lake
		Lost Lake
		Perch Lake
		Riley Lake, South
8.	Forest	Butternut Lake
		Franklin Lake
		Lucerne Lake (Stone)
		Metonga Lake
9.	Iron	Catherine Lake
		Cedar Lake
		Gile Flowage
		Hewitt Lake
		Owl Lake
		Trude Lake
		Turtle–Flambeau Flowage
9m.	Marinette	Caldron Falls Flowage (also in Oconto County)
10.	Oconto	Archibald Lake
		Bass Lake (T32N R15E S9)
		Bear Paw Lake
		Boot Lake
		Caldron Falls Flowage (also in Marinette County)
		Chain Lake
11.	Oneida	Big Carr Lake
		Clear Lake (T39N R7E S16)
		Little Tomahawk Lake
		Tomahawk Lake
		Two Sisters Lake
		Willow Flowage
12.	Polk	Pipe Lake
13.	Price	Cochran Lake
		Tucker Lake
14.	Rusk	Bass Lake (T34N R9W S16)
		Fish Lake
		Island Chains of Lakes (Chain {also in Chippewa County}, Clear, McCann, and Island Lakes)
		Three Lakes No. 1 (T36N R9W S25)
15.	St. Croix	Bass Lake (T30N R19W S23)
		Perch Lake
16.	Sauk	Devils Lake
17.	Sawyer	Barker Lake
		Blaisdell Lake
		Evergreen Lake
		Grindstone Lake
		Lac Court Oreilles
		Lake Chippewa (Chippewa Flowage)
		Nelson Lake
		Osgood Lake
		Perch Lake (T42N R6W S25)
		Round Lake (Big Round)
		Sand Lake
		Smith Lake
		Spider Lake
		Teal Lake
		Whitefish Lake
18.	Vilas	Black Oak Lake
		Crab Lake
		Crystal Lake (T41N R7E S27)
		Lac Vieux Desert
		North Twin Lake
		Pallette Lake (Clear)
		Partridge Lake
		Plum Lake
		South Twin Lake
		Star Lake
		Stormy Lake
		Trout Lake
		White Sand Lake (T42N R7E S26)
19.	Walworth	Lulu Lake
20.	Washburn	Bass Lake (T40N R10W S17)
		Bear Lake (T36N R12W S2; also in Barron County)
		Long Lake
		McKenzie Lake (also in Burnett County)
		Middle McKenzie Lake (also in Burnett County)
		Red Cedar Lake (also in Barron County)
		Shell Lake
		Stone Lake (T39N R10W S24)
21.	Waukesha	Spring Lake (T5N R18E S9)
22.	Waupaca	Graham Lake (Nelson)
		North Lake
23.	Waushara	Gilbert Lake
		Lucerne Lake (Egans)
		Norwegian Lake
		Pine Lake (Springwater)

(2) The waters in sub. (1) and (1m) 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; cr. (1) (f) and (1m), am. (2), Register, May, 1993, No. 449, eff. 6–1–93; am. (1m) 6., 9. and 11., cr. (1m) 9m., Register, February, 1998, No. 506, eff. 3–1–98; CR 05–089: am. (1) (d) 8., (f) 2., (1m) 1. and 3. Register July 2006 No. 607, eff. 8–1–06; CR 05–105: renum. (1) (f) 1. to be 1t. and am., cr. (1) (f) 1d., 1h., 1p., 2d., 2h., 2p., 5m., 6m.,. 7m., 10m., 15e., 15m., 15s., 20m., 21g., 21r., 22m., and 23m., am. (1) (f) 3., 8. 13., 18., 20., 22., and 23., Register November 2006 No. 611, eff. 12–1–06; reprinted to correct error in (1) (d) 6. Register March 2008 No. 627; CR 09–123: am. (1) (b) 1., 2., (d) 10., 17., 22., 29., 30., (f) 1d., 2p., 6., 8., 10., 20., 22., 22m., (1m) (a) 2. to 6., 9m., 10., 13., 14., 17., 18., 20., cr. (1) (b) 3. to 5. and (1m) (a) 4m. Register July 2010 No. 655, eff. 8–1–10; renumber of (1m) to (1m) (a) made under s. 13.92 (4) (b) 1., Stats., Register July 2010 No. 655.

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:

(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 upstream crossing of Oak Ridge Drive 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 19, 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 23, 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 Valley creek from the headwaters to SE 1/4, SE 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 in 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 3, 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 Jackson 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 18, township 11 north, range 1 west in Richland county.

34. Unnamed creek 26–7 originating in section 2, township 21 north, range 5 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 33, 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 — Mecan 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 — Mecan river

(d) The following cold or warm water streams and rivers or portions thereof:

1g.	Ashland	Bad River	SEG 2: Outfall in Mellen at NE¼SW¼ S6 T44N R2W to Bad River Indian Reservation Boundary
1r.	Ashland & Sawyer	East Fork Chippewa River	SEG 2: Ashland County Highway "N" to Confluence of Rocky Run Creek (Includes Glidden POTW)
1t.	Barron	Brill River	All–Class II Portion
2.	Crawford	Copper Creek	All
		Plum Creek	All
		Sugar Creek	From headwaters to T10N R6W S10
		Tainter Creek	From Vernon County Line to CTH B

3.	Dane	Blue Mounds Branch	All
		Deer Creek	All
		Dunlap Creek	All
		Elvers Creek (Bohn Cr.)	All
		Flynn Creek	All
		Fryes Feeder Creek	All
		Garfoot Creek	All
		Milum Creek	All
		Rutland Branch	All
		Ryan Creek	All
		Schalpbach Creek	All
		Sixmile Creek	All
		Spring Creek (Lodi)	All
4.	Dane, Sauk, Iowa, Grant, Richland, Crawford	Wisconsin River	From below Prairie du Sac to Prairie du Chien
5.	Dane & Green	Little Sugar River	Above New Glarus
		Story Creek (Tipperary)	All
		Sugar River	All
6.	Dunn	Sand Creek	From Chippewa County Line to mouth
7.	Eau Claire	Lowes Creek	From Hwy 37 & 85 upstream to headwaters
8.	Fond du Lac	Feldner's Creek	From headwaters to Mischo's Millpond
		Auburn Lake Creek (Lake Fifteen Creek)	Entire Creek above & below Auburn Lake
9.	Forest	Armstrong Creek	All
		Middle Br. Peshtigo R.	All
		North Br. Peshtigo R.	All
		North Br. Popple R.	All
		West Br. Armstrong Creek	Class II Portion
10.	Grant	Doc Smith Branch	All
		Little Platte River	From Arthur downstream to Platte River
11.	Grant & Iowa	Big Spring Branch	From Springhead to Blue River
12.	Green	Burgy Creek	All
		Gill Creek	All
		Hefty Creek, North Branch	All
		Hefty Cr., Center Branch	All
		Liberty Creek	All
		Norwegian Creek	All
		Richland Creek	All
		Ross Crossing	All
		Sylvester Creek	All
		Spring Valley Creek	All
		Ward Creek	All
13.	Green & Rock	Allen Creek	Below Evansville
14.	Iowa	Harker–Lee–Martin System	From headwaters to T6N R2ES10
15.	Iron	Manitowish River	All
15m.	Iron & Ashland	Vaughn Creek	SEG 1: Origin to Bad River Indian Reservation Boundary
16.	Jackson	Trempealeau River	From STH 95 at Hixton to CTHP at Taylor
17.	Jefferson & Rock	Allen Creek	All
18.	Kewaunee	Casco Creek	From T24N R24E S19 downstream of Rock Ledge to Kewaunee River
19.	La Crosse	Bostwick Creek	From headwaters to County Hwy 'O'
		Coon Creek	All
		Dutch Creek	From headwaters to Russian Coulee Road (section 8)
20.	Lafayette	Galena River	From headwaters to Buncombe Road
21.	Langlade	East Br. Eau Claire R.	From STH 64 upstream to firelane crossing in T33N R11E S35 SW1/4
		Hunting River	From Fitzgerald Dam Road downstream to T33N R11E S1
22.	Lincoln	North Br. Prairie River	From headwaters to CTHJ to T33N R8E
		Silver Creek	All
23.	Manitowoc	Branch River	All
24.	Monroe	Big Creek	From headwaters to Acorn Rd (S7)
		Farmers Valley Creek & Tribs	From headwaters to I–90 (S19)
		Soper Creek	All

