

# STATEMENT OF SCOPE

## Department of Natural Resources

**Rule No.:** WY-17-15

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**Relating to:** Revisions to chapters NR102, NR 104, NR 219 and other related permit program regulations for the purpose of updating Wisconsin's water quality criteria for pathogens and recreational uses; and updating related WPDES permit implementation procedures for the revised water quality standards to be consistent with EPA's recreational water quality criteria.

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**Rule Type:** Permanent

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### **1. Finding/nature of emergency (Emergency Rule only):**

The rules will be proposed as permanent rules.

### **2. Detailed description of the objective of the proposed rule:**

The primary objective of this rule is to revise Wisconsin's recreational use categories and water quality criteria based on the federal recommendations published in 2012. Recreational water quality criteria (RWQC) protect people from waterborne illnesses that may be caused by human fecal contamination while recreating in and on the water. The *pathogen indicator* concept is employed in RWQC. Typically the pathogen indicator itself does not cause disease, rather, it signals the potential for illness caused by human fecal contamination. Wisconsin has used fecal coliform bacteria as the pathogen indicator since the 1970s. Epidemiological studies conducted more recently have found that fecal coliform bacteria are not a reliable indicator for fecal pollution. The U.S. EPA now recommends using either *Escherichia coli* (*E. coli*) or *Enterococci* as the pathogen indicator for freshwater because these bacteria species provide a better link between human illness and exposure to human fecal pollution.

Wisconsin's RWQC are outdated. While Wisconsin's codified RWQC for fecal coliform bacteria (s. NR 102.04(6)) apply to all surface waters, the Great Lakes (coastal) waters of Wisconsin also have criteria for *E. coli* bacteria that were promulgated by EPA pursuant to 33 USC 1313(i)(2) (BEACH Act) on November 29, 2004. The *E. coli* criteria that were "over-promulgated" by EPA were based on the federally published 1986 *E. coli* criteria. As a result, municipal wastewater dischargers to the Great Lakes are required to monitor for both fecal coliform and *E. coli* as part of their permits. For many dischargers, this is an added compliance requirement that dischargers to inland waters do not have. Adopting the same criteria statewide will provide consistency across the state, reduce testing requirements in some permits, and increase efficiency in permitting decisions, determining if waters are impaired, and developing and implementing Total Maximum Daily Loads (TMDLs).

The proposed rules revise Wisconsin's RWQC to be consistent with EPA's recommended criteria and methodologies published in the federal register on November 29, 2012, Volume 77, No. 230, pages 71191-71192. These revised federal criteria and assessment methods were published pursuant to 33 USC 1314(a)(1) and (9). Pursuant to 33 USC 1313(i)(1)(B) Wisconsin is required to adopt and submit to EPA these revised federal criteria for pathogens in coastal waters (Great Lakes), but the EPA's 2012 criteria were recommended for all surface waters that support primary recreational uses. Consequently, this rule package proposes to revise the criteria statewide. Adopting state water quality criteria based on the federal 2012 recommendations will provide better public health protection for those individuals that recreationally use Wisconsin's surface waters because the state criteria will be based on more recent scientific studies.

Recreational water quality criteria are used to establish permit limits for bacteria, assess waterbodies for bacteria-caused impairments, and develop restoration plans for waters impaired for bacteria. In this rule package, the Department will revise the RWQC to be consistent with EPA's 2012 RWQC and, if necessary, establish procedures for assessing waters against these criteria and calculating Wisconsin Pollution Discharge Elimination System (WPDES) permit limits to meet these criteria.

Revising the RWQC will also allow Wisconsin to continue to receive grants from the federal government under the Beaches Environmental Assessment and Coastal Health (BEACH) Act. As authorized in 33 USC 46(b)(2)(A)(i), EPA gives program development and implementation grants to States for monitoring and notification of coastal recreation waters. Since 2003, the Department has received these grants annually ranging from \$217,000 to \$265,000 and has distributed these funds to local communities to monitor their beaches, notify community members in a timely manner when issues arise, and collect information necessary to restore problem beaches. Healthy beaches are important to business development, especially the tourism industry. To be eligible for a BEACH Act grant, the state's water quality program must be consistent with the performance criteria established by the EPA (33 USC 1346(b)(2)(A)(i)). In the National Beach Guidance and Required Performance Criteria for Grants published in 2014, the EPA added *adoption of new or revised recreational water quality standard* as a performance criterion to ensure that all BEACH Act states have the most up-to-date regulations (p. 19 and chapter 4 of EPA-823-B-14-001).

