

## TOPIC DESCRIPTIONS

*Note: The description for the 23 topics to be ranked begins on page 4, and includes all topics proposed for Groups C, D, & E.*

### **Group A: Standards/guidance with revisions/development currently in process**

**(NOT to be ranked –Topics in Group A are automatic high priority)**

1. **Thermal Standards & Point Source Implementation Procedures:** Revisions are being made to NR 102 (Water Quality Standards) and NR 106 (Point Source Implementation Procedures) to manage the discharge of heated water to surface waters. Wisconsin's current standards were ruled invalid by the Wisconsin Supreme Court in 1979. This effort is necessary to correct the problems that led to that ruling and to allow effluent limitations for heat to be included in permits where hot water discharges may adversely impact fish and other aquatic life. Public hearings on draft rules were held in January 2008. Adoption of rule revisions anticipated in late 2008.

Related Rules:   NR 102   Water quality standards for Wisconsin surface waters  
                       NR 106   Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
                       NR 209   Thermal effluent limitations modification procedures

2. **Phosphorus Water Quality Criteria:** In 2000, EPA published guidance on nutrient criteria for lakes and streams that requires states to promulgate the criteria as part of their surface water quality standards. If states do not promulgate the criteria, EPA has the authority to promulgate the criteria for the state. Wisconsin has experienced significant nutrient related water quality problems including nuisance *Cladophora* accumulations on the shores of Lake Michigan, toxic algal conditions in a number of inland lakes, and low dissolved oxygen levels in certain streams. Extensive research and monitoring to establish quantitative phosphorus water quality standards has been conducted. A group of Department scientists and outside experts have reviewed and analyzed the data and have proposed draft criteria. The Department is currently preparing draft rule language to establish phosphorous water quality criteria and will establish an external advisory panel of stakeholders to review and comment on the draft. Intentions are to seek authorization for public hearings from the Natural Resources Board in Summer 2008. Implementation of this rule, including potential provisions for implementing phosphorus-based TMDLs, will be a key discussion item for the external advisory committee.

Related Rule(s):  NR 102   Water quality standards for Wisconsin surface waters  
                       NR 106   Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
                       NR 60    Public Inland Lake Protection and Rehabilitation  
                       NR 151   Runoff Management  
                       NR 212   Waste Load Allocated Water Quality Related Effluent Limitations  
                       NR 216   Storm Water Discharge Permits  
                       NR 217   Effluent Standard and Limitations  
                       NR 243   Animal Feeding Operations

3. **Toxic Substance Surface Water Quality Criteria:** Revisions to Chapter NR 105 are necessary to synchronize Wisconsin's toxic substance criteria for 17 pollutants with federal criteria promulgated by

U.S. EPA. Proposed revisions for four of the substances – copper, endrin, nickel, and selenium – are intended to provide appropriate protection of fish & aquatic life species. Proposed revisions for the remaining substances are intended to provide protection for human health. The Natural Resources Board approved public hearings in October 2007. Three public hearings were held in January 2008.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances

- 4. Assessment Methodology:** To comply with section 303(d) of the Clean Water Act and associated federal regulations, every other year each state must develop a list of impaired waters (i.e. waters not meeting surface water quality standards). EPA requires each state to provide a listing methodology. In addition, EPA is requiring each state to integrate its 305(b) water quality assessment and its 303(d) listing into a joint report. In response, the Department is working to revise its assessment methodology, will not only be used for listing and reporting purposes, but will also propose a revised system of assigning use designations for surface waters and associated decision criteria to determine whether or not those uses are being attained. Decisions made from this new system will increase public understanding of the Department's water quality management efforts and will result in better decision making for several Clean Water Act program elements, including WPDES permitting, development of the biennial *Impaired Waters List*, and submittal of the Water Quality Report to Congress [305(b)]. A group of department staff have established recommendations for changes to the Department's existing procedures and have solicited comments from other staff. A final report of recommendations will be completed in 2008 and an internal *ad hoc* team will be formed to begin addressing implementation issues, including need for revisions to Administrative Rules.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 104 Uses and designated standards and secondary values

