

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Maumee River Mainstem (Indiana border to Lake Erie)	6608.0

Aquatic Life Use Assessment

Sampling Year(s): 1992, 1993, 1996, 1997	AU Total Length (miles):	107.87
Aquatic Life Use(s): WWH	AU Monitored Miles:	94.35
Impairment? Yes	# Sites Sampled:	51
	# Miles Full Attainment:	44.00
	# Miles Partial Attainment:	13.15
	# Miles Non-Attainment:	37.20

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 2
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 2
 Total # Bacteria Sites in AU: 29
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "Do Not Eat" Fish Consumption Advisory is in effect for the Maumee River (Channel Catfish). The area under the advisory is from Waterville to the mouth. A "One Meal per Week" advisory (Freshwater Drum, Largemouth Bass) is also in effect for the same stretch of the river. A "One Meal per Month" advisory is in effect for the entire length of the river (Carp, Smallmouth Bass). Lastly, a "One Meal per Week" advisory is in effect (Channel Catfish) from the Indiana border to Waterville. In addition to the fish consumption advisories, there is a "One Meal per Week" Ohio Snapping Turtle Consumption Advisory in effect for the entire length of the Maumee River.

Integrated Report Assessment Category: 5 Priority Points: 4 Scheduled Monitoring: 2010

The entire length of the Maumee River mainstem (excluding the Lake Erie impounded reach) was last sampled in 1997. Fish consumption advisories for several species of fish are in effect, as well as a Snapping Turtle Consumption Advisory. 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Tiffin River Mainstem (downstream Brush Creek to mouth)	777.0

Aquatic Life Use Assessment

Sampling Year(s): 1992	AU Total Length (miles):	19.67
Aquatic Life Use(s): WWH	AU Monitored Miles:	19.67
Impairment? Yes	# Sites Sampled:	3
	# Miles Full Attainment:	0.00
	# Miles Partial Attainment:	19.67
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	0.0	100.0	0.0

High Magnitude Causes

Other Habitat Alterations
Siltation

High Magnitude Sources

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

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
>5000 colonies/100 ml. fecal coliform bacteria:
>576 colonies/100 ml. E. coli bacteria):
Sites in AU w/ Bacteria Violations:
Total # Bacteria Sites in AU: 0
Other:

Impairment? Unknown

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Tiffin River (Northern Pike, Smallmouth Bass). The area under the advisory includes the entire length of the river.

Integrated Report Assessment Category: 5 Priority Points: 3 Scheduled Monitoring: 2006
The Tiffin River mainstem has not been sampled since 1992.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Auglaize River Mainstem (downstream Ottawa River to mouth)	2435.0

Aquatic Life Use Assessment

Sampling Year(s): 1996, 2000	AU Total Length (miles):	33.26
Aquatic Life Use(s): WWH	AU Monitored Miles:	23.73
Impairment? Yes	# Sites Sampled:	5
	# Miles Full Attainment:	14.26
	# Miles Partial Attainment:	4.10
	# Miles Non-Attainment:	5.37

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
>5000 colonies/100 ml. fecal coliform bacteria:
>576 colonies/100 ml. E. coli bacteria):
Sites in AU w/ Bacteria Violations: 0
Total # Bacteria Sites in AU: 3
Other:

Impairment? No

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Auglaize River (Freshwater Drum, Smallmouth Bass). The area under the advisory is from U.S. Rt. 33 in Wapakoneta to the mouth at Defiance. Additionally, A "One Meal per Week" advisory is in effect (Channel Catfish, Carp) for the same stretch of the river.

