

ADMINISTRATIVE RULES Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis <input checked="" type="checkbox"/> Original <input type="checkbox"/> Updated <input type="checkbox"/> Corrected	2. Date 08/30/2022
3. Administrative Rule Chapter, Title and Number (and Clearinghouse Number if applicable) Chapter NR 140 – Groundwater Quality	
4. Subject Amendments to ch. NR 140 to set numerical standards to minimize the concentration of polluting substances in groundwater (Cycle 10 Bacteria) DG-04-22	
5. Fund Sources Affected <input checked="" type="checkbox"/> GPR <input type="checkbox"/> FED <input type="checkbox"/> PRO <input type="checkbox"/> PRS <input checked="" type="checkbox"/> SEG <input type="checkbox"/> SEG-S	6. Chapter 20, Stats. Appropriations Affected 20.370 (4)(ma) & 20.370 (4)(mq)
7. Fiscal Effect of Implementing the Rule <input checked="" type="checkbox"/> No Fiscal Effect <input type="checkbox"/> Increase Existing Revenues <input type="checkbox"/> Increase Costs <input type="checkbox"/> Decrease Costs <input type="checkbox"/> Indeterminate <input type="checkbox"/> Decrease Existing Revenues <input type="checkbox"/> Could Absorb Within Agency's Budget	
8. The Rule Will Impact the Following (Check All That Apply) <input type="checkbox"/> State's Economy <input type="checkbox"/> Specific Businesses/Sectors <input type="checkbox"/> Local Government Units <input type="checkbox"/> Public Utility Rate Payers <input type="checkbox"/> Small Businesses (if checked, complete Attachment A)	
9. Estimate of Implementation and Compliance to Businesses, Local Governmental Units and Individuals, per s. 227.137(3)(b)(1). \$0	

Chapter NR 140, Wis. Adm. Code, contains numerical groundwater quality standards for harmful substances that may enter the groundwater resources of the state. The Department of Natural Resources (department) is required to propose rules for groundwater quality standards, to be contained in s. NR 140.10, Table 1, Wis. Adm. Code. The Table contains groundwater enforcement standards (ES) and preventive action limits (PAL). Chapter NR 140, Wis. Adm. Code, is a tool available to the department and other state regulatory agencies that provides uniform standards for regulatory programs contained in other parts of the state's statutes and administrative codes. Chapter NR 140, Wis. Adm. Code, is not a self-implementing administrative rule and is independent from the regulatory programs that use the groundwater standards in regulatory actions, requirements, responses, and enforcement mechanisms.

After the department promulgates groundwater standards, state regulatory agencies are required under ss. 160.19 to 160.25, Wis. Stats., to review the new groundwater standards and if necessary, commence promulgation or amendment of their administrative rules for their regulatory programs in order to comply and respond to the new groundwater standards. Numerous department administrative programs refer to the groundwater standards in ch. NR 140, Wis. Adm. Code, along with regulatory programs at the Wisconsin Department of Transportation, Wisconsin Department of Agriculture, Trade, and Consumer Protection, and Wisconsin Department of Safety and Professional Services. This administrative rule only amends and adds groundwater standards; it does not amend or create any regulatory authority that implements programs that may use or enforce groundwater standards.

Because groundwater standards in ch. NR 140, Wis. Adm. Code, are not self-implementing and the administrative chapter contains no regulatory or enforcement mechanism, there is no cost directly attributable to the standards. Amendment of the groundwater standards alone do not create an implementation or compliance cost. The cost of implementation and compliance for groundwater standards is dictated entirely by the regulatory agencies and their numerous regulatory programs with their own statutory and administrative code authority. To the extent that the groundwater standards are used in other regulatory programs, the estimation of those costs is limited by the statutory

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requirement that the regulatory agencies review, amend, or create rules to implement the standards after the groundwater standards are promulgated.

Any reasonable estimate of the implementation and compliance costs of this rule will be altered by the statutorily required review and ongoing promulgation of regulatory program rules outside the scope and authority of this rule. To comply with the directive in s. 227.137, Wis. Stats., the department analyzed the economic impact of the proposed rule, including the implementation and compliance costs that are reasonably expected to be incurred by or passed along to the businesses, local governmental units, and individuals that may be affected by the proposed rule, based on the current administrative and statutory authority in the regulatory programs that rely on groundwater standards.

