

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Maumee River Mainstem (Indiana border to Lake Erie)

6608.0

**Integrated Report Assessment Category: 5**

**Priority Points: 5**

**Next Scheduled Monitoring: 2010**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1993, 1996, 1997

Impairment: Yes

LRAU Total Length (miles): 107.87

No. Miles Full Attainment: 44.00

LRAU Monitored Miles: 94.35

No. Miles Partial Attainment: 13.15

No. Sites Sampled: 51

No. Miles Non-Attainment: 37.20

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
46.7	13.9	39.4

High Magnitude Causes

Flow Alteration  
Other 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

Geometric Mean: 90

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 20

75<sup>th</sup> %ile: 381

No. of NPDES MOR Sites: 7

No. of NPDES MOR Records: 781

90<sup>th</sup> %ile: 1200

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

The City of Toledo is initiating 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 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

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**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Tiffin River Mainstem (downstream Brush Creek to mouth)

777.0

**Integrated Report Assessment Category: 5**

**Priority Points: 2**

**Next Scheduled Monitoring: 2006**

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**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s):

Impairment: Unknown

LRAU Total Length (miles): 19.67

No. Miles Full Attainment:

LRAU Monitored Miles: 0.00

No. Miles Partial Attainment:

No. Sites Sampled: 0

No. Miles Non-Attainment:

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
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High Magnitude Causes

Other Habitat Alterations  
Siltation

High Magnitude Sources

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

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Unknown

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: No

Pollutant(s):

**Comments**

The Tiffin River mainstem assessment unit has not been surveyed since 1992. Though this data is 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Auglaize River Mainstem (downstream Ottawa River to mouth)

2435.0

**Integrated Report Assessment Category: 5**

**Priority Points: 4**

**Next Scheduled Monitoring: 2010**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1996, 2000

Impairment: Yes

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

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs, mercury

**Comments**

Development of TMDLs for pollutants is in progress for the upper Auglaize River watershed including the Auglaize River mainstem assessment unit between the Ottawa River and the Little Auglaize River (about 2/3 of the designated mainstem reach). Monitoring in support of the TMDLs was conducted in 2000. 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Blanchard River Mainstem (downstream Dukes Run to mouth)

771.0

**Integrated Report Assessment Category: 5**

**Priority Points: 4**

**Next Scheduled Monitoring: 2005**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1996

Impairment: Yes

LRAU Total Length (miles): 35.65

No. Miles Full Attainment: 9.65

LRAU Monitored Miles: 14.65

No. Miles Partial Attainment: 5.00

No. Sites Sampled: 3

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
65.9	34.1	0.0

High Magnitude Causes

Flow Alteration  
Organic Enrichment/DO

High Magnitude Sources

Channelization - Agriculture

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Unknown

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: No

Pollutant(s):

**Comments**

The 1996 sampling in the mainstem was focused primarily in the 30 mile reach upstream and downstream from Findlay. Several reference sites have been sampled in other upstream reaches of the Blanchard not included in the mainstem assessment unit.

## Ohio EPA 2004 Integrated Report Appendix D.3 Large River Assessment Unit (LRAU) Summaries

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Sandusky River Mainstem (downstream Tymochtee Creek to mouth)

1420.0

**Integrated Report Assessment Category: 5**

**Priority Points: 7**

**Next Scheduled Monitoring: 2009**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1995, 1999, 2001

Impairment: Yes

LRAU Total Length (miles): 65.73

No. Miles Full Attainment: 41.23

LRAU Monitored Miles: 47.73

No. Miles Partial Attainment: 0.00

No. Sites Sampled: 15

No. Miles Non-Attainment: 6.50

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
86.4	0.0	13.6

High Magnitude Causes

Siltation  
Other Habitat Alterations  
Flow Alteration

High Magnitude Sources

Hydromodification-Development  
Dam Construction-Development

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Yes

Geometric Mean: 203

No. of Ambient Sites: 9

No. of Ambient Sampling Records: 22

75<sup>th</sup> %ile: 560

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 206

90<sup>th</sup> %ile: 2130

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

Development of TMDLs for pollutants is underway 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 commenced during the summer of 2003. 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. Additionally, assessment of available bacteria data indicated an impairment of the Primary Contact Recreation beneficial use. 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](http://www.epa.state.oh.us/dsw/document_index/psdindx.html)).

