



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

July 22, 2021

Dave Pfeiffer, Chief
Watersheds and Wetlands Branch
US Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Mr. Pfeiffer:

Re: Indiana Water Quality Standards Review Report

The Indiana Department of Environmental Management (IDEM) has completed a review of Indiana's Water Quality Standards in accordance with Section 303(c) of the federal Clean Water Act.

IDEM initiated the review on March 24, 2021 by publicly posting the *Notice of Review of Water Quality Standards and Public Hearing* in the Indiana Register, by distributing the information by email to stakeholders, and by posting the notice on the Office of Water Quality, Water Quality Standards website. The public comment period was open until close of business on May 23, 2021. A copy of the public notice is found in Appendix A of the attached report.

If you have any questions, please contact me at (317) 232-8402. We will continue to keep U. S. EPA informed as we move forward with the priorities identified in this report.

Sincerely,

Martha Clark Mettler
Assistant Commissioner
Office of Water Quality

EMH: mcm
Enclosure



REVIEW OF INDIANA WATER QUALITY STANDARDS

Final Report

July 21, 2021

BACKGROUND

Section 303(c) of the Clean Water Act (CWA) requires states to review their water quality standards (WQS) from time to time, but at least once every three years. During this process, states are to review, and modify as appropriate, their water quality standards after considering public concerns, United States Environmental Protection Agency (U.S. EPA) guidance, and new scientific and technical information. U.S. EPA revised rules at 40 CFR §131.20 that outline requirements for this review, specifically related to public participation and engaging stakeholders in the review process, and state reporting requirements.

The goal of the Indiana Department of Environmental Management's (IDEM) 2021 water quality standards review was to engage stakeholders and to identify priorities for rulemaking to update water quality standards to reflect current science and U.S. EPA policies. IDEM's notice of the water quality standards review included a brief description of potential water quality standards priorities for IDEM:

- Update Indiana's procedures for calculating aquatic life ambient water quality criteria (WQC) to reflect current U.S. EPA guidance and to implement consistent procedures statewide. These methodologies are used to derive ambient surface WQC for chemicals that do not have a National Recommended Water Quality Criteria (NRWQC) at Section 304(a) of the CWA but have the potential to impact aquatic life.
- Adopt numeric NRWQC at Section 304(a) of the CWA for the protection of aquatic life for some substances not included in IDEM's current rules including: acrolein (2009), carbaryl (2012), diazinon (2005), nonylphenol (2005), and tributyltin (2004) for waters within and outside of the Great Lakes System.
- Update current Indiana WQS variance rules to include a 2015 U.S. EPA rule update (40 CFR 131.14) that established a regulatory framework for the adoption of WQS variances to implement adaptive management approaches to improve water quality.
- Update Indiana's procedures for calculating human health ambient WQC to reflect current U.S. EPA guidance and to implement consistent procedures statewide. These methodologies are used to derive ambient surface WQC for chemicals that do not have a NRWQC at Section 304(a) of the CWA but have the potential to impact human health. Updating these procedures will include adopting updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.
- Update or adopt new and updated human health ambient WQC for 94 chemical pollutants that are NRWQC at Section 304(a) of the CWA. U.S. EPA derived the 94 human health ambient WQC using updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.
- Remove the limited use waters classification and waters classified for limited use in 327 IAC 2-1 and 327 IAC 2-1.5.
- Adopt numeric 2018 NRWQC at Section 304(a) of the CWA for the protection of aquatic life for aluminum for waters within and outside of the Great Lakes System.



PUBLIC NOTICE:

IDEM initiated the review by circulating *Notice of Review of Water Quality Standards and Public Hearing* (“Notice”) to a list of stakeholders and OWQ staff, and by posting the Notice in the *Indiana Register* on Wednesday, March 24, 2021. The public comment period was open from distribution of the Notice until May 23, 2021, a comment period of 49 days. IDEM requested that interested parties transmit comments by mail or common carrier, facsimile, electronic mail, or hand delivery. Appendix A includes a copy of the public notice published in the *Indiana Register*.

PUBLIC HEARING

IDEM utilized the May 12, 2021 Environmental Rules Board meeting to hold a public hearing to communicate the water quality standards review requirements and IDEM’s potential priorities to revise and update water quality standards and to solicit feedback from interested parties.

The public notice included information for the public hearing, scheduled for May 12, 2021, at 1:30 pm via the Zoom virtual meeting platform. The public hearing, conducted during IDEM’s Environmental Rules Board meeting, was recorded. During the hearing, IDEM presented an overview of the water quality standards review process, and a list of potential actions to update and/or revise water quality standards for consideration.

Appendix B includes the agenda for the Environmental Rule Board meeting.

Appendix C includes the PowerPoint presentation for the Environmental Rules Board public hearing. The presentation provided an overview of the water quality standards review process, and IDEM’s potential priorities for 2021-2024.

A link to the recording of the Environmental Rules Boards meeting is at:
<https://www.youtube.com/watch?v=1Fw8hSP3l4Q>

WQS REVIEW COMMENTS

IDEM received one comment inquiring whether IDEM planned to adopt the 2015 U.S. EPA updated exposure assumptions used to calculate human health criteria, and the new and updated 94 human health criteria derived using these updated exposure assumptions.