Proposed amendments to ch. NR 140, Wis. Adm. Code, add new groundwater quality standards for *Escherichia coli* (*E. coli*) bacteria. *E. coli* bacteria is a type of coliform bacteria used as an indicator of fecal contamination in groundwater. Groundwater quality standards currently exist in ch. NR 140, Wis. Adm. Code, for total coliform bacteria. The department is proposing to revise the status of total coliform bacteria in ch. NR 140, Wis. Adm. Code, to make it an indicator parameter. The department does not anticipate any economic impacts related to establishing groundwater quality standards for *E. coli* bacteria or revising the status of total coliform bacteria in ch. NR 140, Wis. Adm. Code, to make it an indicator parameter. Based on extensive existing testing results in department databases, *E. coli* bacteria are present in groundwater five to ten times less frequently than total coliforms. An exceedance of the proposed *E. coli* bacteria standard indicates an exceedance of the existing total coliform bacteria standard in ch. NR 140, Wis. Adm. Code. Therefore, the department calculates that the proposed amendments will result in decreased costs compared to the current rule, as a smaller subset of groundwater that currently tests positive for total coliform bacteria will end up testing positive for *E. coli* bacteria.

The department surveyed a subset of commercial labs that test drinking water samples for coliform bacteria. The department found that 6 of 6 surveyed commercial labs charge one price for coliform bacteria testing. That price includes testing for both total coliform bacteria, and for *E. coli* bacteria, if a positive total coliform result is encountered. Therefore, there is no expected increase in laboratory cost with this rule amendment.

10. Would Implementation and Compliance Costs Businesses, Local Governmental Units and Individuals Be \$10 Million or more Over Any 2-year Period, per s. 227.137(3)(b)(2)?

Yes No

11. Policy Problem Addressed by the Rule

The proposed rule will amend ch. NR 140, Wis. Adm. Code, to replace the existing total coliform bacteria standards with new state groundwater quality standards for *Escherichia coli* (*E. coli*) bacteria. The proposed rule will also transition total coliform bacteria from a public health groundwater quality standard to an indicator parameter.

The purpose of establishing groundwater standards is to protect public health. Some types of *E. coli* bacteria, when consumed, can cause acute (short-term) gastrointestinal illnesses causing diarrhea, abdominal discomfort, nausea, and vomiting. Less common effects are chronic (long-term) and include kidney failure, hepatitis, and bloody diarrhea. *E. coli* bacteria are a subgroup of coliform bacteria and are considered to be a much more specific indicator of fecal contamination, and the potential for pathogens to be present in drinking water, than total coliform bacteria. Infants and young children, the elderly, and people with compromised immune systems are at the highest risk for illness from pathogens in water.

12. Summary of the Businesses, Business Sectors, Associations Representing Business, Local Governmental Units, and Individuals that may be Affected by the Proposed Rule that were Contacted for Comments.

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The department held a stakeholder meeting on October 14, 2020 for a rulemaking effort to establish new and revised groundwater quality standards in ch. NR 140, Wis. Adm. Code, for *E. coli* and total coliform bacteria (Board order DG-15-19). The stakeholder meeting provided an opportunity for stakeholders to submit comments and information relevant to the proposed rule and its potential economic impacts. One hundred and eight individuals and organizations were contacted and offered an opportunity to participate in the ch. NR 140 stakeholder meetings, and to provide comments and information relevant to the economic impacts associated with rule implementation. A listing of the individuals and organizations contacted is provided in the attached appendix. These stakeholders were also contacted for comments on the economic impact of this proposed rule.

13. Identify the Local Governmental Units that Participated in the Development of this EIA.

Twenty-one local government units were contacted and offered an opportunity to submit comments and information relevant to the proposed rule and its potential economic impacts during the 2020 stakeholder meetings on board order DG-15-19. The local government units that were offered an opportunity to provide comments and information relevant to the economic impacts associated with implementation of proposed revisions to ch. NR 140, Wis. Adm. Code, that included proposed health based groundwater quality standards for *E. coli* bacteria, are listed in the attached appendix. These local government units were contacted for comments on the economic impact of this proposed rule.

14. Summary of Rule's Economic and Fiscal Impact on Specific Businesses, Business Sectors, Public Utility Rate Payers, Local Governmental Units and the State's Economy as a Whole (Include Implementation and Compliance Costs Expected to be Incurred)

In addition to the rulemaking requirements in ch. 227, Wis. Stats., the legislature has prescribed specific procedures for promulgating groundwater standards and separate procedures for promulgating rules for regulatory agencies and programs that implement those groundwater standards. Chapter 160, Wis. Stats., describes those processes.

