Section

D

Framework for Reporting and Evaluation

This section describes the framework and basic elements for evaluating and reporting the water quality information in this report.

The 2014 Integrated Report (IR) continues Ohio's evolution to a fully-formed watershed basis for reporting on water quality conditions. For the past 20 years Ohio has maintained strong linkages between Section 305(b) reporting and Section 303(d) listing. Under the title *Water Resource Inventories*, Ohio prepared Section 305(b) reports every two years since 1988 using a biologically based assessment methodology[1]. Subsequently, Section 303(d) lists were compiled using the output of Section 305(b) reporting in 1992, 1994, 1996, and 1998. In 2002, the first IR was produced, addressing the needs of both reporting requirements.

Reporting on Ohio's water resources continues to develop, including more data types and more refined methodologies. The basic framework for this report is built on four beneficial uses, as follows:

- Aquatic Life. Analysis of the condition of aquatic life was the long-standing focus of reporting on water quality in Ohio and continues to provide a strong foundation. The 2014 methodology contains mostly minor changes. One significant change involves situations where a WAU score, based a preponderance of principal stream sites, is unduly affected by the results from one headwater or one wading site. In these rare instances, a manual adjustment to the headwater/wading/principal stream scoring process can be made to more rationally reflect aquatic life condition. Also in this report, as in the 2012 IR, a methodology for assessing the aquatic life condition of lakes is previewed for possible inclusion in the 2016 report.

- Recreation. A methodology for using bacteria data to assess recreation suitability was developed for the 2002 report and refined in 2004, remaining essentially the same for 2006 and 2008. In 2010, the recreation use analysis changed significantly to a new indicator, a new water quality standard, and a data grouping procedure similar to that used for aquatic life. The methodology has not changed for the 2014 report.

- Human Health. A methodology for comparing fish tissue contaminant data to human health criteria via fish consumption advisories was included in the 2004 report. That methodology has been refined in each subsequent report to align more directly with the human health water quality criteria. The methodology was changed in the 2010 report to be consistent with the methodology described in U.S. EPA's 2009 guidance for implementing the methylmercury water quality criterion. The 2014 methodology did not change.

- Public Drinking Water. The assessment methodology for the public drinking water supply (PDWS) beneficial use was revised to include a new core indicator based on algae and associated cyanotoxins. The original 2006 PDWS assessment methodology identified algae as a possible supplemental indicator, but assessment units were not listed as impaired due to algae until 2014.

The methodology for assessing support of each beneficial use is described in more detail in Sections E through H.

[1] In 1990, the linkage of fish and macroinvertebrate community index scores and attainment of aquatic life use designations was established in Ohio's Water Quality Standards (OAC 3745-1).

D1. Assessment Units

The 2014 IR continues the watershed orientation outlined in previous reports; the assessment units have not changed significantly from the 2010 report. Throughout this report, references are made to large rivers and watersheds as assessment units defined for 303(d) listing purposes. Data from individual sampling locations in an assessment unit are accumulated and analyzed; summary information and statewide statistics are provided in this report. The three types of assessment units (AUs) are:

- Watershed Assessment Units (WAUs) – 1,538 watersheds that align with the 12-digit hydrologic unit code (HUC) system. Ohio HUC numbers are lowest in the northwest corner of the state, proceeding approximately clockwise around the state. The first two digits of Ohio numbers are either 04 (draining to Lake Erie) or 05 (draining to the Ohio River).

- Large River Assessment Units (LRAUs) – 38 segments in the 23 rivers that drain more than 500 square miles; the length of each river included is from the mouth of each river upstream to the point where the drainage area reaches approximately 500 square miles.

- Lake Erie Assessment Units – for 3 nearshore areas of the lake: western (Ohio/Michigan state line to eastern terminus of Sandusky Bay opening to Lake Erie), central (eastern terminus of Sandusky Bay opening to Lake Erie to Ohio/Pennsylvania state line), and Lake Erie islands (including South Bass Island, Middle Bass Island, North Bass Island, Kelleys Island, West Sister Island and other small islands).

Ohio River assessment units have been defined by the Ohio River Valley Water Sanitation Commission (ORSANCO). See Section D4 for additional discussion of ORSANCO's work. Ohio EPA is proposing changes to Lake Erie assessment units for use in future reporting; see Section I5.2.1.

It is important to remember that the information presented here is a summary. All of the underlying data observations are available and can be used for more detailed analysis of water resource conditions on a more localized, in-depth scale. Much of the information is available in watershed reports available at http://www.epa.ohio.gov/dsw/document_index/psdindx.aspx. TMDL reports are another source of more in-depth analyses, available at http://www.epa.ohio.gov/dsw/tmdl/index.aspx. Ohio EPA displays stream data it collects on interactive maps (see http://wwwapp.epa.ohio.gov/dsw/gis/bio/index.php). Currently, biological data from selected projects in watersheds monitored by the Ohio EPA since 2005 are available. New data and historical data (prior to 2005) will be added as resources allow.

Ohio's large rivers, defined for this report as draining greater than 500 square miles, are illustrated in Figure D-1. Ohio's watershed units are shown in Figure D-2. Some reporting also mentions principal streams, defined as draining 50 to 500 square miles. Principal streams are not assessment units, but information is included here to provide a more complete picture of water quality conditions. Principal streams and their condition are discussed in more detail in Section B2.