IDEM PRIORITIES FOR 2021 - 2024

Rulemaking Priorities Discussion

Based on the lack of feedback at the public hearing and for the public notice, IDEM prioritized staff WQS needs and determined IDEM’s top priority is to update the methodology used to derive aquatic life criteria for substances that are not in rule for waters outside of the Great Lakes System (“Downstate”). The methodology in the Downstate rule predates U.S. EPA’s current methodology, *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses (1985)*. Because IDEM’s rules for waters within and outside of the Great Lakes System have different methodologies, derived criteria may not be equivalent across the state. Updating the Downstate methodology to derive aquatic life criteria for substances not in rule to be consistent with the Great Lakes System methodology,



where appropriate, will result in more consistent derived criteria across the state for substances of concern.

Given the length of time required for an IDEM rulemaking, consideration was given to combining priorities, where it is logical to do so, into a single rulemaking, and then to proceed with more than one rulemaking at a time. Initially, the thought was to combine aquatic life criteria revisions and updates into one proposed rulemaking, and the human health criteria revisions and updates into a second proposed rulemaking.

This strategy was distributed to staff and discussed as an agenda item during the June 17, 2021 internal IDEM, Office of Water Quality, Water Quality Standards Cross-Program Coordination meeting:

- (1) Conduct a rulemaking that updates or revises Indiana's rules for the protection of aquatic life as follows:
 - Update Indiana's procedures for calculating aquatic life ambient WQC for waters outside of the Great Lakes System to reflect current U.S. EPA guidance and to implement more consistent statewide procedures. These methodologies are used to derive ambient surface WQC for chemicals that do not have a NRWQC at Section 304(a) of the CWA but have the potential to impact aquatic life.
 - Adopt numeric NRWQC for aquatic life at Section 304(a) of the CWA for some substances not included in IDEM's current rules including: acrolein (2009), carbaryl (2012), diazinon (2005), nonylphenol (2005), and tributyltin (2004, for waters within and outside of the Great Lakes System.
 - Adopt the numeric 2018 NRWQC for aquatic life at Section 304(a) of the CWA for aluminum, for waters within and outside of the Great Lakes System.
- (2) Conduct a rulemaking that updates Indiana's human health criteria, as follows:
 - Update Indiana's procedures for calculating human health ambient WQC to reflect current U.S. EPA guidance and to implement consistent statewide procedures. These methodologies are used to derive ambient surface WQC for chemicals that do not have a NRWQC at Section 304(a) of the CWA but have the potential to impact human health. Updating these procedures will include adopting updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.
 - Update or adopt new and updated human health ambient WQC for 94 chemical pollutants that are NRWQC at Section 304(a) of the CWA. U.S. EPA derived the 94 human health ambient WQC using updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.

Staff noted the following regarding this strategy to combine WQS priorities into fewer rulemakings, and then to proceed with the combined, parallel rulemakings:

1. Grouping priorities into fewer rulemakings makes sense, given the length of time required for the IDEM rulemaking process, which includes additional notices and reviews than required for other Indiana state agencies. IDEM's metals update rulemaking took seven years to get to the proposed rule stage. Combining related priorities into a single rulemaking may enable IDEM to maximize the ability to revise and/or update rules.
2. Staff agreed with the concept of proceeding with more than one rulemaking at a time, staggered, on separate tracks.
3. Updating the aquatic life methodology rules for waters outside of the Great Lakes System ("Downstate") is a top priority. Updating the methodology is not anticipated to be



controversial. This rulemaking should not be combined with any rulemaking priority that is controversial, which could slow its adoption.

4. Adopting the aquatic life NRWQCs for acrolein, carbaryl, diazinon, nonylphenol and tributyltin is not as high a priority as updating the Downstate aquatic life methodology or adopting aluminum criteria but adopting these criteria will update IDEM's rules to be more consistent with the NRWQC. Adopting these aquatic life criteria is not anticipated to be controversial.
5. Adopting the 2018 NRWQC for aluminum is anticipated to be controversial, based on comments and opposition voiced by stakeholders during the current rulemaking to update metals criteria. IDEM withdrew the proposal to adopt aluminum criteria during this rulemaking because the proposed criteria, based on New Mexico's aluminum criteria, were not equivalent to the 2018 NRWQC for aluminum.

Staff noted that there are issues with implementing the 2018 NRWQC that are not yet resolved with U.S. EPA's Draft Technical Support Document. These include the need for an updated analytical method for dissolved aluminum in surface water, and a lack of statewide dissolved organic carbon data (or a translator for total organic carbon to dissolved organic carbon) which is necessary as an input parameter to derive the aluminum criteria. Additionally, IDEM must choose one of two methods established in the NRWQC to use when deriving acute and chronic criterion values: (1) Calculate the criteria values for each waterbody or waterbody segment that has aquatic life as a designated use by entering the pH, total hardness and DOC values into the EPA's Aluminum Criteria Calculator V2.0; 4 or, (2) Use the lookup tables provided in the criteria document to find the values associated with the specific conditions of pH, total hardness and DOC.

Staff suggested that given the uncertainty and potential controversy over adopting the 2018 NRWQC for aluminum, IDEM might consider a separate rulemaking to adopt the 2018 NRWQC for aluminum into the rules for waters within and outside of the Great Lakes System.

6. IDEM could consider one rulemaking to adopt U.S. EPA's new and updated NRWQCs for aquatic life (aluminum, acrolein, carbaryl, diazinon, nonylphenol and tributyltin). A rulemaking to adopt these aquatic life criteria will update IDEM's rules to be more consistent with the NRWQC.
7. Staff agreed with the second rulemaking proposal to combine U.S. EPA's 2015 human health ambient water quality criteria updates in one rulemaking.

