

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Maumee River Mainstem (Indiana border to Lake Erie)

LRAU Size (mi²)

6608.0

Integrated Report Assessment Category: 5

Priority Points: 10

Next Scheduled Monitoring: 2016

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1997, 1998, 2002

Impairment: Yes (5)

LRAU Total Length (miles): 107.87

No. Miles Full Attainment: 23.60

LRAU Monitored Miles: 95.67

No. Miles Partial Attainment: 26.72

No. Sites Sampled: 35

No. Miles Non-Attainment: 45.35

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
24.7	27.9	47.4

High Magnitude Causes

Flow Alteration
Direct Habitat Alterations
Turbidity
Nutrients
Unionized Ammonia
Siltation
Total Toxics

High Magnitude Sources

Nonirrigated Crop Production
Channelization - Agriculture
Combined Sewer Overflow
Major Municipal Point Source

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 127

No. of Ambient Sites: 4

No. of Ambient Sampling Records: 42

75th %ile: 390

No. of NPDES MOR Sites: 7

No. of NPDES MOR Records: 504

90th %ile: 900

Other:

Public Drinking Water Supply Assessment

Location(s): Maumee River @RMs 23.16 [Bowling Green], 35.91 [McClure], 45.88 and 47.10 [Campbell Soup], 47.13 [Napoleon], and 65.84 [Defiance]

Impairment: Yes (5)

Nitrate Indicator: Impaired

Cause: Nitrate

Pesticide Indicator: Full Support, Watch List

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5-Historical Data)

Miles Monitored: 106.30 Miles Impaired: 106.30

Pollutant(s): PCBs

Comments

The City of Toledo has initiated a major CSO remediation project which will positively benefit the lower mainstem within Lucas County. Future monitoring of the Maumee River mainstem assessment unit will be conducted within the normal rotating basin schedule after the cessation of the project and when sufficient recovery time has elapsed. Besides the aquatic life use impairment, the 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. While the fish tissue data are now historical, the assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. Led by the Natural Resources Conservation Service and the U.S. Army Corps of Engineers, federal, state, and local partners have initiated a comprehensive investigation of measures to improve fish and wildlife habitat, navigation, flood damage reduction, recreation, and water quality in the western Lake Erie basin including the Maumee, Ottawa and Portage River watersheds. For more information, see www.wleb.org.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Tiffin River Mainstem (downstream Brush Creek to mouth)

LRAU Size (mi²)

777.0

Integrated Report Assessment Category: 5

Priority Points: 5

Next Scheduled Monitoring: 2011

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1992

Impairment: Yes (5-Historical Data)

LRAU Total Length (miles): 19.67

No. Miles Full Attainment: 0.00

LRAU Monitored Miles: 19.67

No. Miles Partial Attainment: 19.67

No. Sites Sampled: 3

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
0.0	100.0	0.0

High Magnitude Causes

Direct Habitat Alterations
Siltation

High Magnitude Sources

Channelization - Agriculture
Highway/Road/Bridge/Sewer Line Construction
Nonirrigated Crop Production

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3)

Cause:

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75th %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90th %ile:

Other:

Public Drinking Water Supply Assessment

Location(s): Tiffin River @RM 47.54 [Archbold]

Impairment: Unknown (3-Insufficient Data)

Nitrate Indicator: Insufficient Data, Watch List

Cause:

Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5-Historical Data)

Miles Monitored: 19.67 Miles Impaired: 19.67

Pollutant(s): PCBs, Mercury

Comments

The Tiffin River mainstem assessment unit has not been surveyed since 1992. Though these data are now considered historical, the mainstem will remain listed as Category 5 since it had been previously listed in the 2002 Integrated Report for aquatic life impairment. Besides the historical aquatic life use impairment, the 2006 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. While the fish tissue data are now historical, the assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Auglaize River Mainstem (downstream Ottawa River to mouth)

LRAU Size (mi²)

2435.0

Integrated Report Assessment Category: 5

Priority Points: 2

Next Scheduled Monitoring: 2015

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1996, 2000

Impairment: Yes (4A-TMDL)

LRAU Total Length (miles): 33.26

No. Miles Full Attainment: 14.26

LRAU Monitored Miles: 23.73

No. Miles Partial Attainment: 4.10

No. Sites Sampled: 5

No. Miles Non-Attainment: 5.37

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
60.1	17.3	22.6

High Magnitude Causes

Flow Alteration

High Magnitude Sources

Flow Reg/Mod - Development

Channelization - Agriculture

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3-Indeterminate Data) Cause:

Geometric Mean: 108

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 2

75th %ile: 132

No. of NPDES MOR Sites: 0

No. of NPDES MOR Records: 0

90th %ile: 143

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 33.26 Miles Impaired: 33.26

Pollutant(s): Mercury

Comments

A report developing TMDLs for pollutants impairing aquatic life uses in the upper Auglaize River basin, including the Auglaize River mainstem assessment unit between the Ottawa River and the Little Auglaize River (about 2/3 of the designated mainstem reach), was approved by U.S. EPA on September 23, 2004. Monitoring in support of the TMDLs was conducted in 2000. As this assessment unit continues to have a fish consumption impairment, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. The TMDL report is available at <http://www.epa.state.oh.us/dsw/tmdl/index.html>.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Blanchard River Mainstem (downstream Dukes Run to mouth)

LRAU Size (mi²)

771.0

Integrated Report Assessment Category: 5

Priority Points: 3

Next Scheduled Monitoring: 2020

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 2005

Impairment: No (1)

LRAU Total Length (miles): 35.65

No. Miles Full Attainment: 35.65

LRAU Monitored Miles: 35.65

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 8

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 284

No. of Ambient Sites: 7

No. of Ambient Sampling Records: 63

75th %ile: 394

No. of NPDES MOR Sites: 1

No. of NPDES MOR Records: 50

90th %ile: 1126

Other:

Public Drinking Water Supply Assessment

Location(s): Blanchard River @RM 28.50 [Ottawa]

Impairment: Unknown (3-Insufficient Data)

Nitrate Indicator: Insufficient Data, Watch List

Cause:

Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 35.65 Miles Impaired: 35.65

Pollutant(s): PCBs

Comments

Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2005 as part of monitoring in the Blanchard River watershed to develop TMDLs for pollutants causing beneficial use impairments. The assessment unit includes the Blanchard River mainstem from the confluence of Dukes Run near the community of Gilboa to the Auglaize River. Check the TMDL web page at <http://www.epa.state.oh.us/dsw/tmdl/index.html> for updated information. A report on the 2005 survey is available at www.epa.state.oh.us/dsw/document_index/psdindx.html (EAS/2007-6-2).

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Sandusky River Mainstem (downstream Tymochtee Creek to mouth)

LRAU Size (mi²)

1420.0

Integrated Report Assessment Category: 5

Priority Points: 8

Next Scheduled Monitoring: 2009

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH, MWH-I

Sampling Year(s): 2001, 2002, 2004

Impairment: Yes (4C-Natural or Impoundment)

LRAU Total Length (miles): 65.73

No. Miles Full Attainment: 46.30

LRAU Monitored Miles: 48.70

No. Miles Partial Attainment: 1.00

No. Sites Sampled: 14

No. Miles Non-Attainment: 1.40

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
95.1	2.0	2.9

High Magnitude Causes

Sedimentation/Siltation
Direct Habitat Alterations
Other Flow Regime Alterations

High Magnitude Sources

Dam or Impoundment

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 120

No. of Ambient Sites: 3

No. of Ambient Sampling Records: 20

75th %ile: 305

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 143

90th %ile: 709

Other:

Public Drinking Water Supply Assessment

Location(s): Sandusky River @ RMs 18.02 [Fremont] and 41.08 [Tiffin-Ohio American Water]

Impairment: Yes (5)

Nitrate Indicator: Impaired

Cause: Nitrate

Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 65.73 Miles Impaired: 65.73

Pollutant(s): PCBs

Comments

TMDLs for pollutants impairing aquatic life and recreation uses were approved by U.S. EPA on September 29, 2004 for the upper Sandusky River watershed (headwaters to north of Tiffin and covering about 1/2 of the designated mainstem reach). Monitoring in support of the TMDL was conducted in 2001. All aquatic life use impairment within the mainstem assessment unit downstream from Tymochtee Creek is restricted to habitat limited dam pools behind two dams (St. John's and Ballville). Removal of the St. John's dam was completed in November, 2003. 2004 data were collected by the Heidelberg College Water Quality Laboratory to assess the macroinvertebrate community in the free-flowing reaches in the vicinity of the old St. John's dam pool. Besides the historical aquatic life use impairment, the 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. A report on the findings of the 2001 biological and water quality survey can be found at (www.epa.state.oh.us/dsw/document_index/psdindx.html). The TMDL report can be found at (<http://www.epa.state.oh.us/dsw/tmdl/index.html>).