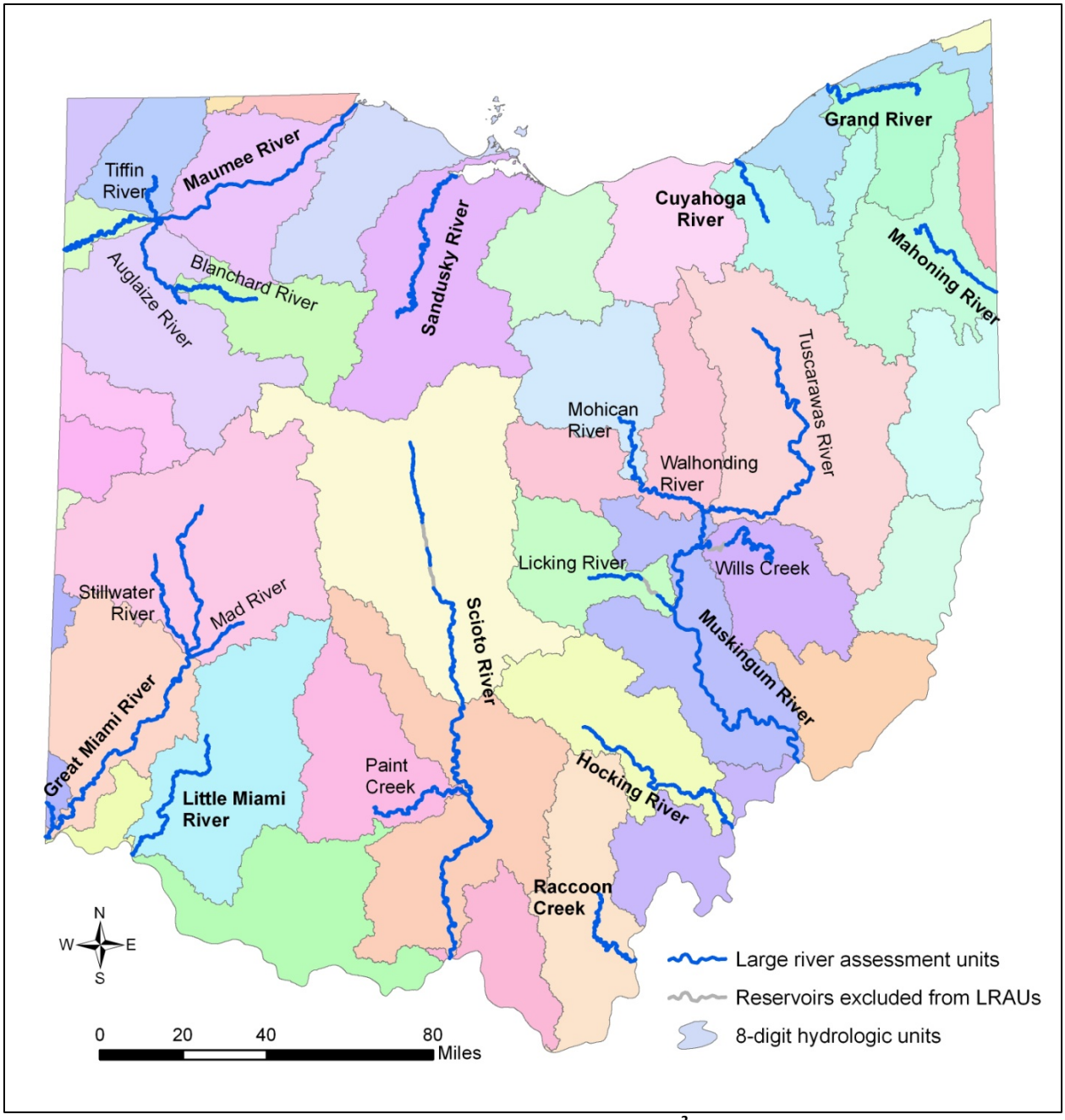


Figure D-1. Ohio's large rivers (rivers with drainages greater than 500 mi^2) and their watersheds.
Note: Bolded river names indicate the primary mainstem of that drainage basin.