IDEM WQS Rulemaking Priorities for 2021-2024

Appendices D and E list U.S. EPA NRWQC for aquatic life and human health published since 2000, and IDEM's plans for addressing these recommendations.

Priorities listed below are in hierarchical order.

1. Initiate a rulemaking to update Indiana's procedures for calculating aquatic life ambient WQC for substances without criteria in rule for waters outside of the Great Lakes System to reflect current U.S. EPA guidance and to implement more consistent statewide procedures. These methodologies are used to derive ambient surface WQC for



chemicals that do not have a NRWQC at Section 304(a) of the CWA but have the potential to impact aquatic life.

2. Adopt numeric NRWQC for aquatic life at Section 304(a) of the CWA for aluminum (2018), acrolein (2009), carbaryl (2012), diazinon (2005), nonylphenol (2005), and tributyltin (2004, for waters within and outside of the Great Lakes System).
3. Conduct a rulemaking that updates Indiana's human health criteria, as follows:
 - Update Indiana's Downstate procedures for calculating human health ambient WQC to reflect current U.S. EPA guidance and to implement consistent statewide procedures. These methodologies are used to derive ambient surface WQC for chemicals that do not have a NRWQC at Section 304(a) of the CWA but have the potential to impact human health. Updating these procedures will include adopting certain U.S. EPA 2015 updated exposure assumptions (body weight, drinking water consumption rate, fish consumption rate), bioaccumulation factors, health toxicity values and relative source contributions that reflect the latest scientific information and U.S. EPA policies.
 - Adopt U.S. EPA 2015 updated exposure assumptions, bioaccumulation factors, toxicity values, and relative source contributions for waters within the Great Lakes system, as appropriate.
 - Update or adopt new and updated human health ambient WQC for 94 chemical pollutants that are NRWQC at Section 304(a) of the CWA for waters within and outside of the Great Lakes System. U.S. EPA derived the 94 human health ambient WQC using updated exposure assumptions, bioaccumulation factors, toxicity values and relative source contributions that reflect the latest scientific information and U.S. EPA policies.

IDEM will follow state requirements to propose regulatory revisions to address the changes identified above. Other changes may be included in the proposed WQS for regulatory change if sufficient information is available to support a change.

Appendix A

2021 Water Quality Standards Review

Notice of Review of Water Quality Standards and Public Hearing

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**Notice of Review of Water Quality Standards and Public Hearing**

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on Indiana's Water Quality Standards (WQS). The federal Clean Water Act (CWA) requires all states to develop, review, revise, and adopt WQS. WQS must include the designated uses of the waterbody, water quality criteria necessary to protect those uses, and antidegradation provisions to protect the water quality.

The CWA requires the states to periodically review their water quality standards as appropriate. The most significant rulemaking to revise Indiana's WQS was development of the statewide antidegradation standards and implementation procedures, Legislative Services Agency (LSA) Document #08-764, that was final adopted on March 14, 2012. Another rulemaking, LSA Document #11-320, to amend the WQS for chloride and sulfate, was final adopted on May 23, 2012. A rulemaking on special designations and exceptional use waters, LSA Document #13-290, was final adopted on September 10, 2014. A rulemaking to update Indiana's aquatic life and human health water quality criteria (WQC) for metals, LSA Document #14-58, is in process.

A priority for IDEM is to make the standards consistent for all waters, which includes both the waters within the Great Lakes System and those outside of the Great Lakes System, commonly referred to as "downstate". Currently, IDEM has the following proposals and plans under consideration:

- (1) Update Indiana's procedures for calculating aquatic life ambient WQC to reflect current United States Environmental Protection Agency (U.S. EPA) guidance and to implement consistent statewide procedures. These methodologies are used to derive ambient WQC for chemicals that do not have a National Recommended Water Quality Criteria (NRWQC) at Section 304(a) of the CWA but have the potential to impact aquatic life.
- (2) Adopt numeric NRWQC at Section 304(a) of the CWA for the protection of aquatic life for substances not included in our current rules including: acrolein (2009), carbaryl (2012), diazinon (2005), nonylphenol (2005), and tributyltin (2004) for waters within and outside of the Great Lakes System.
- (3) Update current Indiana WQS variance rules to include a 2015 U.S. EPA rule (40 CFR 131.14) that establishes a regulatory framework for the adoption of WQS variances to implement adaptive management approaches to improve water quality.
- (4) Update Indiana's procedures for calculating human health ambient WQC to reflect current U.S. EPA guidance and to implement consistent statewide procedures. These methodologies are used to derive ambient WQC for chemicals that do not have a NRWQC at Section 304(a) of the CWA but have the potential to impact human health. Updating these procedures will include adopting updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.
- (5) Update or adopt new and updated human health ambient WQC for 94 chemical pollutants that are NRWQC at Section 304(a) of the CWA. U.S. EPA derived the 94 human health ambient WQC using updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.
- (6) Remove the limited use waters classification and waters classified for limited use in [327 IAC 2-1](#) and [327 IAC 2-1.5](#).

IDEM conducted a WQS Review in 2018. Since then, U.S. EPA published NRWQC at Section 304(a) of the CWA for aluminum for the protection of aquatic life (December 2018). U.S. EPA has not published other NRWQC for the protection of aquatic life or human health since IDEM's 2018 WQS Review. IDEM is considering adopting the 2018 NRWQC at Section 304(a) of the CWA for aluminum for the protection of aquatic life as part of this WQS Review.