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

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

809.0

**Integrated Report Assessment Category: 5**

**Priority Points: 7**

**Next Scheduled Monitoring: 2010**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH, LRW

Sampling Year(s): 1996, 1999, 2000, 2002

Impairment: Yes

LRAU Total Length (miles): 25.34

No. Miles Full Attainment: 5.68

LRAU Monitored Miles: 25.34

No. Miles Partial Attainment: 12.38

No. Sites Sampled: 30

No. Miles Non-Attainment: 7.28

**% LRAU Attainment (Monitored Miles)**

Full	Partial	Non
22.4	48.9	28.7

High Magnitude Causes

Organic Enrichment/DO  
Unknown Toxicity  
Other 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

Geometric Mean: 648

No. of Ambient Sites: 6

No. of Ambient Sampling Records: 77

75<sup>th</sup> %ile: 1650

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 202

90<sup>th</sup> %ile: 6080

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

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. The TMDL report is available at <http://www.epa.state.oh.us/dsw/tmdl/index.html>. Besides the historical aquatic life and recreation use impairments, 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Grand River Mainstem (downstream Mill Creek to mouth)

705.0

**Integrated Report Assessment Category: 5**

**Priority Points: 4**

**Next Scheduled Monitoring: 2004**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH, WWH, SSH

Sampling Year(s): 1993-1997, 2002

Impairment: Yes

LRAU Total Length (miles): 41.28

No. Miles Full Attainment: 36.18

LRAU Monitored Miles: 41.28

No. Miles Partial Attainment: 3.70

No. Sites Sampled: 19

No. Miles Non-Attainment: 1.40

**% LRAU Attainment (Monitored Miles)**

Full	Partial	Non
87.6	9.0	3.4

High Magnitude Causes

Salinity/TDS/Chlorides  
Unknown Cause

High Magnitude Sources

Waste Storage/Storage Tank Leaks  
Unknown Source

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: No

Geometric Mean: 167

No. of Ambient Sites: 15

No. of Ambient Sampling Records: 68

75<sup>th</sup> %ile: 430

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 92

90<sup>th</sup> %ile: 1740

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs, mercury

**Comments**

Aquatic life impairment within the mainstem assessment unit is restricted to the lacustrary reach of the river and has been attributed to waste lagoons; this led to the assignment of Category 4B (impaired) in the 2002 Integrated Report. 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.

## Ohio EPA 2004 Integrated Report Appendix D.3 Large River Assessment Unit (LRAU) Summaries

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Mahoning River Mainstem (downstream Eagle Creek to Pennsylvania Border)

1075.0

**Integrated Report Assessment Category: 5**

**Priority Points: 7**

**Next Scheduled Monitoring: 2008**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1994, 2002

Impairment: Yes

LRAU Total Length (miles): 35.40

No. Miles Full Attainment: 0.30

LRAU Monitored Miles: 35.40

No. Miles Partial Attainment: 5.80

No. Sites Sampled: 32

No. Miles Non-Attainment: 29.30

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
0.8	16.4	82.8

High Magnitude Causes

Metals  
Nutrients  
Organic Enrichment/DO  
Pathogens  
Priority Organics  
Other 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: Yes

Geometric Mean: 624

No. of Ambient Sites: 2

No. of Ambient Sampling Records: 79

75<sup>th</sup> %ile: 1965

No. of NPDES MOR Sites: 5

No. of NPDES MOR Records: 268

90<sup>th</sup> %ile: 5140

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.

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

Severe sediment and water column contamination is present in the Mahoning River from Warren to the Pennsylvania border. Biological communities are impaired throughout this reach of the river. A TMDL for bacteria is in preparation by the U.S. EPA for the Mahoning River mainstem (Duck Creek to the Shenango River) and should be completed in 2004. In addition, a major Army Corps of Engineers dredging project is under evaluation for the mainstem to help mitigate the sediment contamination issue. Besides the historical aquatic life and recreation use impairments, 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

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**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Hocking River Mainstem (downstream Scott Creek to mouth)

1197.0

**Integrated Report Assessment Category: 5**

**Priority Points: 5**

**Next Scheduled Monitoring: 2004**

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**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1990

Impairment: Unknown

LRAU Total Length (miles): 68.96

No. Miles Full Attainment:

LRAU Monitored Miles: 0.00

No. Miles Partial Attainment:

No. Sites Sampled: 0

No. Miles Non-Attainment:

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
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High Magnitude Causes