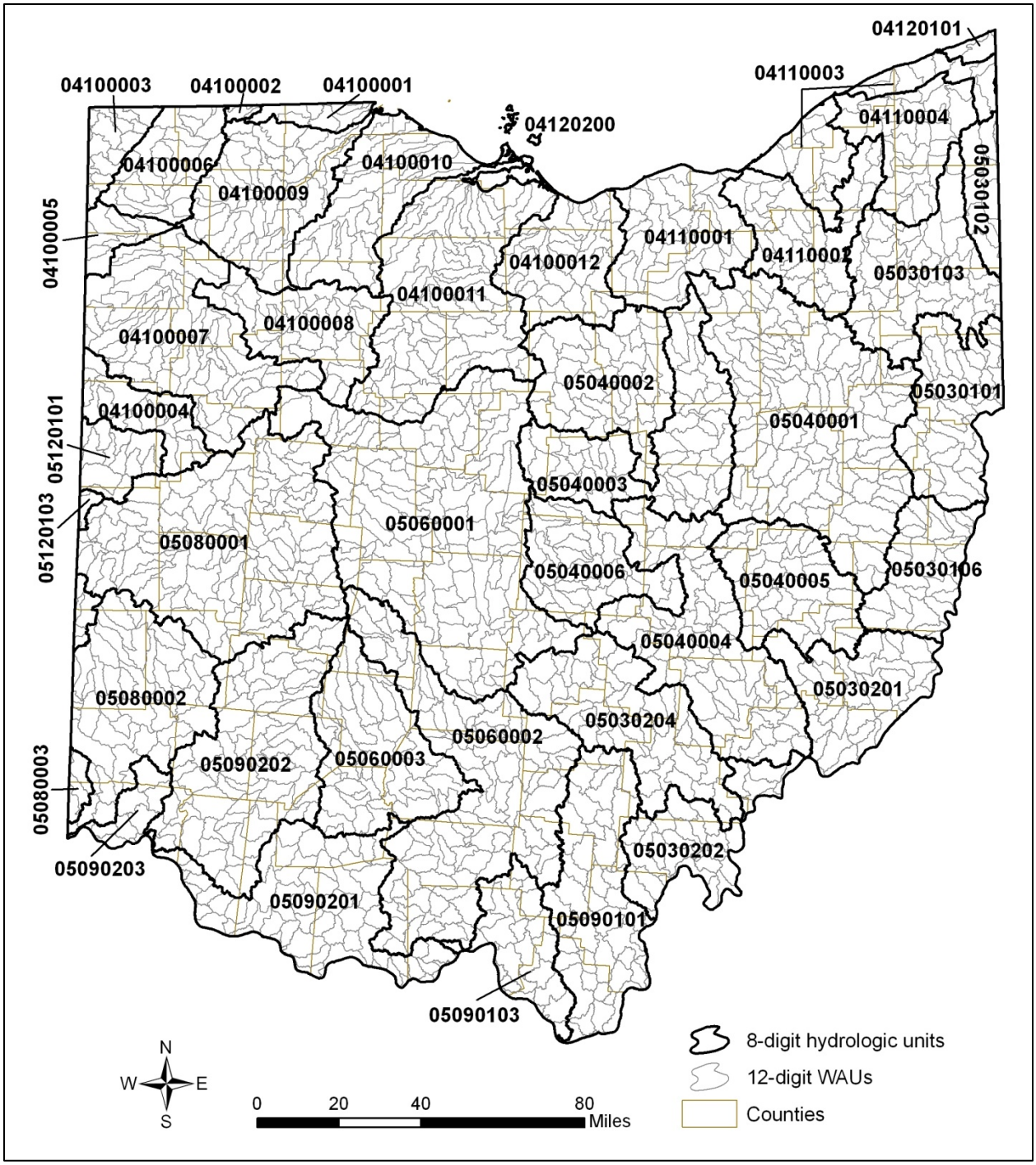


Figure D-2. Ohio's 12-digit watershed assessment units (gray lines) and 8-digit hydrologic units (heavy black lines).

D2. Ohio's Water Quality Standards Use Designations

Beneficial use designations describe existing or potential uses of water bodies. They take into consideration the use and value of water for public water supplies, protection and propagation of

aquatic life, recreation in and on the water, agricultural, industrial and other purposes. Ohio EPA assigns beneficial use designations to water bodies in the state. There may be more than one use designation assigned to a water body. Examples of beneficial use designations include: public water supply, primary contact recreation, and numerous sub-categories of aquatic life uses. Table D-1 lists all of Ohio's water quality standards (WQS) designated uses and outlines how the use was evaluated for the Ohio 2014 IR.

Table D-1. Ohio water quality standards in the 2012 Integrated Report.

Beneficial Use Category	Key Attributes (why a water would be designated in the category)	Evaluation status in 2014 Integrated Report
Categories for the protection of aquatic life		
Coldwater Habitat	native cold water or cool water species; put-and-take trout stocking	Assessed on case by case basis
Seasonal Salmonid Habitat	supports lake run steelhead trout fisheries	No direct assessment, streams assessed as EWH or WWH
Exceptional Warmwater Habitat	unique and diverse assemblage of fish and invertebrates	61% of the WAUs and 92% of the LRAUs fully assessed using direct comparisons of fish and macroinvertebrate community index scores to the biocriteria in Ohio's WQS; sources and causes of impairment were assessed using biological indicators and water chemistry data
Warmwater Habitat (WWH)	typical assemblages of fish and invertebrates	
Modified Warmwater Habitat	tolerant assemblages of fish and macro-invertebrates; irretrievable condition precludes WWH	
Limited Resource Waters	fish and macroinvertebrates severely limited by physical habitat or other irretrievable condition	Assessed on case by case basis
Categories for the protection of recreational activities		
Bathing Waters	Lake Erie (entire lake); for inland waters, bathing beach with lifeguard or bathhouse facility	Lake Erie public beaches fully evaluated; nine inland lakes evaluated
Primary Contact Recreation	waters suitable for one or more full-body contact recreation activity such as wading and swimming; three classes are recognized, distinguished by relative potential frequency of use	43% of the WAUs, 42% of the LRAUs, and 100% of beaches in LEAUs assessed using applicable PCR geometric mean *E. coli* criteria
Secondary Contact Recreation	waters rarely used for recreation because of limited access; typically located in remote areas and of very shallow depth	Assessed as part AU using applicable SCR geometric mean *E. coli* criteria
Categories for the protection of water supplies		
Public Water Supply	waters within 500 yards of all public water supply surface water intakes, publically owned lakes, waters used as emergency supplies	Sufficient data were available to assess 37% of the 129 AUs with PDWS use; assessed using chemical water quality data; only waters with active intakes were assessed
Agricultural Water Supply	water used, or potentially used, for livestock watering and/or irrigation	Not assessed
Industrial Water Supply	water used for industrial purposes	Not assessed

D3. Sources of Existing and Readily Available Data

For two decades Ohio EPA has placed a high priority on collecting data to accurately measure the quality of Ohio's rivers and streams. Therefore, the Agency has a great deal of information and data to draw upon for the IR. The available data sets from Ohio EPA and external sources, including efforts used to obtain additional data, are also discussed below. The 2008 IR marked the first time that Ohio's Credible Data Law was fully implemented in generating external data for consideration.

The "credible data law," enacted in 2003 (ORC 6111.50 to 6111.56), requires that the Director of Ohio EPA adopt rules which would, among other things, do the following:

- establish a water quality monitoring program for the purpose of collecting credible data under the act, require qualified data collectors to follow plans pertaining to data collection, and require the submission of a certification that the data were collected in accordance with such a plan; and

- establish and maintain a computerized database or databases of all credible data in the Director's possession, and require each state agency in possession of surface water quality data to submit them to the Director.

The Ohio EPA adopted rules in 2006, revised in 2011, to establish criteria for three levels of credible data for surface water quality monitoring and assessment, and to establish the necessary training and experience for persons to submit credible data. Apart from a few exceptions, people collecting data and submitting it to Ohio EPA for consideration as credible data must have status as a qualified data collector (QDC). Only Level 3 data can be used for decisions about beneficial use assignment and attainment, water quality standards, listing and delisting (303(d) list), and total maximum daily load (TMDL) calculations.

Ohio EPA solicited data from all Level 3 QDCs for the 2014 IR. The letter requesting data and the web site containing information about how to submit data are included in Section D5.1. Table D-2 summarizes the WQS uses evaluated in the 2014 IR, the basic types of data used, the period of record considered, the sources of data and the minimum amount of data needed to evaluate a water body. Specific methodologies used to assess attainment of the standards are described in more detail in Sections E through H.

Table D-3 summarizes the data Ohio EPA used in the 2014 IR. Ohio EPA's 2014 IR uses fish contaminant data to determine impairment using the human health based water quality criteria. Fish consumption advisories (FCAs) were not used in determining impairment status. However, the public should use the FCAs in determining the safety of consuming Ohio's sport fish.

