

DECISION DOCUMENT FOR THE APPROVAL OF ILLINOIS'S 2018 LIST WITH RESPECT TO SECTION 303(d) OF THE CLEAN WATER ACT

The U.S. Environmental Protection Agency (EPA) has conducted a complete review of Illinois's 2018 Clean Water Act (CWA) Section 303(d) list and supporting documentation and information. Based upon this review, EPA has determined that Illinois's list of water quality limited segments (WQLSs) still requiring Total Maximum Daily Loads (TMDLs) meets the requirements of Section 303(d) of the Act and EPA's implementing regulations at 40 C.F.R. § 130.7.

EPA concludes that Illinois properly assembled and evaluated existing and readily available data and information, including data and information relating to categories of waters specified at 40 C.F.R. § 130.7(b)(5). EPA concludes that the State submitted a methodology that outlines how the State uses readily available data and information to make assessment and impairment decisions. EPA also concludes that Illinois provided a rationale for not relying on particular existing and readily available water quality related data and information as a basis for listing waters on the 303(d) list, and that Illinois demonstrated good cause for not listing certain WQLSs on its 2018 303(d) list.

Based on our review of the State's Section 303(d) lists and available data, EPA is approving the waterbodies identified by the State as impaired on the 2018 Section 303(d) lists. EPA is also approving Illinois's action of identifying waters that are indicated impaired for aquatic life use and for which there are high levels of total nitrogen (68 waters identified) and previous listed waters for sedimentation/siltation (2 waters) in the observed effects section of Assessment and Total Maximum Daily Load Tracking and Implementation System (ATTAINS) database. These were waters/impairments that EPA deferred in EPA's 2010 to 2016 action on the lists. Information on this action is in Appendix G of the IR.

Illinois had several significant changes in the methodology. The State is no longer using the term "Not supporting – Fair" based on ATTAINS use, and Illinois will now use only "Fully Supporting" or "Not Supporting." Illinois changed the Indigenous Aquatic Life Standards applicable to the Chicago Area Waterway System and Lower Des Plaines River. Illinois is no longer associating or assessing secondary contact use in any water body in the State. Secondary contact use designation was repealed for the Chicago Area Waterway System, and there are no specific general use standards intended to protect secondary contact use in other waters that could be used to assess this use. Several lakes were removed based on the recognition that they are part of a treatment system.¹

EPA's approval/disapproval authority extends only to the waterbodies and causes of impairment listed in Category 5 of the IR. The statutory and regulatory requirements, and EPA's review of Illinois's compliance with each requirement, are described in detail below.

¹ 2018 Illinois IR, pp. 7-8.

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I. Statutory and Regulatory Background

A. Identification of Water Quality-Limited Segments (WQLS) for Inclusion on CWA Section 303(d) List

Section 303(d)(1) of the Act directs states to identify those waters within their jurisdictions for which effluent limitations required by Sections 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard,² and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that states do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by state or local authority, and (3) other pollution control requirements required by state, local, or federal authority.³

B. Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or identified as threatened in the state's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA.⁴ In addition to these minimum categories, states are required to consider any other existing and readily available data and information. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available.⁵ While states are required to evaluate all such water quality-related data and information, states may decide to rely or not rely on particular data or information in determining whether to list particular waters.

² 40 C.F.R. § 130.7(b)(1)(iii).

³ 40 C.F.R. § 130.7(b)(1).

⁴ 40 C.F.R. § 130.7(b)(5).

⁵ "Guidance for Water Quality-Based Decisions: The TMDL Process," EPA Office of Water, 1991, Appendix C(hereafter, "EPA 1991 Guidance").

In addition to requiring states to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 C.F.R. § 130.7(b)(6) require states to include, as part of their submissions to EPA, documentation to support decisions to rely or not rely on particular data and information, and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region.⁶

C. *Priority Ranking*

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that states establish a priority ranking for listed waters. The regulations at 40 C.F.R. § 130.7(b)(4) require states to prioritize waters on their Section 303(d) lists for TMDL development, and to identify those WQLSs targeted for TMDL development in the next two years.⁷ In prioritizing and targeting waters, states must, at a minimum, take into account the severity of the pollution and the uses of such waters.⁸ As long as these factors are taken into account, the Act provides that states establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and state or national policies and priorities.⁹

D. *Definition of Applicable Water Quality Standards*

For purposes of identifying waters for the Section 303(d) list, the terms “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under Section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements. 40 C.F.R. § 130.7(b)(3). Section 303(d) of the Act and its implementing regulations require states to identify the impaired waters within their boundaries and EPA to approve or disapprove the states’ Section 303(d) lists for those waters that have federally-approved water quality standards.

⁶ 40 C.F.R. § 130.7(b)(6).

⁷ 40 C.F.R. § 130.7(b)(4).

⁸ CWA Section 303(d)(1)(A).

⁹ 57 Federal Register 33040, 33045 (July 24, 1992); see also EPA’s 1991 Guidance.

