C7. New 303(d) Vision Implementation in Ohio

In September 2022, U.S. EPA shared guidance on a new, long-term "Vision" for the CWA Section 303(d) program to provide updated framework for implementing the responsibilities under the impaired waters program during the next decade. The 2022-2032 Vision for the CWA Section 303(d) Program ("2022 Vision") identifies opportunities to effectively manage program activities to achieve water quality goals for nationwide aquatic resources such as streams, rivers, lakes, estuaries, and wetlands. The 2022 Vision came at the 50th Anniversary of the CWA and supports a path to promote continued improvements in water quality during the next 50 years. The 2022 Vision is a renewal of the initial 2013 long-term Vision and associated Goals, as well as to introduce new Focus Areas for the CWA Section 303(d) program. The Goals outline aspirations and highlight opportunities to implement CWA Section 303(d) program activities in the following categories – Planning and Prioritization, Restoration, Protection, Data and Analysis, and Partnerships. Focus Areas provide four cross-cutting themes of national, regional, and local importance, consistent with EPA priorities, to consider in CWA Section 303(d) program implementation – Environmental Justice, Climate Change, Tribal Water Quality and Program Development, and Program Capacity Building. The 2022 Vision outlines a framework to organize program activities; it does not constitute regulation, policy, or new mandates.

The Vision is designed to help coordinate and focus efforts to advance the effectiveness of CWA Section 303(d) program implementation in the coming decade. The 2022 Vision builds on the experience gained from implementing the 2013 Vision for the CWA Section 303(d) Program. Similar to the 2013 Vision, the 2022 Vision is intended to encourage flexible and innovative approaches to implement the impaired waters programs, as well as to identify ways to best use limited resources to lead to restoration and protection, to leverage partnerships, and to encourage development of solutions to emerging and difficult waters quality issues.

History of Vision

In December 2013, U.S. EPA announced a new "Vision" for the CWA Section 303(d) program to provide an updated framework for implementing the responsibilities under the impaired waters program. U.S. EPA recognized that "… there is not a one-size-fits-all approach to restoring and protecting water resources." Under the new Vision, states will be able to develop tailored strategies to implement the 303(d) program in the context of their water quality goals.

The Vision effort grew out of frustration caused by the 1990s-era litigation concerning the pace at which TMDL analyses were being completed. The resulting consent decrees forced many states to produce great *quantities* of TMDLs that many felt did not contain the necessary *quality* to effectively improve water quality. As the decrees were completed, discussion centered on how to produce better TMDLs that could be implemented to bring about measurable improvements in the quality of the nation's waters.

Fortunately, Ohio was not burdened by a harsh consent decree and was able to carefully consider how to proceed with TMDLs. Twenty-one years ago, Ohio EPA developed an approach to TMDLs that already aligns with the spirit of the Vision. The Ohio TMDL program strives to:

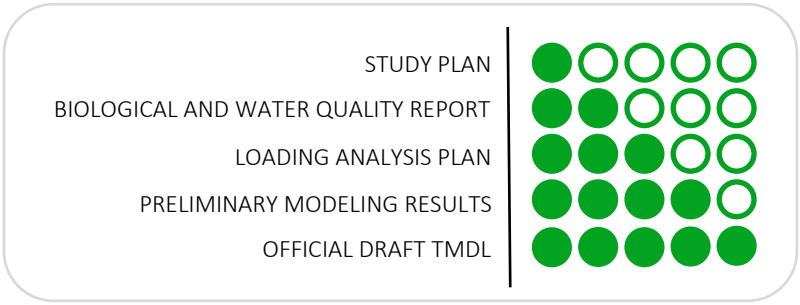
- focus on CWA responsibilities across programs;
- build on the state's investments in monitoring, especially biological monitoring;
- use data efficiently, for multiple programs and purposes;
- restore beneficial uses;
- focus on watersheds: maintain rotating basin structure to enable adaptive management; and
- recognize that water quality is impacted by the actions of many and that it will change over time.

Ohio's program grew out of the agency's water mission, which is rooted in the CWA. Today's new national Vision developed from the same roots, so it should not be surprising that Ohio has been on the Vision path for several years.