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Cuyahoga River Mainstem (downstream Brandywine Cr. to mouth incl. old channel)

LRAU Size (mi²)

809.0

Integrated Report Assessment Category: 5

Priority Points: 3

Next Scheduled Monitoring: 2020

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH, LRW

Sampling Year(s): 1996, 1999-2002, 2006

Impairment: Yes (4A-TMDL)

LRAU Total Length (miles): 25.34

No. Miles Full Attainment: 11.25

LRAU Monitored Miles: 25.34

No. Miles Partial Attainment: 10.37

No. Sites Sampled: 16

No. Miles Non-Attainment: 3.72

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
44.3	41.1	14.6

High Magnitude Causes

Organic Enrichment/DO
Unknown Toxicity
Direct Habitat Alterations
Total Toxics
Unionized Ammonia

High Magnitude Sources

Combined Sewer Overflow
Major Municipal Point Source
Contaminated Sediments
Dredging/Development
Marinas
Spills
Urban Runoff/Storm Sewers (NPS)
Streambank Modification/Destabilization

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Yes (4A-TMDL)

Cause: Pathogens

Geometric Mean: 512

No. of Ambient Sites: 3

No. of Ambient Sampling Records: 43

75th %ile: 1130

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 128

90th %ile: 5700

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 24.16 Miles Impaired: 24.16

Pollutant(s): PCBs

Comments

A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the lower Cuyahoga River basin including the Cuyahoga River mainstem assessment unit was approved by U.S. EPA on September 26, 2003. Monitoring in support of the TMDLs was conducted in 1996, 1999, and 2000. Data collected by NEORSD in 2001 and 2006 was used to update aquatic life conditions in the vicinity of the Southerly WWTP. The TMDL report is available at <http://www.epa.state.oh.us/dsw/tmdl/index.html>. The 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. As such, the assessment unit will remain Category 5 until TMDLs have been developed for all pollutants impairing all beneficial uses.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Grand River Mainstem (downstream Mill Creek to mouth)

LRAU Size (mi²)

705.0

Integrated Report Assessment Category: 5

Priority Points: 2

Next Scheduled Monitoring: 2019

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH, WWH, SSH

Sampling Year(s): 2003, 2004

Impairment: No (1)

LRAU Total Length (miles): 41.28

No. Miles Full Attainment: 38.28

LRAU Monitored Miles: 38.28

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 12

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 136

No. of Ambient Sites: 9

No. of Ambient Sampling Records: 102

75th %ile: 240

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 75

90th %ile: 1320

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 41.28 Miles Impaired: 41.28

Pollutant(s): PCBs, Mercury

Comments

The 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. The 2003/2004 watershed survey revealed full attainment of the aquatic life use in the monitored reach of the mainstem assessment unit. However, the mainstem remains threatened by suburban development. The area around the waste lagoons in the lower mainstem showed aquatic life use impairment as recently as 2000. High base flows in 2003 and 2004 likely attenuated some of this impact. DELTs were still elevated in 2004 suggesting the fish remain stressed by pollution.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Mahoning River Mainstem (downstream Eagle Creek to Pennsylvania Border)

LRAU Size (mi²)

1075.0

Integrated Report Assessment Category: 5

Priority Points: 6

Next Scheduled Monitoring: 2013

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1997, 2002, 2003, 2006

Impairment: Yes (5)

LRAU Total Length (miles): 37.00

No. Miles Full Attainment: 7.60

LRAU Monitored Miles: 16.00

No. Miles Partial Attainment: 3.40

No. Sites Sampled: 14

No. Miles Non-Attainment: 5.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
47.5	21.3	31.2

High Magnitude Causes

Metals
Nutrients
Organic Enrichment/DO
Pathogens
Priority Organics
Direct Habitat Alterations
Cause Unknown
Chlorine

Oil and Grease
Thermal Modifications

High Magnitude Sources

Combined Sewer Overflow
Contaminated Sediments
Dam Construction - Development
Major Municipal Point Source
Spills
Urban Runoff/Storm Sewers (NPS)
Flow Reg/Mod - Development
Hazardous Wastes

Minor Industrial Point Source
Source Unknown

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 283

No. of Ambient Sites: 2

No. of Ambient Sampling Records: 46

75th %ile: 885

No. of NPDES MOR Sites: 7

No. of NPDES MOR Records: 365

90th %ile: 2000

Other: A "Dermal Contact Advisory" is in effect for the Mahoning River due to PAH and PCB contamination. The area under the advisory is from NW Bridge Rd. in Warren to the Pennsylvania border (Mahoning and Trumbull Counties).