II. EPA Analysis of Illinois's 2018 List

A. Illinois's 2018 303(d) List Submittal

1. Timeline of List Submittal

Illinois's 2018 303(d) list "submittal" is comprised of the State's ATTAINS database on February 22, 2021. This information is summarized below and is compiled in EPA's administrative record for this decision:

- Illinois Integrated Water Quality Report and Section 303(d) List, 2018 Clean Water Act Sections 303(d), 305(b), and 314
- Appendices
 - Appendix A-1 303d by priority
 - Appendix A-2 303d by name
 - Appendix A-3 2Yr Schedule
 - Appendix A-4 Delist
 - Appendix A-5 Illinois TMDL Vision
 - Appendix A-6 TMDL Status
 - Appendix A-7 Waters in Category 4C
 - Appendix B-1 Figure II Basins
 - Appendix B-2 Streams
 - Appendix B-3 Lakes
 - Appendix B-4 Lake Michigan
 - Appendix C Public Lakes
 - Appendix D Offensive Conditions Forms
 - Appendix E Public comments
 - Appendix F Responsiveness Summary
 - Appendix G Total Nitrogen, Sedimentation/Siltation, and Other Non-Standards-Based Pollutants as Causes of Use Impairment in the Integrated 305(b)/303(d) Water-Quality Report

2. Integrating the CWA 305(b) report and CWA 303(d) list

EPA encouraged states to submit Integrated Reports to fulfill CWA §§ 305(b) and 303(d) requirements through the ATTAINS database, beginning with the 2018 lists. Illinois submitted its final report as requested through the ATTAINS database. Illinois's CWA 305(b) assessment and 303(d) list categories are set out in Table 1, below. Illinois submitted data and information required under § 305(b) of the CWA directly to EPA in ATTAINS through the Water Quality Exchange network.¹⁰

¹⁰ The Water Quality Exchange (WQX) is a framework that makes it easier for states, tribes, and others to submit and share water quality monitoring data over the Internet. For more information, see <http://www.epa.gov/storet/wqx/> (last accessed March 11, 2021).

Table 1. Integrated report categories in the 2018 Illinois IR¹¹

IR Category	Description
Category 1	All designated uses are supported, and no use is threatened. (Note: Illinois does not assess any waters as threatened.)
Category 2	All designated uses that were assessed are supported. (Note: All other uses are reported as Not Assessed or Insufficient Information.)
Category 3	There is insufficient available data and/or information to make a use-support determination for any use.
Category 4: Contains segments that have at least one impaired use, but a TMDL is not required. Category 4 is further subdivided as follows, based on the reason a TMDL is not required.	
Category 4A	A TMDL to address a specific segment/pollutant combination has been approved or established by USEPA. Illinois EPA places water bodies in Category 4a only if TMDLs have been approved for all pollutant causes of impairment.
Category 4B	Technology-based effluent limitations required by the Act, more stringent effluent limitations required by state, local, or federal authority, or other pollution control requirements (e.g., best management practices) required by local, state or federal authority are stringent enough to implement applicable water quality standards (see 40 C.F.R. § 130.7(b)(1)) within a reasonable period of time.
Category 4C	The State demonstrates that the failure to meet an applicable water quality standard is not caused by a pollutant, but instead is caused by other types of pollution (i.e., only nonpollutant causes of impairment). Water bodies placed in this category are usually those where Aquatic Life use is impaired by habitat related conditions. (See discussion in Section C-2 Assessment Methodology, Aquatic Life-Streams.)
Category 5	Available data and/or information indicate that at least one designated use is not being supported and a TMDL is needed. Water bodies in Category 5 (and their pollutant causes of impairment) constitute the 303(d) List that USEPA will review and approve or disapprove pursuant to 40 C.F.R. § 130.7.
Category 5Alt	Alternative restoration approaches are used to address impairments instead of traditional TMDLs. An alternative restoration approach is a plan or a set of actions pursued in the near-term designed to attain water quality standards. Waters in Category 5-alt remain on the 303(d) list until water quality standards are achieved or a TMDL is developed. When a state decides to pursue an alternative restoration approach for waters on its 303(d) list, USEPA expects the state to provide documentation that such an approach is designed to meet water quality standards and is a more immediately beneficial or practicable way to achieve water quality standards than the development of a TMDL in the near future. USEPA considers the adequacy of the state's documentation for pursuing an alternative restoration approach in determining whether to give credit to such an approach. For this cycle, Illinois has no waters in Category 5-alt.

B. Review of Illinois's Consideration of Existing and Readily Available Water Quality-Related Data and Information

EPA's regulations at 40 C.F.R. § 130.7(b)(5) require that states assemble and evaluate existing and readily available data and information to develop their lists of impaired waters. EPA

¹¹ 2018 Illinois IR, pp 64-65.

reviewed Illinois EPA's description of the data and information, its effort to gather available data, and other relevant information. EPA concludes that the Illinois EPA properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 C.F.R. §§ 130.7(b)(5)(i) – (iv). EPA's review of Illinois's consideration of data for these categories of waters is summarized below.