25.	Oneida	Bearskin Creek	From Tomahawk River to Little Bearskin Lake
25m.	Oneida & Lincoln	Wisconsin River	SEG 2: Hat Rapids Dam to Lincoln County A crossing
			SEG 4: Grandfather Dam to Inlet of Alexander Lake
26.	Pierce	Big River	Class I Portion
		Cady Creek	From CTH P upstream
		Trimbelle River	All
26b.	Polk	St. Croix River	From the northern boundary of the St. Croix Falls city limits to a distance one mile below the STH 243 bridge at Osceola
26c.	Polk & Burnett	Clam River	SEG 3: Section Line @ T39N R16W S21/22 to Inlet of Clam River Flowage
			SEG 4: Outlet of Clam River Flowage to Confluence with St. Croix River
26g.	Price	North Fork Jump River	SEG 1: Origin (outlet of Cranberry Lake) to Inlet of Spring Creek Flowage
			SEG 2: Outlet of Spring Creek Flowage to Confluence with South Fork Jump River
26n.	Price, Rusk & Taylor	Jump River	SEG 1: Confluence of the North Fork Jump River and South Fork Jump River to the Village of Jump River
26r.	Price, Sawyer, Rusk	Flambeau River	SEG 2: Crowley Dam to Inlet of Big Falls Flowage
26w.	Price & Taylor	South Fork Jump River	Origin to Confluence with North Fork Jump River
27.	Richland	Babb Hollow	All–Trib to Mill Creek
		Hanzel Creek (Hansell)	All–Trib to Melancthon Cr.
		Melancthon Creek	Class II Section
		Coulter Hollow Creek	All–Trib to Mill Creek
		E. Branch Mill Creek	All
		Happy Hollow Creek	All–Trib to Willow Creek
		Higgins Creek	All–Trib to Mill Creek
		Hood Hollow Creek	All–Trib to Mill Creek
		Jacquish Hollow Creek	All–Trib to Willow Creek
		Kepler Branch	All–Trib to Mill Creek
		Mill Creek	From headwaters to above Boaz
		Miller Branch	All–Trib to Mill Creek
		Pine Valley Creek	All–Trib to Mill Creek
		Ryan Hollow	All–Trib to West Branch Mill Creek
		Wheat Hollow Creek	All
		W. Branch Mill Creek	All
28.	Rock	Bass Creek	All
		East Fork Raccoon Cr.	All
		Little Turtle Creek	All
		Raccoon Creek	All
		Spring Brook (T2N R14E S27)	All
		Turtle Creek	All
		Unnamed Creek T2N R14E S31	All
29.	Rusk	Big Weirgor Creek	All–Class III Portion
		Main Creek	Rusk County Highway P to Inlet of Holcombe Flowage
		Soft Maple Creek	SEG 2: Rusk County Highway "F" to Confluence with Chippewa River
30.	Rusk, Taylor & Chippewa	Jump River	From Village of Jump River downstream to Holcombe Flowage
31.	Sauk	Beaver Creek (Trib to Dell Creek)	All
		Camels Creek (Trib to Dell Creek)	All
		Dell Creek	All
31m.	Sawyer	Couderay River	SEG 2: Dam at Grimh Flowage to Confluence with Chippewa River

32.	Shawano	Kroenke Creek	Class II Portion
		Red River	From Lower Red Lake Dam to Wolf River
		West Br. Red River	Class II Portion
33.	Sheboygan	Ben Nutt Creek	Class II Portion to Junction with Mill Creek
34.	St. Croix	Apple River	From NSP plant below CTH I to Mouth
		Cady Creek	All
		Willow River	Extend Class II Portion into Delta in Lake Mallilieu
35.	St. Croix & Pierce	St. Croix River	From No. Boundary of Hudson City limits to the river mouth in Pierce Co.
35m.	Taylor & Price	Silver Creek	SEG 2: Westboro Sanitary District Outfall to Confluence with South Fork Jump River
36.	Trempealeau	Buffalo River	From Hwy 53 to Strum Pond
37.	Vernon	Bishop Branch	All
		Cheyenne Valley Creek	All
		Coon Creek	From La Crosse county line to Chaseburg
		Frohock Valley Creek	All
		Hornby Creek	All
		Reads Creek	All
		Tainter Creek	All
38.	Vilas	Manitowish River	From Rest Lake Dam downstream to Iron County line
38m.	Vilas & Oneida	Wisconsin River	SEG 2: State Highway 70 to Inlet at Rainbow Flowage (Oneida County Line)
			SEG 3: Outlet of Rainbow Flowage (Oneida County Highway "D" to Inlet of Rhinelander Flowage (T37N R8E S8 SE¼NE¼)
39.	Washington & Fond du Lac	E. Branch Milwaukee R.	From Long Lake outlet to STH 28
40.	Waukesha	Genesee Creek	Above STH 59
		Mukwonago River	From Eagle Springs Lake to Upper Phantom Lake
		Oconomowoc River	From below North Lake to Okauchee Lake
41.	Waupaca	Blake Brook & Branches	Class II Portion
		Little Wolf River	From junction with Wolf River upstream to Manawa Dam
		Waupaca River	Class II portion
42.	Waupaca, Outagamie, & Shawano	Embarrass River	From Wolf River upstream to dam at Pella
43.	Waushara	Lower Pine River	From below Wild Rose Mill pond to dam at Poy Sippi

(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; cr. (1) (d), Register, May, 1993, No. 449, eff. 6–1–93; CR 05–105: renum. (1) (d) 1. to be 1t., cr. 1g., 1r., 15m., 25m., 26c., 26n., 26r., 26w., 31m., 35m., and 38m., am. 29., Register November 2006 No. 611, eff. 12–1–06; CR 09–123: am. (1) (b) 1., 5., 12., 15., 16., 23., 27., 33., 34., 37., (d) 5., 8., 15., 17., 28., 34., 39. and 42., cr. (1) (d) 26b. Register July 2010 No. 655, eff. 8–1–10.

NR 102.12 Great Lakes system. (1) The Great Lakes system includes all the surface waters within the drainage basin of the Great Lakes.

(2) For the purpose of administering ch. NR 207 and consistent with chs. NR 105 and 106, the waters identified in sub. (1) 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.

(3) The waters of the Lake Superior basin shall be managed to prevent any new or increased discharges of the following pollutants: DDT, DDE and metabolites, chlordane, toxaphene, hexachlorobenzene, 2,3,7,8 TCDD, octachlorostyrene, mercury and PCB's. For purposes of administering ch. NR 207, new or increased discharges of these pollutants shall be prohibited unless the applicant certifies at time of application, that the new or increased discharge is necessary after utilization of best technology in process or control using waste minimization, pollution prevention, municipal pretreatment programs, material substitution or other means of commercially available technologies which have demonstrated capability for similar applications.

History: Cr. Register, February, 1989, No. 398, eff. 3–1–89; r. and recr. (1), am. (2), Register, August, 1997, No. 500, eff. 9–1–97; CR 05–089: cr. (3) Register July 2006 No. 607, eff. 8–1–06.

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 criteria. (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:

(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

[1] A 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:

$$TOC = \frac{TC^1}{BAF}$$

Where:

- TOC = Taste and odor criterion in milligrams per liter (mg/L).
- TC = 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 bioaccumulation 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) are applicable to 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; am. (2) (b) and (c), Register, August, 1997, No. 500, eff. 9–1–97.

Subchapter II — Water Quality Standards for Temperature

NR 102.20 Purpose. The purpose of this subchapter is to establish water quality standards for temperature pursuant to s. 281.15 (1), Stats. Water quality standards for temperature shall protect fish and other aquatic life from mortality, immobilization, loss of equilibrium, impaired growth, adverse reproductive effects, and other sub–lethal effects.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.22 Definitions. In this subchapter, the following definitions are applicable to terms used:

(1) "Acute effects" means any effect resulting in death or immobilization. For temperature, the acute criteria of this subchapter are based on Upper Incipient Lethal Temperature (UILT) values that are not representative of immediate lethality.

(2) "cfs" means cubic feet per second, usually pertaining to stream or effluent flow.

(3) "Cold shock" means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavioral or physiological performance and may lead to death.

(4) "Daily maximum temperature" means the highest allowed water temperature for a calendar day, outside a mixing zone allowed in this subchapter.

(5) "Great Lakes" means the open Wisconsin waters of Lake Superior, Lake Michigan, Green Bay and Chequamegon Bay, as well as adjoining open waters that exhibit characteristics of Lake Superior, Lake Michigan, Green Bay or Chequamegon Bay, or in other ways are determined by the department to be equivalent to these waters.

(6) "Maximum weekly average temperature" means the highest allowed arithmetic mean of all daily maximum temperatures during a calendar week, outside mixing zone allowed in this subchapter.

(7) "mgd" means million gallons per day.

(8) "Sub–lethal effects" means effects resulting in inadequate gonad development, gamete production and viability, spawning or growth.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.23 Categories of standards applicable to temperature. The department shall establish water quality standards for temperature to protect the following:

(1) Public health and welfare uses, as established in s. NR 102.04 (7) and (8).