Integrated Report Assessment Category: 5 Priority Points: 4 Scheduled Monitoring: 2010

Development of a TMDL is underway for the upper Auglaize River watershed including the Auglaize River mainstem between the Ottawa River and the Little Auglaize River (about 2/3 of the designated mainstem reach). Monitoring in support of the TMDL was conducted in 2000.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Blanchard River Mainstem (downstream Dukes Run to mouth)	771.0

Aquatic Life Use Assessment

Sampling Year(s): 1996	AU Total Length (miles):	35.65
Aquatic Life Use(s): WWH	AU Monitored Miles:	14.65
Impairment? Yes	# Sites Sampled:	3
	# Miles Full Attainment:	9.65
	# Miles Partial Attainment:	5.00
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 0
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 1
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

Integrated Report Assessment Category: 5 Priority Points: 3 Scheduled Monitoring: 2005

Recent sampling in the mainstem (1996) was focused primarily in the 30 mile reach upstream and downstream from Findlay. Several reference sites have been sampled in other reaches.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Sandusky River Mainstem (downstream Tymochtee Creek to mouth)	1420.0

Aquatic Life Use Assessment

Sampling Year(s): 2001	AU Total Length (miles):	65.73
Aquatic Life Use(s): WWH	AU Monitored Miles:	29.73
Impairment? Yes	# Sites Sampled:	14
	# Miles Full Attainment:	24.93
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	4.80

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	83.9	0.0	16.1

High Magnitude Causes

High Magnitude Sources

Causes and Sources are pending based on the assessment of the 2001 field data.

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria:
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations:
 Total # Bacteria Sites in AU: 0
 Other:

Impairment? Unknown

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Sandusky River (Channel Catfish, Largemouth Bass). The area under the advisory includes the entire length of the river. Additionally, a "One Meal per Week" advisory is in effect (Carp).

Integrated Report Assessment Category: 5 Priority Points: 5 Scheduled Monitoring: 2009

Development of a TMDL 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Cuyahoga River Mainstem (downstream Brandywine Creek to mouth including old river channel)	809.0

Aquatic Life Use Assessment

Sampling Year(s): 1996, 1999, 2000	AU Total Length (miles):	25.34
Aquatic Life Use(s): WWH, LRW	AU Monitored Miles:	25.34
Impairment? Yes	# Sites Sampled:	26
	# Miles Full Attainment:	5.68
	# Miles Partial Attainment:	12.38
	# Miles Non-Attainment:	7.28

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 13
 >576 colonies/100 ml. E. coli bacteria): 18
 # Sites in AU w/ Bacteria Violations: 7
 Total # Bacteria Sites in AU: 7
 Other:

Impairment? Yes

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Cuyahoga River (Carp, Largemouth Bass, White Suckers 11 inches and larger). The area under the advisory is from the Ohio Edison Dam Pool in Cuyahoga Falls to Lake Erie. Additionally, a "One Meal Every 2 Months" advisory is in effect (Brown Bullhead, Yellow Bullhead) and a "One Meal per Week" advisory (White Suckers under 11 inches) for the same stretch of the river.

Integrated Report Assessment Category: 5 Priority Points: 10 Scheduled Monitoring: 2010

Development of a TMDL is underway for the lower Cuyahoga River basin including the Cuyahoga River mainstem reach. Monitoring in support of the TMDL was conducted in 1996, 1999, and 2000.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Grand River Mainstem (downstream Mill Creek to mouth)	705.0

Aquatic Life Use Assessment

Sampling Year(s): 1995	AU Total Length (miles):	41.28
Aquatic Life Use(s): EWH, WWH, SSH	AU Monitored Miles:	35.67
Impairment? Yes	# Sites Sampled:	21
	# Miles Full Attainment:	33.47
	# Miles Partial Attainment:	1.60
	# Miles Non-Attainment:	0.60

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	93.8	4.5	1.7

High Magnitude Causes

Salinity/TDS/Chlorides

High Magnitude Sources

Waste Storage/Storage Tank Leaks

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 0
 >576 colonies/100 ml. E. coli bacteria): 1
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 3
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Grand River (Carp 22 inches and larger, Freshwater Drum, Largemouth Bass, Smallmouth Bass, Yellow Bullhead, Silver Redhorse). The area under the advisory includes the entire length of the river. Additionally, A "One Meal per Month" advisory is in effect (Walleye) upstream from Tote St. near Austinburg. Lastly, a "One Meal per Week" advisory is in effect (Carp under 22 inches) for the entire length of the river.