High Magnitude Sources

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Yes

Geometric Mean: 250

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 19

75<sup>th</sup> %ile: 550

No. of NPDES MOR Sites: 5

No. of NPDES MOR Records: 398

90<sup>th</sup> %ile: 2540

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

The Hocking River mainstem assessment unit downstream Scott Creek has not been intensively sampled since 1990. This led to the assignment of Category 3 (unassessed) in the 2002 Integrated Report. 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. Additionally, assessment of available bacteria data indicated an impairment of the Primary Contact Recreation beneficial use. Monitoring in support of TMDL development for the Hocking River basin is scheduled for completion in 2004.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Tuscarawas River Mainstem (downstream Sippo Creek to mouth)

2596.0

**Integrated Report Assessment Category: 5**

**Priority Points: 9**

**Next Scheduled Monitoring: 2004**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH, WWH

Sampling Year(s): 1994, 1995, 1997, 1998

Impairment: Yes

LRAU Total Length (miles): 90.77

No. Miles Full Attainment: 3.70

LRAU Monitored Miles: 38.60

No. Miles Partial Attainment: 16.10

No. Sites Sampled: 17

No. Miles Non-Attainment: 18.80

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
9.6	41.7	48.7

High Magnitude Causes

Cause Unknown  
Organic Enrichment/DO  
Priority Organics  
Nutrients

High Magnitude Sources

Source Unknown  
Contaminated Sediments  
Industrial Point Sources  
Municipal Point Sources  
Urban Runoff/Storm Sewers (NPS)

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Yes

Geometric Mean: 1025

No. of Ambient Sites: 28

No. of Ambient Sampling Records: 171

75<sup>th</sup> %ile: 2400

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 142

90<sup>th</sup> %ile: 7480

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs, hexachlorobenzene

**Comments**

A full survey of the Tuscarawas River including the mainstem assessment unit has not been conducted since 1989. Most of the sampling on the mainstem has been targeted at hazardous waste sites and biological reference sites. The lower 20 miles of the stream were sampled as part of the 1994 upper Muskingum River survey. Sampling of the entire assessment unit, scheduled for 2003, was postponed until 2004 due to elevated river flows caused by excessive flooding in the upper watershed in July and August 2003.

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**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Mohican River Mainstem (entire length)

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

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

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed:

FCA Issued:

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA:

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.

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Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Walhonding River Mainstem (entire length)

2256.0

**Integrated Report Assessment Category: 5**

**Priority Points: 1**

**Next Scheduled Monitoring: 2007**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH

Sampling Year(s): 1994

Impairment: No

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

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

The Walhonding River supports exceptional biological diversity and full attainment of the EWH aquatic life use ecoregional biological criteria. As such, it was listed as Category 2 (unimpaired) in the 2002 Integrated Report. 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.

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Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Muskingum River Mainstem (entire length)

8051.0

**Integrated Report Assessment Category: 5**

**Priority Points: 9**

**Next Scheduled Monitoring: 2008**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1994

Impairment: Yes

LRAU Total Length (miles): 111.14

No. Miles Full Attainment: 11.83

LRAU Monitored Miles: 21.73

No. Miles Partial Attainment: 9.90

No. Sites Sampled: 9

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
54.4	45.6	0.0

High Magnitude Causes

Organic Enrichment/DO

High Magnitude Sources

Major Industrial Point Source

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Yes

Geometric Mean: 332

No. of Ambient Sites: 4

No. of Ambient Sampling Records: 18

75<sup>th</sup> %ile: 1221

No. of NPDES MOR Sites: 1

No. of NPDES MOR Records: 53

90<sup>th</sup> %ile: 2300

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

The Muskingum River has not been completely sampled since 1988. The upper 20 miles of the mainstem were sampled in 1994. The lower 90 miles has virtually no recent data, with the exception of one monthly ambient monitoring chemistry site at McConnelsville. 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. Additionally, assessment of available bacteria data indicated an impairment of the Primary Contact Recreation beneficial use.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Wills Creek Mainstem (downstream Leatherwood Creek to mouth)

853.0

**Integrated Report Assessment Category: 5**

**Priority Points: 2**

**Next Scheduled Monitoring: 2008**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1994

Impairment: Yes

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

Geometric Mean: 329

No. of Ambient Sites: 1

No. of Ambient Sampling Records: 7

75<sup>th</sup> %ile: 733

No. of NPDES MOR Sites: 2

No. of NPDES MOR Records: 160

90<sup>th</sup> %ile: 1900

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed:

FCA Issued:

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA:

Pollutant(s):