(2) Fish and other aquatic life uses as established in s. NR 102.04 (3). For exclusive purpose of the application of water quality standards for temperature, the warm water sport fish and warm water forage fish communities, as defined in s. NR 102.04 (3) (b) and (c), are treated together as warm water communities.

(3) Great Lakes communities as defined in s. NR 102.22 (6). This use exists only for the regulation of discharges of heat.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.24 General water quality criteria for temperature. (1) There may be no temperature changes that may adversely affect aquatic life.

(2) Natural daily and seasonal temperature fluctuations shall be maintained.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.245 Temperature criteria for limited aquatic life communities. (1) For the purposes of temperature criteria, all surface waters classified as diffused surface waters, wetlands and wastewater effluent channels, as defined in s. NR 104.02 (1), shall be characterized as limited aquatic life communities.

(2) The department may, as appropriate, characterize other surface waters not identified in sub. (1) as limited aquatic life communities.

(3) The temperature in waters classified as limited aquatic life shall be restricted as follows:

(a) Temperatures at any point in waters classified as wastewater effluent channels may not exceed 120°F.

(b) Temperatures at any point in waters classified as wetlands shall not exceed the standards in ch. NR 103.

(c) Temperatures at any point in waters not identified in par. (a) or (b) may not exceed 86°F. Additionally, all conditions of ch. NR 103 shall be met.

Note: The department recognizes there are legitimate concerns that not all wetlands and ephemeral streams are the biological equivalents of other limited aquatic life waters, and is in the process of re–evaluating the wetland and ephemeral stream classifications to determine if and when full fish and aquatic life conditions should be applied.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.25 Ambient temperatures and water quality criteria for the protection of fish and other aquatic life. (1) GENERAL. In the absence of site–specific ambient temperature data or water quality criteria as determine in s. NR 102.26 or 102.27, respectively, the applicable ambient temperatures, sub–lethal water quality criteria, and acute water quality criteria shall be as specified in subs. (2) to (5). For determinations made in subs. (2) to (5), all of the following conditions shall apply:

(a) The ambient temperature, sub–lethal water quality criterion, and acute water quality criterion specified for any calendar month shall be applied simultaneously to establish the protection needed for each identified fish and other aquatic life use.

(b) Sub–lethal water quality criteria are to be applied as maximum weekly average temperatures.

(c) Acute water quality criteria are to be applied as daily maximum temperatures.

(d) Water quality criteria for temperature shall be applied in accordance with the mixing zone provisions of s. NR 102.05 (3).

(e) Final acute and sub–lethal water quality criteria for temperature specified in or developed pursuant to ss. NR 102.24 to 102.26 shall not be exceeded at any point outside the mixing zone. Additionally, site–specific mixing zone studies may be required when deemed appropriate by the department.

(2) NON–SPECIFIC WATERS. The values listed in Table 2 shall be the applicable ambient temperatures, sub–lethal and acute water quality criteria for temperature for the protection of fish and aquatic life unless other values specified in subs. (3) to (5) are applicable or approved by the department pursuant to s. NR 102.26 or 102.27.

Table 2
Ambient Temperatures and Water Quality Criteria for Temperature for Non–Specific Waters
(All values are expressed as degrees Fahrenheit)

	Cold[4]			Warm — Large[5]			Warm — Small[6]			LFF[7]		
Month	Ta[1]	SL[2]	A[3]	Ta	SL	A	Ta	SL	A	Ta	SL	A
JAN	35	47	68	33	49	76	33	49	76	37	54	78
FEB	36	47	68	33	50	76	34	50	76	39	54	79
MAR	39	51	69	36	52	76	38	52	77	43	57	80
APR	47	57	70	46	55	79	48	55	79	50	63	81
MAY	56	63	72	60	65	82	58	65	82	59	70	84
JUN	62	67	72	71	75	85	66	76	84	64	77	85
JUL	64	67	73	75	80	86	69	81	85	69	81	86
AUG	63	65	73	74	79	86	67	81	84	68	79	86
SEP	57	60	72	65	72	84	60	73	82	63	73	85
OCT	49	53	70	52	61	80	50	61	80	55	63	83
NOV	41	48	69	39	50	77	40	49	77	46	54	80
DEC	37	47	69	33	49	76	35	49	76	40	54	79

1 Ta = ambient temperature
2 SL = sub–lethal criteria
3 A = acute criteria
4 Cold = waters with a fish and aquatic life use designation of "cold water community"
5 Warm – Large = waters with a fish and aquatic life use designation of "warm water sport fish community" or "warm water forage fish community" and unidirectional 7Q10 flows ≥ 200 cfs (129 mgd)
6 Warm – Small = waters with a fish and aquatic life use designation of "warm sport fish community" or "warm water forage fish community "and uni–directional 7Q10 flows < 200 cfs (129 mgd)
7 LFF = waters with a fish and aquatic life use designation of "limited forage fish community"

(3) SPECIFIC LARGE RIVERS. The values listed in Table 3 shall be the applicable ambient temperatures, sub–lethal and acute water quality criteria for temperature for the protection of fish and aquatic life for the identified water segments unless other values are approved by the department pursuant to s. NR 102.26 or 102.27.

Table 3
Ambient Temperatures and Water Quality Criteria for Temperature for Specific Large Rivers
(All values are expressed as degrees Fahrenheit)

	Mississippi River[4]			Rock River[5]			Upper Wisconsin River[6]			Lower Wisconsin River[7]			Lower Fox River[8]		
Month	Ta[1]	SL[2]	A[3]	Ta	SL	A	Ta	SL	A	Ta	SL	A	Ta	SL	A
JAN	32	49	75	33	49	76	33	49	76	32	49	75	35	49	76
FEB	33	50	76	35	50	76	33	50	76	32	50	75	35	50	76
MAR	36	52	76	38	52	77	35	52	76	37	52	77	38	52	77
APR	47	55	79	49	55	79	44	55	78	48	55	79	50	55	80
MAY	60	65	82	64	65	84	60	65	82	61	65	83	62	65	83
JUN	72	75	85	71	75	85	70	75	85	71	75	85	73	76	85
JUL	76	80	86	74	79	86	75	80	86	75	80	86	77	81	87
AUG	76	79	86	73	79	85	73	79	85	74	79	86	76	80	86
SEP	67	73	84	66	72	84	65	72	84	67	72	84	68	73	85
OCT	54	61	81	54	61	81	51	61	80	53	61	80	53	61	80
NOV	40	50	77	40	50	77	39	50	77	40	50	77	42	50	78
DEC	33	49	76	34	49	76	33	49	76	33	49	76	35	49	76

1 Ta = ambient temperature
2 SL = sub–lethal criteria
3 A = acute criteria
4 Mississippi River = applies to any portion of Wisconsin's Mississippi River reach
5 Rock River = applies to waters downstream of Lake Koshkonong
6 Upper Wisconsin River = applies to waters upstream of Petenwell Dam
7 Lower Wisconsin River = applies to waters downstream of Petenwell Dam to the confluence with the Mississippi River
8 Lower Fox River = applies to waters downstream of the Lake Winnebago outlet

(4) INLAND LAKES AND IMPOUNDMENTS. The values listed in Table 4 shall be the applicable ambient temperatures, sub–lethal and acute water quality criteria for temperature for the protection of fish and aquatic life for inland lakes and impoundments unless other values are approved by the department pursuant to s. NR 102.26 or 102.27.

Table 4
Ambient Temperatures and Water Quality Criteria for Temperature for Inland Lakes and Impoundments
(All values are expressed as degrees Fahrenheit)

	Northern[4]			Southern[5]		
Month	Ta[1]	SL[2]	A[3]	Ta	SL	A
JAN	35	49	76	35	49	77
FEB	34	52	76	39	52	78
MAR	35	55	76	41	55	78
APR	41	60	78	49	60	80
MAY	55	67	81	58	68	82
JUN	67	75	85	70	75	86
JUL	72	79	86	77	80	87
AUG	71	79	86	76	80	87
SEP	63	72	84	67	73	85
OCT	52	61	80	54	61	81
NOV	43	50	78	42	50	78
DEC	35	49	76	35	49	77

1 Ta = ambient temperature
2 SL = sub–lethal criteria
3 A = acute criteria
4 Northern = applicable for those lakes and impoundments north of State Highway 10
5 Southern = applicable for those lakes and impoundments south of State Highway 10

(5) GREAT LAKES WATERS. The values listed in Table 5 shall be the applicable ambient temperatures, sub–lethal and acute water quality criteria for the protection of fish and aquatic life for Great Lakes waters identified in s. NR 102.22 (5) unless other values are approved by the department pursuant to s. NR 102.26 or 102.27.