Integrated Report Assessment Category: 4B Priority Points: Scheduled Monitoring: 2004

The Grand River is one of the higher quality large rivers in Ohio. With the exception of a fish consumption advisory for several species, there are few problems on this river. Aquatic life impairment in the mainstem is restricted to the lacustuary reach of the river and has been attributed to the Diamond Shamrock waste lagoons.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Mahoning River Mainstem (downstream Eagle Creek to Pennsylvania Border)	1075.0

Aquatic Life Use Assessment

Sampling Year(s): 1994	AU Total Length (miles):	46.82
Aquatic Life Use(s): WWH	AU Monitored Miles:	45.11
Impairment? Yes	# Sites Sampled:	30
	# Miles Full Attainment:	0.30
	# Miles Partial Attainment:	5.80
	# Miles Non-Attainment:	39.01

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	0.7	12.9	86.4

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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion

>5000 colonies/100 ml. fecal coliform bacteria: 15

>576 colonies/100 ml. E. coli bacteria): 14

Sites in AU w/ Bacteria Violations: 2

Total # Bacteria Sites in AU: 2

Other: A "Dermal Contact Advisory" is in effect for the Mahoning River due to PAHs and PCBs contamination. The area under the advisory is from NW Bridge Rd. in Warren to the Pennsylvania border.

Impairment? Yes

Fish Consumption Assessment

A "Do Not Eat" Fish Consumption Advisory is in effect for the Mahoning River (Channel Catfish, Carp). The area under the advisory is from NW Bridge Rd. in Warren to the Pennsylvania border. Additionally, a "One Meal per Month" advisory is in effect (Walleye), and a "One Meal per Week" advisory (White Crappie) for the same stretch of the river. Lastly, a "One Meal per Month" advisory is in effect (Smallmouth Bass) from Berlin Lake Dam to the Pennsylvania border.

Integrated Report Assessment Category: 5 Priority Points: 9 Scheduled Monitoring: 2008

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. This is one of the few rivers in the state that has a "Do Not Eat" fish consumption advisory issued by the Ohio Department of Health. Additionally, a "Dermal Contact Advisory" is in effect. A TMDL for bacteria will be prepared by the USEPA for the Mahoning River mainstem (Duck Creek to the Shenango River) in 2003. In addition, a major ACOE dredging project is under evaluation for the mainstem.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Hocking River Mainstem (downstream Scott Creek to mouth)	1197.0

Aquatic Life Use Assessment

Sampling Year(s):	AU Total Length (miles):	68.96
Aquatic Life Use(s): WWH	AU Monitored Miles:	0.00
Impairment? Unknown	# Sites Sampled:	0
	# Miles Full Attainment:	0.00
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	0.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 0
 >576 colonies/100 ml. E. coli bacteria): 0
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 1
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Hocking River (Carp). The area under the advisory includes the entire length of the river.

Integrated Report Assessment Category: 3 Priority Points: Scheduled Monitoring: 2004

The designated Hocking River mainstem assessment unit has not been sampled since 1990. However, fish tissue sampling was done in 1997 and 1999.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Tuscarawas River Mainstem (downstream Sippo Creek to mouth)	2596.0

Aquatic Life Use Assessment

Sampling Year(s): 1995, 1998	AU Total Length (miles):	90.77
Aquatic Life Use(s): EWH, WWH	AU Monitored Miles:	30.10
Impairment? Yes	# Sites Sampled:	16
	# Miles Full Attainment:	0.00
	# Miles Partial Attainment:	9.10
	# Miles Non-Attainment:	21.00

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	0.0	30.2	69.8

High Magnitude Causes

Cause Unknown
Organic Enrichment/DO
Priority Organics
Nutrients

High Magnitude Sources

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

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 3
 >576 colonies/100 ml. E. coli bacteria): 2
 # Sites in AU w/ Bacteria Violations: 3
 Total # Bacteria Sites in AU: 6
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Tuscarawas River (Channel Catfish, Smallmouth Bass, Yellow Bullhead). The area under the advisory is from St. Rt. 619 (Turkeyfoot Rd.) in Barberton to St. Rt. 416 (South Broadway St.) in New Philadelphia. Additionally, a "One Meal Every 2 Months" advisory (Carp), and a "One Meal per Week" advisory (Largemouth Bass, Rock Bass) are in effect for the same stretch of the river.