EPA's long-standing interpretation is that CWA § 303(d) applies to waters impacted by point and nonpoint sources.¹² Section 303(d) lists are to include all WQLSs needing TMDLs, regardless whether the sources of the impairment are point sources, nonpoint sources or a combination of the two. EPA reviewed the State's list and determined that the State properly listed waters with point and nonpoint sources causing or expected to cause impairment.

Based on its review of existing and readily available data and information, and the assessments made for the 2018 303(d) list, the State has added 267 pollutant/impairments including new segments to Category 5 (Table 2 in the attachment to this document) and delisted 183 waterbody impairments¹³ including full segments (Table 3 in the attachment to this document), bringing the total number of pollutant/impairments on the 303(d) list to 2846.

After full review and consideration of the information presented by the State in its 2018 submittal, EPA is approving Illinois's list of impaired waters needing TMDLs (i.e., waters identified in Categories 5), identified in Table 1 of the Appendix to this Decision Document as waters in Illinois.

C. Review of Illinois's rationale to list or not list WQLSs on the 303(d) List

EPA's regulations at 40 C.F.R. § 130.7(b)(6) require that states provide documentation to support their decisions to list or not list waters including: a description of the methodology used to develop the list (40 C.F.R. § 130.7(b)(6)(i)), a description of data and information used to determine whether to include a WQLS on the 303(d) list (40 C.F.R. § 130.7(b)(6)(ii)), a rationale for a decision to not use any data (40 C.F.R. § 130.7(b)(6)(iii)), and a demonstration of good cause for not including a water on the list (40 C.F.R. § 130.7(b)(6)(iv)).

¹² In *Pronsolino v. Nastri*, the Ninth Circuit Court of Appeals held that Section 303(d) of the CWA authorizes EPA to identify and establish TMDLs for waters impaired by nonpoint sources, 291 F.3d 1123 (9th Cir. 2002). See also EPA 1991 Guidance, and EPA, "National Clarifying Guidance for 1998 State and Territory Clean Water Act 303(d) Listing Decisions," August. 17, 1997.

¹³ Some of the delistings are a change in the impairment, which also effects the number of new listings. EPA tracks these changes as delistings and new listings.

1. Methodology used to assess waters and develop the list

While Illinois's Integrated Water Quality Report and Section 303(d) List, 2018 (Illinois 2018 Methodology) is not part of the State's approved water quality standards, integrated reporting guidance provides that EPA should consider the methodologies that are not part of state-approved standards to determine whether:

[T]he state conducted an adequate review of all existing and readily available water quality-related information, whether the factors that were used to make listing and removal decisions were reasonable, whether the process for evaluating different kinds of water-quality related data and information is sufficient, and whether the process for resolving jurisdictional disagreements is sufficient. If EPA finds that the state's methodology is inconsistent with its water quality standards, and its application has resulted in an improper section 303(d) list, EPA may disapprove the list [...]¹⁴

a. Summary of Illinois 2018 Methodology

Section C-2 of each IR explains the assessment methodology Illinois EPA used to categorize waters in terms of attainment of designated uses and causes of impairment. The designated uses include Aquatic Life, Upper Dresden Island Pool Aquatic Life use, Chicago Area Waterway System Aquatic Life Use A, Chicago Area Waterway System and Brandon Pool Aquatic Life Use B, Indigenous Aquatic Life, Fish Consumption, Primary Contact, Public and Food Processing Water Supply, and Aesthetic Quality.

Illinois EPA determined the resource quality of each waterbody segment by identifying the level of attainment of each applicable designated use in that segment as either "fully supporting" or "not supporting." Uses that are not supported are impaired, and any water with at least one unsupported use is considered impaired. For each impaired use in each waterbody, Illinois EPA attempted to identify potential causes and sources of the impairment. If the cause or source could not be determined, it was listed as "cause unknown."

Illinois EPA employs the following methodology for each designated use and waterbody type:

1. Aquatic Life Use – Streams

Illinois EPA based the assessments of aquatic life use on waterbody-specific monitoring data. Illinois EPA has three primary stream monitoring programs. Data from these programs are used in assessing aquatic life use. The programs are discussed in section II C 2 below. While assessments of aquatic life use are based on data from individual monitoring stations, they are extrapolated to represent larger stream segments, or assessment units.

¹⁴ U.S. EPA, Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Section 303(d) and 305(b) of the CWA at pp. 29-30 (hereafter 2006 IR Guidance).

Table C-1 of the IR is the “Decision Table for Assessing Attainment of Aquatic Life Use in Streams.” Tables C-2, C-3, and C-4 of the IR identify the guidelines used for listing aquatic life use impairments. Table C-5 of the 2018 IR lists the potential causes of aquatic life use impairment in streams.

When a stream segment is determined to be “not supporting” aquatic life use, one exceedance of an applicable water quality parameter generally results in identifying that parameter as a potential cause of impairment. Illinois EPA uses guidelines to determine potential causes of impairment of site-specific standards (35 Ill. Adm. Code 303, Subpart C), adjusted standards (published in the Illinois Pollution Control Board’s Environmental Register¹⁵), or narrative standards (35 Ill. Adm. Code 302.203) intended to protect waters from sludge or bottom deposits, floating debris, visible oil, odor, plant or algal growth, color or turbidity of other than natural origin. Illinois EPA has also used guidelines to determine potential causes of impairment in the absence of numeric water quality standards.¹⁶

2. Aquatic Life Use – Freshwater Lakes (Inland Lakes)

Illinois EPA’s assessments of aquatic life use are based on waterbody-specific monitoring data. Aquatic life use assessment is based primarily on physical and chemical water quality data. Illinois EPA has three primary lake monitoring programs that produce data used in assessing aquatic life use attainment.