In the 2012 RWQC, EPA gave states the choice of indicator bacteria (*E. coli* or *Enterococci*). Since the adoption of the BEACH Act in 2004, Wisconsin and the other Great Lake states have monitored for *E. coli* in the Great Lakes. As such, there is a large amount of data on *E. coli* levels in the Great Lakes. Additionally, the Department has been assessing inland and Great Lakes beaches against EPA's 1986 *E. coli* criteria. Given these reasons, the Department will pursue using *E. coli* as the pathogen indicator to replace fecal coliform in this rule package.

Furthermore, the 2012 RWQC established two risk levels for the pathogen indicators and also gave states the choice between the two (i.e., a choice to lower the standard). The level selected may impact the number of beaches listed as impaired and the number of beach advisories issued. As part of this rule package, the consequences of each level will be evaluated to ensure that the criteria selected adequately protect human health without being more stringent than reasonably necessary. No state has elected the lower standard.

Statewide criteria are appropriate in most situations. However, there may be local conditions under which statewide criteria are overly restrictive or under-protective. This rule revision will

incorporate specific situations or procedures for the development of site-specific criteria where the statewide criteria are inappropriate. The 2012 federal recommendations include methodologies that states can use to modify the recommended numerical values for pathogen criteria if appropriate to reflect site specific conditions.

Water quality standards are comprised of designated uses and criteria to protect those uses. Designated uses represent the potential of that waterbody to support, for example, recreation, aquatic life, and wildlife. Through these rule revisions, the Department will also pursue changes to the recreational designated use category to include subcategories. Currently, the general recreational use applies to all surface waters and has criteria that are designed to protect for primary contact recreation (i.e., swimming). However, many waterbodies in Wisconsin have not been used for primary contact recreation since the adoption of the Clean Water Act and have criteria that are overly restrictive. These waterbodies may be eligible to be designated a more appropriate subcategory and receive less stringent recreational criteria.

Additional changes to associated rules may be pursued which are reasonably related to those discussed here such as revisions to the list of approved test methods for bacteria/pathogens in wastewater effluent, development of WPDES permit implementation procedures for the revised criteria, and development of factors to consider when listing waters as impaired for the revised criteria.

### **3. Description of the existing policies relevant to the rule, new policies proposed to be included in the rule, and an analysis of policy alternatives:**

Wisconsin employs RWQC in several ways to protect public health: 1) The WPDES Program uses codified RWQC to calculate water quality based effluent limits (WQBELs) for municipal wastewater dischargers statewide. However, dischargers to the Great Lakes are required to monitor for both fecal coliform and *E. coli*, while dischargers to inland lakes are only required to monitor for fecal coliform. The proposed revisions build statewide consistency for the pathogen indicator and subsequently should increase efficiency in permit drafting, reduce testing requirements and cost for some facilities, and improve equality among dischargers. 2) RWQC are used to assess the quality of Wisconsin's recreational waters. Currently, Wisconsin uses the same monitoring and assessment protocols for both inland and Great Lakes beaches based on EPA's 1986 for *E. coli* criteria, reflected in Wisconsin's Consolidated Assessment and Listing (WisCALM) Guidance 2016. We anticipate that some minor changes will be needed to WisCALM Guidance to reflect the updated pathogen indicator. 3) Waterbodies not meeting RWQC are characterized as impaired, and a restoration plan must be developed and implemented. The typical restoration plan uses a total maximum daily load (TMDL) model to quantify how much of the pollutant can be allowed while achieving RWQC. Wasteload allocations are defined in an established manner for each facility discharging the pollutant to the impaired water. Revised RWQC are needed to efficiently develop and implement bacteria TMDLs for impaired waters in Great Lakes basins which currently have both fecal coliform and *E. coli* criteria.