Integrated Report Assessment Category: 5 Priority Points: 2 Scheduled Monitoring: 2003

A full survey of the Tuscarawas River including the designated mainstem reach has not been done since 1989. Most of the sampling on the mainstem has been related to 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Mohican River Mainstem (entire length)	1004.0

Aquatic Life Use Assessment

Sampling Year(s): 1997, 1998	AU Total Length (miles):	27.58
Aquatic Life Use(s): WWH	AU Monitored Miles:	8.10
Impairment? No	# Sites Sampled:	2
	# Miles Full Attainment:	8.10
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	0.00

	% Attainment (Monitored Miles)		
	Full	Partial	Non
Large River AU Attainment Status:	100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 0
 >576 colonies/100 ml. E. coli bacteria): 0
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 1
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

Integrated Report Assessment Category: 2 Priority Points: Scheduled Monitoring: 2007

Sampling of the Mohican River mainstem assessment unit has been limited (2 sites), but both indicated full attainment of regional biological criteria.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Walhonding River Mainstem (entire length)	2256.0

Aquatic Life Use Assessment

Sampling Year(s): 1994	AU Total Length (miles):	23.19
Aquatic Life Use(s): EWH	AU Monitored Miles:	23.19
Impairment? No	# Sites Sampled:	3
	# Miles Full Attainment:	23.19
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria:
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 2
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Walhonding River (Channel Catfish). The area under the advisory includes the entire length of the river. Additionally, a "One Meal per Week" advisory is in effect (Saugeye, Smallmouth Bass) for the same stretch of the river.

Integrated Report Assessment Category: 2 Priority Points: Scheduled Monitoring: 2007

The Walhonding River mainstem assessment unit supports exceptional biological diversity (EWH) and full attainment of regional biological criteria. With the exception of a fish consumption advisory for three species, there are no known problems associated with this river.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Muskingum River Mainstem (entire length)	8051.0

Aquatic Life Use Assessment

Sampling Year(s): 1994	AU Total Length (miles):	111.14
Aquatic Life Use(s): WWH	AU Monitored Miles:	21.73
Impairment? Yes	# Sites Sampled:	9
	# Miles Full Attainment:	11.83
	# Miles Partial Attainment:	9.90
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 1
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 1
 Total # Bacteria Sites in AU: 5
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Muskingum River (White Bass). The area under the advisory includes the entire length of the river. Additionally, a "One Meal per Week" advisory is in effect (Channel Catfish, Flathead Catfish, Saugeye, Spotted Bass) for the same stretch of the river.

Integrated Report Assessment Category: 5 Priority Points: 5 Scheduled Monitoring: 2008

The entire Muskingum River mainstem assessment unit has not been sampled since 1988. The upper 20 miles of the assessment unit 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Wills Creek Mainstem (downstream Leatherwood Creek to mouth)	853.0

Aquatic Life Use Assessment

Sampling Year(s): 1994	AU Total Length (miles):	64.98
Aquatic Life Use(s): WWH	AU Monitored Miles:	64.98
Impairment? Yes	# Sites Sampled:	4
	# Miles Full Attainment:	9.90
	# Miles Partial Attainment:	41.88
	# Miles Non-Attainment:	13.20

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	15.2	64.5	20.3

High Magnitude Causes

Siltation

High Magnitude Sources

Surface Mining

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 1
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 1
 Total # Bacteria Sites in AU: 1
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

Integrated Report Assessment Category: 5 Priority Points: 2 Scheduled Monitoring: 2008

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 regional 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Licking River Mainstem (entire length)	779.0