Once data are collected, Illinois EPA uses the Aquatic Life Use Index (ALI), set out in Tables C-6 and C-7 of the IR, to assess attainment of the aquatic life use standard in inland lakes. The mean Trophic State Index (TSI), the percent surface area of macrophyte coverage during the peak growing season (June through August), and the median concentration of nonvolatile suspended solids are used to calculate an ALI score. Higher ALI scores indicate increased severity of impairment.

If a lake is determined to not meet the aquatic life use based on the ALI score, the waterbody data are then used to determine the cause of impairment. As outlined in Figure C-2 of the IR, a whole-lake TSI value is calculated for the median Secchi-disk transparency, median total phosphorus (epilimnetic sample depth only), and median chlorophyll a values. A minimum of two parameter-specific TSI values are required to calculate parameter-specific use support determinations. The 0.05 mg/l Illinois General Use Water Quality Standard for total phosphorus (TP) in lakes (35 Ill. Adm. Code 302.205) has been incorporated into the weighting criteria Illinois EPA uses to assign point values for the ALI.¹⁷

¹⁵ Available online at <https://pcb.illinois.gov/SLR/IPCBandIEPAEnvironmentalRegulationsTitle35> (last accessed March 11, 2021).

¹⁶ The classification of each cause of impairment is shown in a table. Table C-5. Guidelines for Identifying Potential Causes of Impairment of Aquatic Life Use in Illinois Streams.

¹⁷ Illinois EPA has a numeric TP water quality criterion of 50 µg/l for lakes greater than 20 acres in size. This value is used to determine the TSI score, which is then used in the ALI calculation.

As shown in Table C-7 of the IR, a freshwater lake is designated as “not supporting” the aquatic life use if the associated ALI score is ≥ 75 . Guidelines Illinois EPA uses to determine the potential causes of impairment of aquatic use are listed in Table C-8.

3. Aquatic Life Use – Lake Michigan

Aquatic life use assessments are based on the applicable Lake Michigan Basin Water Quality Standards, using the most recent three years of water quality data. Table C-9 of the IR sets out Illinois EPA's guidelines for assessing aquatic life use in Lake Michigan-basin waters. The primary methods for identifying and listing potential causes of Lake Michigan aquatic life use impairments are set out in Table C-10 of the IR.

4. Indigenous Aquatic Life Use¹⁸ - Chicago Area Waterway System

Currently only one water body (South Fork South Branch Chicago River, ILHCA-01) is still designated for Indigenous Aquatic Life use. Illinois's new standards designated three new tiers of aquatic life uses: Upper Dresden Island Pool Aquatic Life Use, Chicago Area Waterway System Aquatic Life Use A, and Chicago Area Waterway System and Brandon Pool Aquatic Life Use B. For this 2018 cycle report, these uses are assessed using the water quality criteria applicable to each use. Table C-11. *Guidelines for Assessing Indigenous Aquatic Life, Upper Dresden Island Pool Aquatic Life Use, Chicago Area Waterway System Aquatic Life Use A, and Chicago Area Waterway System and Brandon Pool Aquatic Life Use B* is used to make listing decisions. Illinois EPA used Table C-12 as the guideline to identify causes for these waters.

5. Fish Consumption Use – Streams Freshwater Lakes (Inland Lakes) and Lake Michigan

Illinois EPA assesses fish consumption use based on waterbody-specific fish-tissue data and on fish consumption advisories issued by the Illinois Department of Public Health Fish Contaminant Monitoring Program. The State relies on an FDA health protection value (HPV) for determining impairment. The Protocol requires the determination of a Health Protection Value (HPV), for PCBs, mercury and chlordane determination of impairment. Table C-13 *Health Protection Values (HPVs) and Criteria Levels for Sport-Fish-Consumption Advisories for Polychlorinated Biphenyls, Methyl Mercury, and Chlordane; and FDA Action Levels for Other Contaminants* identify the levels Illinois EPA uses to make a listing determination. Table C-14 lays out the guidelines for assessing and Table C-15 identifies the potential causes for the Fish Consumption Use.

¹⁸ Illinois' Secondary Contact and Indigenous Aquatic Life Standards (35 Ill. Adm. Code, 302, Subpart D) were replaced by the Chicago Area Waterway System and Lower Des Plaines River Water Quality and Indigenous Aquatic Life Standards.

6. Primary Contact Use – Streams and Freshwater Lakes

To assess primary contact use, Illinois EPA uses all fecal coliform bacteria data from water samples collected from May through October over the most recent five-year period (i.e., 2011 through 2015 for the 2018 IR). Based on these water samples, Illinois EPA compares geometric means and individual measurements of fecal coliform bacteria to the concentration thresholds in Tables C-16 and C-17 of the IR.