The evaluation of bacteria, biological and water quality survey data was not changed from the approach used in the 2010 IR. Data collected by Ohio EPA and Level 3 Qualified Data Collectors were evaluated. The following Qualified Data Collectors submitted data or the data were available from readily obtained reports:

- Ohio Department of Natural Resources
- U.S. Geological Survey

- Northeast Ohio Regional Sewer District
- Midwest Biodiversity Institute / Center for Applied Bioassessment and Biocriteria
- Heidelberg College
- The Ohio State University
- Ohio Department of Health
- Cuyahoga County Board of Health
- EnviroScience, Inc.

Table D-2. Data types used in the 2014 Integrated Report.

WQS Uses & Criteria Evaluated (basic rationale[1])	Type of Data Time Period	Source(s) of Data	Minimum Data Requirement
Human health, single route exposure via food chain accumulation and eating sport fish (criteria apply to all waters of the State)	Fish Tissue Contaminant Data 2003 to 2012	Fish Tissue Contaminant Database	Data collected within past 10 years. Two samples, each from trophic levels 3 and 4 in each watershed assessment unit or inland lake.
Recreation uses and subclasses - evaluation based on a comparison of *E. coli* levels to applicable geometric mean *E. coli* criteria in the WQS. Lake Erie shoreline evaluated on the basis of frequency of advisories posted at beaches	*E. coli* counts 2008 to 2012 (May through October only)	Ohio Dept of Health Cuyahoga County Health Department Northeast Ohio Regional Sewer District (NEORSD)	Bathing Waters – One or more geometric mean *E. coli* values (inland lakes; *E. coli* data from one or more beaches (Lake Erie shoreline AUs); minimum of one geometric mean *E. coli* concentration per WAU or one site every ~5-7 river miles for LRAUs
Aquatic life (specific sub-categories), fish and macroinvertebrate community index scores compared to biocriteria in WQS[2]	Watershed scale biological and water quality surveys & other more targeted monitoring 2003 to 2012	Ohio DNR U.S. Geological Survey NEORSD Midwest Biodiversity Institute Heidelberg College Ohio State University EnviroScience, Inc.	Fish and/or macroinvertebrate samples collected using methods cited in WQS[3]. Generally, 2 to 3 locations sampled per watershed assessment unit (12-digit HUC).
Public drinking water supply (criteria apply within 500 yards of active drinking water intakes, all publically owned lakes, and all emergency water supplies)	Chemical water quality data 2008 to 2012	SDWIS (PWS compliance database) Syngenta Crop Protection, Inc. (Atrazine Monitoring Program)[4]	Data collected within past five years. Minimum of 10 samples with a few exceptions (noted in Section H).

[1] Additional explanation is provided in the text of Section D2.
[2] OAC 3745-1-07(A)(6) and Table 7-15.
[3] OAC 3745-1-03(A)(5)
[4] These data were collected as part of an intensive monitoring program at community water systems required by the January 2003 Atrazine Interim Reregistration Eligibility Decision and subsequent Memorandum of Agreement between U.S. EPA and the atrazine registrants (including Syngenta Crop Protection, Inc.).

Table D-3. Description of data used in the 2014 Integrated Report from sources other than Ohio EPA.

Entity	Dates Data Were Collected	Data Description	Basis of Qualification[1]
Data Collected Before Credible Data Law (March 24, 2006)			
Ohio Department of Natural Resources	1997 – 2005	Fish tissue	
	2003 – 2005	Biology (fish only)	
		Physical habitat	
U.S. Geological Survey	2003	Biology (macroinvertebrates only)	
Northeast Ohio Regional Sewer District	2005	Fish Tissue	
Midwest Biodiversity Inst./ Ctr for Applied Bio-assessment & Biocriteria	2003 – 2004	Biology	
		Physical habitat	
		Chemistry	
Heidelberg College	2004	Biology (macroinvertebrates only)	
	Jan 2002 – Feb 2006	Chemistry	
PWS compliance database (permittees)	Jan 2002 – Feb 2006	Chemistry	
Syngenta Crop Protection, Inc.	Jan 2002 – Feb 2006	Chemistry	
Data Collected After Credible Data Law (March 24, 2006)			
NPDES permittees	2008 – 2012 (May - Oct only)	Bacteria	Data credible - submittal pursuant to permit
Ohio Department of Health (ODH)	2008 – 2012 (May - Oct only)	Bacteria	State Agency
Cuyahoga County Health Department	2008 – 2012 (May – Oct only)	Bacteria	Level 3 qualified data collectors (under ODH's study plan)
Northeast Ohio Regional Sewer District	2008 – 2012 (May – Oct only)	Bacteria	Level 3 qualified data collectors
	July 2006 – Oct 2012	Biology	
		Physical habitat	
	2008	Fish tissue	
Ohio Department of Natural Resources	April 2006 – Nov 2012	Fish Tissue	State Agency/Level 3 qualified data collectors
	Sept 2006 – Sept 2012	Biology (fish only)	
		Physical habitat	
PWS compliance database (permittees)	Jan 2008 – Dec 2012	Chemistry	Data credible - submittal pursuant to permit
Syngenta Crop Protection, Inc.[2]	Jan 2008 – Dec 2012	Chemistry	See footnote
The Ohio State University	May – Oct 2006	Biology (macroinvertebrates only)	Level 3 qualified data collector
Midwest Biodiversity Inst./ Ctr for Applied Bio-assessment & Biocriteria	July 2010 – Oct 2012	Biology	Level 3 qualified data collectors
		Physical habitat	
EnviroScience, Inc.	Sept – Nov 2009	Biology	Level 3 qualified data

Entity	Dates Data Were Collected	Data Description	Basis of Qualification[1]
		Physical habitat	collectors
Ohio Department of Transportation	June 2007 – Oct 2010	Biology (fish only)	State Agency/Level 3 qualified data collectors
		Physical habitat	
Clermont County Office of Environmental Quality	May – July 2009	Chemistry (drinking water)	Level 3 qualified data collectors

[1] Level 3 Qualified Data Collector requirements are described in OAC Rule 3745-4-03(A)(4). Included above are Qualified Data Collectors Ohio EPA has approved for stream habitat assessment, fish community biology, benthic macroinvertebrate biology and/or chemical water quality assessment.