Aquatic Life Use Assessment

Sampling Year(s): 1993, 1994	AU Total Length (miles):	30.21
Aquatic Life Use(s): WWH	AU Monitored Miles:	30.21
Impairment? Yes	# Sites Sampled:	11
	# Miles Full Attainment:	28.41
	# Miles Partial Attainment:	1.80
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 2
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 1
 Total # Bacteria Sites in AU: 1
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

Integrated Report Assessment Category: 5 Priority Points: 3 Scheduled Monitoring: 2007

The Licking River mainstem has undergone dramatic improvement since the early 1980s. Sampling conducted in 1994 indicated 94% full attainment. 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Scioto River Mainstem (downstream Little Scioto River to mouth)	6517.0

Aquatic Life Use Assessment

Sampling Year(s): 1995, 1997-2000	AU Total Length (miles):	177.35
Aquatic Life Use(s): WWH, MWH-Impounded	AU Monitored Miles:	151.79
Impairment? Yes	# Sites Sampled:	67
	# Miles Full Attainment:	137.15
	# Miles Partial Attainment:	6.20
	# Miles Non-Attainment:	8.44

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	90.3	4.1	5.6

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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 6
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 5
 Total # Bacteria Sites in AU: 31
 Other:

Impairment? Yes

Fish Consumption Assessment

A "One Meal a Month" Fish Consumption Advisory is in effect for the Scioto River (Channel Catfish, Carp under 20 inches, Flathead Catfish 21 inches and over, Freshwater Drum). The area under the advisory includes the entire length of the river. Additionally, a "One Meal per 2 Months" advisory (Carp 20 inches and over), and a "One Meal per Week" advisory is in effect for the same stretch of the river. Lastly, a "One Meal a Month" advisory is in effect (Rock Bass) from Green Camp to Warrensburg.

Integrated Report Assessment Category: 5 Priority Points: 11 Scheduled Monitoring: 2011

The Scioto River mainstem 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Paint Creek Mainstem (downstream Rocky Fork to mouth)	1144.0

Aquatic Life Use Assessment

Sampling Year(s): 1997	AU Total Length (miles):	37.12
Aquatic Life Use(s): EWH, WWH	AU Monitored Miles:	37.12
Impairment? No	# Sites Sampled:	12
	# Miles Full Attainment:	37.12
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 0
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 12
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for Paint Creek (Largemouth Bass). The area under the advisory includes the entire length of the stream.

Integrated Report Assessment Category: 2 Priority Points: Scheduled Monitoring: 2006

The lower portion of Paint Creek is one of the highest quality large rivers in the state of Ohio. Exceptional biological diversity is present within this segment of the river. 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) is currently under development. Monitoring in support of the project was conducted in the upper Paint Creek watershed by the Ohio EPA in 1997.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)		
Great Miami River Mainstem (downstream Tawawa Creek to mouth)	5371.0		
Aquatic Life Use Assessment			
Sampling Year(s): 1994, 1995, 2000	AU Total Length (miles):	130.41	
	AU Monitored Miles:	130.38	
Aquatic Life Use(s): WWH, MWH-Impounded	# Sites Sampled:	89	
	# Miles Full Attainment:	87.42	
Impairment? Yes	# Miles Partial Attainment:	39.36	
	# Miles Non-Attainment:	3.60	
	% Attainment (Monitored Miles)		
	Full	Partial	Non
Large River AU Attainment Status:	67.0	30.2	2.8
<u>High Magnitude Causes</u>		<u>High Magnitude Sources</u>	
Flow Alteration		Dam Construction - Development	
Other Habitat Alterations		Flow Reg/Mod - Development	
Organic Enrichment/DO		Major Municipal Point Source	
Nutrients		Upstream Impoundment	
Priority Organics		Combined Sewer Overflow	
		Major Industrial Point Source	
		Removal of Riparian Vegetation - Development	
Recreation Use Assessment			
# of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion			
>5000 colonies/100 ml. fecal coliform bacteria: 3			
>576 colonies/100 ml. E. coli bacteria):			
# Sites in AU w/ Bacteria Violations: 2			
Total # Bacteria Sites in AU: 2			
Other:			
Impairment? Indeterminate			
Fish Consumption Assessment			
A "Do Not Eat" Fish Consumption Advisory is in effect for the Great Miami River (all sucker species). The area under the advisory is from the lowhead dam at Monument Avenue in Dayton to the Ohio River. Additionally, a "One Meal per Month" advisory is in effect (Largemouth Bass, Rock bass, Smallmouth Bass, White Bass), and a "One Meal per Week" advisory (Saugeye) for the same stretch of the river. Other advisories include Channel Catfish (One Meal per Week) and Carp (One Meal per Month) from Indian Lake to north of St. Rt. 73 near Middletown. Also, Channel Catfish, Freshwater Drum, Smallmouth Buffalo (One Meal per Week) and Carp, Flathead Catfish and Striped Bass Hybrid (One Meal per 2 months) from south of St. Rt. 73 near Middletown to the Ohio River.			
Integrated Report Assessment Category: 5		Priority Points: 5	Scheduled Monitoring: 2008
Surveys were conducted throughout the mainstem in 1994 (upper Great Miami River) and 1995 (lower Great Miami River). Most of the river is in full or partial attainment of biological criteria. However, a fish consumption advisory for numerous species throughout the length of the mainstem is in effect.			