- 5. Use Designations – Process Revision:** Federal law requires states to assign a use designation to surface waters in order to determine the water quality goals for those water bodies. Wisconsin has assigned uses for: a) General Use, b) Fish & Other Aquatic Life Use; c) Public Health & Welfare Use, d) Recreational Use; and e) Wildlife Use. Perspectives on the conditions associated with each of those use designations vary widely between different affected groups, including regulated entities, environmental advocates, and the general public. This has led to significant confusion about Wisconsin's water quality management objectives and has created conflicts in the expectations of the DNR among those many constituents. In response, DNR initiated an internal effort to re-design its use designations to be ecologically and scientifically defensible, understandable to affected parties, and supported by well designed monitoring initiatives. When complete, these recommendations may directly affect provisions of several administrative rules, policies, and procedures as they apply to implementation of the Clean Water Act in Wisconsin.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 104 Uses and designated standards and secondary values  
NR 207 Water quality antidegradation  
NR 210 Sewage treatment works

**Group B: Standards/guidance that WDNR is already committed to addressing during the upcoming cycle (NOT to be ranked –Topics in Group B are automatic high priority)**

- 1. Anti-degradation:** Several challenges have been presented to the Department and U.S. EPA suggesting that Wisconsin's administrative rules and implementation procedures should be revised. The Department has initiated discussions acknowledging that revisions to policies and procedures may be needed. Limited discussion with the US Environmental Protection Agency (EPA) has occurred regarding the adequacy of the states anti-degradation provisions and authority. The Department is considering its options regarding this issue and will proceed once a decision is made and resources are available.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 207 Water quality antidegradation

- 2. Mercury Variance:** Concerns have been expressed by some groups regarding the consistency of Wisconsin's mercury variance procedures with federal guidance. The Department has submitted its administrative rule for mercury variance procedures to EPA for review and approval. Once an EPA decision is received, the Department will act appropriately to the EPA determination.

Related Rule(s): NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

- 3. Outstanding & Exceptional Resource Waters – Process Revision:** Federal law requires states to identify and protect "High Quality Waters." In Wisconsin, these waters are referred to as Outstanding or Exceptional Resource Waters and they are enumerated in sections NR 102.10 and NR 102.11, respectively. Waterbodies that are assigned the special designation as O/ERW have additional protections afforded them that are not automatically provided for non-O/ERW water bodies. Recent citizen petitions to consider expansion of the list of O/ERWs begs the question of whether or not DNR should standardize the decision process for O/ERW designation. Note: This activity is closely connected to the Assessment Methodology project.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 207 Water quality antidegradation

**Proposed Group C: Priority topics to be addressed in 2008-2011 cycle as resources allow****(Topics in Group C are to be ranked along with Groups D & E)**

- 1. Use Designations – Implementation:** Pending the outcome of the process redesign, the Department may initiate a review of codified Use Designations.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 104 Uses and designated standards and secondary values

- 2. Impaired Waters 303(d) Listing & De-listing Criteria:** Effective water quality management is dependent upon thorough and meaningful assessment of lakes, rivers, and streams. Water bodies that are not meeting their designated use are identified through monitoring and are included on Wisconsin's 303(d) list of "impaired" waters that is submitted in April of even numbered years to U.S. EPA. Conversely, impaired waters that are supporting their designated use are eligible to be removed from the 303(d) list. Decision-making criteria are needed to help streamline this process and to increase consistency throughout the state. This activity is closely connected with the Assessment Methodology projects.

Related Rule(s): To Be Determined

- 3. Use Attainability Analyses (UAA):** The Code of Federal Regulations (see 40 CFR 131.10) describes regulatory requirements related to designated uses for surface waters. One of these requirements requires states to conduct a *Use Attainability Analysis* (UAA) when there is an attempt to designate a use that is not capable of supporting a balanced fish and other aquatic life community or when a new use will result in less stringent criteria than a previously designated use. Historically, Wisconsin has relied in periodic revisions to NR 104 and the public rulemaking process to make such changes. Several benefits may be realized by developing and implementing formal UAAs with EPA and Fish & Wildlife Service involvement, including: a) streamline decision making and more timely revisions to use designations; b) increased consistency in decision making where appropriate, and 3) a more effective public input process into the designation or re-designation of Wisconsin surface waters.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 104 Uses and designated standards and secondary values