Chapter NR 140, Wis. Adm. Code, contains numerical groundwater quality standards for harmful substances that may enter the groundwater resources of the state. Chapter NR 140 is a tool available to the department and other regulatory agencies that provides uniform standards for regulatory programs contained in other parts of the state's statutes and administrative codes. Chapter NR 140 is not a self-implementing administrative rule and is independent from the regulatory programs that contain actions, requirements, responses, and enforcement mechanisms for the various activities or facilities they regulate.

After the department promulgates groundwater quality standards, regulatory agencies are required under ss. 160.19 to 160.25, Wis. Stats., to review the new standards and commence promulgation or amendment of their administrative rules for their regulatory programs in order to comply and respond to groundwater standards. Numerous department administrative programs refer to the groundwater standards in ch. NR 140, Wis. Adm. Code, along with administrative regulatory programs at the Wisconsin Department of Transportation, Wisconsin Department of Agriculture, Trade, and Consumer Protection, and Wisconsin Department of Safety and Professional Services.

The cost of implementation and compliance for groundwater standards is dictated entirely by the regulatory agencies and their numerous regulatory programs based on authority outside of ch. NR 140, Wis. Adm. Code. Implementation and compliance costs for regulatory agencies may change after they complete their statutorily required review of new or amended groundwater standards and, if necessary, amend or create administrative rules to ensure compliance with new groundwater standards.

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The department does not anticipate economic impacts related to establishing groundwater quality standards for *E. coli* bacteria or revising the status of total coliform bacteria in ch. NR 140, Wis. Adm. Code, to make it an indicator parameter. Any exceedance of standards for *E. coli* bacteria would be an exceedance of existing total coliform bacteria standards in ch. NR 140; the addition of specific groundwater standards for *E. coli* bacteria will not create any groundwater standard exceedances that would not have been an exceedance under existing total coliform bacteria standards.

The groundwater quality standards in ch. NR 140, Wis. Adm. Code, are intended to be used by state regulatory programs to minimize the concentration of polluting substances in groundwater. In exercising their regulatory authority, state agencies establish specific rules and regulations to ensure that regulated facilities, activities, and practices do not attain or exceed established groundwater standards at applicable points of standards application. In situations where standards are attained or exceeded, each regulatory agency and program provides actions to address contaminant sources and, in some cases, actively remediate residual contamination in groundwater. Regulating agencies evaluate alternate responses, including consideration of the technical and economic feasibility of those alternate responses, in determining the appropriate action to be required at a site to control further releases of a contaminating substance, or to restore contaminated groundwater.

The enforcement of state groundwater quality standards is done by state regulatory agencies through their groundwater protection programs. In exercising their statutory powers and duties, state regulatory agencies establish groundwater protection regulations that assure that regulated facilities and activities will not cause state groundwater quality standards to be exceeded. A state regulatory agency may establish specific design and management criteria to ensure that regulated facilities and activities will not cause the concentration of a substance in groundwater, affected by the facilities or activities, to exceed state groundwater quality enforcement standards or preventive action limits at applicable "point of standards application" locations.

Specific Businesses and Business Sector (Private Businesses):

The department does not anticipate that this rule will have any economic impact on any specific business or business sector.

Fiscal Impact and Impact on State Economy

The department does not anticipate that this rule will impact the state's economy.

Impacts on Local Governmental Units

The department does not anticipate that this rule will have any fiscal impact on local governmental units.

Impacts on Public Utility Rate Payers

The department does not anticipate this rule will impact public utility rate payers.

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Benefits of Implementing the Rule

Current ch. NR 140, Wis. Adm. Code, groundwater quality standards for bacteria are not consistent with the public drinking water supply Revised Total Coliform Rule (RTCR). Under the RTCR, a public drinking water maximum contaminant level (MCL) has been established for *E. coli* bacteria, but there is no longer an MCL for total coliform bacteria. Creating an indicator parameter for total coliform bacteria, rather than an enforcement standard and preventive action limit, would be more consistent with the RTCR regulation of bacteria in drinking water. An indicator parameter is more appropriate for total coliform bacteria because it includes bacteria that naturally occur in the environment and are not generally harmful to humans, and the rule proposes groundwater quality standards for *E. coli* bacteria, which is a more specific bacterial indicator of contamination. Thus the proposed ch. NR 140, Wis. Adm. Code, rule revisions, to make total coliform bacteria an indicator parameter and to establish state groundwater quality standards for *E. coli* bacteria, would make ch. NR 140, Wis. Adm. Code, consistent with the regulation of bacteria under both state and federal public drinking water supply rules.