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Stillwater River Mainstem (downstream Greenville Creek to mouth)	676.0

Aquatic Life Use Assessment

Sampling Year(s): 1994, 1999, 2001	AU Total Length (miles):	32.38
Aquatic Life Use(s): EWH	AU Monitored Miles:	32.38
Impairment? Yes	# Sites Sampled:	16
	# Miles Full Attainment:	31.38
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	1.00

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 1
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 1
 Total # Bacteria Sites in AU: 14
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Stillwater River (Channel Catfish, Smallmouth Bass). The area under the advisory includes the entire length of the river.

Integrated Report Assessment Category: 4C Priority Points: Scheduled Monitoring: 2009

A TMDL is in progress for the Stillwater River basin. Monitoring in support of the TMDL was conducted in 1999. The entire mainstem assessment unit was in full attainment of 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.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)						
Mad River Mainstem (downstream Donnels Creek to mouth)	657.0						
 Aquatic Life Use Assessment							
Sampling Year(s): 1994	AU Total Length (miles): 18.38						
	AU Monitored Miles: 18.38						
Aquatic Life Use(s): WWH	# Sites Sampled: 12						
	# Miles Full Attainment: 15.86						
Impairment? Yes	# Miles Partial Attainment: 2.52						
	# Miles Non-Attainment: 0.00						
	% Attainment (Monitored Miles)						
	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="border: none;">Full</th> <th style="border: none;">Partial</th> <th style="border: none;">Non</th> </tr> </thead> <tbody> <tr> <td style="border: none;">Large River AU Attainment Status:</td> <td style="border: none; text-align: center;">86.3</td> <td style="border: none; text-align: center;">13.7</td> </tr> </tbody> </table>	Full	Partial	Non	Large River AU Attainment Status:	86.3	13.7
Full	Partial	Non					
Large River AU Attainment Status:	86.3	13.7					
<u>High Magnitude Causes</u>	<u>High Magnitude Sources</u>						
Cause Unknown	Source Unknown						
Other Habitat Alterations	Channelization - Agriculture						
 Recreation Use Assessment							
# of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion							
>5000 colonies/100 ml. fecal coliform bacteria:							
>576 colonies/100 ml. E. coli bacteria):							
# Sites in AU w/ Bacteria Violations:							
Total # Bacteria Sites in AU: 0							
Other:							
 Impairment? Unknown							
 Fish Consumption Assessment							
A "One Meal per Month" Fish Consumption Advisory is in effect for the Mad River (Carp, Largemouth Bass). The area under the advisory is from U.S. Rt. 36 in Urbana to the mouth in Dayton. Additionally, a "One Meal per Week" advisory (White Sucker) is in effect for the same stretch of the river.							
 Integrated Report Assessment Category: 5 Priority Points: 5 Scheduled Monitoring: 2003							
Sampling done in 1994 indicated the the entire length of the Mad River mainstem assessment unit was either in full or partial attainment of regional biological criteria.							