- 4. Outstanding & Exceptional Resource Waters – Implementation:** Pending the outcome of the process redesign, the Department may initiate a review of codified Outstanding and Exceptional Resource Waters.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 207 Water quality antidegradation

- 5. Application of Standards to Nonpoint Sources and Storm Water:** Existing requirements or programs may, in many instances, be insufficient to attain or maintain surface water quality standards. Current rules do not provide specific mechanisms to determine how nonpoint sources and storm water must be controlled. In some instances, point sources are required to meet permit effluent limitations, and nonpoint or storm water sources which may be having a greater effect on water quality, are not being regulated. Revisions to administrative rules are needed that will effectively obligate pollutant reductions from nonpoint sources when it is probable that imposition of point source controls alone will not positively affect receiving water quality.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
 NR 212 Waste load allocated water quality related effluent limitations  
 NR 809 Safe drinking water  
 NR 140 Groundwater quality

- 6. Chlorides Implementation Rule Revisions:** In 2000, DNR adopted surface water quality standards and implementation rules for chlorides in point sources. Since their adoption, these rules have been used in developing limitations in permits to achieve progressive reductions in the levels of chlorides discharged to surface waters. The rules intent is to reduce chloride discharges through implementation of source reduction measures, a process that has not been overwhelmingly successful in practice. A review of the current methods for determining chloride limitations and evaluating source reduction is needed based on the experience gained to this time.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances  
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
 NR 809 Safe drinking water  
 NR 140 Groundwater quality

**Proposed Group D: Priority topics that WDNR is not currently able to address due to specific barriers** (Topics in Group D are to be ranked along with Groups C & E)

- 7. Bacteria Surface Water Quality Standards:** The pathogen indicator applicable to Wisconsin lakes, rivers, and streams is currently fecal coliform\*. In 1986, U.S. EPA published revised federal surface water quality criteria for bacteria, adopting an *E. coli* criteria. Wisconsin was in the process of updating its fecal coliform surface water quality criterion to adopt the 1986 federal criteria for *E. coli* when EPA began a re-evaluation of its 1986 criteria to seek a different, defensible pathogen indicator species that will be reliable in protecting public health. As soon as EPA has new criteria available, Wisconsin will need to pursue revisions to NR 102 and possibly NR 210 as it relates to disinfection of wastewater. It is anticipated that EPA's efforts will be available sometime in 2012.

\*In the open waters of the Great Lakes, EPA took action to overpromulgate Wisconsin's standards and the applicable criteria is *E. coli*.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
 NR 210 Sewage treatment works

- 8. Whole Effluent Toxicity (WET) – Reasonable Potential for Toxicity:** In December 2000, U.S. EPA objected to Wisconsin procedures used to determine the *reasonable potential* for whole effluent toxicity associated with wastewater effluents. Whole effluent toxicity tests are performed by placing fish and other non-fish aquatic organisms in wastewater effluent. Scientists can determine examine the effects of wastewater effluent on the health of the test organisms and determine the risk to fish and other aquatic life that live in rivers, streams, and lakes. EPA has argued that Wisconsin's procedures are less stringent than federal procedures and have indicated that changes must be made to be consistent with federal requirements or wastewater permits will not be valid. This initiative would

require changes in Administrative Rules and could result in more limitations in WPDES permits than are currently required.

Related Rule(s): NR 106.08 Determination of the necessity for whole effluent toxicity testing requirements and limitations  
NR 106.09 Whole effluent toxicity data evaluation and limitations

**Proposed Group E: Topics that are not a priority for addressing in the 2008-2011 cycle**  
**(Topics in Group E are to be ranked along with Groups C & D)**

**9. Biocriteria:** The vast majority of Wisconsin's surface water quality criteria are either chemical (i.e., toxic substances), or physical (i.e., temperature). Those criteria are established to ensure that biological communities are not adversely impacted. The decision criteria on what constitutes an impact are often related to whether or not aquatic organisms are killed or their reproduction or growth is compromised in a laboratory setting. There are no corresponding criteria about the population of aquatic life in an actual receiving stream. The Clean Water Act allows for these types of criteria – commonly known as *biocriteria* – and EPA is strongly encouraging states to develop them and include them in state-specific water quality standards. Using biological data currently available and to be collected in the future, DNR could develop numeric biocriteria that would correlate with the assessment of the myriad of designated uses in lakes, rivers, and streams.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
NR 151 Runoff Management  
NR 216 Storm Water Discharge Permits