Table 5
Ambient Temperatures and Water Quality Criteria for Temperature for Great Lakes Waters of Wisconsin
(All values are expressed as degrees Fahrenheit)

	Green Bay						Lake Michigan											
	Southern[4]			Northern[5]			Northern[6]			Southern[7]			Lake Superior[8]			Chequamegon Bay[9]		
Month	Ta[1]	SL[2]	A[3]	Ta	SL	A	Ta	SL	A	Ta	SL	A	Ta	SL	A	Ta	SL	A
JAN	35	49	75	35	43	69	34	43	69	35	43	69	35	41	69	35	41	69
FEB	35	52	75	35	47	69	33	47	69	34	46	69	34	46	69	35	46	69
MAR	41	54	77	36	52	70	35	52	69	37	52	70	34	51	69	35	51	69
APR	47	58	79	40	57	71	39	58	70	43	59	70	35	57	69	38	57	69
MAY	56	64	81	48	63	72	44	64	71	48	65	72	41	63	70	50	63	72
JUN	66	70	83	57	68	75	48	69	72	54	70	73	49	69	72	59	69	74
JUL	70	75	83	62	71	77	53	71	73	59	71	74	55	72	73	62	72	75
AUG	70	75	83	64	71	78	56	69	73	63	70	76	57	71	73	64	71	76
SEP	65	70	83	61	66	77	53	64	73	60	64	74	57	64	73	60	66	74
OCT	54	60	80	54	58	74	48	55	72	53	57	73	50	55	72	49	57	72
NOV	39	49	76	44	49	71	42	47	70	45	49	71	43	45	70	39	48	70
DEC	37	46	75	37	44	70	36	44	69	38	44	70	38	42	69	35	43	69

1 Ta = ambient temperature
2 SL = sub–lethal criteria
3 A = acute criteria
4 Southern Green Bay = waters south of the Brown County line to the Fox River mouth
5 Northern Green Bay = waters north of the Brown County line to the northernmost point on Washington Island
6 Northern Lake Michigan = waters north of the Milwaukee River mouth (downtown Milwaukee)
7 Southern Lake Michigan = waters south of the Milwaukee River mouth (downtown Milwaukee)
8 Lake Superior = waters in Lake Superior except those in Chequamegon Bay
9 Chequamegon Bay = waters within the region enclosed by Chequamegon Point and a straight line west to the mainland

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.26 Site–specific ambient temperatures. **(1)** DEVELOPMENT OF SITE–SPECIFIC AMBIENT TEMPERATURES. An owner or operator of a facility with a discharge subject to regulation under this chapter may submit a request to the department for the determination of a site–specific ambient temperature. The department may approve, disapprove or approve with modifications the request for the site–specific ambient temperature. The request for site–specific ambient temperatures shall include all of the following:

(a) A demonstration that the data used to derive the ambient temperatures in s. NR 102.25 do not apply to the specific water segment or body in question.

(b) Site–specific water temperature that represents the ambient temperature of the site. For purposes of this paragraph, data must be:

1. Collected daily using a continuous recorder or similar device that takes measurements at least hourly, except as follows:

a. Monthly data sets may be missing no more than 10 days of temperature data for the months of December through February,

b. Monthly data sets may be missing no more than 5 days of temperature data for the months of March through November.

2. Collected for each month in which the request for site–specific ambient temperatures is requested,

3. Collected at any time since October 1987,

4. Collected for at least 2 consecutive years.

(c) Calculated daily average temperatures from the data from par. (b).

(d) Calculated monthly average temperatures from the daily average temperatures in par. (c) for each individual month that data has been collected. Alternatively, calculated monthly average temperatures directly from the data from par. (b) for each individual month.

(e) All individual monthly averages organized by month.

(f) A determination of the monthly site–specific ambient temperatures by calculating the geometric mean of all monthly averages for each given month.

(g) Alternative methods for developing site–specific ambient temperatures, if the department approves the method as representative of ambient temperatures as those in pars. (a) to (d).

(2) USE OF SITE–SPECIFIC AMBIENT TEMPERATURES TO ESTABLISH ACUTE CRITERIA. Once site–specific ambient temperatures have been approved by the department in accordance with sub. (1), the acute water quality criteria listed in Table 6 will be applicable for the protection of fish and other aquatic life.

(3) USE OF SITE–SPECIFIC AMBIENT TEMPERATURES TO ESTABLISH SUB–LETHAL CRITERIA. Once site–specific ambient temperatures have been approved by the department in accordance with sub. (1), the sub–lethal water quality criteria applicable for the protection of fish and other aquatic life shall be calculated as follows:

(a) Use Table 7 to determine the appropriate sub–lethal criteria for the fish and other aquatic life use.

(b) Modify the sub–lethal criteria as follows:

1. If a sub–lethal criterion from par. (a) is less than the site–specific ambient temperature from sub. (1) for a given month, increase the sub–lethal criterion to be equal with the site–specific ambient temperature.

2. If a sub–lethal criterion from par. (a) is greater than an acute criterion for a given month from sub. (2) decrease the sub–lethal criterion to be equal with the acute criterion.

(c) Perform a fifth order polynomial regression of the 12 monthly sub–lethal criteria resulting from par. (b). Using the resulting equation of the regression, calculate the final sub–lethal criteria for each month by replacing the "x" variables in the equation with a numeric representation for each month, where January "x" = 1, for February "x" = 2, … and for December "x" = 12.

(d) The final sub–lethal criteria from par. (c) shall be used in combination with the site–specific ambient temperatures developed in sub. (1) and the acute criteria determined in sub. (2).

Table 6

Acute Criteria Across All Ambient Temperatures

(All values are expressed as degrees Fahrenheit)

	Inland Waters					Great Lakes Waters					
1 Ta	2 Cold	3 Warm	4 LFF	5 N Lake	6 S Lake	7 SGB	8 NGB	9 NLKMI	10 SLKMI	11 LKSUP	12 CB
32	68	75	77	75	76	74	69	69	69	68	68
33	68	76	77	76	76	74	69	69	69	69	69
34	68	76	77	76	76	75	69	69	69	69	69
35	68	76	77	76	77	75	69	69	69	69	69
36	68	76	78	76	77	75	70	69	69	69	69
37	69	77	78	77	77	75	70	70	70	69	69
38	69	77	78	77	77	76	70	70	70	69	69
39	69	77	79	77	78	76	71	70	70	70	70
40	69	77	79	77	78	76	71	70	70	70	70
41	69	78	79	78	78	77	71	70	70	70	70
42	69	78	79	78	78	77	71	70	70	70	70
43	69	78	80	78	78	77	71	70	70	70	70
44	70	78	80	78	79	78	71	71	71	71	71
45	70	79	80	79	79	78	71	71	71	71	71
46	70	79	80	79	79	78	72	72	72	71	71
47	70	79	81	79	80	79	72	72	72	71	71
48	70	79	81	79	80	79	72	72	72	72	72
49	70	79	81	80	80	79	73	72	72	72	72
50	70	80	81	80	80	79	73	73	73	72	72
51	71	80	82	80	81	80	73	73	73	72	72
52	71	80	82	80	81	80	73	73	73	72	72
53	71	80	82	81	81	80	74	73	73	72	72
54	71	81	82	81	81	80	74	73	73	73	73
55	71	81	83	81	82	81	74	73	73	73	73
56	72	81	83	81	82	81	75	73	73	73	73

	Inland Waters					Great Lakes Waters					
1 Ta	2 Cold	3 Warm	4 LFF	5 N Lake	6 S Lake	7 SGB	8 NGB	9 NLKMI	10 SLKMI	11 LKSUP	12 CB
57	72	82	83	82	82	81	75	73	73	73	73
58	72	82	83	82	82	81	75	74	74	73	73
59	72	82	84	83	83	81	76	74	74	74	74
60	72	82	84	83	83	82	76	74	74	74	74
61	72	83	84	83	83	82	77	75	75	74	74
62	72	83	84	83	84	82	77	75	75	75	75
63	73	83	85	84	84	82	78	76	76	75	75
64	73	84	85	84	85	82	78	77	77	76	76
65	73	84	85	84	85	83	78	77	77	76	76
66	73	84	85	85	85	83	79	78	78	77	77
67	74	84	86	85	85	83	79	78	78	77	77
68	74	85	86	85	85	83	80	79	79	78	78
69	74	85	86	85	86	83	80	79	79	78	78
70	74	85	86	86	86	83	81	80	80	79	79
71	74	85	87	86	86	84	81	81	81	79	79
72	75	85	87	86	86	84	82	81	81	80	80
73	75	85	87	86	86	84	82	82	82	80	80
74	75	86	87	86	87	84	82	82	82	81	81
75	75	86	88	87	87	85	83	83	83	81	81
76		86	88	87	87	85	83	83	83	82	82
77		87	88	87	87	85	84	84	84	83	83
78		87	88	87	88	86	84	84	84	83	83
79		87	89	88	88	86	84	84	84	83	83
80		87	89	88	88	86	84	84	84	83	83
81		88	89	88	88	86	84	84	84	83	83
82		88	89	88	89	87	84	84	84	84	84
83		88	90	89	89	87	84	84	84	84	84
84		88	90	89	89	88	85	85	85	84	84
85		89	90	89	89	88	85	85	85		
86		89	90	89	90	89					
87		89	91	90	90	89					
88		90	91	90	90	89					
89		90	91	90	91	89					
90		91	91	91	91						
91		91	92	91	92						
92			92		92						