Illinois EPA considers some portions of stream segments exempt from the fecal coliform bacteria water quality standard under 35 Ill. Adm. Code 302.209, and therefore has determined that primary contact use does not apply in these portions.¹⁹

Illinois EPA does not collect fecal coliform bacteria samples in lakes. Illinois relies data from outside entities. For the 2018 list, no new data was received so no new listings were determined. However, 1,814 lake acres have been assessed for primary contact use based on data received from the Lake County Health Department, Lakes Management Unit prior to 2002.

7. Primary Contact Use – Lake Michigan Open Waters and Shoreline Waters

Illinois EPA's assessment of primary contact use for Lake Michigan open waters, based on fecal coliform bacteria. Illinois EPA does not collect sufficient data during a 30-day period to appropriately apply the standard. These samples are collected in the open lake from one to six miles offshore and may not reflect conditions at beaches. For the 51 shoreline beach segments local agencies collect daily *Escherichia coli* bacteria samples during the swimming season. Beaches are closed by these agencies if samples exceed 235/100 ml *Escherichia coli* bacteria (77 Ill. Adm. Code 820). Illinois EPA assesses primary contact use by comparing data to the criteria in Tables C-18 and C-19 of the IR. Criteria for identifying causes of impairment for primary contact use are shown in Table C-20 of the IR. For Lake Michigan beaches, the assessment is based on the number of beach closings and the duration of those closings averaged over the past three years.

EPA notes that for the Chicago Area Waterway System no longer identifies secondary contact use designation as this was repealed. There are no specific general use standards intended to protect secondary contact use in other waters that could be used to assess this use.

¹⁹ Illinois' Fecal coliform standard can be found at 35 Ill. Adm Code 302.209 paragraph (b), and states: "Waters unsuited to support primary contact uses because of physical, hydrologic or geographic configuration and are located in areas unlikely to be frequented by the public on a routine basis as determined by the Agency at 35 Ill. Adm. Code 309.Subpart A, are exempt from this standard."

8. Public and Food Processing Water Supply Use – Streams, Freshwater Lakes (Inland Lakes) and Lake Michigan

The public and food processing water supply use is assessed in waterbodies where there is an active intake for this use. Table C-21 of the IR provides the guidelines for assessing this use, based on conditions in both untreated and treated water and using data acquired through the Clean Water Act and Safe Drinking Water Act programs. Table C-22 of the IR provides the guidelines for identifying potential causes of impairment for this use.

9. Aesthetic Quality -Streams

Illinois used the Offensive Conditions (or Unnatural Sludge) narrative standards in 35 Ill. Adm. Code 302.203, 35 Ill. Adm. Code 302.403 or 35 Ill. Adm. Code 302.515²⁰ for impairment of the aesthetic quality use for streams. The State uses the Intensive Basin Surveys program to collect data.

The State compares the observed conditions in the stream to the language in the standard which include: “sludge, bottom deposits, floating debris, visible oil, odor, plant or algal growth [aquatic macrophytes or aquatic algae], color or turbidity.” Illinois will also list for total phosphorus whenever plant growth or algal growth are identified. The guidelines for assessing aesthetic quality use in Illinois streams are shown in Table C-23 of the IR. Causes of nonattainment are shown in Table C-24 of the IR.

10. Aesthetic Quality Use – Inland Lakes

Illinois EPA uses the Aesthetic Quality Index (AQI) (Table C-25 of the IR) as the primary tool to assess the aesthetic quality of inland lakes. The state uses the Trophic State Index,²¹ and the median concentration of nonvolatile suspended solids to calculate the AQI score. Higher AQI scores indicate increased severity of impairment (Table C-26 of the IR).

Assessments of aesthetic quality use are based primarily on physical and chemical water quality data collected by Illinois EPA through one or more of the following: the Ambient Lake Monitoring Program; the Illinois Clean Lakes Program; by non-Illinois EPA programs (e.g., watershed groups under an approved quality assurance project plan). The physical and chemical data used for aesthetic quality use assessments include: Secchi-disk transparency, chlorophyll a, total phosphorus (epilimnetic samples only), nonvolatile suspended solids (epilimnetic samples only), and percent surface area macrophyte coverage. Figure C-3 of the IR outlines the process for assessing attainment. An assessment is then made based on the parameter-specific use support determination.

²⁰ See 2018 Illinois IR, p. 52.

²¹ The Trophic State Index (TSI; Carlson 1977), the percent-surface-area macrophyte coverage during the peak growing season (June through August) p. 54 of the 2018 Illinois IR.