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 34.32 Miles Impaired: 34.32

Pollutant(s): PCBs

Comments

The WWH aquatic life use for the Mahoning River mainstem was listed as impaired based on historical data in the 2006 Integrated Report. For the 2008 report, aquatic life data from several small surveys conducted between 1997 and 2006 were included to update the mainstem assessment. Mainstem coverage was somewhat limited in that only 16 of 37 mainstem miles were considered assessed based on these small surveys. Aquatic life use status of the remaining 21 miles remains unknown. Identified causes and sources based on the intensive survey conducted in 1994 were carried over to this Integrated Report.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Hocking River Mainstem (downstream Scott Creek to mouth)

LRAU Size (mi²)

1197.0

Integrated Report Assessment Category: 5

Priority Points: 5

Next Scheduled Monitoring: 2019

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 2004

Impairment: No (1)

LRAU Total Length (miles): 68.96

No. Miles Full Attainment: 68.96

LRAU Monitored Miles: 68.96

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 12

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Yes (5)

Cause: Pathogens

Geometric Mean: 313

No. of Ambient Sites: 12

No. of Ambient Sampling Records: 98

75th %ile: 604

No. of NPDES MOR Sites: 4

No. of NPDES MOR Records: 214

90th %ile: 2595

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 68.96 Miles Impaired: 68.96

Pollutant(s): PCBs

Comments

Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River basin. Biological and water quality monitoring in support of the TMDLs was conducted in 2004 and included the Hocking River mainstem assessment unit from Scott Creek to the Ohio River.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Tuscarawas River Mainstem (downstream Chippewa Creek to mouth)

LRAU Size (mi²)

2596.0

Integrated Report Assessment Category: 5

Priority Points: 9

Next Scheduled Monitoring: 2017

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH, WWH

Sampling Year(s): 2004, 2005

Impairment: Yes (5)

LRAU Total Length (miles): 103.22

No. Miles Full Attainment: 88.52

LRAU Monitored Miles: 103.22

No. Miles Partial Attainment: 14.70

No. Sites Sampled: 24

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
85.8	14.2	0.0

High Magnitude Causes

Organic Enrichment/DO
Suspended Solids
Nutrients
Salinity/TDS/Chlorides
Unknown Toxicity

High Magnitude Sources

Major Municipal Point Source
Major Industrial Point Source
Industrial Land Treatment
Nonirrigated Crop Production

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Yes (5)

Cause: Pathogens

Geometric Mean: 644

No. of Ambient Sites: 22

No. of Ambient Sampling Records: 199

75th %ile: 1567

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 110

90th %ile: 3840

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 103.22 Miles Impaired: 103.22

Pollutant(s): PCBs, Hexachlorobenzene

Comments

Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2004 and 2005 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Mohican River Mainstem (entire length)

LRAU Size (mi²)

1004.0

Integrated Report Assessment Category: 2

Priority Points:

Next Scheduled Monitoring: 2007

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1997, 1998

Impairment: No (1)

LRAU Total Length (miles): 27.58

No. Miles Full Attainment: 8.10

LRAU Monitored Miles: 8.10

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 2

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3)

Cause:

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75th %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90th %ile:

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes

Impairment: Unknown (3-Historical Data)

Miles Monitored: 23.00

Miles Impaired:

Pollutant(s):

Comments

Sampling of the Mohican River mainstem assessment unit has been limited (2 sites), but both sites indicated full attainment of ecoregional biological criteria and the WWH aquatic life use. Comprehensive chemical, physical, and biological monitoring was conducted in the Mohican River in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Walhonding River Mainstem (entire length)

LRAU Size (mi²)

2256.0

Integrated Report Assessment Category: 5

Priority Points: 2

Next Scheduled Monitoring: 2007

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH

Sampling Year(s): 1994

Impairment: No (1-Historical Data)

LRAU Total Length (miles): 23.19

No. Miles Full Attainment: 23.19

LRAU Monitored Miles: 23.19

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 3

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3)

Cause:

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75th %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90th %ile:

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5-Historical Data)

Miles Monitored: 16.20 Miles Impaired: 16.20

Pollutant(s): PCBs

Comments

Biological and water quality data collected in 1994 were used in the 2002 and 2004 Integrated Reports to document full attainment of the EWH aquatic life beneficial use. These data have since exceeded the ten-year threshold and are now considered historical. The 2004 Integrated Report assessment of fish tissue data documented body burdens of pollutants at levels reflecting a violation(s) of Ohio Water Quality Standards criteria which resulted in listing as impaired for fish consumption. These data are also now historical. While reflecting the current status that all available data are historical, the assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. Comprehensive chemical, physical, and biological monitoring was conducted in the Walhonding River in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Muskingum River Mainstem (entire length)