There are currently health based groundwater quality standards for total coliform bacteria in ch. NR 140, Wis. Adm. Code. The enforcement standard for total coliform bacteria is no bacteria present in a collected groundwater sample. Exceedance of an enforcement standard compels the regulatory agency to require the owner or operator of a facility, practice or activity to take action to achieve compliance with the enforcement standard. As total coliform bacteria may be naturally occurring in the environment, detection at a regulated site might mean that ch. NR 140, Wis. Adm. Code, response actions would be required to address the presence of naturally occurring coliform bacteria in groundwater. Detection of total coliform bacteria as an indicator parameter would allow regulatory agencies to require sampling for *E. coli* bacteria, and investigation of possible microbial pathogen groundwater contamination, but would not compel the department to require the owner or operator of a facility, practice or activity to take action to achieve compliance with a total coliform enforcement standard in cases where total coliform bacteria are naturally occurring in the environment.

Proposed amendments to ch. NR 140, Wis. Adm. Code, to add groundwater quality standards for *E. coli* bacteria could also have public health benefits. *E. coli* bacteria is a specific type of coliform bacteria used to evaluate the potential for microbial pathogens, associated with fecal contamination, to be present in groundwater. Microbial pathogens in water can lead to a variety of illnesses, such as acute (short-term) gastrointestinal illnesses causing diarrhea, abdominal discomfort, nausea, and vomiting and, in some cases, chronic (long-term) illnesses, including kidney failure, hepatitis, and bloody diarrhea. Infants and young children, the elderly, and people with compromised immune systems are at the highest risk for illness from pathogens in water. Because an *E. coli* bacteria test is a much more specific indicator of fecal contamination in groundwater than just a test for total coliform bacteria, establishing *E. coli* bacteria groundwater standards will provide a better indicator of the possible presence of microbial pathogens in groundwater drinking water supplies and therefore improved public health protection.

Alternative(s) to Implementing the Rule

An alternative to implementing these proposed rule revisions would be to not establish groundwater quality standards for *E. coli* bacteria in ch. NR 140, Wis. Adm. Code, and to not change the status of total coliform bacteria in the rule to make it an indicator parameter. Not making the proposed rule revisions would mean that the regulation of bacteria under ch. NR 140, Wis. Adm. Code, would continue to be inconsistent with state and federal regulation of bacteria in public drinking water supplies under the RTCR, and would also continue to compel a regulatory agency to require the owner or operator of a facility, practice or activity to take response action to achieve compliance with a total coliform enforcement standard, even in cases where total coliform bacteria are naturally occurring in the environment.

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16. Long Range Implications of Implementing the Rule

The department does not expect that there will be any long-range negative state fiscal impacts associated with establishing new groundwater quality standards in ch. NR 140, Wis. Adm. Code for *Escherichia coli* (*E. coli*) bacteria, or with revising the status of total coliform bacteria in ch. NR 140, Wis. Adm. Code, to make it an indicator parameter.

17. Compare With Approaches Being Used by Federal Government

The U. S. Environmental Protection Agency (US EPA) establishes health-based drinking water maximum contaminant levels (MCLs) that are used to assess the quality of groundwater drinking water supplies. Federal drinking water MCLs are established based on scientific risk assessments and, in some cases, economic and technological considerations.

Under the federal Revised Total Coliform Rule (RTCR), the US EPA changed the regulatory status of total coliform bacteria in public drinking water systems. US EPA dropped the maximum contaminant level (MCL) violation for total coliform bacteria and established an MCL for *Escherichia coli* (*E. coli*) bacteria. Total coliform bacteria include bacteria that naturally occur in the environment, and total coliform are, with a few exceptions, not harmful to humans. Under the RTCR, detection of total coliform bacteria is used as an indicator of possible microbial pathways into a public drinking water system. The RTCR includes a "treatment technique" response for detection of total coliform bacteria in a water supply system. This response requires investigation of the sanitary condition of the system, and action to correct any defects found. *E. coli* bacteria are a subgroup of coliform bacteria considered to be a more specific indicator of fecal contamination and the potential for pathogens to be present in drinking water. Under the RTCR, detection of *E. coli* bacteria in a public water supply system is an MCL violation.