1 Ta = ambient temperature
2 Cold = waters with a fish and other aquatic life use designation of “cold water community”
3 Warm = waters with a fish and other aquatic life use designation of “warm water sport fish community” or “warm water forage fish community”
4 LFF = waters with a designation of “limited forage fish community”
5 N Lake = applicable for those lakes north of State Highway 10
6 S Lake = applicable for those lakes south of State Highway 10
7 SGB = Green Bay waters south of the Brown County line to the Fox River mouth
8 NGB = Green Bay waters north of the Brown County line to the northernmost point on Washington Island
9 NLKMI = Lake Michigan waters north of the Milwaukee River mouth (downtown Milwaukee)
10 SLKMI = Lake Michigan waters south of the Milwaukee River mouth (downtown Milwaukee)
11 LKSUP = waters in Lake Superior except those in Chequamegon Bay
12 CB = Chequamegon Bay waters within the region enclosed by Chequamegon Point and a straight line west to the mainland

Table 7
Raw Monthly Sub–Lethal Criteria for Use In Determining Final Sub–Lethal Criteria with Site–Specific Ambient Temperatures
(All values are expressed as degrees Fahrenheit)

Month	C	W–L	W–S	LFF	NIL	SIL	MR	RR	UWR
January	47	50	50	54	50	50	50	50	50
February	45	50	50	54	50	50	50	50	50
March	53	54	54	54	54	54	54	54	54
April	59	65	65	64	63	64	65	65	65
May	59	70	70	75	70	70	70	70	70
June	67	72	72	75	72	72	72	72	72
July	68	74	74	75	75	74	74	74	74
August	68	78	78	77	77	77	78	78	78
September	52	87	87	92	87	87	87	87	87
October	52	54	54	54	54	54	54	54	54
November	50	50	50	54	50	50	50	50	50
December	46	50	50	54	50	50	50	50	50

Month	LWR	LFR	SGB	NGB	SLM	NLM	LS	CB
January	50	50	50	44	44	44	42	42
February	50	50	50	43	43	43	43	43
March	54	54	54	54	52	54	52	52
April	65	65	60	59	61	60	58	58
May	70	70	66	64	67	65	65	65
June	72	72	70	67	68	67	67	67
July	74	74	70	68	68	68	69	69
August	78	78	71	67	67	67	69	69
September	87	87	83	79	79	79	79	79
October	54	54	50	50	50	50	45	54
November	50	50	47	47	47	47	44	46
December	50	50	47	45	45	45	43	44

C = Cold = waters with a fish and other aquatic life use designation of "cold water community"
W–L = Warm –Large = waters with a fish and other aquatic life use designation of "warm water sport fish community" or "warm water forage fish community" and unidirectional 7Q10 flows ≥ 200 cfs (129 mgd)
W–S = Warm – Small = waters with a fish and other aquatic life use designation of "warm water sport fish community" or "warm water forage fish community" and unidirectional 7Q10 flows < 200 cfs (129 mgd)
LFF = waters with a designation of "limited forage fish community"
NIL = Northern Inland Lakes = applicable for those lakes north of State Highway 10
SIL = Southern Inland Lakes = applicable for those lakes south of State Highway 10
MR = Mississippi River = applies to any portion of Wisconsin's Mississippi River reach
RR = Rock River = applies to waters downstream of Lake Koshkonong
UWR = Upper Wisconsin River = applies to waters upstream of Petenwell Dam
LWR = Lower Wisconsin River = applies to waters downstream of Petenwell Dam to the confluence with the Mississippi River
LFR = Lower Fox River = applies to waters downstream of the Lake Winnebago outlet
SGB = Green Bay waters south of the Brown County line to the Fox River mouth
NGB = Green Bay waters north of the Brown County line to the northernmost point on Washington Island
SLM = Lake Michigan waters south of the Milwaukee River mouth (downtown Milwaukee)
NLM = Lake Michigan waters north of the Milwaukee River mouth (downtown Milwaukee)
LS = Lake Superior = waters in Lake Superior except those in Chequamegon Bay
CB = Chequamegon Bay = waters within the region enclosed by Chequamegon Point and a straight line west to the mainland

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10; renumbering of (1) (b) 1. a. and b. made under s. 13.92 (4) (b) 1., Stats., Register September 2010 No. 657.

NR 102.27 Site–specific water quality criteria. **(1)** GENERAL. A water quality criterion developed pursuant to this subchapter may be modified by the department for a particular surface water segment or waterbody. The site–specific water quality criterion shall only be applicable to the identified surface water segment or body. The development of a site–specific water quality criterion shall include all of the following:

(a) Information showing data used to derive the water quality criterion do not apply to the specific water segment or body.

(b) Consideration of the guidance provided in Chapter 3.7 of the Water Quality Standards Handbook, Second Edition, U.S. EPA, 8/15/1994.

(c) Information showing the site–specific water quality criterion is consistent with the guidelines provided in sub. (2).

(d) Any additional information necessary to derive site–specific water quality criterion.

Note: Site–specific water quality criteria are subject to U.S. Environmental Protection Agency approval under federal regulations.

(2) SITE–SPECIFIC WATER QUALITY CRITERIA DEVELOPMENT. (a) The department may promulgate site–specific water quality criteria for temperature when it determines that the data used to derive the water quality criteria published in this subchapter do not apply to the specific water segment or body in question. In making the determination, the same approach used to develop the water qual-

ity criteria in s. NR 102.25 may be used to develop site–specific water quality criteria by recalculating the water quality criteria based upon the actual species that are associated with the specific site.

(b) Alternative methods for developing site–specific water quality criteria may be used if it is determined that those alternative methods will protect against sub–lethal and acute impacts in the fish and aquatic life community of a specific site.

(c) A water quality criterion developed via alternative methods shall be reviewed by the department and shall be adopted as a rule under this chapter before it can be applied on a site–specific basis.

(3) Any water quality criterion modified for site–specific conditions shall be promulgated by the department and approved by the U.S. Environmental Protection Agency before it is applied on a site–specific basis.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.28 Cold shock standard. Water temperatures of discharges shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.29 Rate of temperature change standard. Temperature of a water of the state or a discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

NR 102.30 Variances to water quality standards for temperature. The provisions of ss. 283.15 and 283.17, Stats., are applicable to the water quality standards in this subchapter.

History: CR 07–111: cr. Register September 2010 No. 657, eff. 10–1–10.

Subchapter III — Waterbody Assessments and Reporting

NR 102.50 Waterbody assessments and reporting. As required under sections 303 (d) and 305 (b) of the Clean Water Act, 33 USC 1313 (d) and 1315 (b), the department shall report to U.S. EPA on the status of the state's waterbodies and attainment of water quality standards every two years. Waterbody assessments are used to determine the condition of the state's surface waters or segments thereof and whether waterbodies are attaining state and federal surface water quality standards.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.51 Assessment types. The department may conduct different types of assessments to determine the status of waterbody health and attainment of water quality standards, depending on availability of data or methods used to collect the data. The department shall, at a minimum, conduct all of the following:

(1) STATEWIDE CONDITION ASSESSMENTS. As part of the biennial assessment report required under section 305 (b) of the Clean Water Act, 33 USC 1315 (b), and 40 CFR 130.8 and 130.10 (a) (1), the department shall report on water quality status and trends at the state, regional, or watershed levels. The department shall assess the extent to which surface waters of the state provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities in and on the water. Broad–scale approaches may be used to conduct these assessments, including randomized monitoring designs or other appropriate statistical methods.

(2) INDIVIDUAL WATERBODY ASSESSMENTS AND SECTION 303 (D) LIST. (a) The department shall identify and report on waters not meeting any applicable water quality standard prescribed under statute or a promulgated rule, pursuant to section 303 (d) of the Clean Water Act, 33 USC 1313 (d), and 40 CFR 130.7 (b) and 130.10 (b) (2). The department shall assess individual waterbodies that have sufficient and readily available datasets, as specified in the department's water quality standards and assessment protocols, to determine whether a waterbody is attaining water quality standards. The department determines whether a waterbody's designated uses are supported by evaluating attainment of its water quality criteria and biological assessment thresholds. The department shall assess data collected from a waterbody against each applicable water quality standard or assessment threshold independently, unless a combined assessment procedure is specified in rule. The department shall report any waters not attaining applicable water quality standards to the U.S. EPA. Only water quality standards that have been promulgated via statute or rule may be considered for the purposes of listing a waterbody on the section 303 (d) list.