LRAU Size (mi²)

8051.0

Integrated Report Assessment Category: 5

Priority Points: 2

Next Scheduled Monitoring: 2022

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 2006

Impairment: No (1)

LRAU Total Length (miles): 111.14

No. Miles Full Attainment: 111.14

LRAU Monitored Miles: 111.14

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 28

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 279

No. of Ambient Sites: 15

No. of Ambient Sampling Records: 120

75th %ile: 598

No. of NPDES MOR Sites: 1

No. of NPDES MOR Records: 50

90th %ile: 1810

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes

Impairment: Yes (5)

Miles Monitored: 105.70

Miles Impaired: 105.70

Pollutant(s): PCBs

Comments

Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2006. The assessment unit includes the Muskingum River mainstem from the confluence of the Tuscarawas River and Walhonding River in Coshocton to the Ohio River at Marietta.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Wills Creek Mainstem (downstream Leatherwood Creek to mouth)

LRAU Size (mi²)

853.0

Integrated Report Assessment Category: 5

Priority Points: 2

Next Scheduled Monitoring: 2013

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1994

Impairment: Yes (5-Historical Data)

LRAU Total Length (miles): 64.98

No. Miles Full Attainment: 9.90

LRAU Monitored Miles: 64.98

No. Miles Partial Attainment: 41.88

No. Sites Sampled: 4

No. Miles Non-Attainment: 13.20

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
15.2	64.5	20.3

High Magnitude Causes

Siltation

High Magnitude Sources

Surface Mining

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1-Historical Data)

Cause:

Geometric Mean: 218

No. of Ambient Sites: 0

No. of Ambient Sampling Records: 0

75th %ile: 555

No. of NPDES MOR Sites: 1

No. of NPDES MOR Records: 20

90th %ile: 1040

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: No

Impairment: Unknown (3-No Data)

Miles Monitored: 0.00

Miles Impaired:

Pollutant(s):

Comments

Biological and water quality data collected in 1994 were used in the 2002 and 2004 Integrated Reports which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have since exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess the aquatic life use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments are completed and approved by the U.S. EPA.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Licking River Mainstem (entire length)

LRAU Size (mi²)

779.0

Integrated Report Assessment Category: 5

Priority Points: 3

Next Scheduled Monitoring: 2008

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1993, 1994

Impairment: Yes (5-Historical Data)

LRAU Total Length (miles): 30.21

No. Miles Full Attainment: 28.41

LRAU Monitored Miles: 30.21

No. Miles Partial Attainment: 1.80

No. Sites Sampled: 11

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
94.0	6.0	0.0

High Magnitude Causes

Unionized Ammonia

High Magnitude Sources

Upstream Impoundment

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3-Indeterminate Data) Cause:

Geometric Mean: 584

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 22

75th %ile: 974

No. of NPDES MOR Sites: 1

No. of NPDES MOR Records: 58

90th %ile: 2212

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes

Impairment: Unknown (3-Insufficient Data)

Miles Monitored: 22.80

Miles Impaired:

Pollutant(s):

Comments

Biological and water quality data collected in 1993 and 1994 were used in the 2002 and 2004 Integrated Reports which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. Aquatic life non-attainment in the Licking River is restricted to a short reach below Dillon Reservoir and is most likely due to the hypolimnetic reservoir release of hypereutrophic/eutrophic water. However, these data have since exceeded the ten-year threshold and are now considered historical. While reflecting the current status that insufficient data are available to assess the aquatic life use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments are completed and approved by the U.S. EPA. Comprehensive chemical, physical, and biological monitoring is scheduled in the Licking River in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Scioto River Mainstem (downstream Little Scioto River to mouth)

LRAU Size (mi²)

6517.0

Integrated Report Assessment Category: 5

Priority Points: 9

Next Scheduled Monitoring: 2009

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH, MWH-Impounded

Sampling Year(s): 1997, 2005

Impairment: Yes (5)

LRAU Total Length (miles): 177.35

No. Miles Full Attainment: 125.80

LRAU Monitored Miles: 138.90

No. Miles Partial Attainment: 13.10

No. Sites Sampled: 62

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
90.6	9.4	0.0

High Magnitude Causes

Organic Enrichment/DO
Direct Habitat Alterations
Unionized Ammonia
Flow Alteration