18. Compare With Approaches Being Used by Neighboring States (Illinois, Iowa, Michigan and Minnesota)

Minnesota, Michigan, Illinois, and Iowa use groundwater protection values/levels/standards in their regulation of practices and activities that might impact the quality of groundwater. Minnesota, Michigan, and Illinois have not established individual state groundwater protection standards for total coliform or *E. coli* bacteria but, because bacteria are present everywhere in the environment, including groundwater, these states all recommend regular testing of private drinking water supply wells for total coliform bacteria (which includes *E. coli* bacteria). Iowa uses established federal standards (such as federal drinking water MCLs) as its state groundwater protection standards. In accordance with Iowa Environmental Protection Regulations 567 IAC Chapter 133, Iowa uses established federal drinking water MCLs as "Action Levels" in its regulation of practices and activities that may adversely impact groundwater quality. Federal drinking water MCLs have been established for *E. coli* bacteria.

19. Contact Name Bruce Rheineck	20. Contact Phone Number (608) 266-2104
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This document can be made available in alternate formats to individuals with disabilities upon request.

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Appendix: List of Stakeholders Contacted

Businesses

Toymotive LLC

Consultants

AECom

Anchor QEA

Antea Group

Barr Engineering

Benchmark Environmental Services

Brice Engineering

Brown and Caldwell

Burns and McDonnell

Cardno

Davy Inc

Deigan and Associates

EA engineering

Eaton company

Emerson

Environmental Audits

Environmental solutions and innovation Inc.

Environmental, Energy and Industrial Services

Essity

Eurofin USA

Fehr Graham

GAI consultants

Gannett Fleming

General Engineering

Geosyntec - consultants

Giles Engineering

GLEC Wastewater

GZA

Ingrahm Technical Services

Integral corporation

Kapur Inc - consultant

Martenson and Eisele

Mead and Hunt

MSA

NextEra Energy

RA Smith

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Ramaker Associates
Ramboll
Robert E Lee Associates
RPS Group
Ruekert - Mielke
SCS Engineers
SEH
Shannon and Wilson
Sigma Group
SolvePFAS
Stantec
Strand Associate
Styberg Engineering
Terracon
The OS Group LLC
The Sigma Group
Xcelenergy

Government

City of Appleton
City of Brown Deer
City of Elkhorn
City of Fond du Lac
City of Green Bay
City of Janesville
City of Juneau
City of Madison
City of Menasha
City of Milwaukee
City of Pleasant Prairie
City of Sheboygan
City of Two Rivers
Columbia County
Dane County
US EPA
Forest County
LaCrosse County
Milwaukee County
Outagamie County
Public Health Madison and Dane County
Rock County

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WI State Lab of Hygiene

Healthcare

Augusta Health and Rehab - healthcare

Laboratory Services

WI State Lab of Hygiene

Northern Lakes Service

Pace Labs

Stresau Laboratory, Inc.

Test America

Tetrattech

Law Firms

Axley-Brynelson

Boardman Clark

Crowell and Moring LLC

Environmental Law and Policy center

Foley Lardner

Foth and Van Dyke

Mayer Brown

Murphy-Desmond

Winthrop and Weinstine

Legislator

State Senator Rob Cowles

Lobbying Firms

Capitol Strategies

Enhesa

Hamilton

Manufacturers

A.P. Nonweiler

Bayer Crop Science

Cedar Corp

Georgia Pacific

Headwaters

John Deere

Perimeter Solutions

Regalware

Regenesis Bioremediation Inc

Signicast Corp

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Yamaha -Motor

Mining

Badger Mining Corp

Journalists

Wispolitics

Nonprofits

American Chemistry Council
Bay-Lake Regional Planning commission
Clean Wisconsin
Cooperative Network
CouleeCap
Crossroads at Big Creek - nature center
Heckrodt Wetland Preserve
International Society of Arboriculture
League of Women Voters
Midwest Environmental Advocates
Minnesota Brownfields
Wisconsin Manufacturing and Commerce
Wisconsin Rural Water Resources
Wisconsin Wetlands
Environmental Law and Policy center

Recyclers

Dynamic Lifecycle Innovations
Lamp Recycling

Utilities

Alliant Energy
Dairyland Power
MGE
WeEnergies
Wood PLC