(b) When the department submits the section 305 (b) biennial assessment report and section 303 (d) list, it shall provide all of the following information if an assessment indicates that one or more of a waterbody's water quality standards are not attained:

1. A waterbody is listed on the section 303 (d) list for a pollutant if a pollutant's water quality criterion is not attained and it may require a total maximum daily load analysis.

2. A waterbody is reported as having an observed effect of degradation if the waterbody does not attain one or more biological assessment thresholds or water quality criteria for parameters that are not pollutants, such as dissolved oxygen. In listing observed effects, the department may not formally attribute these effects to a specific pollutant until the department conducts an evaluation of potential causes, including nonchemical stressors such as habitat degradation or hydrological modification, and identifies one or more specific pollutants as causing or contributing to biological degradation. Listing of observed effects would not require development of a total daily maximum load for a waterbody unless a specific pollutant exceeding its promulgated water quality standard is identified by the department as a cause of the observed effect.

Note: If a waterbody is not attaining water quality criteria for a pollutant, it will be listed on the section 303 (d) list regardless of attainment of biological assessment thresholds unless otherwise specified in the pollutant's criteria or procedures specified in those chapters (for instance, the combined assessment approach for phosphorus under s. NR 102.60), or if site–specific criteria are developed and attained.

Note: This subsection does not preclude other types of assessments that may be needed or required for other purposes. The department has authority to research and assess the quality and condition of the state's waters under s. 281.13, Stats.

Note: As required under 40 CFR 130.7 (b) (4), waters on the section 303 (d) list may require a total maximum daily load analysis. The department prioritizes and develops total maximum daily load analyses as discussed in subch. III of ch. NR 212. In addition, if a specific pollutant is identified as contributing to biological degradation, a site–specific criterion for the pollutant may be developed through rulemaking if appropriate.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.52 Assessment protocols. (1) GENERAL. The department's protocols for assessing waterbodies shall be consistent with the state's water quality standards and federal regulations and be based on relevant scientific information. The department's protocols may include components such as minimum data requirements, sampling methods, quality control, statistical analysis of data, allowable frequency of exceedance of criteria or thresholds, and use of professional judgment.

Note: When assessing waterbodies, the department uses its guidance for waterbody assessments titled "Wisconsin Consolidated Assessment and Listing Methodology," or WisCALM. Although a description of the state's assessment methodology is required to be submitted to U.S. EPA, U.S. EPA does not approve or disapprove the state's assessment methodology under section 303 (d) of the Clean Water Act.

(2) SAMPLE VARIABILITY AND CONFIDENCE INTERVALS. (a) For assessment determinations, the department may determine that multiple samples are necessary to account for variability inherent in the waterbody, sampling results, or other conditions. The department may evaluate attainment of criteria or thresholds, using assessment methodology that accounts for both the central tendency of the data, such as the mean or median, and the variability of the samples.

(b) The department may apply a confidence interval approach to determine the number of samples needed and to increase certainty in the attainment decision. For metrics expressed as a mean or percentile of a group of samples, the department may use the two–sided 80 percent confidence interval of the mean or percentile for assessment. Other methods of calculating a confidence interval may be applied as appropriate for a specific metric, data type, or statistical goal. Once the confidence interval is determined under this paragraph, it is then compared to the criterion or threshold as specified in par. (c).

(c) When applying an approach under par. (b), the department shall compare the confidence interval to the applicable criterion or threshold using one of the following evaluation criteria:

1. If the entire confidence interval is attaining the criterion or threshold, no further samples are needed to make the attainment determination.

2. If the entire confidence interval is not attaining the criterion or threshold, no further samples are needed to make the non–attainment determination.

3. If the criterion or threshold is within the confidence interval, the assessment will be deferred until more data can be collected with the goal of narrowing the interval to determine whether subd. 1. or 2. applies. After further data collection, if the criterion or threshold continues to be within the confidence interval, the attainment determination shall be made by directly comparing the sample mean or percentile to the criterion or threshold.

Note: With confidence intervals calculated under par. (b), there is 90 percent confidence that the attainment decision is correct because there is 80 percent confidence that the waterbody's true value is within the interval, 10 percent confidence that it is greater than the interval, and 10 percent confidence that it is less than the interval.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.53 Reporting, public participation, and approvals. (1) REPORT DEVELOPMENT. For development of the biennial assessment report and section 303 (d) list, the department shall assemble, evaluate, and submit water quality–related data, information, and assessment protocols to U.S. EPA.

(2) PUBLIC PARTICIPATION. (a) The department shall solicit assessment data from citizens and partner groups prior to the waterbody assessment process. Readily available data sets that meet minimum data requirements and are submitted in the department's specified format during the biennial data solicitation period shall be considered by the department when conducting assessments.

(b) The department shall hold a public informational hearing and a public comment period of at least 30 days on the draft list of assessments and any proposed changes to the section 303 (d) list. The department shall provide notice of the public informational hearing and information regarding where written comments may be submitted on its website and through an electronic notification system.

Note: Prior to the data solicitation period under par. (a), the department provides an opportunity for the public to comment on the assessment guidance. The department generally responds to comments received during the comment periods for the assessment guidance and the draft section 303 (d) list. The department will provide a template for data submittal on the department's waterbody assessment website. The public can subscribe to the electronic notification system for the water quality standards program on the department's home page at http://dnr.wi.gov/.

(3) SUBMITTAL OF RESULTS TO U.S. EPA. After the public participation process is completed, the department shall submit waterbody assessment results to U.S. EPA Region 5 by April 1 of every even numbered year for approval. Assessment results shall be submitted in a report that integrates both statewide condition and individual waterbody assessment results to satisfy the requirements of sections 305 (b) and 303 (d) of the Clean Water Act, respectively.

Note: U.S. EPA has authority to approve or disapprove the section 303 (d) list.

(4) PUBLICATION OF THE FINAL SECTION 303 (D) LIST. The U.S. EPA–approved section 303 (d) list shall be made public and available on the department's website.

Note: The section 303 (d) list and statewide condition assessments are available on the department's website at https://dnr.wi.gov/topic/SurfaceWater/assessments.html.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.54 Biological assessment of designated uses. Biological assessments conducted under this subchapter are used to determine attainment of designated uses by documenting the health of aquatic biological communities and any observed effects of degradation as described under s. NR 102.51 (2) (b) 2. If a biological assessment threshold under this subchapter is not attained, the waterbody may be considered as not attaining the applicable designated use.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.55 Narrative biological assessment thresholds for aquatic life uses. (1) GENERAL. This section establishes narrative biological assessment thresholds that characterize the biological community condition and that are used to measure attainment of aquatic life designated uses specified in s. NR 102.04 (3) for surface waters. This section also establishes methods for evaluating attainment of narrative assessment thresholds.

(2) NARRATIVE BIOLOGICAL ASSESSMENT THRESHOLDS. (a) The aquatic life uses under s. NR 102.04 (3), except for those specified in s. NR 102.04 (3) (d) to (e), shall be considered suitable for the protection and propagation of a balanced aquatic life community. Those uses are intended to support the growth, development, reproduction, and life cycle of the aquatic life communities for their designated aquatic life use categories, although such waters may exhibit moderate changes in aquatic life community structure due to loss of some rare native taxa or shifts in relative abundance. In determining attainment of a waterbody's designated uses, the department may compare its biological quality to the range of quality found in similar waterbodies under natural conditions. A waterbody with distinct natural characteristics that result in an aquatic life community different from or less diverse than other waters in the same use category may be considered attaining its aquatic life use if those differences are clearly related to natural characteristics.

(b) A surface water that does not support a balanced aquatic life community as designated under s. NR 102.04 (3) (d) to (e) shall support its highest attainable use given its habitat and potential.

(c) A surface water shall maintain at least the highest biological condition it has achieved since 1975.

Note: Paragraphs (b) and (c) reflect federal requirements under 40 CFR s. 131.10 (g), pertaining to highest attainable uses, and 40 CFR s. 131.3 (e), specifying November 28, 1975 as the benchmark date from which to determine "existing uses" for aquatic life.

Note: Examples of waterbodies with distinct natural characteristics are wetland–dominated streams, naturally acidic bog lakes, and ephemeral streams with only small areas of short–term refugia. Biological condition assessments should not be conducted during periods when there is insufficient water due to natural conditions to support aquatic life.