During the 2018 WQS Review, commenters recommended that IDEM adopt the NRWQC at Section 304(a) of the CWA for ammonia for the protection of aquatic life (2013) and phosphorus criteria for lakes/reservoirs (2000) and rivers/streams (2000). IDEM continues to research how to implement the NRWQC at Section 304(a) of the CWA for ammonia and phosphorus criteria across a wide range of wastewater treatment systems. IDEM's 2018 WQS Review report to U.S. EPA included public comments and IDEM's responses. This report may be viewed on IDEM's Water Quality Standards web page: https://www.in.gov/idem/cleanwater/files/wqs_rulemaking_20180702_final_report.pdf.

IDEM believes these proposed rulemaking priorities focus on key updates needed to improve Indiana's WQS but is interested in hearing public opinion on all aspects of the WQS. With this notice, IDEM requests feedback from all interested parties on any aspect of Indiana's WQS contained in Title 327 of the Indiana Administrative Code (IAC), Article 2. Public comments should include:

- (1) the matter at issue;
- (2) whether the issue is currently covered by the WQS, and, if so, where any suggested change should be made to the WQS;
- (3) the basis for the suggested change; and
- (4) technical information, reports, or references that support the comment.

The estimated fiscal impact of changes to the WQS is impossible to determine at this notice stage without knowing what changes may ultimately occur.

The Environmental Rules Board (ERB) will hold a public hearing concerning the 2021 Review of WQS at its meeting held on May 12, 2021, starting at 1:30 p.m. The public may join the ERB meeting by using the following Zoom link, meeting ID, and passcode, or telephone numbers:

Join Zoom Meeting:

<https://zoom.us/j/93141090224?pwd=cG5xck5rMGRncUIHSld0RkNFdjFXdz09&from=addon>

By phone:

312-626-6799

929-205-6099

Meeting ID: 931 4109 0224

Passcode: 255913

Following a brief presentation by IDEM, the ERB will hold a public hearing on any aspect of Indiana's WQS. The purpose of this hearing is to solicit public comments on Indiana's WQS. All interested persons are invited and will be given reasonable opportunity to express their views concerning Indiana's WQS. Oral statements will be heard, but, for the accuracy of the record, all comments should be submitted in writing. No votes or actions will be taken by the ERB. At this time, additional public meetings to solicit public comments are not scheduled.

Individuals requiring reasonable accommodations for participation in this public hearing should contact the IDEM, Americans with Disabilities Act coordinator at:

Attn: ADA Coordinator

Indiana Department of Environmental Management

Indiana Government Center North

100 North Senate Avenue Indianapolis, IN 46204-2251

or call (317) 233-1785 (V). Speech and hearing impaired callers may contact IDEM via the Indiana Relay Service (711) or (800) 743-3333. Please provide a minimum of 72 hours notification.

Written comments in response to this notice must be postmarked or time stamped not later than May 23, 2021, and submitted in one of the following ways:

- (1) By mail or common carrier to the following address:

Notice of Review of WQS

MaryAnn Stevens

Rules Development Branch Office of Legal Counsel

Indiana Department of Environmental Management

Indiana Government Center North

100 North Senate Avenue

Indianapolis, IN 46204-2251

- (2) By electronic mail to mstevens@idem.in.gov. To confirm timely delivery of your comments, please request a document receipt when you send the electronic mail.

Regardless of the delivery method used, in order to properly identify each comment, it must clearly specify the title of "Notice of Review of WQS".

Additional information regarding this action may be obtained from MaryAnn Stevens, Rules Development Branch, Office of Legal Counsel, (317) 232-8635 or (800) 451-6027 (in Indiana) or Eileen Hack, Technical Environmental Specialist, Office of Water Quality, (317) 234-7914 or (800) 451-6027 (in Indiana).

Martha Clark Mettler

Assistant Commissioner

IDEM, Office of Water Quality

Posted: 03/24/2021 by Legislative Services Agency
An [html](#) version of this document.

Appendix B
Water Quality Standards Review Public Hearing
Agenda
May 12, 2021

AGENDA
INDIANA ENVIRONMENTAL RULES BOARD
Zoom Meeting*
Wednesday
May 12, 2021
1:30 p.m.

- A. Call to Order**
Quorum
- B. Approval of Meeting Summary of February 10, 2020**
- C. IDEM Reports**
Commissioner's Report
Rules Update
- D. Rules**
1. **NO_x Emissions Monitoring.** Final adoption of amendments to 326 IAC 10-2-3, 326 IAC 10-2-4, and 326 IAC 10-2-8, and addition of 326 IAC 10-2-8.5. LSA #19-589.
 - (a) *Public Hearing concerning proposed rule.*
 - (b) *Board Consideration of final adoption of proposed rule.*
 2. **Satellite Manure Storage Structure Reference Updates.** Preliminary adoption of amendments to 327 IAC 20. LSA #21-28.
 - (a) *Public Hearing concerning draft rule.*
 - (b) *Board Consideration of preliminary adoption of draft rule.*
 3. **Solid Waste Financial Assurance.** Preliminary adoption of amendments to 329 IAC 10-39, 329 IAC 11.5-3, 329 IAC 11.5-8, 329 IAC 11.6-9, and 329 IAC 11.7-9. LSA #20-20.
 - (a) *Public Hearing concerning draft rule.*
 - (b) *Board Consideration of preliminary adoption of draft rule.*
 4. **BP Temporary Alternative Opacity Limitations.** Preliminary adoption of amendments to 326 IAC 5-1-8. LSA #19-576.
 - (a) *Public Hearing concerning draft rule.*
 - (b) *Board Consideration of preliminary adoption of draft rule.*
- E. Non-Rule Policy Document**
MP-008-NPD-R, Applicability of RCRA Corrective Action Laws to Current Owners of Hazardous Waste Sites
- F. Board Remote Meeting Policy**
Overview of Remote Meeting Policy Statutory Requirements
Board Discussion and Potential Vote on Policy