[2] These data were collected as part of an intensive monitoring program at community water systems required by the Jan 2003 Atrazine Interim Reregistration Eligibility Decision and subsequent Memorandum of Agreement between U.S. EPA and the atrazine registrants (including Syngenta Crop Protection, Inc.).

D4. Evaluation of the Ohio River

Since 1948, the Ohio River Valley Water Sanitation Commission (ORSANCO) and its member states have cooperated to improve water quality in the Ohio River Basin so that the river and its tributaries can be used for drinking water, industrial supplies and recreational purposes; and can support healthy and diverse aquatic communities. ORSANCO operates monitoring programs to check for pollutants and toxins that may interfere with specific uses of the river, and conducts special studies to address emerging water quality issues. ORSANCO was established on June 30, 1948, to control and abate pollution in the Ohio River Basin. ORSANCO is an interstate commission representing eight states and the federal government. Member states include Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia and West Virginia. ORSANCO operates programs to improve water quality in the Ohio River and its tributaries including: setting waste water discharge standards; performing biological assessments; monitoring for the chemical and physical properties of the waterways; and conducting special surveys and studies. ORSANCO also coordinates emergency response activities for spills or accidental discharges to the river, and promotes public participation in the programs such as the Ohio River Sweep, RiverWatchers Volunteer Monitoring Program and Friends of the Ohio.

As a member of the Commission, the State of Ohio and the Ohio EPA support ORSANCO activities, including monitoring of the Ohio River mainstem, by providing funding based on state population and miles of Ohio River shoreline. As such, monitoring activities on the Ohio River are coordinated and conducted by ORSANCO staff or its contractors. ORSANCO has developed a detailed monitoring strategy for the Ohio River that has been endorsed by member states and the federal government (ORSANCO 2005). The document was developed under the guidance and oversight of several committees and subcommittees of ORSANCO that are composed of scientists and technical staff from state environmental and natural resource agencies and various federal agencies. The document is available at http://www.orsanco.org.

Ohio EPA participates in an ORSANCO workgroup to promote consistency in 305(b) reporting and 303(d) listing. The workgroup discussed and agreed upon methods to evaluate attainment / non-attainment of aquatic life, recreation and public water supply uses, as well as impairments based on Sportfish Consumption Advisories. ORSANCO prepares the Section 305(b) report for the Ohio River and has indicated the impaired beneficial uses and segments of the Ohio River. Ohio EPA defers to the

ORSANCO analysis and the list of impaired Ohio River segments found in *2012 Biennial Assessment of Ohio River Water Quality Conditions* (ORSANCO 2012). ORSANCO plans to complete a biennial assessment in 2014, but the document is not expected to be available by the time Ohio's 2014 Integrated Report will be available for public review.

D5. Public Involvement in Compiling Ohio's Section 303(d) List of Impaired Waters

The public was involved in various ways in the development of the 2014 Integrated Report. Several means of public communication are discussed below.

Ohio EPA convened an advisory group that included representatives from the regulated community (e.g., industries, municipalities), environmental groups, consultants, citizens, state and federal agencies, farm organizations, and development interests. The group, which included about eighty active participants, met from late 1998 to June 2000. One subgroup addressed listing issues. Their conclusions were as follows:

- monitoring and data quality are essential
- use outside data of highest quality
- endorse priorities of 1998 list
- increase attention to human health issues
- quantify "cost of inaction"
- more monitoring is needed
- data should be accessible and geographically referenced
- increased public involvement is needed
- current funding and resources are inadequate.

The cost associated with implementing the advisory group's listing recommendations was $3.2 million annually; the cost for implementing all advisory group recommendations was $9.7 million annually. Ohio EPA used these estimates to seek additional state funding but ultimately was unsuccessful in competing with other state funding priorities. We have incorporated the "low cost" recommendations (the first four listed above), and we continue to seek ways to address all of the group's recommendations.

Much of the data used in this report have been presented to the public in meetings and publications concerning individual watersheds. Data and assessments have also been available in previous 305(b), 303(d), and integrated reports. All of this information can be accessed from the following Internet web site: http://www.epa.ohio.gov/dsw/formspubs.aspx.

The draft 2014 303(d) list, contained in the draft 2014 Integrated Report, will be available for public review beginning in January 29, 2014 through February 28, 2014. Comments received, and responses to those comments, will be summarized in Section D6 of the final report.

D5.1 Solicitation for External Water Quality Data, 2014 Integrated Report Project (May 23, 2013)

A memorandum soliciting level 3 qualified data was mailed in May 2013 to all level 3 qualified data collectors. The memorandum is displayed below.

Date May 23, 2013

Re Solicitation of Water Quality Data, 2014 Integrated Report
(No action is required on your part - submission of data is voluntary)

To Interested Parties: Stream Monitoring Personnel

From George Elmaraghy, Chief
Division of Surface Water

Ohio EPA is asking for chemical, biological and/or physical data you may wish to submit for consideration as the Agency prepares its 2014 Integrated Report. Both the state and federal governments have an interest in utilizing all available data to make informed decisions about managing Ohio's aquatic resources. Ohio EPA is only able to use data from a limited number of external sources, including Level 3 certified data collectors and NPDES discharge permit holders[2].

At this time, the Ohio EPA Division of Surface Water (DSW) is soliciting readily available data for use in the 2014 Integrated Report. The report, due to U.S. EPA on April 1, 2014, fulfills the State's reporting obligations under Sections 305(b) and 303(d) of the Clean Water Act. Information is available at http://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx.

Credible Data Law
In 2003 a new law was enacted in Ohio dealing with sources of data external to Ohio EPA. The "credible data law," as it is known (ORC 6111.50 to 6111.56), requires that the Director of Ohio EPA adopt rules which would, among other things, do the following:

- establish a water quality monitoring program for the purpose of collecting credible data under the act, require qualified data collectors to follow plans pertaining to data collection, and require the submission of a certification that the data were collected in accordance with such a plan; and

- establish and maintain a computerized database or databases of all credible data in the Director's possession, and require each state agency in possession of surface water quality data to submit them to the Director.