The 2013 Vision goals closed out in 2022. U.S. EPA and states are working on the new 2022 Vision and associated accountability metrics that will being in fiscal year (FY) 2025. A "bridge metric" for the period between FY23-24 allowed states to continue to focus their efforts and demonstrate progress in achieving environmental results. Ohio EPA submitted the bridge metric priorities to address impairments in western Lake Erie due to harmful algal blooms, and this priority is considered complete with approved Maumee Watershed Nutrient TMDL (see more details in Section J2).

Ohio TMDL Program Relative to 2022 Vision Goals

The national 2022 Vision contains five goal statements related to planning and prioritization, restoration, protection, data and analysis, and partnership. In addition to these goals, there are four cross-cutting themes: environmental justice, climate change, tribal water quality and program development, and program capacity



building. While its TMDL program is generally well placed relative to these goals, Ohio expects to continue to improve its program. The TMDL program has established five stakeholder outreach steps throughout the development process (depicted in the graphic below). A document is shared at each step for each project, which provides opportunities to communicate and engage the public and stakeholders on key issues and prioritization of impairments to restore and protect water resources.

The following is a summary of the goals and how Ohio has been addressing each goal to date as detailed in U.S. EPA's *2022 - 2032 Vision for the Clean Water Act Section 303(d) Program for the Clean Water Act Section 303(d) Program* (U.S. EPA, 2022), available at ***epa.gov/system/files/documents/2022-09/CWA%20Section%20303d%20Vision_September%202022.pdf***.

Planning and Prioritization Goal

States, territories, and tribes develop a holistic strategy for implementation of Vision Goals, systematically prioritize waters or watersheds for TMDL and other plan development (restoration and/or protection), and report on the progress towards development of plans for priority waters.

The intent of the Planning and Prioritization Goal is to encourage states, territories, and tribes to coordinate program activities in the context of their broader water quality objectives and identify corresponding waters for plan development (priorities) that align with those objectives. The CWA Section 303(d) program has an inherent planning role because it applies water quality standards to develop pollutant loading targets for the point source permitting and nonpoint source management programs, as well as other programs under and outside of the CWA. Coordinating CWA Section 303(d) program activities with those of other programs can aid in strategically focusing limited resources to address broader water quality objectives most effectively. Furthermore, implementation of the 2013 Vision has demonstrated that establishing long-term CWA Section 303(d) program priorities as part of this planning process can lead to more efficient and effective program management and yield meaningful progress toward water quality restoration and protection.

Based on the state's established monitoring investment and expertise, Ohio's initial priority (in approximately 2000) was on aquatic life use impairments in streams. This priority led to the development of nutrient, sediment, habitat, dissolved oxygen and related TMDLs. A few years later, the Ohio EPA began to focus on recreation use impairments, which yielded bacteria TMDLs. More recently, work has involved public drinking water use impairments involving nitrate and pesticides TMDLs as well as the Maumee Watershed Nutrient TMDL (approved in 2023) to address impairments due to harmful algal blooms in western Lake Erie.

In addition to a focus on restoring uses, other priorities were to begin with headwaters and work downstream. To date, the state has not adopted a geographic priority, choosing instead to work statewide which helps to maintain work balance among district offices. In cases where other agencies or stakeholders have initiated projects, TMDLs in watersheds have been delayed.

Moving forward, Ohio intends to use the following prioritization framework.

Long-Term General Priorities:

- continue to work statewide, using rotating basin scheduling for assessment and listing that is complemented with statewide probabilistic and census (large river) studies and strategize to increase focus on lakes and protecting downstream uses;
- sharpen focus on Public Water Supply Use (PDWS);
- incorporate harmful algal bloom (HAB) considerations into priorities (both PDWS use and ultimately Recreation use);
- consider efficiency and consistency in the development of TMDLs through multi-watershed projects (e.g., bacteria for Recreation use, sediment for Aquatic Life use);
- continue to focus on restoring stream habitat to address Aquatic Life use impairments (category 4C) through a multi-watershed habitat restoration plan;
- follow-up on effectiveness of current TMDLs, revise as appropriate, and support additional implementation efforts where necessary;
- continue to make mercury and legacy/sediment metals low-priority TMDLs as other approaches are anticipated to be more effective.