G. Non-Rule Actions

- 1. Water Quality Standards Review Hearing
- 2. Metals Criteria Rule Presentation
- 3. Citizen’s Petition Discussion

H. Other Matters

- 1. Open Forum
- 2. Tentative Date and Location of Next Meeting**
To be determined.
- 3. Board packet information can also be retrieved via the Internet as early as one week prior to the meeting at: <http://www.in.gov/idem/legal/2355.htm>

I. Adjournment

*Join Zoom Meeting

<https://zoom.us/j/93141090224?pwd=cG5xck5rMGRncUIHSld0RkNFdjFXdz09&from=addon>

By Phone

312-626-6799
929-205-6099

Meeting ID: 931 4109 0224
Passcode: 255913

** Dates and Locations of Board Meetings are subject to change. For confirmation, please check with the Rule Development Section, Office of Legal Counsel at (317) 232-8922 or (800) 451-6027, ext. 2-8922, or kkindric@idem.in.gov.

Individuals requiring reasonable accommodations for participation in this event should contact the Indiana Department of Environmental Management, Americans with Disabilities Act coordinator at:

*Attn: ADA Coordinator
Indiana Department of Environmental Management
100 N. Senate Avenue
Indianapolis, IN 46204*

or call (317) 233-1785(V). Speech and hearing impaired callers may contact the agency via the Indiana Relay Service (711) or 1-800-743-3333. Please provide a minimum of 72 hours notification. Please note, due to the COVID-19 pandemic, this meeting is being conducted remotely as a video and phone conference through Zoom.

Appendix C
2021 Water Quality Standards Review
Environmental Rules Board Hearing Presentation
May 12, 2021



Indiana Department of Environmental Management

Protecting Hoosiers and Our Environment Since 1986



2021 Review of Indiana's Water Quality Standards

Environmental Rule Board Meeting

May 12, 2021



What is a Water Quality Standards Review?

- Clean Water Act requirement for states, once every three years.
- An opportunity for the public to comment on the need for revisions, additions or other changes to Indiana's water quality standards.
- Public comment period continues through May 23, 2021.



Water Quality Standards Core Components

- Designated uses for Indiana surface water.
 - Aquatic life, recreation, drinking water, agricultural, industrial.
- Criteria to protect designated uses.
 - Narrative and numeric.
- Antidegradation requirements.
 - Maintain the level of water quality to protect designated uses.



Indiana Surface Water Quality Standards

- Two sets of rules:
 - Waters outside of the Great Lakes System (“Downstate”)
 - Waters within the Great Lakes System
- Differences between rules:
 - Criteria;
 - Methodology to derive criteria for substances that are not in rule; and
 - Specific requirements for Great Lakes states and provinces



Indiana Surface Water Quality Standards

- WQS are the foundation for other regulatory actions such as permitting, compliance, enforcement, and monitoring and assessing the quality of Indiana's surface waters.



Indiana Surface Water Quality Standards

- IDEM's overarching priority is for the two sets of rules to have consistent standards across the state, when appropriate.
 - Great Lakes System rule includes procedures, requirements and criteria specific to the Great Lakes basin.



2018 Water Quality Standards Review Comments

- Adopt the 2013 U.S. EPA National Recommended Water Quality Criteria at Section 304(a) of the CWA (NRWQC) for ammonia for the protection of aquatic life.
 - IDEM is researching how to implement these criteria across the wide-ranging variety of wastewater treatment systems in the state.
 - Certain types of systems will not be able to meet criteria without upgrades.



2018 Water Quality Standards Review Comments

- Adopt NRWQC for nutrients, especially total phosphorus.
 - U.S. EPA published draft lake numeric nutrient criteria in 2020 that can be implemented to protect aquatic life and recreational designated uses.
 - IDEM working with U.S. EPA and Region 5 states to explore criteria options for subsets of Indiana lakes.
 - IDEM is conducting research for adopting NRWQC nutrient criteria for rivers/streams.



Water Quality Standards Petitioner Comments

- Combined Sewer Overflow (CSO) Community Petition:
 - Adopt 2012 NRWQC Recreational Criteria.
 - Includes a Statistical Threshold Value (STV), which allows removing 10% of water sample data collected over 30 days, from a minimum of 10 samples collected.
 - In current rules STV only allowed for disinfected wastewater treatment plant effluent.
 - Indiana's criteria are protective of primary contact recreation use.
 - IDEM implemented a wet-weather limited use designation (2007) for CSO communities that fully implemented their Long-Term Control Plan (LTCP).
 - IDEM is working with Petitioners for additional post-LTCP solutions.



IDEM Priorities for 2021 WQS Review

- Update Downstate procedures for calculating aquatic life criteria for substances for which U.S. EPA has not published NRWQC.
 - Update the methodology to reflect current U.S. EPA guidance.
 - IDEM uses these methodologies to derive ambient WQC when there are not criteria in rule for substances that could adversely impact aquatic life.