2. Data and information used to develop the list

In developing its list, Illinois EPA uses its own monitoring data and information, as well as data submitted by the public, other agencies and universities.

a. Illinois EPA monitoring data

Illinois EPA has several monitoring programs that collect data for a multitude of water programs. The following is the monitoring programs and data used which Illinois EPA has and the data collected is used in the development of the impaired waters list.²²

1. The Ambient Water Quality Monitoring Network (AWQMN) program provides, for each site (146 fixed stations), water chemistry data from water samples collected once every six weeks (approximately nine per year). Some AWQMN stations are also sampled during Intensive Basin Surveys.
2. The Intensive Basin Survey program provides, for each site, a fish community sample used to quantify relevant biological indicators of human impact, including a fish Index of Biotic Integrity score; a macroinvertebrate community sample used to quantify relevant biological indicators of human impact, including a Macroinvertebrate Biotic Index score; water chemistry data from two or three water samples; and physical-habitat data from field measurements and observations. This sampling program is conducted in cooperation with the Illinois Department of Natural Resources (IDNR).
3. The Facility-Related Stream Survey program provides, per site (each survey comprises multiple sites): a macroinvertebrate sample used to calculate a Macroinvertebrate Biotic Index score; water chemistry data from at least one water sample; physical-habitat data from field observations; and sometimes a fish community sample (as in the Intensive Basin Surveys). Typically, the assessment of aquatic life use in this program is based on the information from the site(s) having the most severe aquatic life impairment. Data are collected upstream and incrementally downstream of discharges from municipal wastewater treatment facilities and industrial facilities.
4. Fish Contaminate Monitory Program is in partnership with Illinois Department of Natural Resources (IDNR), Illinois Department of Public Health, and Illinois Department of Agriculture through a memorandum of agreement. Fish-tissue samples are analyzed for approximately 17 or 18 parameters (not all samples are routinely analyzed for mercury). Fish-tissue samples were collected from about 200 Illinois inland lakes and streams. Fish samples are also collected from the Illinois waters of Lake Michigan and four harbors.

²² Illinois monitoring strategy for 2015-2020 can be found at <http://www.epa.state.il.us/water/water-quality/monitoring-strategy/monitoring-strategy-2015-2020.pdf> (last accessed March 11, 2021).

5. Ambient Lake Monitoring Program resembles the Intensive Basin Survey stream-monitoring schedule surveys are conducted in selected basins each year in cooperation with the IDNR. Monitoring is conducted at approximately 40 – 50 inland lakes annually. Basins are selected each year so that statewide coverage is achieved once every five years. Lakes that serve as a source of drinking water are also sampled every five years. Lakes are monitored five times during the sampling season.

Water-quality parameters are analyzed along with a sediment grab sample. The grab sediment sample is collected once annually at a representative site at: new lakes, lakes near a power plant or mining areas, lakes where sampling has not been conducted for a long period of time, or as determined necessary. Lakes that serve as a source for drinking water are also sampled for organic and inorganic compounds at a designated site near the intake. In addition to water and sediment chemical data, monitoring includes the collection of physical data, and field observations.

6. Lake Michigan Monitoring Program -This program includes three components: Nearshore Monitoring, Harbor Monitoring, and Public Water Supply/Fixed Station Monitoring.
 - a. Nearshore Monitoring. This component monitors Lake Michigan water quality within Illinois state boundaries from the shoreline to an offshore distance of 5 km, or a depth of 30 m, whichever comes first. The design is probability-based, consisting of 50 randomly selected stations, sampled over a period of two years (25 stations/year). Near-surface (0.5 m depth) water-quality samples are collected by Illinois EPA staff three times throughout the year; in June, August, and October. Ten of the 50 stations are randomly selected as “expanded stations,” which, in addition to a near-surface water-quality sample, a sample is also collected 1 m off the lake bottom.
 - b. Harbor Monitoring. There are currently thirteen harbors along the Illinois coastline of Lake Michigan. Illinois EPA samples two to three harbors per year. Each harbor has one to four fixed stations based on harbor size. Water samples are collected three times throughout the year; in June, August, and October. Near-surface water samples are collected at 0.5 m below the water surface, and an additional bottom water sample (1.0 m off the bottom) is collected at one station per harbor. Sediment samples are collected at all harbor stations one time during the sampling season.
 - c. Public Water Supply / Fixed Station Monitoring. Half the population in Illinois reside in the Illinois portion of the Lake Michigan watershed. Lake Michigan serves as the largest single source of drinking water in the state. Public Water Supply stations are at fixed water-intake locations, sampled three times throughout the year. At each station, samples are collected 1 m off the lake bottom (or at intake depth), and an additional sample is taken 0.5 m below the water surface.

b. Public data

Illinois EPA held a call for data from August 24, 2016 to October 15, 2016 to gather data from the public, academic institutions, and other relevant agencies. The request for data was on

Illinois EPA website²³ along with a guidance for submission of the data. Illinois EPA sent an email to individuals or organizations who had submitted data or provided comments on past impaired water lists.²⁴

Illinois EPA routinely receives data for three outside sources; the Illinois Department of Natural Resources, Lake County Public Health Department, and the United States Geological Survey's Long-Term Resource Monitoring Program (<https://umesc.usgs.gov/ltrm-home.html>) that focuses on the Upper Mississippi River. Additional data sets and other information were received from the following external organizations: River Prairie Group, Eagle View Group, Northwest Cook County Water Sentinels, Chicago Water Team, and Valley of the Fox Group, all Illinois Chapters of the Sierra Club; The Conservation Foundation – DuPage River Salt Creek Workgroup; and the Metropolitan Water Reclamation District of Greater Chicago.