Annual Prioritization of Impaired Waters for TMDL Development: Ohio modified its approach to prioritizing impaired waters to align with the reporting requirements of U.S. EPA's Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS). See Section J2 of this report for additional information. In addition, Ohio EPA will consider geographic coverage, severity of the impairments and add the following considerations:

- Social Factors (highly used recreational waters, drinking water supply for significant populations, ongoing/sustained involvement of any local groups or government, disadvantaged communities, etc.)
- Value Added (is a TMDL the most efficient way to achieve improved water quality?)
- Is there an approved Nine-Element Nonpoint Source Implementation Strategic Plan – if so, how many implemented projects?
- How much regulatory authority exists over sources?
- Is there an alternative way to improve water quality more quickly than a TMDL? (for example, immediate implementation of an existing plan or projects, or imposing more stringent permit limits to address a localized problem)
- Are there other factors in play? Examples include:
    - pending enforcement for a discharger (possible 4B option);
    - local or statewide strategy or requirements in place to address a particular issue/pollutant (for example, new health department rules for HSTS if they are sole/primary source of impairment)

Over time, Ohio will strive to develop a more objective system for weighing the social factors and value-added concepts. In each IR, the state plans to provide results of the most recent assessments and prioritization exercise as outlined above; list resulting high-priority TMDL projects; and include schedules for those anticipated to be developed in the next two years (see details in Section J).

Restoration Goal

States, territories, and tribes design TMDLs and other restoration plans to attain and maintain water quality standards, facilitate effective implementation, and drive restoration of impaired waters.

The intent of the Restoration Goal is to encourage the identification, development, and implementation of the most effective approaches for restoring water quality. This Goal acknowledges how vital creativity and collaboration are for restoration plans to be successful in restoring waters. Restoration plans refer to TMDLs and other beneficial plans that address impaired waters. This includes, but is not limited to, waters assigned to Integrated Reporting Categories 5, 5r/5alt, 4b, and 4c.

The Restoration Goal recognizes that TMDL development will continue to be a primary feature of the program. In addition to TMDLs, there are other types of plans that may be more immediately beneficial or practicable for restoring water quality. EPA notes that, while the CWA requirement to develop TMDLs remains for impaired waterbodies in Category 5, waterbodies may be given a lower priority for TMDL development while other restoration plans are pursued.

Ohio has been using TMDLs and alternatives to improve water quality and address impairments. Most of Ohio's TMDLs address impairments at the project or basin level. For example, if the Stillwater River basin was assessed, only impairments found in that study area would be addressed in the TMDL. However, Ohio EPA has gone around the state and completed surveys in all its watersheds and found that many of these impairments are caused by similar sources. Being able to see these patterns of sources on a broader scale allows us to put them into perspective and recommend reduction strategies through multi-watershed TMDLs for bacteria (Recreation use), sediment (Aquatic Life use), and habitat restoration plan (Aquatic Life use, category 4C). Covering multiple watersheds across the state is a more wholistic approach to TMDL development and implementation. It will make more efficient use of staff time and streamline TMDL development for the involved watersheds. Additionally, Ohio has developed "far-field" TMDLs to address downstream impacts; for example, the Maumee Watershed Nutrient TMDL calls for nutrient reductions to address impairments due to harmful algal blooms in Lake Erie. Ohio continues to develop basin-specific TMDL projects to address other impairments in the watershed (see Section J for details on high priority projects).

Alternative approaches are also a part of Ohio's program. For example, relying on the biological criteria as the measure for aquatic life attainment means that restoring habitat to build a stream's capacity to process pollutants can be as or more effective than load reduction; Ohio TMDLs have routinely promoted habitat enhancement. Moreover, after the first few TMDLs recommended dam modifications to enhance capacity, dam modifications were pursued in areas without TMDLs. The state has used CWA Section 319 funds to remove or modify many dams. In 2023, the statewide H2Ohio Rivers Initiative was announced with a focus on restoring river integrity through strategic dam removal, as well as stream litter clean up and removing contaminants from acid mine drainage.

Since TMDL development can take time and dedicated efforts, Ohio EPA pursues ways to address the cause of impairment in a timely and efficient manner. Basin-specific biological and water quality reports include a section on recommended actions to address impairments, which can include site-specific projects that can be included in an implementation plan prior to TMDL development. Additionally, Ohio EPA has worked with mining agencies and the Corps to develop a standard alternative for acid mine drainage problems by aligning processes to quantify load reductions, thus meeting the needs of multiple programs with one project. There have also been several instances where NPDES permits have been adjusted to address point source impairments as

monitoring identifies them, in advance of completing a TMDL. In other cases, TMDLs have recommended a stressor study to address impairment where the source could not be identified. This follow-up attention increases the chances that the problem may be eliminated, or, at a minimum, data will be available for a future TMDL.