**10. Blue-Green Algal Toxin Surface Water Quality Criteria:** Certain species of blue-green algae (also known as Cyanobacteria) can produce different types of toxins that can be harmful to humans and animals (i.e., fish, dogs, swine, cattle). These toxins are produced naturally during the annual growing season and pose the greatest risk when an algal population reaches "bloom" conditions - often indicated by floating green mats or large scum layers that resemble spilled paint. When these algal cells are swallowed, the toxins may be released into the digestive system and cause life-threatening damage to internal organs and/or the central nervous system. In some cases, simply coming in contact with the cells in the water can cause skin rashes and respiratory problems for hyper-sensitive people. The World Health Organization has lead international efforts to study the toxicity of algal toxins and has recommended cell density thresholds that can be used to provide public health advice. Working in collaboration with the Department of Health & Family Services, a comprehensive review of the toxicity of specific algal toxins should be initiated to determine if surface water quality criteria should be calculated for the protection of humans and domestic animals.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 105 Surface water quality criteria for toxic substances  
NR 809 Safe drinking water  
NR 140 Groundwater quality

**11. Dissolved Oxygen Water Quality Criteria:** Wisconsin's minimum water quality criteria for dissolved oxygen (DO) were developed in the early 1970's and have not been updated. Since that

time, several challenges to the appropriateness of the DO criteria have been made in formal and informal reviews of WPDES permits for wastewater treatment facilities. Most often the challenges surround the question of whether or not the DO criteria are adequately protective of threatened and endangered fish and other aquatic life species. Maintaining adequate concentrations of DO is vitally important for supporting fish, invertebrates and other aquatic life. Any effort to review the applicability of DO criteria would need to consider the multiple use designations currently a part of NR 102 and any revisions that may be promoted in association with the Assessment Methodology Project.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
 NR 104 Uses and designated standards and secondary values  
 NR 212 Waste load allocated water quality related effluent limitations  
 NR 151 Runoff Management

**12. Exemption for Certain Substances (NR 106.10):** NR 106.10, Wis. Adm. Code, contains a provision that exempts certain additive substances from being included in WPDES permits for noncontact cooling water outfalls if the substance is added at a concentration similar to that added to drinking water supplies. This provision is included in the rule to allow the Department to treat such discharges similarly to how we would treat noncontact cooling water discharges which use municipal water for cooling purposes. U.S. EPA has identified this provision as inconsistent with federal regulations and has objected to permits issued with this provision. The exemption must be modified or removed from the rule to overcome U.S. EPA objections.

Related Rule: NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
 NR 809 Safe drinking water  
 NR 140 Groundwater quality

**13. General Review of Variances in NR 104:** Federal law allows variances to surface water quality standards under certain conditions. State law also allows variances to standards as they pertain to the imposition of effluent limitations in a WPDES permit (See s. 283.15(5)(b), Wis. Stats.). In either case, all surface water quality standards and associated variances to those standards are reviewed each permit term to determine if the conditions for granting the variance continue to be applicable. The variances that have been documented in Chapter NR 104 of the Wisconsin Administrative Code should be reviewed on a case-by-case basis to determine whether or not they should remain in effect. Examples of the type of variance that needs to be reviewed include:

- a. Fecal coliform thresholds of 1,000 cfu/mL for several water bodies in Southeastern Wisconsin as compared to the statewide standard of 400 cfu/mL;
- b. Water body specific standards that apply to a physical feature like a dam that no longer exists such as the variance(s) for the Milwaukee River to the North Avenue Dam;
- c. Less stringent criteria for dissolved oxygen for the portion of the Flambeau River near Park Falls and a portion of the Wisconsin River near Rhinelander; and
- d. A segment-specific non-continuous hydrologic classification for Newton Creek near Superior.