IDEM Priorities for 2021 WQS Review

- Adopt NRWQC aquatic life criteria for substances not included in our current rules including: acrolein (2009), carbaryl (2012), diazinon (2005), nonylphenol (2005), and tributyltin (2004).
 - Waters within and outside of the Great Lakes System.



IDEM Priorities for 2021 WQS Review

- Update current Indiana WQS variance rules to reflect the 2015 U.S. EPA updated rule (40 CFR 131.14) for variances.
 - Variances are a regulatory mechanism that allows progress towards attaining a designated use and criterion that is not currently attainable.
 - Legal bridge between WQS and NPDES permit limits.
 - Update includes longer terms, and application to multiple dischargers.



IDEM Priorities for 2021 WQS Review

- Update Indiana's procedures for calculating human health criteria to reflect current U.S. EPA guidance and to implement consistent statewide procedures.
 - Used to derive criteria for chemicals that do not have a U.S. EPA NRWQC but have the potential to impact human health.
 - Includes updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.



IDEM Priorities for 2021 WQS Review

- Adopt new and updated human health NRWQC published in 2015 for 94 chemical pollutants.
 - Derived using updated exposure, bioaccumulation, and toxicity factors that reflect the latest scientific information and U.S. EPA policies.
 - Updates many Downstate human health criteria.



IDEM Priorities for 2021 WQS Review

- Remove the limited use waters classification and waters classified for limited use in 327 IAC 2-1 and 327 IAC 2-1.5.



IDEM Priorities for 2021 WQS Review

- Adopt 2018 NRWQC for aluminum for the protection of aquatic life.
 - IDEM withdrew proposed aluminum criteria from the current Metals Rulemaking (LSA #14-58) because they were not consistent with the 2018 NRWQC.



Indiana Department of Environmental Management

Protecting Hoosiers and Our Environment Since 1986



Questions?

Appendix D

*IDEM Adoption of New or Updated CWA Section 304(a) Criteria Recommendations for
Aquatic Life Published Since May 30, 2000*

Appendix D

2021 Water Quality Standards Review

IDEM Adoption of New or Updated CWA Section 304(a) Criteria Recommendations for Aquatic Life Published Since May 30, 2000

Pollutant	CAS#	NRWQC for AL Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for AL at 304(a) of CWA (NRWQC)
Acrolein	107028	2009	No	No	b
Aluminum	7429905	2018	No	No	a, b
Ammonia	7664417	2013	No	No	IDEM has an internal work group that is actively studying how to implement the ammonia NRWQC across a wide range of wastewater treatment systems and evaluating how to mitigate the economic impact of adopting this criterion for communities and entities with limited resources. IDEM is also participating in the EPA Region 5 Ammonia Implementation Work Group.
Carbaryl	63252	2012	No	No	b
Cadmium	7440439	2016	No	No	IDEM is engaged in a metals rulemaking that includes adopting the 2016 NRWQC for cadmium for waters within and outside of the Great Lakes System. At the time of this report, the rulemaking is a Proposed Rule, and will be considered by the Environmental Rule Board for Final Rule on August 11, 2021.
Copper	7440508	2007	No	No	IDEM understands that the 2018 USEPA-Metals Associations Cooperative Research and Development Agreement plans to reevaluate the Copper Biotic Ligand Model(BLM). They are considering recommending a Multiple Linear Regression (MLR) approach using fewer input parameters for the copper NRWQC, modeled after the current proposed NRWQC for aluminum which has three input parameters (pH, DOC, hardness).

Pollutant	CAS#	NRWQC for AL Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for AL at 304(a) of CWA (NRWQC)
					IDEM has considered adopting the copper BLM but has concerns for implementation of a criterion with this set of ten input parameters. IDEM will consider adopting the updated MLR approach in lieu of the current BLM copper criterion, after U.S. EPA publishes it.
Diazinon	333415	2005	No	No	b
Nonylphenol	84852153	2005	No	No	b
Nutrients	NA	2003	No	No	IDEM continues to research how to draft eutrophication criteria to protect aquatic life and human health. IDEM is working with EPA Region 5 and States to develop input parameters for the draft lake Numeric Nutrient Criteria. See IDEM’s “Nutrient Criteria Development Milestones for FY20” submitted to U.S. EPA Region 5 August 6, 2020.
Selenium	7782492	2016	No	No	IDEM is engaged in a metals rulemaking that includes adopting the 2016 NRWQC for selenium for waters within and outside of the Great Lakes System. At the time of this report, the rulemaking is a Proposed Rule, and will be considered by the Environmental Rule Board for Final Rule on August 11, 2021.
Tributyltin	NA	2004	No	No	b

NRWQC for AL: National Recommended Water Quality Criteria for Aquatic Life at Section 304(a) of the Clean Water Act

- a. **U.S. EPA published this NRWQC for aquatic life after Indiana’s 2018 water quality standards review.**
- b. IDEM plans to initiate a single rulemaking to adopt the NRWQC for AL for aluminum, acrolein, carbaryl, diazinon, nonylphenol and tributyltin in waters within and outside of the Great Lakes System.