Ohio EPA also plans to use approaches that are an alternative to a TMDL. These approaches will be designed to address specific impairments caused by pollutants. Approaches may include developing Nine-Element Nonpoint Source Implementation Strategic Plan, revising NPDES permit limits or conditions, funding installation of BMPs, supporting local health departments in implementing new rules for household sewage treatment systems, etc. These approaches will be pursued where there is clear legal authority to do so, and circumstances are such that they are likely to result in water quality improvements more efficiently than a TMDL.

Protection Goal

In addition to recognizing the protection benefits that TMDLs and other restoration plans can provide, states, territories, and tribes may develop protection plans to prevent impairments and improve water quality, as part of a holistic watershed approach.

The intent of the Protection Goal is to encourage a proactive and holistic consideration of management actions to protect healthy waters. Protection of waters is a specific objective of the CWA – "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (CWA Section 101). Also, protection and restoration are interdependent goals regarding the "integrity of the Nation's waters." For example, protection of healthy headwaters and wetlands helps reduce downstream restoration challenges and costs, while restoration reduces risks to adjacent protected, healthy waters. Including protection in and alongside restoration planning and implementation contributes to a holistic watershed approach that uses resources efficiently.

Protection of the water resource is built into Ohio's CWA programs in multiple ways. Watershed surveys measure the attainment potential and status for all waters; thus, they identify waters to restore and to protect. Tiered aquatic life uses identify "better than CWA" goals for high-quality streams, and many of Ohio's streams already have this higher use designation. TMDLs have included protection strategies and informational TMDLs to encourage protection of streams currently meeting their designated uses. Ohio also has an active antidegradation process to protect existing uses and plans to update the list of waters afforded higher protection under antidegradation.

Ohio has also issued NPDES permits to protect against water quality impairment and anticipates continuing that approach where warranted. One example is the general construction storm water permits for the Olentangy River and Darby Creek watersheds. Those permits include measures designed to protect the high quality of the streams from development impacts. Other watersheds are being considered for similar actions.

Ohio will explore how other types of plans (Nine-Element Nonpoint Source Implementation Strategic Plans for instance) or regulatory actions could be used more effectively to protect our highest quality waters and/or those that are of high importance for drinking water or recreation. The H2Ohio Rivers Initiative includes a focus on preserving high-quality riparian areas to maintain healthy waterways. In response to observing increased chloride concentrations in Ohio's large rivers, the new H2Ohio Chloride Reduction Grant was announced in December 2023 and will award approximately $1 million in funding to help reduce road salt runoff and water contamination and protect waters from impairment.

Data and Analysis Goal

The CWA Section 303(d) program coordinates with other government and non-governmental stakeholders to facilitate data production and sharing, and effectively analyzes data and information necessary to fulfill its multiple functions.

The Data and Analysis Goal highlights multiple ways that states, territories, and tribes can expand on and improve the data and information available for CWA Section 303(d) functions. In the context of this Goal, such functions include:

- Determining the water quality condition for use in categorizing waters in the Integrated Report (i.e., Categories 1-5);

• Supporting the development of TMDLs, other restoration plans, and protection plans; and
• Evaluating the effectiveness of plan implementation in restoring and protecting water quality, thereby facilitating adaptive management so that plans remain productive.