The Director has adopted rules (OAC 3745-4-01 through 06), effective March 2006, that delineate these requirements.

In addition, the law explicitly established that external data found compliant with the specifications for "level 3 credible data," which generally means data from a level 3 qualified data collector, can be used for certain regulatory and reporting purposes, such as the Section 303(d) list.

[2] It is unnecessary to resubmit data that have already been submitted to the Division of Surface Water.

According to the Ohio EPA administrative rules, you may meet the qualifications of a "level 3 qualified data collector" in one or more areas of water quality data. Therefore, in pursuit of all readily available data for use in the state's reporting documents, the Agency is requesting your voluntary participation by submitting any recent water quality data that you have on Ohio's waters (e.g., lakes, rivers, streams and wetlands) that you are qualified to collect by July 15, 2013.

More information about the specific types of data being requested by Ohio EPA, and how to submit such data, can be found at: http://www.epa.ohio.gov/dsw/tmdl/2014IntReport/2014CallForData.aspx.

D5.1.1 Web Page with Instructions for Submitting Level 3 Credible Data

For those who received the memorandum and who were interested in submitting data to the Ohio EPA, a web page was established with instructions on what qualified data to be submitted and how to do so. The web site content is displayed below.

2014 Integrated Water Quality Monitoring and Assessment Report - Call for Level 3 Credible Data

Information about submitting Level 3 credible data to Ohio EPA is organized as outlined below. More information about the Integrated Report is on the Ohio Integrated Water Quality Monitoring and Assessment Report page.

- What kind of data does Ohio EPA want?
    - Microbiological Data
    - Biological and Physical Data
    - Chemical Water Quality Data
- Do I have Level 3 data?
- Have I already given Ohio EPA my data?
- What will be needed in addition to data?
    - Microbiological Data Requirements
    - Biological, Chemical and Physical Data Requirements
- How do I send the data?
- To whom do I send the data?

To access the information, click on the relevant link below.

What kind of data does Ohio EPA want?

Ohio EPA is asking for chemical, biological and/or physical data you may wish to submit for consideration as the Agency prepares its 2014 Integrated Report. Both the state and federal governments have an interest in utilizing all available data to make informed decisions about managing Ohio's aquatic resources. Ohio EPA is soliciting data primarily from NPDES major permit holders, Level 3 Qualified Data Collectors and others that may be in possession of Level 3 Credible Data that were collected in 2011 and 2012. The data can be of various types (bacteria, biological, physical, and chemical water quality data).

Microbiological Data

- Ohio EPA measures recreation use attainment by comparing the level of indicator bacteria present in ambient water samples against the bacteria criteria contained in rule 3745-1-07 of Ohio's water quality standards. These indicator bacteria serve as predictors for the presence of enteric pathogens in the water that can cause a variety of illnesses. The type of indicator bacteria that Ohio EPA is utilizing in the 2014 Integrated Report is ***E. coli***.

  Data collected by NPDES discharge permit holders at ambient stream sites upstream and downstream of discharge locations and reported in discharge monitoring reports (DMRs) will be extracted from the SWIMS database. **It is unnecessary to resubmit data already submitted into SWIMS.** However, if bacteria data were collected at additional ambient stations and not reported through SWIMS, permit holders may voluntarily submit this data to the Agency. Data must have been collected between May 1, 2011 and October 31, 2012 and must meet the basic terms of acceptability found in the requirements listed below.

Biological and Physical Data

- Ohio EPA measures aquatic life use attainment in Ohio streams and rivers by comparing indices generated from fish and aquatic macroinvertebrate data against the biological criteria contained in Ohio's water quality standards, OAC 3745-1-07, Table 7-15. Field collection and data analysis methodologies for fish and macroinvertebrate community assessments are strictly adhered to and must follow procedures as outlined in the Ohio EPA biological criteria manuals.

- Chemical water quality data collected in conjunction with biological data is of interest to Ohio EPA. Data should follow the parameters discussed below.

Chemical Water Quality Data

- Ohio EPA primarily uses sampling methods described in the "Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices, 2009 Revision". Sample collection and analysis method references are listed in paragraph (C) of OAC 3745-4-06. Ohio EPA is interested in other chemical water quality data collected and analyzed by these methods or others of similar quality control/quality assurance rigor.

Do I have Level 3 data?

In 2003, a new law was enacted in Ohio dealing with external sources of data. The "credible data law," as it is known (ORC 6111.50 to 6111.56), requires the Director of Ohio EPA to adopt rules that would, among other things:

- establish a water quality monitoring program for the purpose of collecting credible data under the act, require qualified data collectors to follow plans pertaining to data collection, and require the submission of a certification that the data were collected in accordance with such a plan; and
- establish and maintain a computerized database or databases of all credible data in the Director's possession, and require each state agency in possession of surface water quality data to submit them to the Director.

The Director has adopted rules (OAC 3745-4-01 to 06), effective March 2006, to accomplish these requirements.

In addition, the law explicitly established that external data found compliant with the specifications for "level 3 credible data," which generally means data from a level 3 qualified data collector, can be used for certain regulatory and reporting purposes, such as the Section 303(d) list of Ohio's impaired waters.

Have I already given Ohio EPA my data?