High Magnitude Sources

Streambank Modification/Destabilization - Agriculture
Major Industrial Point Source
Major Municipal Point Source
Dam Construction - Agriculture
Dam Construction - Development
Combined Sewer Overflow
Flow Reg/Mod - Development

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Yes (5)

Cause: Pathogens

Geometric Mean: 525

No. of Ambient Sites: 2

No. of Ambient Sampling Records: 49

75th %ile: 1700

No. of NPDES MOR Sites: 7

No. of NPDES MOR Records: 408

90th %ile: 6500

Other:

Public Drinking Water Supply Assessment

Location(s): Scioto River at O'Shaughnessy dam (RM 148.8) to Dublin Road WTP dam [Columbus]

Impairment: No (1)

Nitrate Indicator: Full Support, Watch List

Cause:

Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 177.35 Miles Impaired: 177.35

Pollutant(s): PCBs

Comments

The Scioto River mainstem assessment unit has been extensively monitored between Columbus and Circleville since 1988 to assess the improvements in the river due to upgrades at the two major WWTPs in Columbus. Additionally, large scale surveys were done in 1995 (upper Scioto River) and 1997 (lower Scioto River). 1995 survey data are now considered historical. New data were collected from Columbus to the Ohio River in 2005 as part of a midwestern large rivers study conducted by the Ohio River Valley Water Sanitation Commission (ORSANCO). Status of the river from the Little Scioto River in Marion County to Columbus (about 40 miles) is unassessed since all data are now over 10 years old. While biological communities have recovered significantly since the 1970s and are generally performing very well, fish consumption advisories exist for several species of fish throughout the length of the river. As a result, the 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. Additionally, assessment of available bacteria data indicated an impairment of the Primary Contact Recreation beneficial use. Scioto River mainstem monitoring is projected for 2009 (Little Scioto River to Big Darby Creek), 2011 (Big Darby Creek to Paint Creek), and 2016 (Paint Creek to mouth).

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Paint Creek Mainstem (downstream Rocky Fork to mouth)

LRAU Size (mi²)

1144.0

Integrated Report Assessment Category: 5

Priority Points: 5

Next Scheduled Monitoring: 2022

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH, WWH

Sampling Year(s): 2006

Impairment: Yes (5)

LRAU Total Length (miles): 37.12

No. Miles Full Attainment: 30.30

LRAU Monitored Miles: 37.12

No. Miles Partial Attainment: 6.82

No. Sites Sampled: 6

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
81.6	18.4	0.0

High Magnitude Causes

Oxygen, Dissolved

High Magnitude Sources

Impacts from Hydrostructure Flow Regulation/Modification

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 161

No. of Ambient Sites: 3

No. of Ambient Sampling Records: 45

75th %ile: 368

No. of NPDES MOR Sites: 0

No. of NPDES MOR Records: 0

90th %ile: 1270

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 37.12 Miles Impaired: 37.12

Pollutant(s): PCBs

Comments

Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2006 as part of monitoring in the Paint Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. The assessment unit includes the Paint Creek mainstem from the confluence of Rocky Fork Paint Creek to the Scioto River.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Great Miami River Mainstem (downstream Tawawa Creek to mouth)

LRAU Size (mi²)

5371.0

Integrated Report Assessment Category: 5

Priority Points: 11

Next Scheduled Monitoring: 2009

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH, WWH

Sampling Year(s): 1994, 1995, 2000

Impairment: Yes (5-Historical Data)

LRAU Total Length (miles): 130.41

No. Miles Full Attainment: 87.42

LRAU Monitored Miles: 130.38

No. Miles Partial Attainment: 39.36

No. Sites Sampled: 89

No. Miles Non-Attainment: 3.60

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
67.0	30.2	2.8

High Magnitude Causes

Flow Alteration
Direct Habitat Alterations
Organic Enrichment/DO
Nutrients
Priority Organics

High Magnitude Sources

Dam Construction - Development
Flow Reg/Mod - Development
Major Municipal Point Source
Upstream Impoundment
Combined Sewer Overflow
Major Industrial Point Source
Removal of Riparian Vegetation - Development

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Yes (5)

Cause: Pathogens

Geometric Mean: 296

No. of Ambient Sites: 2

No. of Ambient Sampling Records: 41

75th %ile: 700

No. of NPDES MOR Sites: 14

No. of NPDES MOR Records: 948

90th %ile: 2320

Other:

Public Drinking Water Supply Assessment

Location(s): Great Miami River @RMs 86.6 and 90.3 [Dayton], 118.3 [Piqua] and 130.2 [Sidney]

Impairment: Unknown (3-Insufficient Data)

Nitrate Indicator: Insufficient Data

Cause:

Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 98.90 Miles Impaired: 98.90

Pollutant(s): PCBs

Comments

Biological and water quality surveys were conducted throughout the mainstem in 1994 (upper Great Miami River) and 1995 (lower Great Miami River). Sampling was conducted in the Middletown reach of the river in 2000. Most of the mainstem assessment unit is in full or partial attainment of designated aquatic life uses (EWH and WWH) based on biological criteria. However, the 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. Due to the age of most of the bioassessment data, aquatic life use status is now considered unknown. Great Miami River mainstem monitoring is projected for 2009 (Tawawa Creek to Mad River) and 2010 (Mad River to mouth).

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Stillwater River Mainstem (downstream Greenville Creek to mouth)

LRAU Size (mi²)

676.0

Integrated Report Assessment Category: 4C

Priority Points:

Next Scheduled Monitoring: 2019

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH

Sampling Year(s): 1994, 1999, 2001

Impairment: Yes (4C-Natural or Impoundment)

LRAU Total Length (miles): 32.38

No. Miles Full Attainment: 31.38

LRAU Monitored Miles: 32.38

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 16

No. Miles Non-Attainment: 1.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
96.9	0.0	3.1

High Magnitude Causes

Direct Habitat Alterations
Other Flow Regime Alterations

High Magnitude Sources

Dam or Impoundment

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 128

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 21

75th %ile: 241

No. of NPDES MOR Sites: 5

No. of NPDES MOR Records: 360

90th %ile: 461

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: No (1)

Miles Monitored: 32.38 Miles Impaired:

Pollutant(s):

Comments

A report developing TMDLs for pollutants impairing aquatic life uses in the Stillwater River basin was approved by U.S. EPA on June 15, 2004. The TMDL report is available at <http://www.epa.state.oh.us/dsw/tmdl/index.html>. Monitoring in support of the TMDL was primarily conducted in 1999. A report on the findings of the biological and water quality survey can be found at www.epa.state.oh.us/dsw/document_index/psdindx.html. The entire mainstem assessment unit was in full attainment of the designated EWH aquatic life use based on biological criteria with the exception of one modified site (impounded) upstream from Englewood Dam. The aquatic life non-attainment was due to habitat modifications associated with the impounded reach. As such, it was listed as Category 4C (impairment not caused by a pollutant) in the 2002 Integrated Report.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Mad River Mainstem (downstream Donnels Creek to mouth)

LRAU Size (mi²)

657.0

Integrated Report Assessment Category: 5

Priority Points: 8

Next Scheduled Monitoring: 2018

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 2003

Impairment: Yes (5)

LRAU Total Length (miles): 18.38

No. Miles Full Attainment: 15.40

LRAU Monitored Miles: 18.38

No. Miles Partial Attainment: 2.98

No. Sites Sampled: 8

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
83.7	16.3	0.0

High Magnitude Causes

Flow Alteration

High Magnitude Sources

Channelization - Agriculture

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Yes (5)

Cause: Pathogens

Geometric Mean: 463

No. of Ambient Sites: 5

No. of Ambient Sampling Records: 25

75th %ile: 2300

No. of NPDES MOR Sites: 3

No. of NPDES MOR Records: 192

90th %ile: 7280

Other:

Public Drinking Water Supply Assessment

Location(s): Mad River @RMs 5.2 and 5.6 [Dayton]

Impairment: Unknown (3-Insufficient Data)

Nitrate Indicator: Insufficient Data

Cause:

Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 18.38 Miles Impaired: 18.38

Pollutant(s): PCBs

Comments

Development of TMDLs for pollutants impairing beneficial uses is underway in the Mad River basin. Biological and water quality monitoring in support of the TMDLs was conducted in 2003 and included the Mad River mainstem assessment unit from Donnels Creek to the mouth. A report on the findings of the biological and water quality survey can be found at: www.epa.state.oh.us/dsw/document_index/psdindx.html.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Whitewater River Mainstem (entire length)

LRAU Size (mi²)

1474.0

Integrated Report Assessment Category: 5

Priority Points: 2

Next Scheduled Monitoring: 2010

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH

Sampling Year(s): 1995, 1996, 2000

Impairment: No (1-Historical Data)

LRAU Total Length (miles): 8.26

No. Miles Full Attainment: 8.26

LRAU Monitored Miles: 8.26

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 6

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3-Indeterminate Data) Cause:

Geometric Mean: 57

No. of Ambient Sites: 0

No. of Ambient Sampling Records: 0

75th %ile: 187

No. of NPDES MOR Sites: 1

No. of NPDES MOR Records: 57

90th %ile: 438

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 6.80 Miles Impaired: 6.80

Pollutant(s): PCBs

Comments

Biological and water quality monitoring conducted in the Whitewater River mainstem assessment unit (lower 8.26 miles of stream located in Ohio) in 1995 and 1996 showed full attainment of the designated EWH aquatic life use based on biological criteria. This is one of the few large Ohio rivers with 100% attainment of the aquatic life use and that supports exceptional aquatic communities. However, the 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. Due to the age of the bioassessment data, aquatic life use status is now considered unknown.

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Raccoon Creek Mainstem (downstream Little Raccoon Creek to mouth)

LRAU Size (mi²)

681.0

Integrated Report Assessment Category: 3

Priority Points:

Next Scheduled Monitoring: 2014

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: WWH

Sampling Year(s): 1993, 1994, 1995

Impairment: No (1-Historical Data)

LRAU Total Length (miles): 37.55

No. Miles Full Attainment: 22.37

LRAU Monitored Miles: 22.37

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 6

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1-Historical Data)

Cause:

Geometric Mean: 419

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 22

75th %ile: 1753

No. of NPDES MOR Sites: 0

No. of NPDES MOR Records: 0

90th %ile: 2680

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes

Impairment: Unknown (3-Insufficient Data)

Miles Monitored: 37.55

Miles Impaired:

Pollutant(s):

Comments

Full attainment of the designated WWH aquatic life use based on biological criteria was achieved at all sampling locations monitored in the Raccoon Creek mainstem assessment unit in 1995. Despite extensive mining activities in the upper portion of the basin, the lower Raccoon mainstem reflected no major adverse effects. Monitoring to assess the recreation beneficial use also revealed no problems but all aquatic life and recreation data are now historical. A report developing TMDLs for pollutants impairing beneficial uses (aquatic life) in the upper Raccoon Creek watershed was approved by U.S. EPA on March 20, 2003. Monitoring in support of these TMDLs was conducted in 1995 and 1999. The TMDL report is available at (www.epa.state.oh.us/dsw/tmdl/index.html).

**Ohio EPA 2008 Integrated Report Section M3
Large River Assessment Unit (LRAU) Results**

LRAU Description

Little Miami River Mainstem (downstream Caesar Creek to mouth)

LRAU Size (mi²)

1757.0

Integrated Report Assessment Category: 5

Priority Points: 4

Next Scheduled Monitoring: 2007

Aquatic Life Use (ALU) Assessment

Subcategories of ALU: EWH, WWH

Sampling Year(s): 1998

Impairment: Yes (5)

LRAU Total Length (miles): 50.92

No. Miles Full Attainment: 11.80

LRAU Monitored Miles: 48.02

No. Miles Partial Attainment: 34.92

No. Sites Sampled: 16

No. Miles Non-Attainment: 1.30

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
24.6	72.7	2.7

High Magnitude Causes

Nutrients
Siltation
Suspended Solids
Cause Unknown
Metals
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources

Major Municipal Point Source
Minor Municipal Point Source
Nonirrigated Crop Production
Combined Sewer Overflow
Dam Construction - Development
Land Development/Suburbanization
Urban Runoff/Storm Sewers (NPS)

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Cause:

Geometric Mean: 206

No. of Ambient Sites: 0

No. of Ambient Sampling Records: 0

75th %ile: 400

No. of NPDES MOR Sites: 5

No. of NPDES MOR Records: 175

90th %ile: 1300

Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:

Nitrate Indicator:

Cause:

Pesticide Indicator:

Fish Tissue Assessment

Large River Sampled: Yes Impairment: Yes (5)

Miles Monitored: 50.92 Miles Impaired: 50.92

Pollutant(s): PCBs

Comments

A report developing TMDLs for pollutants impairing beneficial uses (aquatic life) in the upper Little Miami watershed (to and including the Caesar Creek watershed) was approved by U.S. EPA on July 2, 2002. Monitoring in support of these TMDLs was conducted in 1998. The TMDL report is available at (www.epa.state.oh.us/dsw/tmdl/index.html). Besides the aquatic life use impairment, the 2006 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing as impaired for fish consumption. Comprehensive chemical, physical, and biological monitoring was conducted in the lower Little Miami River in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.