Appendix E

*IDEM Adoption of New or Updated CWA Section 304(a) Criteria Recommendations for
Human Health Published Since May 30, 2000*

Appendix E

Indiana 2021 Water Quality Standards Review

IDEM Adoption of New or Updated CWA Section 304(a) Criteria Recommendations for Human Health Published Since May 30, 2000

Pollutant	CAS#	NRWQC for HH Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for HH at 304(a) of CWA (NRWQC)
Acenaphthene	83329	2015	No	No	b
Acrolein	107028	2015	No	No	b
Acrylonitrile	107131	2015	No	No	b
Aldrin	309002	2015	No	No	b
alpha-Hexachlorocyclohexane (HCH)	319846	2015	No	No	b
alpha-Endosulfan	959988	2015	No	No	b
Anthracene	120127	2015	No	No	b
Antimony	7440360	2002	No	No	IDEM is engaged in a metals rulemaking that includes adopting the 2002 antimony NRWQC for human health in waters outside of the Great Lakes System. The Proposed Rule will go before the Environmental Rule Board to be considered for Final Rule on August 11, 2021.
Benzene	71432	2015	No	No	b
Benzidine	92875	2015	No	No	b
Benzo(a)anthracene	56553	2015	No	No	b
Benzo(a)pyrene	50328	2015	No	No	b
Benzo(b)fluoranthene	205992	2015	No	No	b
Benzo(k)fluoranthene	207089	2015	No	No	b
beta-Hexachlorocyclohexane (HCH)	319857	2015	No	No	b
beta-Endosulfan	33213659	2015	No	No	b
Bis(2-Chloro-1-methylethyl) Ether	108601	2015	No	No	b
Bis(2-Chloroethyl) Ether	111444	2015	No	No	b
Bis(2-Ethylhexyl) Pthalate	117817	2015	No	No	b

Pollutant	CAS#	NRWQC for HH Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for HH at 304(a) of CWA (NRWQC)
Bis(Chloromethyl)ether	542881	2015	No	No	b
Bromoform	75252	2015	No	No	b
Butylbenzyl Phthalate	85687	2015	No	No	b
Carbon Tetrachloride	56235	2015	No	No	b
Chlordane	57749	2015	No	No	b
Chlorobenzene	108907	2015	No	No	b
Chlorodibromomethane	124481	2015	No	No	b
Chloroform	67663	2015	No	No	b
Chlorophenoxy Herbicide (2,4-D)	94757	2015	No	No	b
Chlorophenoxy Herbicide (2,4,5-TP)	93721	2015	No	No	b
Chrysene	218019	2015	No	No	b
Cyanide	57125	2015	No	No	b
Cylindrospermopsin	143545908	2019	No	No	a IDEM applies the recreational criterion as a swimming advisory, not to be exceeded on any single day.
Dibenzo(a,h)anthracene	53703	2015	No	No	b
Dichlorobromomethane	75274	2015	No	No	b
Dieldrin	60571	2015	No	No	b
Diethyl Phthalate	84662	2015	No	No	b
Dimethyl Phthalate	131113	2015	No	No	b
Di-n-Butyl Phthalate	84742	2015	No	No	b
Dinitrophenols	25550587	2015	No	No	b
Endosulfan Sulfate	1031078	2015	No	No	b
Endrin	72208	2015	No	No	b
Endrin Aldehyde	7421934	2015	No	No	b
Ethylbenzene	100414	2015	No	No	b
Fluroanthene	206440	2015	No	No	b
Fluorene	86737	2015	No	No	b
gamma-Hexachlorocyclohexane (HCH) - Technical (Lindane)	58899	2015	No	No	b

Pollutant	CAS#	NRWQC for HH Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for HH at 304(a) of CWA (NRWQC)
Heptachlor	76448	2015	No	No	b
Heptachlor Epoxide	1024573	2015	No	No	b
Hexachlorobenzene	118741	2015	No	No	b
Hexachlorobutadiene	87683	2015	No	No	b
Hexachlorocyclohexane (HCH)- Technical	608731	2015	No	No	b
Hexachlorocyclopentadiene	77474	2015	No	No	b
Hexachloroethane	67721	2015	No	No	b
Indeno(1,2,3-cd)pyrene	193395	2015	No	No	b
Isophorone	78591	2015	No	No	b
Methylmercury	22967926	2001	No	No	Until implementation issues are resolved, IDEM does not plan to replace the current water column criterion for mercury with the fish-tissue based methylmercury water quality criterion.
Methoxychlor	72435	2015	No	No	b
Methyl Bromide	74839	2015	No	No	b
Methylene Chloride	75092	2015	No	No	b
Microcystins ^a	101043372	2019	No	No	a IDEM applies the recreational criterion as a swimming advisory, not to be exceeded on any single day.
Nitrobenzene	98953	2015	No	No	b
Nitrosodibutylamine, N	924163	2002	No	No	c
Nitrosodiethylamine, N	55185	2002	No	No	c
Nitrosopyrrolidine, N	930552	2002	No	No	c
N-Nitrosodimethylamine	62759	2002	No	No	c
N-nitrosodi-n-Propylamine	621647	2002	No	No	c
N-Nitrosodiphenylamine	86306	2002	No	No	c
Pathogen and Pathogen Indicators	NA	2012	2008	2008	IDEM has adopted elements of the 2012 NRWQC, including the indicator organism, magnitude, duration and frequency for the