**Comments**

The middle and upper reaches of the Wills Creek mainstem assessment unit are impaired by a combination of heavy sedimentation and low stream gradient. Biological communities in this stretch of the river fell below ecoregional biological criteria in 1994. Downstream from Wills Creek Reservoir, biological communities in the mainstem were significantly improved, meeting (or nearly meeting) Warmwater Habitat biological criteria.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Licking River Mainstem (entire length)

779.0

**Integrated Report Assessment Category: 5**

**Priority Points: 3**

**Next Scheduled Monitoring: 2007**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1993, 1994

Impairment: Yes

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

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed:

FCA Issued:

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA:

Pollutant(s):

**Comments**

The Licking River mainstem has undergone dramatic improvement since the early 1980s. Sampling conducted in 1994 indicated 94% full attainment of the WWH aquatic life use. Improvements are attributed to upgrades at the Newark WWTP. Aquatic life non-attainment is restricted to a short reach below Dillon Reservoir and is most likely due to the hypolimnetic reservoir release of hypereutrophic/eutrophic water.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Scioto River Mainstem (downstream Little Scioto River to mouth)

6517.0

**Integrated Report Assessment Category: 5**

**Priority Points: 8**

**Next Scheduled Monitoring: 2011**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH, MWH-Impounded

Sampling Year(s): 1995, 1997-2000, 2002

Impairment: Yes

LRAU Total Length (miles): 177.35

No. Miles Full Attainment: 136.65

LRAU Monitored Miles: 151.79

No. Miles Partial Attainment: 6.20

No. Sites Sampled: 67

No. Miles Non-Attainment: 8.94

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
90.0	4.1	5.9

High Magnitude Causes

Organic Enrichment/DO  
Other Habitat Alterations  
Unionized Ammonia  
Flow Alteration

High Magnitude Sources

Streambank 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

Geometric Mean: 595

No. of Ambient Sites: 2

No. of Ambient Sampling Records: 84

75<sup>th</sup> %ile: 2100

No. of NPDES MOR Sites: 6

No. of NPDES MOR Records: 608

90<sup>th</sup> %ile: 5200

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

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). 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Paint Creek Mainstem (downstream Rocky Fork to mouth)

1144.0

**Integrated Report Assessment Category: 5**

**Priority Points: 1**

**Next Scheduled Monitoring: 2006**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH, WWH

Sampling Year(s): 1997

Impairment: No

LRAU Total Length (miles): 37.12

No. Miles Full Attainment: 37.12

LRAU Monitored Miles: 37.12

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: Unknown

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s):

**Comments**

A Watershed Management Plan prepared by a CWA Section 319 funded Watershed Coordinator under the direction of the Paint Creek watershed SWCDs (Ross, Fayette, Highland, Greene, Madison, and Clinton) was submitted to Ohio EPA in October, 2002; the plan is currently under review and revision. Monitoring in support of the project was conducted in the Paint Creek watershed by the Ohio EPA in 1997; survey results indicated full WWH and EWH aquatic life use attainment of ecoregional biocriteria in the Paint Creek mainstem assessment unit which was assigned to Category 2 (unimpaired) in the 2002 Integrated Report. 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Great Miami River Mainstem (downstream Tawawa Creek to mouth)

5371.0

**Integrated Report Assessment Category: 5**

**Priority Points: 10**

**Next Scheduled Monitoring: 2008**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH, WWH

Sampling Year(s): 1994, 1995, 2000

Impairment: Yes

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  
Other 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

Geometric Mean: 363

No. of Ambient Sites: 4

No. of Ambient Sampling Records: 59

75<sup>th</sup> %ile: 920

No. of NPDES MOR Sites: 14

No. of NPDES MOR Records: 993

90<sup>th</sup> %ile: 2800

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

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. Additionally, assessment of available bacteria data indicated an impairment of the Primary Contact Recreation beneficial use.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Stillwater River Mainstem (downstream Greenville Creek to mouth)

676.0

**Integrated Report Assessment Category: 4C**

**Priority Points:**

**Next Scheduled Monitoring: 2009**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH

Sampling Year(s): 1994, 1999, 2001

Impairment: Yes

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

Other Habitat Alterations

High Magnitude Sources

Dam Construction - Development

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: No

Geometric Mean: 136

No. of Ambient Sites: 14

No. of Ambient Sampling Records: 48

75<sup>th</sup> %ile: 270

No. of NPDES MOR Sites: 5

No. of NPDES MOR Records: 439

90<sup>th</sup> %ile: 514

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: No

Pollutant(s):