Related Rule(s): To be determined

**14. Implementation of Narrative Standards:** NR 102.04(1) contains provisions for surface water quality standards commonly referred to as “narrative standards”. These standards are intended to

address water quality problems that objectionable to the human senses such as odor, unsightliness, taste, etc. and that generally interfere with aquatic life in a surface water. Although implementation of these standards through WPDES permit terms and conditions is possible, sustainable permit conditions must be supported by reasonable scientific evidence. The Department could create criteria that more carefully define the basis for permit decisions based on narrative standards to remove ambiguities or varying interpretations of whether a discharge needs to be regulated to attain these standards.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

**15. Methylmercury Surface Water Quality Standard:** U.S. EPA published human health criteria for methylmercury in January 2001. In 2006, EPA also published criteria guidance for methylmercury in fish tissue. Methylmercury is the toxic form of mercury in water that can bioaccumulate in fish and humans. Because the EPA criteria are based on fish tissue concentration data, it is probable that this effort would require the development of a translator mechanism. Such a translator would be needed to determine the potential impact to humans when that available methylmercury data are obtained through the collection of fish to support Wisconsin's fish consumption monitoring program.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances  
NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
NR 809 Safe drinking water  
NR 140 Groundwater quality

**16. Mixing Zones:** Mixing zones are limited areas associated with point source discharges in which water quality standards may be exceeded. The area associated with these zones varies according to the types of pollutants and the type of protection warranted (i.e., acute, chronic, etc...). As a part of the federal Great Lakes Water Quality Initiative of 1995, EPA requires states to eliminate mixing zones altogether for certain bioaccumulative pollutants. To be consistent with federal law, Wisconsin must revise its mixing zone provisions to eliminate such mixing zones.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
NR 212 Waste load allocated surface water quality related effluent limitations

**17. Nitrogen Surface Water Quality Criterion:** EPA water quality criteria guidance requires all states to develop nitrogen criteria as well as phosphorus criteria. (See discussion above on phosphorus criteria.) The stream studies mentioned in the phosphorus criteria discussion did not result in clear scientific thresholds or breakpoints to use as a basis for nitrogen criteria development. Currently, DNR regulates nitrogen only as a toxic substance through implementation of surface water quality standards for ammonia. However, nitrogen also acts as a *nutrient* for many plant species and can contribute to nuisance plant and algal growth in surface waters. The result of these nuisance conditions may be depletions of dissolved oxygen or very extreme pH conditions – neither which support a balanced fish and aquatic life community. A review of nitrogen as a nutrient may result in additional surface water quality criteria to complement numeric criteria for phosphorus – the other nutrient associated with nuisance conditions in lakes, rivers, and streams.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 210 Sewage treatment works  
NR 809 Safe drinking water  
NR 140 Groundwater quality

**18. Perfluorinated Surfactants (PFOS) Water Quality Criteria:** Perfluorooctanesulfonates (PFOS) are persistent organic pollutants that are exceptionally stable in the environment. PFOS was a key ingredient in Scotchgard, a widely used fabric protector, as well as a number of other stain repellents. In recent years, low levels of perfluorinated chemicals, especially PFOS and perfluorooctanoic acid (PFOA) were found in the environment, particularly in wildlife and human samples. In fact, WDNR staff have detected these substances in the Mississippi River system. These substances have shown the potential to adversely affect reproduction and cause cancer in animal experiments. A comprehensive review of the toxicity of PFOS and PFOA should be initiated to determine if water quality criteria should be calculated for the protection of humans and fish and other aquatic life.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 105 Surface water quality criteria for toxic substances  
NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

**19. Pesticide Water Quality Standards:** New data on the toxicity of pesticides and pesticide metabolites (i.e., breakdown products) to humans, fish, and other aquatic-dependent life is being generated continuously. In addition, new pesticides are being brought to market regularly, many which have no published state or federal water quality criteria. In conjunction with the Departments of Health and Family Services and Agriculture, Trade and Consumer Protection, DNR should review its current criteria for pesticides to determine which, if any, need to be updated. A comprehensive review should also be initiated to identify which pesticides and metabolites need to be evaluated in surface waters and which should have water quality criteria developed to ensure adequate protection of humans, fish, and other aquatic life.