Pollutant	CAS#	NRWQC for HH Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for HH at 304(a) of CWA (NRWQC)
					estimated illness rate of 36 per 1,000 primary contact recreators: i.e., the geometric mean must not exceed 126 cfu <i>E. coli</i> /100 mL in any thirty-day interval. IDEM's criteria also include a Beach Action Value of 235 cfu <i>E. coli</i> /100 mL. IDEM's rule does not include a Statistical Threshold Value, where 10% of samples can exceed 410 cfu <i>E.coli</i> /100 mL. IDEM rules allow 10% of samples collected by NPDES permitted facilities that disinfect their effluent to exceed 235 cfu <i>E.coli</i> /100 mL in a 30-day period. IDEM's current rules are more stringent than EPA's 2012 Recreational RWQC. IDEM is currently evaluating whether to fully adopt the 2012 Recreational RWQC following requests by CSO community permittees.
Pentachlorobenzene	608935	2015	No	No	b
Pentachlorophenol	87865	2015	No	No	b
Phenol	108952	2015	No	No	b
Polychlorinated Biphenyls (PCBs)		2002			c
Pyrene	1290000	2015	No	No	b
Selenium	7782492	2002	No	No	IDEM is engaged in a metals rulemaking that includes adopting the 2002 selenium NRWQC for human health in waters outside of the Great Lakes System. The Proposed Rule will go before the Environmental Rule Board to be considered for Final Rule on August 11, 2021.
Tetrachloroethylene	127184	2015	No	No	b

Pollutant	CAS#	NRWQC for HH Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for HH at 304(a) of CWA (NRWQC)
Thallium	7440280	2003	No	No	The USEPA IRIS removed the reference dose (RfD) value used to derive the 2003 NRWQC for thallium following a 2009 reassessment that concluded there was inadequate information to assess carcinogenic potential. IDEM will retain the current thallium criterion for waters outside of the Great Lakes System.
Toluene	108883	2015	No	No	b
Toxaphene	8001352	2015	No	No	b
Trichloroethylene	79016	2015	No	No	b
Vinyl Chloride	75014	2015	No	No	b
Zinc	7440666	2002	No	No	IDEM is engaged in a metals rulemaking that includes adopting the 2002 zinc NRWQC for human health for waters outside of the Great Lakes System. The Proposed Rule will go before the Environmental Rule Board to be considered for Final Rule on August 11, 2021.
1,1,1-Trichloroethane	71556	2015	No	No	b
1,1,2,2-Tetrachloroethane	79345	2015	No	No	b
1,1,2-Trichloroethane	79005	2015	No	No	b
1,1-Dichloroethylene	75354	2015	No	No	b
1,2,4,5-Tetrachlorobenzene	95943	2015	No	No	b
1,2,4-Trichlorobenzene	120821	2015	No	No	b
1,2-Dichlorobenzene	95501	2015	No	No	b
1,2-Dichloroethane	107062	2015	No	No	b
1,2-Dichloropropane	78875	2015	No	No	b
1,2-Diphenylhydrazine	122667	2015	No	No	b
Trans-1,2-Dichloroethylene	156605	2015	No	No	b
1,3-Dichlorobenzene	541731	2015	No	No	b

Pollutant	CAS#	NRWQC for HH Publication Year	IDEM Down State – Duly Adopted? (Date)	IDEM Great Lakes System - Duly Adopted? (Date)	IDEM explanation for not adopting NRWQC for HH at 304(a) of CWA (NRWQC)
1,3-Dichloropropene	542756	2015	No	No	b
1,4-Dichlorobenzene	106467	2015	No	No	b
2,3,7,8-TCDD (Dioxin)	1746016	2002	No	No	c
2,4,5-Trichlorophenol	95954	2015	No	No	b
2,4,6-Trichlorophenol	88062	2015	No	No	b
2,4-Dichlorophenol	120832	2015	No	No	b
2,4-Dimethylphenol	105679	2015	No	No	b
2,4-Dinitrophenol	51285	2015	No	No	b
2,4-Dinitrotoluene	121142	2015	No	No	b
2-Chloronaphthalene	91587	2015	No	No	b
2-Chlorophenol	95578	2015	No	No	b
2-Methyl-4,6-Dinitrophenol	534251	2015	No	No	b
3,3'-Dichlorobenzidine	91941	2015	No	No	b
3-Methyl-4-Chlorophenol	59507	2015	No	No	b
p,p'-Dichlorodiphenyldichloroethane (DDD)	72548	2015	No	No	b
p,p'-Dichlorodiphenyldichloroethylene (DDE)	72559	2015	No	No	b
p,p'-Dichlorodiphenyltrichloroethane (DDT)	50293	2015	No	No	b

NRWQC for HH: National Recommended Water Quality Criteria for Human Health at Section 304(a) of the Clean Water Act

- a. **U.S. EPA published this NRWQC for aquatic life after Indiana's 2018 water quality standards review.**
- b. As presented during the 2021 Water Quality Standards Review, IDEM intends to adopt the USEPA 2015 NRWQC for the protection of human health in waters inside and outside of the Great Lakes System as part of a planned rulemaking. The 2015 NRWQC includes 94 chemical pollutants, including the referenced chemical, updated human health exposure factors, and updated chemical specific inputs. As part of this rulemaking, IDEM will update the methodology for waters outside of the Great Lakes System so it is equivalent to the human health methodology for the Great Lakes System, where it is appropriate to do so.
- c. IDEM will update its current water quality criteria for human health for this chemical in waters outside of the Great Lakes System to the NRWQC as part of a planned future rulemaking to update the human health methodology for waters outside of the Great Lakes System. If appropriate, IDEM will add this NRWQC for human health to Indiana's water quality standards for Great Lake System waters.