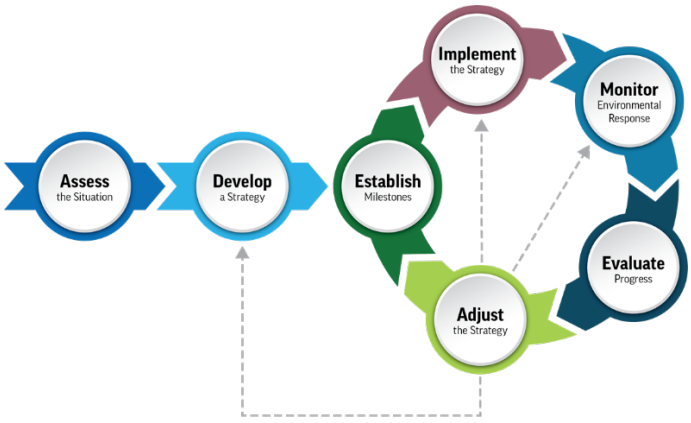
Ohio has maintained a robust biology and chemistry monitoring program for more than 40 years, maintaining consistent protocols and systematically expanding into new water body types. Assessments are based on surveys conducted using a rotating basin approach. The assessments use site-specific data of the highest quality, and the status of waters is reported in watershed reports (available at epa.ohio.gov/divisions-and-offices/surface-water/reports-data/biological-and-water-quality-reports) and summarized in biennial IRs that meet the reporting requirements of CWA 305(b) and 303(d). A framework of goals and measures has been in place for several years and reported on biennially in the Ohio IR.

In addition to targeted basin surveys, Ohio began monitoring surface waters on a statewide basis in 2020 with surveys that focus on three different drainage frames: large rivers, headwaters, and wadeable rivers and streams. This work was added to enhance Ohio's targeted survey work, not replace it. Ohio EPA will use these surveys to provide precise and unbiased estimates of condition status and identify major stressors affecting our waters. A census of the large rivers with drainage area greater than 500 square miles was completed in 2020 to 2021, and information from this report is included in the 2024 IR. The probabilistic headwaters survey samples the 1.0 to 3.1 square mile drainage areas with the initial survey conducted in 2023. The sampling frame for the probabilistic wadeable streams and rivers survey includes streams that range in drainage area from 3.1 to 500 square miles, and the scale of this study requires two years, planned in 2025 to 2026. More information on the statewide surveys, including study plans and summary report for the large rivers study, is available at ***epa.ohio.gov/divisions-and-offices/surface-water/reports-data/statewide-surface-water-surveys***.

As surveys are completed, the water quality and biological data is maintained in Ohio EPA's Ecological Assessment and Analysis Application. For recent reports (beginning in 2019), a data file is posted with the associated Biological and Water Quality Report. Additionally, Ohio EPA uploads data through U.S. EPA's Water Quality Exchange (WQX) data portal that is available to the public through the Water Quality Portal.

Ohio EPA also has the Credible Data program that classifies surface water monitoring performed by watershed groups, state agencies, schools, local volunteers, and other organizations. Ohio EPA uses the data submitted under the program in ways prescribed by State law. Recently, Ohio EPA has invested resources in developing a data base to efficiently manage and review data submitted through the Credible Data program. More information is available at ***epa.ohio.gov/divisions-and-offices/surface-water/reports-data/ohio-credible-data-program***.

Data and analysis are critical to effect implementation of TMDLs, as illustrated in the graphic below as a conceptualization of TMDL implementation with adaptive management.



Adaptive management starts with setting goals, or establishing milestones, to provide clear targets for implementation measures. Implementing the strategy is given equal weight in the graphic, but it is the most resource intensive part of the process that involves many local, state, and federal agencies, nonprofit organizations, and individuals. To inform adaptive management, monitoring of the watershed is needed to link implementation to the desired environmental response. Evaluation of the information is needed by defining metrics that turn monitoring data into information. Then that information is used to adjust the strategy, if necessary.

For individual TMDL projects, the implementation plan will reference specific projects and associated program, and environmental monitoring that inform the adaptive management approach. For example, from the Maumee Watershed Nutrient TMDL there are implementation activities for phosphorus reductions coordinated through other state agencies and focused research efforts (e.g., Ohio wetland monitoring; Harmful Algal Bloom Research Initiative). Reporting progress of the H2Ohio phosphorus reduction plan is regularly assessed, and aggregate data is publicly available through annual reports and an online dashboard tool available at ***data.ohio.gov/wps/portal/gov/data/view/h2ohio-oda-overview***. This data dashboard tool was developed through InnovateOhio Platform that provides integrated and scalable capabilities that enable state agencies to become more customer-centric and data-driven, and ultimately better serve Ohioans. The TMDL program will continue to look for opportunities to engage in this effort.

Partnership Goal

The CWA Section 303(d) program meaningfully communicates and collaborates with other government programs and non-governmental stakeholders to restore and protect water quality effectively and sustainably.