(3) ASSESSMENT METHODS FOR NARRATIVE BIOLOGICAL THRESHOLDS. Biological assessments for determining attainment of designated uses may be conducted in accordance with the assessment protocols specified in s. NR 102.52 and may include any of the following:

(a) *Biological community assessments.* To conduct biological community assessments, the department shall use documented methods that have undergone technical review and produce consistent, objective, and repeatable results that account for methodological uncertainty and natural environmental variability. Such methods include indices of biological integrity or similar tools calculated from measured attributes of resident fish, aquatic invertebrates, aquatic plants, or other aquatic communities. Such indices or tools may include measures of species composition, diversity, and abundance; feeding and reproduction characteristics; condition of individual organisms; or other scientifically objective, credible, and supportable factors. Historic records of

native species may also be used to assess whether a waterbody exhibits loss of native species.

(b) *Biological integrity trends.* All surface waters shall maintain existing biological integrity, such that no waterbody or portion thereof shall experience a significant declining trend since 1975 using indicators under par. (a) or other indicators of biological condition, as demonstrated through scientifically–based documentation.

Note: An example of methods the department uses for assessing biological health of surface waters are those found in the department's guidance for waterbody assessments, "Wisconsin Consolidated Assessment and Listing Methodology," or WisCALM. Protocols for assessing attainment of biological assessment thresholds using metrics such as fish or macroinvertebrate indices of biotic integrity or the macrophyte assessment of condition are contained in, or referenced in, WisCALM. WisCALM is available on the department's surface water assessment website at https://dnr.wi.gov/topic/SurfaceWater/assessments.html and is updated every 2 years with public input.

History: CR 19–094: cr. Register September 2022 No. 801, eff. 10–1–22.

NR 102.56 Numeric biological assessment thresholds for lakes, reservoirs and impounded flowing waters. This section contains numeric biological assessment thresholds for evaluating the biological condition of lakes, reservoirs, and impounded flowing waters and determining whether applicable designated uses are being attained. Numeric biological assessment thresholds used to assess attainment of designated uses include all of the following:

(1) AQUATIC LIFE USE THRESHOLDS. (a) *Chlorophyll a.* 1. 'Assessment thresholds.' a. A lake or reservoir other than a stratified two–story fishery lake is not attaining its aquatic life use if its arithmetic mean suspended chlorophyll *a* concentration exceeds 27 ug/L.

b. A two–story fishery lake is not attaining its aquatic life use if its arithmetic mean suspended chlorophyll *a* concentration exceeds 8 ug/L.

2. 'Assessment methods.' Data requirements for chlorophyll a are the same as those specified for phosphorus in s. NR 102.07 (1) (a), except that the sampling period for chlorophyll *a* is July 15 to September 15. To determine attainment of the chlorophyll *a* threshold under subd. 1., the department shall compare the waterbody's mean suspended chlorophyll *a* concentration during the sampling period to the threshold, using the confidence interval approach described under s. NR 102.52 (2) (b) to (c) to determine if additional samples are needed.

Note: The aquatic life chlorophyll *a* thresholds do not apply to streams, rivers, or impounded flowing waters, as they were established based on lake trophic status levels.

(b) *Aquatic plants.* 1. 'Assessment thresholds.' Thresholds for evaluating the general health of an aquatic plant community in a lake or reservoir to determine whether its aquatic life use is attained are shown in Table 8. Thresholds used in the macrophyte assessment of condition indicate the acceptable percentage of a lake or reservoir's vegetated area supporting species that are in each of three tolerance categories. The tolerance categories specify whether a plant species is sensitive to, moderately tolerant of, or tolerant of disturbance.

Table 8
Aquatic plant community thresholds for lakes and reservoirs

Lake subcategory[1]	Macrophyte assessment of condition is attained if:
Northern seepage	Moderately tolerant ≤ 64%
Northern drainage	Tolerant ≤ 73%
Southern seepage	Sensitive > 15%
Southern drainage	Tolerant ≤ 50%

[1]In Table 8, northern lakes are those north of 44.84707°N latitude, and southern lakes are those south of that latitude. These thresholds do not apply to the Great Lakes or lakes less than 5 acres in surface area.

2. 'Assessment methods.' The percentage of a lake or reservoir's vegetated area supporting each tolerance category shall be determined using department–approved protocols for assessing macrophyte condition. The sampling period for southern lakes is June 15 to September 15, and for northern lakes is July 1 to August 31 unless the department determines that an extension from June 15 to September 15 is appropriate during warmer than average years. The department shall consider the threshold attained if the most recent plant survey conducted within the past 10 years, or other more representative survey, attains the applicable threshold in Table 8.

Note: Examples of department–approved sampling protocols include the "Recommended Baseline Monitoring of Aquatic Plants in Wisconsin," available on the department's website in the Electronic Guidance and Documents (EGAD) system at https://dnr.wi.gov/water/egadsearch.aspx. Examples of department–approved analysis protocols include the "Macrophyte Assessment of Condition – General" (MAC–Gen) for general condition assessments applicable to this section, and the "Macrophyte Assessment of Condition – Phosphorus" (MAC–P) for phosphorus–specific assessments under s. NR 102.60 (2) (c). Each MAC protocol contains the tolerance groups assigned to each species. MAC–Gen and MAC–P scores can be obtained by contacting the department at DNRSWIMS@wisconsin.gov and submitting aquatic plant data collected and formatted according to department specifications. Computer programming script written in the R language to compute the MAC calculations can be obtained through the department's Water Evaluation Section by contacting the department's call center at 1–888–WDNRINFo (1–888–936–7463) or using options provided on its website at https://dnr.wi.gov/contact/.

(2) RECREATION USE THRESHOLDS. (a) *Definition.* In this section, "moderate algae level" means a chlorophyll *a* concentration of 20 ug/L or greater.

(b) *Frequency of moderate algae levels.* Thresholds in Table 9 shall be used when determining if a lake, reservoir, or impounded flowing water is attaining its recreational use.

Table 9
Algae thresholds for recreational use assessments

Waterbody type[1]	Subcategory	Thresholds for frequency of moderate algae levels
Lakes, reservoirs, impounded flowing waters (includes cold and warm)	Impounded flowing water, unstratified drainage, unstratified seepage	Does not exceed 20 ug/L chlorophyll *a* for more than 30% of days during the summer sampling period[2]
	Stratified drainage, stratified seepage	Does not exceed 20 ug/L chlorophyll *a* for more than 5% of days during the summer sampling period[2]
	Stratified two–story fishery	

[1] Terms used for waterbody types and subcategories are defined in s. NR 102.03.

[2] Summer sampling period is July 15 to September 15.

Note: Lakes and reservoirs are subcategorized based on both their stratification status (stratified vs. unstratified) and whether or not they have an outlet stream or river (drainage vs. seepage). To find a lake or reservoir's subcategory, also known as its natural community, go to the department's Surface Water Data Viewer online map at https://dnr.wi.gov/topic/surfacewater/swdv/ and turn on the layer for Surface Water: Lake Natural Communities. On the natural communities layer, unstratified is referred to as "shallow," and stratified is referred to as "deep." Headwater and lowland lakes are types of drainage lakes.

Note: The U.S. EPA has set human health swimming advisory levels for microcystin and cylindrospermopsin that accurately reflect the latest scientific information on the potential human health effects from recreational exposure to these two cyanotoxins. The department recommends that local and tribal public health agencies use these swimming advisory levels for notification purposes in recreational waters to protect the public. More information can be found at https://dnr.wisconsin.gov/topic/lakes/bluegreenalgae.

(c) *Assessment methods.* Data requirements for chlorophyll *a* are the same as those specified for phosphorus in s. NR 102.07 (1) (a), except that the sampling period for chlorophyll *a* in all waterbody types is July 15 to September 15. To determine attainment of the threshold, the department shall determine a waterbody's

frequency of moderate algae levels during the chlorophyll *a* summer sampling period using the confidence interval for a percentile of a normal distribution, and use the approach described under s. NR 102.52 (2) (b) and (c) to compare that frequency to the applicable threshold in Table 9.

Note: The statistical calculation for determining the frequency of moderate algae levels is contained in Wisconsin's Consolidated Assessment and Listing Methodology (WisCALM) guidance document.

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NR 102.60 Combined assessment procedure for phosphorus. (1) GENERAL. (a) This section establishes a combined assessment approach for making total phosphorus attainment determinations for surface waters in cases specified in par. (b). This approach is designed to account for variability in how waterbodies respond to phosphorus. The combined approach evaluates a waterbody's quality by considering the total phosphorus concentration in the surface water in conjunction with an evaluation of the phosphorus response indicators specified in subs. (2) to (4). The phosphorus response indicators characterize the condition or abundance of aquatic organisms that are responsive to total phosphorus to determine whether aquatic life and recreation uses are being met. Together, the total phosphorus criteria and response indicators may be used to determine whether the phosphorus water quality standards are attained or whether the waterbody should be listed as impaired for total phosphorus on the section 303 (d) list.