Related Rule(s): NR 105 Surface water quality criteria for toxic substances  
NR 151 Runoff Management  
NR 809 Safe drinking water  
NR 140 Groundwater quality

**20. Polybrominated diphenyl (PBDE) Water Quality Criteria:** Increasing concentrations of polybrominated diphenyl ether (PBDE) have been detected in recent years in air, sediment, surface water, fish, birds, and in human blood. PBDEs have been widely used as flame retardants in plastics, textiles, and furniture since the 1960s. It is a well established fact that PBDEs bioaccumulate in both aquatic and terrestrial organisms (including humans) in the Great Lakes region, but little is known about the toxicity of these compounds. A recent WDNR study showed that some PBDE congeners may be toxic to aquatic life in the low ppb concentration range. The WDNR study also established that effluents and sediments may act as sources of PBDEs to Lake Michigan albeit at very low concentrations. Regardless, because of the potential for bioaccumulation and the fact that PBDEs are still in the North American wastestream having been used in many products currently in use, it is possible that concentrations of PBDEs in the environment and in organisms will continue to rise for the foreseeable future. With this in mind, a comprehensive review of the toxicity of PBDEs should be

initiated to determine if water quality criteria should be calculated for the protection of humans and fish and other aquatic life.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
 NR 105 Surface water quality criteria for toxic substances  
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters

**21. Turbidity Water Quality Standard:** Turbidity is a measure of cloudiness in water, which can be caused by soil erosion, wastewater discharge, snowmelt, and stormwater runoff. More specifically, turbidity describes the optical condition of water when suspended particles scatter and absorb light rays instead of transmitting them in straight lines through the water column. Less light penetration often results in fewer rooted plants which yields less protective in-water habitat for fish and other aquatic life. Turbidity is measured in a number of ways, including suspended solids, Secchi depth, Secchi tube depth, and *nephelometric turbidity units* (NTUs), which describe the amount of light-scattering occurring in water. The presence of turbidity and the resulting reduction in transmitted light may adversely affect aquatic ecosystems and other beneficial uses of water bodies.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
 NR 106 Procedures for calculating water quality based effluent limitations for toxic and organoleptic substances discharged to surface waters  
 NR 151 Runoff Management  
 NR 809 Safe drinking water  
 NR 140 Groundwater quality

**22. Wasteload Allocations for Wisconsin & Fox Rivers:** NR 212 contains BOD wasteload allocations for the Fox and Wisconsin Rivers. These allocations were based on industrial and municipal wastewater treatment plant loadings using production and design data from the early 1980s. Since that rule was adopted, several of the pulp and paper mills have closed, changed ownership, changed production processes or otherwise modified their operations such that the basis for the allocations may no longer be fair and equitable. Additionally, municipal wastewater loadings have increased due to population increases. A review of the allocation formulae should be undertaken to determine whether changes to the allocations of BOD for these rivers (or segments thereof) is appropriate or needed. Other changes in the rule relating to transfers of allocation or allocations of reserve capacity also are in need of evaluation.

Related Rule(s): NR 212 Waste load allocated surface water quality related effluent limitations

**23. 5/10 BOD Policy:** In order to prevent dissolved oxygen from dropping below the applicable criteria, the Department has required some WPDES permit holders to achieve biochemical oxygen demand (BOD) effluent limitations of 5 mg/L and 10 mg/L for summer and winter, respectively. Though current regulations sometimes require levels below 10 mg/L in the summer, water quality biologists have questioned whether these low levels are necessary in all cases for protection to fish and other aquatic life species.

In addition, the methodology for calculating BOD limits is based on small stream models that were prepared for Wisconsin streams in the 1980s. The methodology – referred to as the “26-lb. Method” is guidance available to staff who calculate effluent limitations. This guidance needs to be evaluated

to determine if there are alternatives that should be considered on a case-by-case basis and whether or not the 26-lb. method should be codified.

Related Rule(s): NR 102 Water quality standards for Wisconsin surface waters  
NR 210 Sewage treatment works  
NR 212 Waste load allocated water quality related effluent limitations  
NR 809 Safe drinking water  
NR 140 Groundwater quality