The intent of the Partnerships Goal is to encourage communication with governmental entities and non-governmental stakeholders in ways that lead to productive, sustained collaboration, and ultimately better water quality. The Goal consists of two distinct but related approaches: programmatic coordination, and stakeholder involvement and engagement. Both approaches rely on:

- Clear and effective communication that is appropriate for the target audience;
- Identification of work towards shared goals;
- Development and maintenance of strong working connections and relationships;
- Creation of structures and processes to weave partnerships throughout CWA Section 303(d) program activities.

Partnership through effective communication and program integration is at the foundation of Ohio's TMDL work. Ohio engages the public and other stakeholders throughout the five-step TMDL process. When documents are available for comment, an overview factsheet accompanies the complete report to clearly communicate the scope and overview of the project, typically including site map with most relevant information. These documents are shared through a list serve, directly to stakeholders, and available on a website dedicated to documents available for comment: ***epa.ohio.gov/divisions-and-offices/surface-water/reports-data/water-quality-programs***). Outreach through attending and presenting at local and regional events (e.g., Watershed Management Association of Ohio) is an integral aspect to engage partnerships and achieve program building capacity. Additionally, Ohio EPA staff in the TMDL program created postcard for recent study plan project to share during engagement with the public (e.g., access permissions, watershed meetings, Farm Science Day). Ohio EPA maintains an extensive website with information about TMDLs, monitoring and implementation in watersheds across the state[3].

The TMDL program demonstrates structures and processes to integrate CWA activities, including both technical and funding programs. Ohio has adopted the Safe Drinking Water Act into the 303(d)-listing process, completed TMDLs for drinking water impairments, and leverages drinking water plans (i.e., source water protection and

[3] ***epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/total-maximum-daily-load-tmdl-program***

harmful algal bloom plans) to restore and protect these uses. Ohio has directed CWA Section 319 funding to park districts and local governments that can directly implement actions to improve water quality by using TMDLs to identify suitable projects. Ohio EPA has also worked with the U.S. Forest Service, U.S. Army Corps of Engineers and state and federal mining agencies to address common water quality goals and to complete TMDLs and TMDL alternatives. Ohio Department of Agriculture's (ODA) new Watershed Program developed regional watershed plans that provide regional watershed characterization, water quality data and goals, funding opportunities, and analysis of applicable management measures (see plans at ***agri.ohio.gov/divisions/soil-and-water-conservation/resources/1_RWP_Landing***). These efforts complement basin-specific and multi-watershed TMDL projects and demonstrate shared goals among state programs. The H2Ohio plan launched in 2019 by Governor DeWine is a partnership among state agencies (Ohio EPA, ODA, and Ohio Department of Natural Resources) and collaborative approach to address water issues in Ohio. The initial investments are highlighted in the Maumee Watershed TMDL and targeted to address harmful algal blooms in western Lake Erie. While those efforts continue and are being expanded in the state, a new effort, H2Ohio Rivers Initiative, was announced in 2023 and is a statewide focus with shared TMDL goals to restore and protect river health and associated beneficial uses.

On a practical level, each TMDL project is completed by a team of Ohio EPA staff that represents many aspects of the clean water programs, including drinking water. The team members include staff from various CWA program areas. At a minimum, these program areas include: monitoring and assessment; water quality modeling; NPDES permits; enforcement; water quality standards; and TMDL. Staff from the agency's Public Water Supply program are also part of each team where applicable. Ohio EPA district offices and central office both contribute to the effort. On some projects, local representatives such as active watershed group leaders or Soil and Water Conservation District staff are involved during the study plan phase and throughout the project.

External input is sought for developing the implementation portion of the TMDL. Soil and Water Conservation Districts, Areawide Planning Agencies, and watershed groups are consulted, in addition to permittees or other entities depending upon the issues in the watershed. The CWA Section 319 program has strived to reach beyond stakeholders with general interest to focus on local decision makers and groups, including local governments and park districts, who have the wherewithal to act on the ground to improve water quality.

The preparation of the IR (containing the 303(d), or impaired waters, list) is an open process. Since the 2008 IR, an incubator section (I) was added to preview changes that were being contemplated for future listings (for example, adding new beneficial use analyses, revising methodologies or assessment unit types). The section allows for longer-term feedback for public consideration of changes that can have significant impacts. Ohio will strive to complete the IR every two years so that the process remains dynamic and reliable.