External data Ohio EPA has received and may use for 305(b)/303(d) reporting:

Entity	Dates Data Were Collected	Data Description	Basis of Qualification[1]
Data Collected Before Credible Data Law (March 24, 2006)			
NPDES permittees	2002 – 2005 (May – Oct only)	Bacteria	
Ohio Department of Health (ODH)	2002 – 2005 (May – Oct only)	Bacteria	
Cuyahoga County Health Department	2002 – 2005 (May – Oct only)	Bacteria	
Northeast Ohio Regional Sewer District	2002 – 2005 (May – Oct only)	Bacteria	
Lake County General Health District	2002 – 2005 (May – Oct only)	Bacteria	
Ohio Department of Natural Resources	1997 – 2005	Fish tissue	
	2001 – 2005	Biology (fish only)	
		Physical habitat	
Ohio Northern University	1997	Biology	
Ohio University (Athens)	1995	Biology	
U.S. Geological Survey	2003	Biology (macroinvertebrates only)	
Northeast Ohio Regional Sewer District	2001	Biology (macroinvertebrates only)	
	2005	Fish Tissue	
Midwest Biodiversity Inst./ Ctr for Applied Bio-assessment & Biocriteria	2001 – 2004	Biology	
		Physical habitat	
		Chemistry	
Heidelberg College	2004	Biology (macroinvertebrates only)	
	Jan 2002 – Feb 2006	Chemistry	
PWS compliance database (permittees)	Jan 2002 – Feb 2006	Chemistry	
Syngenta Crop Protection, Inc.	Jan 2002 – Feb 2006	Chemistry	
Data Collected After Credible Data Law (March 24, 2006)			

Entity	Dates Data Were Collected	Data Description	Basis of Qualification[1]
NPDES permittees	2009 – 2010 (May - Oct only)	Bacteria	Data credible - submittal pursuant to permit
Ohio Department of Health (ODH)	2006 – 2010 (May - Oct only)	Bacteria	State Agency
Cuyahoga County Health Department	2006 – 2010 (May – Oct only)	Bacteria	Level 3 qualified data collectors (under ODH's study plan)
Northeast Ohio Regional Sewer District	2006 – 2010 (May – Oct only)	Bacteria	Level 3 qualified data collectors
	July 2006 – Oct 2012	Biology	
		Physical habitat	
	2007	Fish tissue	
Ohio Department of Natural Resources	April 2006 – Nov 2010	Fish Tissue	State Agency
	Sept 2006 – Oct 2012	Biology (fish only)	
		Physical habitat	
PWS compliance database (permittees)	March 2006 – Dec 2010	Chemistry	Data credible - submittal pursuant to permit
Syngenta Crop Protection, Inc.[2]	March 2006 – Dec 2010	Chemistry	See footnote
The Ohio State University	2006 (May – Oct only)	Biology (macroinvertebrates only)	Level 3 qualified data collector
Midwest Biodiversity Inst./ Ctr for Applied Bio-assessment & Biocriteria	July 2010 – Oct 2012	Biology	Level 3 qualified data collectors
		Physical habitat	
EnviroScience, Inc.	September – November 2009	Biology	Level 3 qualified data collectors
		Physical habitat	

What will be needed in addition to data?

Specific guidelines for submission of data are listed below. While these guidelines correspond to the regulations regarding credible data, they are not verbatim. To see the regulations, please go to OAC 3745-4-06.

Microbiological Data Requirements

An individual or organization who submits bacteria data to Ohio EPA for consideration in the 2014 Integrated Report shall attest to the validity of the data and adhere to the data quality specification listed here. The submission of data must cover the following:

- Sampling and Test Methods, QA/QC Specifications: Sampling must be conducted in a manner consistent with procedures contained in *Standard Methods for the Examination of Water and Wastewater* or the "Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices, 2009".

Analytical testing must be conducted in accordance with U.S. EPA approved methods under 40 CFR 136.3. Acceptable references for methods for QDCs are given in paragraph (C) of OAC 3745-4-06 and include Ohio EPA references, U.S. EPA references, and Standard Methods. Data submissions must include a description of the Quality Assurance/Quality Control (QA/QC) plans under which the bacteria sample analysis occurred. This should address topics such as sample handling and preservation, sample holding time, chain of custody, precision, accuracy, etc.

- Description of Sampling Program: A brief description of the purpose of data collection and the sampling design considerations should be provided. Were specific sources of potential contamination under investigation? Were samples collected at fixed station locations? How often and under what kinds of environmental conditions were samples collected? Have the results been published in a report or the scientific literature?

- Minimum Data Submission: Ohio EPA is requesting only bacteria data (*E. coli*) collected during the recreational season (May 1st to October 31st) from 2011-2012. The following information must be included in the data submission in an electronic spreadsheet or database format:

    - Sample collection date
    - Sample collection method (with reference)
    - Sample site location including water body name, county, river mile (if known), latitude/longitude (decimal degrees or degrees, minutes, and seconds)
    - *E. coli* count
    - Identification of units associated with bacteria counts
    - Any applicable data qualifiers (as received from the lab, if applicable)
    - Contact name, address, telephone number, and e-mail address of the person submitting the data set
    - Identification of the laboratory performing the sample analysis

Biological, Chemical and Physical Data Requirements

An individual or organization who submits biological, chemical and/or physical data to Ohio EPA for consideration in the 2014 Integrated Report shall attest to the validity of the data and adhere to the data quality specification listed here. The submission of data must cover the following:

- Analytical and sampling procedures (examples):
    - Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices, 2009
    - Habitat and biology sampling manuals
    - Only data that are consistent with these guidelines can be considered Level 3 data.

- Description of Sampling Program: A brief description of the purpose of data collection and the sampling design considerations should be provided. Were specific sources of potential contamination under investigation? Were samples collected at fixed station locations? How often and under what kinds of environmental conditions were samples collected? Have the results been published in a report or the scientific literature?

    - If the data have been or will be submitted as part of the Credible data Program and there is an approved project study plan, this requirement is potentially waived, pending a successful data review that confirms study plan was adhered to as written.

- Minimum Data Submission: Ohio EPA is requesting biological, chemical and physical data collected from 2011-2012. The following information must be included in the data submission in an electronic spreadsheet or database format:

    - Sample collection date
    - Sample collection method (with reference)
    - Sample site location including waterbody name, county, river mile (if known), latitude/longitude (decimal degrees or degrees, minutes and seconds)
    - Type of data collected (fish, macroinvertebrate, chemical and physical parameters)
    - Analytical and collection methodologies used (include references)
    - Any applicable data qualifiers (as received from the lab, if applicable)
    - Contact name, address, telephone number, and e-mail address of the person submitting the data set
    - Identification of the laboratory performing the sample analysis (if applicable)
    - Weather conditions, flow, and precipitation (all optional)

How do I send the data?