(b) 1. If a waterbody's calculated total phosphorus concentration exceeds its total phosphorus criterion using the assessment procedure under s. NR 102.07 and the waterbody's calculated phosphorus concentration is within the combined assessment range shown in Table 10, the department may make the total phosphorus attainment or impairment determination using phosphorus response indicators specified in subs. (2) to (4) if sufficient biological data are available to conduct these assessments. In that case, the following decision protocols apply:

a. A waterbody that attains all of its applicable phosphorus response indicators under subs. (2) to (4) may be excluded from the section 303 (d) listing of waters impaired for phosphorus.

Note: If a waterbody is not considered impaired using the combined approach, it may be a candidate for a less stringent phosphorus site–specific criterion under ch. NR 119. If a waterbody attains its phosphorus criterion but one or more phosphorus response indicators are not attained, it may be a candidate for a more stringent site–specific phosphorus criterion under ch. NR 119.

b. If a waterbody does not attain one or more of the applicable phosphorus response indicators in subs. (2) to (4) or if the department does not have sufficient data to evaluate all of the applicable response indicators, then the waterbody shall be considered impaired for total phosphorus and the department shall propose inclusion of the waterbody on the section 303 (d) list as not attaining its phosphorus criterion. As part of the public comment period for the section 303 (d) list, the department shall provide a list of waterbodies needing additional data to determine whether phosphorus response indicators are met. If sufficient phosphorus response indicator data becomes available in the future, the waterbody may be reassessed.

2. If a waterbody's calculated phosphorus concentration exceeds its total phosphorus criterion using the assessment procedure under s. NR 102.07 and the waterbody's calculated phosphorus concentration also exceeds the upper limit of the combined assessment range shown in Table 10, then the waterbody shall be considered impaired for total phosphorus regardless of attainment of phosphorus response indicators, and the department shall propose to include the waterbody on the section 303 (d) list.

Table 10
Range for applying combined assessment for total phosphorus[1]

Waterbody type	Total phosphorus criterion (ug/L)	Combined approach range[2] (ug/L total phosphorus)
Stream or its impounded flowing water	75	75 to <150
River or its impounded flowing water	100	100 to <200
Unstratified reservoirs, unstratified drainage or seepage lakes	40	40 to <60
Stratified reservoirs, stratified drainage lakes	30	30 to <45
Stratified seepage lakes	20	20 to <30
Two–story fishery lakes	15	15 to <22.5

[1] To determine whether a waterbody falls into the combined approach range, compare the lower confidence limit of the waterbody's two–sided 80% confidence interval around the mean (for lakes/rivers) or median (for rivers/streams) total phosphorus concentration to the ranges in the table.

[2] For streams and rivers the combined criteria range is between the applicable total phosphorus criterion and two times that criterion. For lakes, the range is between the applicable total phosphorus criterion and 1.5 times that criterion. If a waterbody has an approved site–specific phosphorus criteria, the combined criteria range for that waterbody shall be calculated using these multiplication factors.

(2) LAKE AND RESERVOIR PHOSPHORUS RESPONSE INDICATORS. A lake or reservoir 5 acres or greater for which the total phosphorus concentration is within the combined approach range specified in Table 10 shall be listed on the section 303 (d) list as impaired for phosphorus unless it attains all of the following phosphorus response indicators:

(a) *Frequency of moderate algae levels.* The biological assessment thresholds for frequency of moderate algae levels to attain recreation uses as specified in s. NR 102.56 (2).

(b) *Chlorophyll a.* The chlorophyll *a* biological assessment threshold to attain aquatic life uses as specified in s. NR 102.56 (1) (a).

(c) *Aquatic plants.* The aquatic plant phosphorus response indicator for aquatic life use in this paragraph. Thresholds for assessing macrophyte community response to phosphorus levels in a lake or reservoir are shown in Table 11. Thresholds indicate the acceptable percentage of a lake or reservoir's vegetated area supporting species that are phosphorus–sensitive or phosphorus–tolerant. Non–attainment of a threshold indicates that an aquatic plant community is considered degraded by phosphorus concentrations in the surface water. Assessment methods are the same as those specified in s. NR 102.56 (1) (b) 2. except percentages are compared against thresholds in Table 11.

Table 11
Lake aquatic plant community phosphorus response indicator

Lake subcategory[1]	Macrophyte assessment of condition for phosphorus is attained if:
Northern seepage	Phosphorus tolerant ≤ 44%
Northern drainage	Phosphorus sensitive > 51%
Southern seepage	Phosphorus sensitive > 26%
Southern drainage	Phosphorus sensitive > 42%

1 In Table 11, northern lakes are those north of 44.84707°N latitude, and southern lakes are those south of that latitude. This plant phosphorus response indicator does not apply to the Great Lakes or lakes less than 5 acres in surface area.

(d) *Oxythermal layer thickness.* The oxythermal layer thickness criteria specified in s. NR 102.04 (4) (am). This paragraph applies only to two–story fishery lakes.

(3) RIVER AND IMPOUNDED FLOWING WATERS PHOSPHORUS RESPONSE INDICATOR. A river listed in s. NR 102.06 (3) (a), or its impounded flowing waters, for which the total phosphorus concentration is within the combined approach range specified in Table 10 shall be listed on the section 303 (d) list as impaired for phosphorus unless it exceeds 20 ug/L chlorophyll *a* for fewer than 30 percent of days during the summer sampling period of July 15 to September 15, as calculated following s. NR 102.56 (2) (c).

(4) STREAM PHOSPHORUS RESPONSE INDICATORS. (a) *General.* A stream for which the total phosphorus concentration is within the combined approach range specified in Table 10 shall be listed on the section 303 (d) list as impaired for phosphorus unless it attains the phosphorus response indicators specified in this subsection. When applying the phosphorus response indicators for streams, the department may apply the benthic algal biomass indicator under par. (b) as a screening tool before determining whether the benthic diatom assessment under par. (c) is necessary for an attainment determination. If available, benthic diatom assessment results under par. (c) supersede results from the benthic algal biomass screening under par. (b).

(b) *Benthic algal biomass screening.* Benthic algal biomass is a measure of primary productivity in streams, and is quantified using a viewing bucket assessment method along stream transects. The benthic algal biomass phosphorus response indicator is applicable to both the aquatic life use and the recreational use, and may be used to make an initial use attainment determination as specified in Table 12. If results from the benthic algal biomass assessment conclusively demonstrate attainment or non–attainment of the benthic algal biomass indicator, no benthic diatom analysis under par. (c) is necessary for the attainment decision. If the benthic algal biomass assessment is inconclusive according to Table 12, or in cases where the assessment is inappropriate due to silted substrate, additional benthic diatom analysis under par. (c) is required to make the aquatic life use attainment determination. If a stream's benthic algal biomass score is inconclusive and a benthic diatom sample is not available, the stream shall be proposed for inclusion on the section 303 (d) list.

Table 12
Stream benthic algal biomass phosphorus response indicator

Benthic algal biomass, viewing bucket score (0-3)	Attainment decision	
	Aquatic life use	Recreational use
< 1	Attained[1]	Attained
1 – 2	Inconclusive; assess benthic diatoms	
> 2	Not attained	Not attained

1 If the mean score is <1 but 20% or more of individual transect points score a 3, a benthic diatom assessment under par. (c) is required to make an attainment determination.

Note: Wisconsin's benthic algal viewing bucket methods are available on the department's website in the Electronic Guidance and Documents (EGAD) system at https://apps.dnr.wi.gov/water/egadSearch.aspx by searching for Viewing Bucket Method for Estimating Algal Abundance in Wadeable Streams.

(c) *Benthic diatoms.* Benthic diatoms are an algal taxonomic group that represents primary producer community structure, and are used for assessment of the aquatic life use. This assessment is needed only if the benthic algal biomass assessment for aquatic life under par. (b) is inconclusive or inappropriate due to siltation. A stream's diatom taxa are statistically analyzed using Wisconsin's weighted average Diatom Phosphorus Index, or DPI. To determine use attainment, the DPI result shall be compared to the stream phosphorus criterion of 75 ug/L phosphorus. If only one diatom sample per site is available, the confidence interval approach described under s. NR 102.52 (2) (c) is applied. If the DPI is below 75 as specified under s. NR 102.52 (2) (c) 1., the phosphorus response indicator is attained. If more than one sample is available from the most recent 5 years, the mean score of the surveys is calculated and compared to the threshold of 75 ug/L without applying confidence intervals.

Note: The statistical code to run the Wisconsin DPI calculation can be obtained through the department's Water Evaluation Section by contacting the department's call center at 1–888–WDNRINFo (1–888–936–7463) or using options provided on its website at https://dnr.wi.gov/contact/.

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