While the alternative is to not revise the RWQC and maintain the status quo, there are several disadvantages to this. First, the inconsistencies and inefficiencies in the WPDES permit program and TMDL development would remain. Second, the Department may lose federal BEACH Act grant dollars if the state's RWQC are not revised. Third, EPA could promulgate the revised criterion for Wisconsin as they did in 2004. If the EPA does promulgate criteria for Wisconsin,

their rule-making process is unlikely to include revisions to related rules (e.g. discharge permit requirements, including compliance schedules) and would not eliminate the state's published fecal coliform criteria. As such, Wisconsin's current fecal coliform criteria remain codified, but EPA would likely impose additional monitoring requirements on all relevant dischargers to ensure the recreational use is adequately protected. Additionally, if EPA promulgates RWQC, Wisconsin would lose the ability to select its own pathogen indicator and acceptable risk level and develop site specific criterion procedures and subcategories of recreational uses.

#### **4. Detailed explanation of statutory authority for the rule (including the statutory citation and language):**

Revisions to the recreational use, updated recreational water quality criteria, and newly developed impaired waters listing protocols will be promulgated under Wis. Stats ss. 281.12, 281.13 and 281.15 and 281.65:

- Wis. Stat. s. 281.12 grants the WDNR general supervision and control to carry out the planning, management, and regulatory programs necessary for prevention/reduction of water pollution and for improvement of water quality.
- Wis. Stat. s. 281.13(1)(a) and (b) give the Department the authority to create rules to research and assess water quality in the state.
- Wis. Stat. s. 281.15 mandates that the Department promulgate water quality standards, including water quality criteria and designated uses. It recognizes that different use categories and criteria are appropriate for different types of waterbodies, and that the department shall establish criteria which are not more stringent than reasonably necessary to ensure attainment of the designated use for the waterbodies in question.
- Wis. Stat. s. 281.65(4)(c) and (cd) directs the Department to prepare a list of waters impaired by nonpoint source pollution.

The WPDES Permit program procedures to implement the revised standards will be promulgated under the following authority:

- Wis. Stat. s. 283.31(3) and (4) state that the department may issue a permit upon condition that the permit contains limitations necessary to comply with any applicable federal law or regulation, state water quality standards, and total maximum daily loads.
- Wis. Stat. s. 283.13(5) states that the department shall establish more stringent limitations than required under subs (2) and (4) when necessary to comply with water quality standards.
- Wis. Stat. s. 283.37 gives the Department authority to promulgate rules regarding permit applications.
- Wis. Stat. s. 283.55 gives the Department authority to impose monitoring and reporting requirements.
- Wis. Stat. s. 283.83 requires that the Department establish a continuing planning process and that plans shall include implementation procedures including compliance schedule for revised water quality standards.
- Wis. Stat. s. 227.11(2) provides the Department with the authority to promulgate rules that are necessary to administer the specific statutory directives in chapter 283.

#### **5. Estimate of amount of time that state employees will spend developing the rule and of other resources necessary to develop the rule:**

2,820 hours - total for three years

## **6. List with description of all entities that may be affected by the proposed rule:**

Business/industry: Only facilities with WQBELs for bacteria/pathogens that discharge to surface waters will receive revised limits consistent with the new RWQC. The Department does not anticipate that many businesses/industries will fall into this category.

Municipalities: Facilities with WQBELs for bacteria/pathogens that discharge to surface waters will receive revised limits consistent with the new RWQC.

State government: The rule update will enable WDNR to gain efficiencies in several internal processes allowing state funds to be used more economically.

Local communities: Maintain eligibility for BEACH Act grants for beach monitoring, notification, and restoration.

Public: The public will benefit from more appropriately protective recreational water quality criteria based on more recent scientific analyses.

## **7. Summary and preliminary comparison with any existing or proposed federal regulation that is intended to address the activities to be regulated by the proposed rule:**

33 USC s. 1313(i)(1)(B) (section 303(i)(1)(B) of the Clean Water Act), provides that states shall promulgate and submit pathogen and pathogen indicators for coastal recreation waters based on federal criteria published by USEPA under 33 USC s. 1314(a)(9). Coastal waters are defined in 33 USC s. 1362(21) and the definition includes Great Lakes waters.

33 USC s. 1313(c) (section 303(c) of the Clean Water Act) requires that states periodically review and modify or adopt, if necessary, water quality standards. This requirement applies to all surface waters in the state.

33 USC s. 1313(b) provides that EPA may promulgate water quality standards if a state fails to promulgate a standard in accordance with the timeframes established 33 USC 1313(a).