Comment 33 of Appendix F Response to comments Illinois EPA stated that all data received was used in the development of the 2018 303(d) list.

EPA reviewed the information described above and concluded that Illinois EPA considered all readily available information for use in 305(b) assessments and 303(d) list decisions. Information included: (1) a description of the data submitted by the public, (2) the public comments received and responses to comments, (3) a rationale for why certain data were not used to make impairment decisions. EPA concludes that Illinois's data solicitation and work with specific agencies to gather information is consistent with what EPA considers active solicitation in its integrated reporting guidance.²⁵

c. Information related to Total Nitrogen (TN)

In 2016 EPA deferred on action for Illinois EPA's non listing of waters identified with high levels of total nitrogen. EPA and Illinois EPA developed a method to retain information on 68 waters identified in 2016. The waters remain on the list and in ATTAINS in category 5. The total nitrogen listing will be identified in ATTAINS in the observed effects section. This will retain the information for the water that there is a higher level of nitrogen that could be contributing to aquatic life impairments but a TMDL will not need to be developed. These were waters/impairments that EPA deferred in EPA's 2010 to 2016 action on the lists. Information on this action is in Appendix G of the Illinois EPA IR submittal.

3. Rationale for a decision to not use existing and readily available data

EPA's 2006 IR guidance provides that data quality considerations are important in determining which data to use in assessments.²⁶ Illinois EPA reviewed the data submitted by the public to

²³ <http://www.epa.illinois.gov/topics/water-quality/watershed-managemt/resource-assessments/guidance/index>.

²⁴ See email from Gregg Good to Donna Keclik and others September 16, 2016.

²⁵ EPA 2006 IR guidance, pp. 31.

²⁶ EPA 2006 IR guidance, pp. 32-33.

determine whether data quality requirements were met. Illinois EPA excluded data where it had concerns.

4. Demonstration of good cause for not including WQLSs or pollutants on the list

A state may remove a waterbody from its 303(d) list for good cause. Good cause includes, but is not limited to, the availability of more recent or accurate data, or more sophisticated water quality monitoring, flaws in the original analysis, or changes in conditions (40 C.F.R. § 130.7(b)(6)(iv)). EPA's "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the CWA," elaborates on what constitutes good cause for delisting.²⁷ Additionally, according to EPA guidance, once a pollutant/impairment combination for a water has an approved TMDL, that pollutant/impairment combination can be placed in Category 4A. Category 4A includes waters that are still impaired but have an approved TMDL addressing the pollutant causing the impairment in question. Illinois tracks waters that are in Categories 5 and 4A as impaired and considers this the list of impaired waters.

EPA has reviewed the information provided by Illinois EPA in its 2018 submittal and agrees that the impairments that were proposed to be delisted were appropriately delisted from Illinois's 2016 303(d) list and not included on the Illinois's 2018 list. Illinois EPA identified nine potential rationales it could consider when delisting impairments from previous listing cycles.²⁸ However, it used the following rationales:

1. Applicable WQS attained, reason for recovery unspecified.
2. TMDL developed
3. Data and/or information for original basis for listing was incorrect
4. Resegmentation of original listing
5. Terminology change to be consistent with ATTAINS information

a. Delisted WQLSs

Illinois EPA delisted 27 water segments from the Illinois impaired waters list.²⁹ These waters were moved to Category 2, 4A or 4C. Thirteen water segments were moved to Category 2 based on new data and information demonstrating applicable WQS are now attaining. Seven water segments were moved to category 4A – TMDL developed and five water segments are now identified as Category 4C waters. One segment was removed, IL_MS, because the segment was split into two new segments. Illinois listed and added the pollutant associated with the original listing to one of the new segments. The list of waters with the specific waterbody and associated pollutant/impairment identified which were removed can be found in Table 3 of the Appendix to this decision (identified by segment removed).

²⁷ EPA 2006 IR guidance pp. 58-59.

²⁸ See Illinois Integrated Water Quality Report and Section 303(d) List, 2018 pp. 63-64.

²⁹ Some waters originally had multiple impairments listed and all impairments were removed from Category 5.

b. Delisted impairment in a WQLSs

Illinois EPA delisted 136 impairments (not including impairments from listed segments) from the impaired waters list (see Table 3 of the Appendix). There were several rationales for these delistings. One segment was removed based on the updated methodology. One segment was removed due to correction of the original data used to list. Another segment removed dissolved oxygen (DO) as an impairment because Illinois determined that the cause of the DO was due to pollution and place the DO into Category 4C. Others were delisted based on new data and that the given pollutant was now meeting standards.

EPA concludes that Illinois EPA demonstrated good cause not to include the delisted waters on its 2018 303(d) list. EPA also concludes that the state provided a rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters, and where necessary, the State followed up or has made plans to acquire additional data in order to make impairment decisions.

D. Review of Illinois's Priority Ranking and Scheduling of TMDL Development

Once readily available data have been gathered and assessed, the WQLSs that are included on the 303(d) list must be assigned a priority ranking for TMDL development pursuant to EPA regulations at 40 C.F.R. § 130.7(b)(4). The priority ranking needs to account for the severity of pollution and the designated uses.