**Comments**

A report developing TMDLs for pollutants impairing designated aquatic life uses is in progress for the Stillwater River basin. Monitoring in support of the TMDLs was conducted in 1999. Additional limited data were available from 1994 and 2001. 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 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Mad River Mainstem (downstream Donnels Creek to mouth)

657.0

**Integrated Report Assessment Category: 5**

**Priority Points: 8**

**Next Scheduled Monitoring: 2003**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1994

Impairment: Yes

LRAU Total Length (miles): 18.38

No. Miles Full Attainment: 15.86

LRAU Monitored Miles: 18.38

No. Miles Partial Attainment: 2.52

No. Sites Sampled: 12

No. Miles Non-Attainment: 0.00

% LRAU Attainment (Monitored Miles)

Full	Partial	Non
86.3	13.7	0.0

High Magnitude Causes

High Magnitude Sources

Cause Unknown  
Other Habitat Alterations

Source Unknown  
Channelization - Agriculture

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Yes

Geometric Mean: 601

No. of Ambient Sites: 4

No. of Ambient Sampling Records: 20

75<sup>th</sup> %ile: 1520

No. of NPDES MOR Sites: 3

No. of NPDES MOR Records: 288

90<sup>th</sup> %ile: 5653

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

Pollutant(s): PCBs

**Comments**

A biological and water quality survey conducted in 1994 indicated that the entire length of the Mad River mainstem assessment unit was either in full or partial attainment of the designated aquatic life use (WWH) based on biological criteria. Monitoring in support of the development of TMDLs for pollutants impairing beneficial uses in the entire Mad River basin was conducted in 2003. Besides the historical partial aquatic life use attainment, 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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Whitewater River Mainstem (entire length)

1474.0

**Integrated Report Assessment Category: 5**

**Priority Points: 1**

**Next Scheduled Monitoring: 2010**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH

Sampling Year(s): 1995, 1996, 2000

Impairment: No

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

Geometric Mean:

No. of Ambient Sites:

No. of Ambient Sampling Records:

75<sup>th</sup> %ile:

No. of NPDES MOR Sites:

No. of NPDES MOR Records:

90<sup>th</sup> %ile:

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: Yes

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.

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Raccoon Creek Mainstem (downstream Little Raccoon Creek to mouth)

681.0

**Integrated Report Assessment Category: 1**

**Priority Points:**

**Next Scheduled Monitoring: 2009**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: WWH

Sampling Year(s): 1993, 1994, 1995

Impairment: No

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

Geometric Mean: 206

No. of Ambient Sites: 3

No. of Ambient Sampling Records: 31

75<sup>th</sup> %ile: 315

No. of NPDES MOR Sites: 0

No. of NPDES MOR Records: 0

90<sup>th</sup> %ile: 690

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed:

FCA Issued:

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA:

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 and human health issues related to fish consumption also revealed no problems. 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](http://www.epa.state.oh.us/dsw/tmdl/index.html)).

**Ohio EPA 2004 Integrated Report Appendix D.3  
Large River Assessment Unit (LRAU) Summaries**

**LRAU Description**

**LRAU Size (mi<sup>2</sup>)**

Little Miami River Mainstem (downstream Caesar Creek to mouth)

1757.0

**Integrated Report Assessment Category: 5**

**Priority Points: 2**

**Next Scheduled Monitoring: 2007**

**Aquatic Life Use (ALU) Assessment**

Subcategories of ALU: EWH, WWH

Sampling Year(s): 1998

Impairment: Yes

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  
Other 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

Geometric Mean: 283

No. of Ambient Sites: 0

No. of Ambient Sampling Records: 0

75<sup>th</sup> %ile: 577

No. of NPDES MOR Sites: 4

No. of NPDES MOR Records: 123

90<sup>th</sup> %ile: 1000

Other:

**Fish Consumption Advisory (FCA) Assessment**

Waters Within the LRAU Sampled and Assessed: Yes

FCA Issued: Yes

(See the 2003 Ohio FCA for more detailed information at "[www.epa.state.oh.us/dsw/fishadvisory/index.html](http://www.epa.state.oh.us/dsw/fishadvisory/index.html)")

Impairment Due to FCA: No

Pollutant(s):

**Comments**

Monitoring for development of TMDLs for pollutants impairing beneficial uses in the lower watershed, including the Little Miami mainstem assessment unit, is scheduled for 2007. 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](http://www.epa.state.oh.us/dsw/tmdl/index.html)).