33 USC 1314(a) requires that EPA develop and publish criteria for water quality for all waters for uses such as aquatic life, public health protection and recreation. 33 USC 1314(a)(9) specifically requires that EPA publish revised water quality criteria for pathogen and pathogen indicators for coastal recreation waters.

The recommended recreational criteria based on pathogens were published by EPA in the federal register on November 29, 2012, Volume 77, No. 230., pages 71191-71192. These revised federal criteria and assessment methods were published pursuant to 33 USC 1314(a)(1) and (9). The Office of Water at USEPA published a fact sheet and guidance document explaining the recommended criteria and assessment methodologies (EPA Publication 820-F-12-061, December 2012; and Publication 820-F-12-058 2012).

Federal regulations (40 CFR 131.10 and 11) require states to develop water quality standards that comprise of uses and criteria to protect the uses. 40 CFR 131.11 (b) states that the criteria must be based on federal guidance, federal guidance modified to reflect site-specific criteria, or other scientifically-defensible methods.

40 CFR ss. 131.4 and 131.11 allow states to adopt their own water quality criteria so long as these criteria are protective of human health or welfare, enhance the quality of the water, and serve the purposes of the Clean Water Act. These criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.

Pursuant to state statutory authority, the Department is proposing to revise its criteria and recreational use categories statewide based on the 2012 EPA recommended recreational criteria consistent with the federal requirements in 33 USC s. 1313(c) and (i)(1)(B) and federal regulations in 40 CFR 131.10, 131.11 and 131.20. After promulgation, the revised criteria, site

specific criteria analyses and the creation of recreational sub categories require EPA approval pursuant to 40 CFR 131.20 and 131.21.

The Department is also proposing to promulgate rules to establish WPDES permit implementation procedures for the revised standard, to establish listing procedures for waters impaired for bacteria/pathogens, and test methods for effluent monitoring.

33 USC 46(b)(2)(A)(i) authorizes the EPA to give program development and implementation grants to states for monitoring and notification of closures for coastal recreation waters. To be eligible for a BEACH Act grant, the state's water quality program must be consistent with the performance criteria established by the EPA (see 33 USC 1346(b)(2)(A)(i)). In the *National Beach Guidance and Required Performance Criteria for Grants* document published in 2014 (EPA-823-B-14-001), the EPA added *adoption of new or revised recreational water quality standard* as a performance criterion to ensure that all BEACH Act states have the most up-to-date water quality standards (p. 19 and chapter 4 of EPA-823-B-14-001).

#### **8. Anticipated economic impact of implementing the rule (note if the rule is likely to have a significant economic impact on small businesses):**

The Department expects minimal economic impacts as a result of this rule. In fact, there will be economic relief for permittees currently required to monitor to meet state and federal regulations independently. The proposed rule will change the pathogen indicator and may change the illness rate. This rule is not likely to have a significant economic impact to small businesses.

Changing the pathogen indicator from fecal coliform to *E. coli* may impact dischargers. The most likely source for additional costs is changes in the test method used for effluent monitoring. Permitted facilities on inland waters will need to switch to a different analytical method for effluent monitoring. However, the costs incurred to shift between indicators should be minimal because analytical costs are similar and *E. coli* testing is readily available in the marketplace. Permitted facilities discharging to the Great Lakes will likely encounter reduced costs because many will no longer be required to monitor for both fecal coliform and *E. coli*.

Because fecal coliform and *E. coli* are indicators of fecal contamination and disinfection strategies are designed to kill or inactivate organisms that cause disease, it is unlikely that facilities will need to alter their disinfection strategies to meet the new limits. The current monitoring information from dischargers to the Great Lakes indicates that the change in criteria should have little or no effect on permit compliance.

The economic impact of this rule package is dependent on the illness rate selected. Selection of the higher risk level is consistent with the status quo and is not likely to economically impact dischargers, communities, and the State. Selection of the lower risk level is more protective than the status quo and may alter effluent limits, impaired waters listings, future TMDL development, and beach advisories. As such, additional work will be completed during rule development to evaluate the economic impact of the risk level selection. No state has selected the lower risk level.

#### **9. Anticipated number, month and locations of public hearings:**

The Department anticipates holding 2 public hearings in the month of December, 2016. Hearing cities will be: Madison and Wausau or Eau Claire (or other as appropriate).

The Department will hold these hearings in these locations to receive input from affected parties based in the Madison area and at a centrally located city in the state.

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