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Whitewater River Mainstem (entire length)	1474.0

Aquatic Life Use Assessment

Sampling Year(s): 1996, 1997	AU Total Length (miles):	8.26
Aquatic Life Use(s): WWH	AU Monitored Miles:	8.26
Impairment? No	# Sites Sampled:	6
	# Miles Full Attainment:	8.26
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	0.00

Large River AU Attainment Status:	% Attainment (Monitored Miles)		
	Full	Partial	Non
	100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria:
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations:
 Total # Bacteria Sites in AU: 0
 Other:

Impairment? Unknown

Fish Consumption Assessment

Integrated Report Assessment Category: 2 Priority Points: Scheduled Monitoring: 2010

Sampling done in 1996 showed full attainment of biological criteria in the Whitewater River mainstem assessment unit (lower 8.26 miles of stream located in Ohio). This is one of the few large Ohio rivers with 100% attainment of the aquatic life use and exceptional aquatic communities.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Raccoon Creek Mainstem (downstream Little Raccoon Creek to mouth)	681.0

Aquatic Life Use Assessment

Sampling Year(s): 1993, 1994, 1995	AU Total Length (miles):	37.55
Aquatic Life Use(s): WWH	AU Monitored Miles:	22.37
Impairment? No	# Sites Sampled:	6
	# Miles Full Attainment:	22.37
	# Miles Partial Attainment:	0.00
	# Miles Non-Attainment:	0.00

	% Attainment (Monitored Miles)		
	Full	Partial	Non
Large River AU Attainment Status:	100.0	0.0	0.0

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria: 0
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations: 0
 Total # Bacteria Sites in AU: 2
 Other:

Impairment? Indeterminate

Fish Consumption Assessment

Integrated Report Assessment Category: 2 Priority Points: Scheduled Monitoring: 2009

Full attainment of regional Warmwater Habitat biological criteria was achieved at all sampling locations monitored in the Raccoon Creek mainstem assessment unit. Despite extensive mining activities in the upper portion of the basin, the lower mainstem included in the assessment unit reflected no major adverse effects based on the most recent 1995 sampling.

Table 1. Status of Large Rivers Assessment Units (Detail Table)

Assessment Unit Description	Watershed Size (sq. mi.)
Little Miami River Mainstem (downstream Caesar Creek to mouth)	1757.0

Aquatic Life Use Assessment

Sampling Year(s): 1998	AU Total Length (miles):	50.92
	AU Monitored Miles:	48.02
Aquatic Life Use(s): EWH, WWH	# Sites Sampled:	16
	# Miles Full Attainment:	11.80
Impairment? Yes	# Miles Partial Attainment:	34.92
	# Miles Non-Attainment:	1.30

Large River AU Attainment Status:	% 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

of Samples w/ an Ohio WQS Violation of the Secondary Contact Recreation Maximum Criterion
 >5000 colonies/100 ml. fecal coliform bacteria:
 >576 colonies/100 ml. E. coli bacteria):
 # Sites in AU w/ Bacteria Violations:
 Total # Bacteria Sites in AU: 0
 Other:

Impairment? Unknown

Fish Consumption Assessment

A "One Meal per Month" Fish Consumption Advisory is in effect for the Little Miami River (Sauger). The area under the advisory includes the entire length of the river. Additionally, a "One Meal per Week" advisory is in effect (Channel Catfish, Smallmouth Bass).

Integrated Report Assessment Category: 5 Priority Points: 3 Scheduled Monitoring: 2007

The TMDL for the upper Little Miami watershed (to and including the Caesar Creek watershed) was approved by USEPA in 2002. Monitoring for TMDL development focused on the lower watershed, including the Little Miami mainstem assessment unit, is scheduled for 2007.