Illinois identified 3 levels of priority waters: high, medium and low. Waters with public water supply use and impairment from atrazine, simazine, or nitrate, were identified as high priority. Medium priority waters were considered where there was no approved or ongoing TMDLs. Waters where there were approved or ongoing TMDLs are given the lowest priority.

In Illinois, development of TMDLs are conducted on a watershed basis (i.e., USGS 10-digit hydrologic units). Illinois's TMDL development schedule calls for the initiation of efforts in approximately six TMDL watersheds in each year in the next 13 years. In August of 2011, the development of the framework for the Long-Term Vision for Assessment, Restoration, and Protection under the CWA Section 303(d) Program (The Vision) began. Illinois *LONG-TERM VISION FOR ASSESSMENT, RESTORATION, AND PROTECTION UNDER THE CWA SECTION 303(d) PROGRAM* (The Vision) is available on Illinois EPA's website at <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/303d-list.aspx>.

E. Public Participation

EPA regulations require states to involve the public and other stakeholders in the development of the 303(d) list as part of their Continuing Planning Process (CPP).³⁰ Illinois EPA provided notice to the public on its initial draft 2018 303(d) list from June 15, 2018 to July 31, 2018, and May 9, 2019 to May 24, 2019. Illinois held this additional public comment because to the Illinois Bureau of Water found that the assessments on 33 stream reaches, all located in southern Illinois, had not been updated on the 2018 impaired list. The second public notice addressed only the changes in the 33 waters. Illinois received comments from six entities and EPA. Appendix F of the IR submittal is the State's responsiveness summary for both comment periods.

1. Public comments

a. Comments received on listing for Total Phosphorus (TP) and Sediments

Several commentors raised concerns with the state listings for TP and Sedimentation based on the 85th percentile of statewide data.³¹ This has been an issue raised on multiple lists. Illinois EPA discussed the agreement between EPA and Illinois EPA (Appendix G of the State's submittal), that these waters will remain on the impaired waters list until the aquatic life use is attained.

Appendix G of the IR is a method developed between EPA and Illinois EPA to address the guideline value (total nitrogen, sedimentation/siltation, and other non-standards-based pollutants) as an impairment listing in previous 303(d) lists. Illinois EPA agreed to keep these impairments on the 303(d) until such time that there is evidence that the aquatic life is meeting. Details can be found in Appendix G of the IR.

b. Six lakes no longer considered for listing and are determined to be "treatment works"

Braidwood, Powerton, Collins (Heidecke), Baldwin, LaSalle, and Dresden lakes were identified in the public noticed draft IR³² as no longer being listed on the impaired waters list. Illinois EPA explained in previous integrated reports the waters were incorrectly listed because these waters are considered as treatment works under (35 Ill. Adm. Code 301.415). Commenters indicated that there was an issue with removing these waters and that the Illinois EPA should reconsider.³³

Illinois EPA determined that these waters are "treatment works," based on the Illinois Pollution Control Board (IPCB) opinion (In the Matter of Water Quality and Effluent Standards Amendments, Cooling Lakes, Docket No. R75-2, page 3, September 29,

³⁰ 40 C.F.R. 130.7(a).

³¹ See 2018 IR Appendix F comments 3, 6, 7, 24, and 25.

³² See Illinois EPA's 2018 public noticed draft IR methodology and final IR methodology p. 8.

³³ See 2018 IR Appendix F comments 10 and 32.

1975) and on information such as www.dnr.illinois.gov/Parks/Pages/HeideckeLake.aspx; Austen, D. J., J. T. Peterson, B. Newman, S. T. Sobaski, and P. B. Bayley, 1993; and, Compendium of 143 Illinois Lakes: bathymetry, physico-chemical features, and habitats and the Illinois Natural History Survey, Aquatic Ecology Technical Report 93/9. Furthermore, Illinois EPA had already determined that Baldwin, Collins (Heidecke), Dresden, and LaSalle lakes are treatment works, and EPA approved Illinois EPA's determination on August 15, 2003. (See Decision Document for the Approval of the Illinois 2002 303(d) List, p. 10.) Therefore, Illinois EPA has properly determined these waters as "treatment works" and removed them from the 2002 and 2018 Section 303(d) lists.

F. Waters with no Known Pollutant Causing the Impairment

Under Section 303(d) of the CWA, states are required to develop TMDLs for pollutants causing impairments of listed waters. Since the Section 303(d) list is a list of waters "still requiring TMDLs," states are not required to include waters where they determine that no pollutant is causing the impairment.

G. Conclusion

As stated above EPA is taking final action on the 68 deferred waters/impairments (regarding total nitrogen) identified in EPA's 2016 Decision Document. These impairments have been identified in the ATTAINS database in the observed effects section. EPA also finds the waters/impairments identified in Table 1 of this document meet the requirements of Section 303(d) of the CWA. EPA is fully approving the submittal of Illinois's 2018 list of impaired waters still needing TMDL (Category 5), submitted on February 22, 2021.