If you have bacteria data collected from surface waters in Ohio, then Ohio EPA would be interested in discussing its possible use in the Integrated Report. Contact Chris Skalski at (614) 644-2144 or chris.skalski@epa.ohio.gov before preparing and submitting any information. The Agency's capacity to accept and utilize the data in preparation of the Integrated Report is dependent upon a variety of factors and the use of all data brought to our attention may not be possible. Data must have been collected after May 1, 2006 and must meet the basic acceptability specifications listed above. Data must be provided in electronic format such as STORET, Excel or Access.

Ohio EPA already has data from some credible data collectors, as listed in the table above. Additional data may be available and Ohio EPA is soliciting these data. If you have biological, chemical or physical data collected from surface waters in Ohio, then Ohio EPA would be interested in discussing its possible use in the Integrated Report. Contact Jeff DeShon at (614) 836-8780 or jeff.deshon@epa.ohio.gov or Dennis Mishne at (614) 836-8775 or dennis.mishne@epa.ohio.gov before preparing and submitting any information. The Agency's capacity to accept and utilize the data in preparation of the Integrated Report is dependent upon a variety of factors and the use of all data brought to our attention may not be possible. Data must have been collected after January 1, 2011 and must meet the basic acceptability specifications listed above. Data must be provided in an electronic format such as STORET, Excel or Access.

To whom do I send the data?

Submit microbiological data and supporting information listed above by July 15, 2013 to Chris Skalski, chris.skalski@epa.ohio.gov, Ohio EPA/DSW, P.O. Box 1049, Columbus, Ohio 43216-1049.

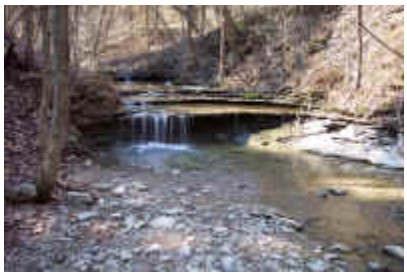
Submit biological, physical, and chemical water quality data and supporting information listed above by July 15, 2013, to Jeff DeShon, jeff.deshon@epa.ohio.gov, or Dennis Mishne,

dennis.mishne@epa.ohio.gov, Ohio EPA/Groveport Field Office, 4675 Homer-Ohio Lane, Groveport, Ohio 43125.

D5.2 Web Page Announcing 2014 Integrated Report Preparation

By mid- 2013, Ohio EPA announced that preparation of the 2014 Integrated Report had begun. The web page is displayed below.

Preparation of 2014 Integrated Report is Underway



Ohio EPA is preparing the 2014 Integrated Report, which fulfills the State's reporting obligations under Section 305(b) (33 U.S.C. 1315) and Section 303(d) (33 U.S.C. 1313) of the Federal Clean Water Act. The report will indicate the general condition of Ohio's waters and list those waters that are currently impaired and may require Total Maximum Daily Load (TMDL) development in order to meet water quality standards.

The most recent Ohio Integrated Report was completed on March 20, 2012 (see 2012 tab on this Web site).

When will the report be completed?

Major project milestones and expected dates for completion are:

Refine methodologies / compile data	June - October 2013
External level 3 credible data are due to Ohio EPA	July 1, 2013
Prepare list / internal review	October - December 2013
Public notice draft 303(d) list	December 2013 – January 2014
Respond to comments / prepare final list	February - March 2014
Submit to U.S. EPA Region V for approval	April 1, 2014

Please continue to check this Web site for updates.

D5.3 Notice of Availability and Request for Comments FWPCA Section 303(d) TMDL Priority List for 2014

The following notice was posted on the Division of Surface Water web page, included in the Ohio EPA Weekly Review, and published in major newspapers statewide.

Public Notice Date: January 29, 2014

OHIO ENVIRONMENTAL PROTECTION AGENCY
PUBLIC NOTICE

NOTICE OF AVAILABILITY and REQUEST FOR COMMENTS
FWPCA Section 303(d) TMDL PRIORITY LIST FOR 2014

Public notice is hereby given that the Ohio Environmental Protection Agency (Ohio EPA) Division of Surface Water (DSW) is providing for public review and comment the Total Maximum Daily Load (TMDL) priority list for 2014 as required by Section 303(d) of the Federal Water Pollution Control Act, 33 U.S.C. Section 1313(d). The list indicates the waters of Ohio that are currently impaired and may require TMDL development in order to meet water quality standards. The waters are ranked according to level of impairment to help indicate which have the greatest need for TMDL development. The list is contained within the *2014 Integrated Water Quality Monitoring and Assessment Report*, which in accordance with federal guidance, satisfies the Clean Water Act requirements for both Section 305(b) water quality reports and Section 303(d) lists. The report describes the procedure that Ohio EPA used to develop the list and indicates which areas have been selected for TMDL development during FFY 2014 through 2016.

Ohio EPA will hold a public information session on February 12, 2014, at 3:00 p.m. The meeting will be held at the Ohio EPA, Conference Room A, 50 West Town Street, Suite 700, Columbus, OH 43215.

All interested persons wishing to submit comments for Ohio EPA's consideration may do so by email to dsw.webmail@epa.ohio.gov, or in writing to Ohio EPA, Division of Surface Water, P.O. Box 1049, Columbus, Ohio 43216-1049 Attn: 303(d) Comments, by the close of business, February 28, 2014. Comments received after this date may be considered as time and circumstances permit. After consideration of comments, Ohio EPA will submit a final document to the United States Environmental Protection Agency (U.S. EPA) for approval. The final report must be submitted to U.S. EPA by April 1, 2012.

The report will be available on the Ohio EPA Division of Surface Water Web site at http://www.epa.ohio.gov/dsw/Home.aspx no later than January 29, 2014. To receive a printed copy, contact the Ohio EPA - DSW reception desk by telephone at (614) 644-2001 and request the report by name. To arrange to inspect Agency files or records pertaining to the document, to ask technical questions regarding the list or report, or to request notice of when Ohio EPA submits the document to U.S. EPA, please contact the e-mail address above or call Trinka Mount at (614) 644-2146.

D6. Public Comments and Responses to Comments on Draft Report

To be added after the public review period.